KHAZANAH RESEARCH INSTITUTE

WORKING PAPER 6/22 | 23 DECEMBER 2022

Fresh Graduate Adversities:
A Decade's Insight on the Graduate Tracer Study

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Khazanah Research Institute

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This working paper was prepared by Mohd Amirul Rafiq Abu Rahim and Shazrul Ariff Suhaimi, researchers from the Khazanah Research Institute (KRI). The authors are grateful for valuable comments and feedback from Dr Nor Bayah Abdul Kadir and Dr Jun-E Tan.

This working paper is part of KRI's series of research for the Graduate Tracer and Employability (GTSE) project. The authors would like to extend our gratitude to the GTSE team members for their constructive feedback and assistance: Hawati Abdul Hamid and Wan Amirah Wan Usamah.

The authors would also like to thank the management of the Ministry of Higher Education (MOHE) for the support given to the team, specifically in terms of providing the Graduate Tracer Study (GTS) data and for reviewing this working paper. The team has benefitted tremendously from the support and guidance from the Data Section, Division of Strategic Planning of MOHE. Specifically, we would like to thank Salwati Badroddin, Sarina Ab. Rahman, Ismail Abdul Rahman, Suryana Embong and Rohaida Ali for their dedication in assisting us throughout the research.

Our appreciation also goes to the following interns for their diligent assistance in the preparation of this working paper during their internship at the Institute: Muhammad Nadzif Ramlan, Muhammad Iman Hakimi Ahmad, Sofea Arisya Muhammad Shaifuddin, Tan Mei Yi and Umi Maisarah Kamis. Special thanks go to Puteri Marjan Megat Muzafar for her editorial contributions.

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Executive Summary

This working paper is part of KRI's series of research for the Graduate Tracer Study and Employability (GTSE) project. The objective of this paper is to deepen the understanding of the issue surrounding the young fresh graduates' labour market outcomes in Malaysia by analysing the Graduate Tracer Study (GTS) data collected by the Ministry of Higher Education (MOHE) from 2010 to 2020. The following are key takeaways from our analysis:

There are not enough graduate-level jobs, and the starting pay is dismal for the majority of graduates

- Every year, at least one-third of our graduates face instances of overqualification, in which graduates hold positions that do not commensurate their level of study.
- There has been a decline in permanent and full-time employment coinciding with the rise of non-standard employment.
- Despite the increase in the number of graduates working in skilled jobs, overall, 3 in 4 still earn below RM2,000.

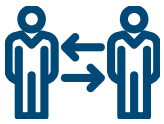
There is a promising career pathway for TVET graduates. Higher TVET qualification results in better employment outcomes

- There have been improvements in the employment trends for TVET graduates, from 49% in 2010 to 66% in 2020.
- However, as more jobs for TVET graduates are concentrated at low- and medium skill level, the starting salary of TVET graduates remains a concern. Only 10% of them earn more than RM2,000.
- Meanwhile, graduates from TVET(MTUN) institutions, who mainly hold a bachelor's degree, outperform all other graduates with higher starting pay, higher rates of employment and more are able to secure a job that matches their qualifications.

A growing number of graduates are involved in self-employment, but it is not viewed as a sustainable career path. Indicated job dissatisfaction suggests a lack of options elsewhere

- The percentage of self-employed graduates has risen from 3% in 2010 to 22% in 2020, and the share are higher among TVET graduates.
- However, more than half of those that ventured into self-employment showed an intention to change jobs.
- The main reason cited was low pay, to find better job security as well as to find jobs that matched with qualification. These reasons imply that graduates viewed self-employment as a temporary measure to avoid unemployment instead of a profession for life.

Adverse labour market outcomes among graduates from low-income families



- The majority of unemployed graduates are from low-income families (about 80%). Higher unemployment rates, skill mismatch, and low starting salaries make it difficult for them to progress in the labour market.
- Graduates from low-income families cannot afford to wait longer for the best job offer and are often forced by their socioeconomic circumstances to accept low-income jobs to avoid long periods of unemployment.

Females outnumber males in higher education, yet gender comparison indicates imbalances in the labour market outcomes

- There are more female graduates in higher education, yet they persistently fare worse in the labour market compared to male graduates.
- Unemployment among females has been persistently higher than among males throughout the years.
- Although employment rates are higher among females with a bachelor's or a postgraduate degree, the incidences of females being trapped in semi-skilled jobs, involved in non-standard employment, overqualified for the job that they are doing and earning below RM2,000 are also higher compared to males.

A high percentage of working graduates want to change jobs, indicating high career dissatisfaction

- While graduates felt that their study programmes were relevant to their current job, a significant number perceived that the skills they learnt were not adequate for their current job.
- Although working graduates are generally satisfied with their current job, more than half intend to change jobs.
- Intention to change job is higher among working graduates with postgraduate qualification, work in non-standard employment, females, earn below RM2,000 and from low-income families.
- Looking for a permanent job that matches the field of study with higher salary were cited as the three main reasons why working graduates want to change jobs.

The job search process starts even before their study completion, with a shorter waiting time before their first job

- For a third of the working graduates, the job search process starts before the completion of the study, leading to a shorter waiting time for their first job. Female graduates have higher chances of finding employment in less than three months compared to males.
- The internet, social media, and job placement programmes were cited as the top three methods commonly used by working graduates for job search. The trends are somewhat consistent throughout the decade.
- Among unemployed graduates, at least 70% have been actively looking for jobs throughout the years. The majority of the unemployed are from low-income families and among the bachelor's degrees (or equivalent) holders. In terms of the job search process, around 60% of unemployed graduates have attended at least one or two interviews, and this percentage has been stagnant throughout the years.

Conclusion

The key findings highlight several policy implications that require further exploration towards addressing the numerous issues faced by young fresh graduates. Nonetheless, it cannot be viewed in isolation as there are also equally pressing structural issues that need to be addressed in parallel. We need to produce higher quality jobs that befit our graduates' qualifications and skillset, in addition to preparing a workforce capable of withstanding the tough job market and also agile enough to respond to rapid changes in the job market.

Abbreviations

ADB	: Asian Development Bank
CAGR	: Compound Annual Growth Rate
DOS	: Department of Statistics
EAP-HEIs	: The Entrepreneurship Action Plan-Higher Education Institutions
GLC	: Government-Linked Company
GTS	: Graduate Tracer Study
GTSE	: Graduate Tracer Study and Employability
HEIs	: Higher Education Institutions
ILKA	: *Institut Latihan Kemahiran Awam* – "Public Skill Training Institution"
ILO	: International Labour Organization
ILOSTAT	: ILO Department of Statistics
IPTA-UA	:*Institusi Pengajian Tinggi Awam (Universiti Awam)* – "HEIs (Public University)"
IPTS	: *Institusi Pengajian Tinggi Swasta* – "Private HEIs"
ISIC	: International Standard Industrial Classification
JPA	: *Jabatan Perkhidmatan Awam* – "Public Service Department"
k	: thousand
KRI	: Khazanah Research Institute
MARA	: *Majlis Amanah Rakyat*
MEA	: Ministry of Economic Affairs Malaysia
MEB-HE	: Malaysia Education Blueprint (Higher Education)
MED	: Ministry of Entrepreneur Development
MOE	: Ministry of Education Malaysia
MOHE	: Ministry of Higher Education Malaysia
MTUN	: Malaysia Technical University Network
MWFCD	: Ministry of Women, Family and Community Development
NEET	: Not in education, employment or training
NEP 2030	: National Entrepreneurship Policy 2030
PTPTN	: *Perbadanan Tabung Pendidikan Tinggi Nasional* – "National Higher Education Fund"
RM	: Malaysian Ringgit
SDG	: Sustainable Development Goals
STEM	: Science, Technology, Engineering and Mathematics
SWTS	: School-to-Work Transition Survey of Young Malaysians
TVET	: Technical and Vocational Education and Training

UM	: Universiti Malaya
UNDP	: United Nations Development Programme
UUM	: Universiti Utara Malaysia
WTO	: World Trade Organization

Glossary[1]

Certificate	A certificate is awarded to a person after they have successfully achieved a set of learning outcomes designed that lead to the award of the certificate qualification or its equivalent.
Convocation year	The year in which the student graduated from tertiary education.
Employment type	**Self-employed** – Graduates who run an enterprise, either individually or in partnership, and either carry out the operations of the enterprises by themselves or by hiring other workers. It includes freelance, sole-proprietor, work in a family business (including both paid and unpaid family workers) or by a partnership where a contract of employment does not apply. **Full-time/permanent** – A type of long-term employment where a worker is eligible for full employment benefits, usually until the worker reaches the retirement age. **Contract employment** – A fixed period employment where the continuity of the employment depends on whether a further extension is being made. **Temporary employment** – An employee working on a temporary basis to client or companies, on the basis of an agreed renumeration, and hired and paid for this purpose. It could also be temporary placement that is either seasonal (e.g., due to the absence of permanent staff) or at the beginning of an employment contract during probation before become permanent.
Field of study	Eight categories of study fields according to the guidelines established under the National Education Code (NEC): (1) *education*, (2*) arts & humanities,* (3) *social sciences, business & law*, (4) *science, mathematics & computers*, (5) *engineering, manufacturing & construction*, (6) *agriculture & veterinary*, (7) *health & welfare* and (8) *services & others*.
Graduate	Within the study context, graduates are defined as those aged 15-30 years old who participated in GTS survey.
Graduate employability	Refers to the status of all graduates who are working, continuing their studies, improving their skills, or waiting for job placement.
Graduate Tracer Study	A survey conducted by the MOHE in conjunction with the convocation ceremonies of students who recently graduated (usually within six months of finishing their studies) from HEIs (within Malaysia or as part of a twinning programme with an international institution) to obtain their current employment status and to gather feedback from them on various aspects of their institutions.

[1] Unless stated otherwise, our main reference for the technical terms used throughout was from the MOHE (2021b).

Industry	The International Standard Industrial Classification of all Economic Activities (ISIC) Rev.4 [2] released by ILO is adopted for industry classification, as follows: **Agriculture** – includes agriculture, forestry, and fishing-related. **Industry** – includes manufacturing, construction, mining and quarrying, and electricity, gas, and water supply. **Services** – includes market services (trade, transportation, accommodation and food, and business and administrative activities) and non-market services (public administration, community, social and other services and activities) **Others** – industry that is not elsewhere classified.
HEIs	Refers to educational institutions established under written law and includes private institution that provides higher education leading to the award of a certificate, diploma, degree or equivalent. These include: a. Public Universities (IPTA) b. Private Universities (IPTS) c. Polytechnic Universities d. Community Colleges e. Institut Latihan Kemahiran Awam (ILKA) f. Vocational Colleges
Overqualified	Graduates working in an occupation requiring a lower level of education attained.
Postgraduate	Graduates who possess a master's degree qualification, a Doctor of Philosophy (PhD), or equivalent.
Public University	HEIs with the status of public universities established by the government. Categorized into four groups which are: a. **Research University** – Specifically focus on research. Consisted of five public universities, including Universiti Malaya, Universiti Kebangsaan Malaysia, Universiti Teknologi Malaysia, Universiti Sains Malaysia and Universiti Putra Malaysia; b. **Comprehensive University** – offers a variety of courses and fields of study. The classification includes four public universities, namely Universiti Teknologi MARA, International Islamic University Malaysia, Universiti Malaysia Sabah and Universiti Malaysia Sarawak; c. **Focus University** – Focus on specific courses related to the objectives of their initial establishment. It consists of seven public universities such as Universiti Utara Malaysia, Universiti Pendidikan Sultan Idris, Universiti Malaysia Terengganu, Universiti Sains Islam Malaysia, Universiti Sultan Zainal Abidin, Universiti Malaysia Kelantan, and National Defence University; and

[2] ILOSTAT (2022)

d. **MTUN University** – Offers a variety of technical courses to meet industrial needs and consists of four public universities, namely Universiti Tun Hussein Onn Malaysia, Universiti Teknikal Malaysia Melaka, Universiti Malaysia Perlis, and Universiti Malaysia Pahang.

Skill level	Occupation categories are classified into three skill levels as follows: a. **Skilled** – (1) Managers; (2) Professionals; (3) Technicians and associate professionals. b. **Semi-skilled** – (4) Clerical support workers; (5) Sales and service workers; (6) Skilled workers in agriculture, forestry, farming, and fishery; (7) Vocational workers and related production; (8) Plants and machine operators, or assembly-line worker. c. **Low-skilled** – (9) General workers.
Standard and non-standard types of employment	**Standard employment** refers to graduates employed in a full-time or permanent position. **Non-standard type of employment** includes self-employment, working part-time, and temporary/contract basis.
Unemployed graduate	Graduates who are not under any kind of employment, but actively searching for a job during the reference week, at the time GTS was conducted.
Working graduate	Graduates who worked for at least an hour during the reference week for pay, profit, or family gain, either as an employer or an employee.

CONTENTS

1. Introduction

The rapid expansion of higher education in Malaysia since early 1990s has contributed to realising the need for a skilled workforce and contributed positively to economic growth[3]. However, in more recent years there have been increasing gaps between the number of graduates produced and the absorption capacity of labour demand, which leads to higher rates of unemployment and underemployment especially among young and newly graduated workforce[4]. Furthermore, employers have expressed concerns about the lack of soft skills among graduates[5] while questions were raised on whether the curricula in higher education are apt in meeting the rapidly changing labour market[6].

Undeniably, finding a job is challenging and the process is increasingly complicated. Technology has evolved and the nature of work is rapidly changing. Given these circumstances, the labour market requires graduates to have the right talents at the right time and place[7]. Qualification is essential, but employers rarely perceive it as anything other than a prerequisite for an interview[8]. Hence, graduates with a good mix of hard and soft skills will be more likely to be employed.

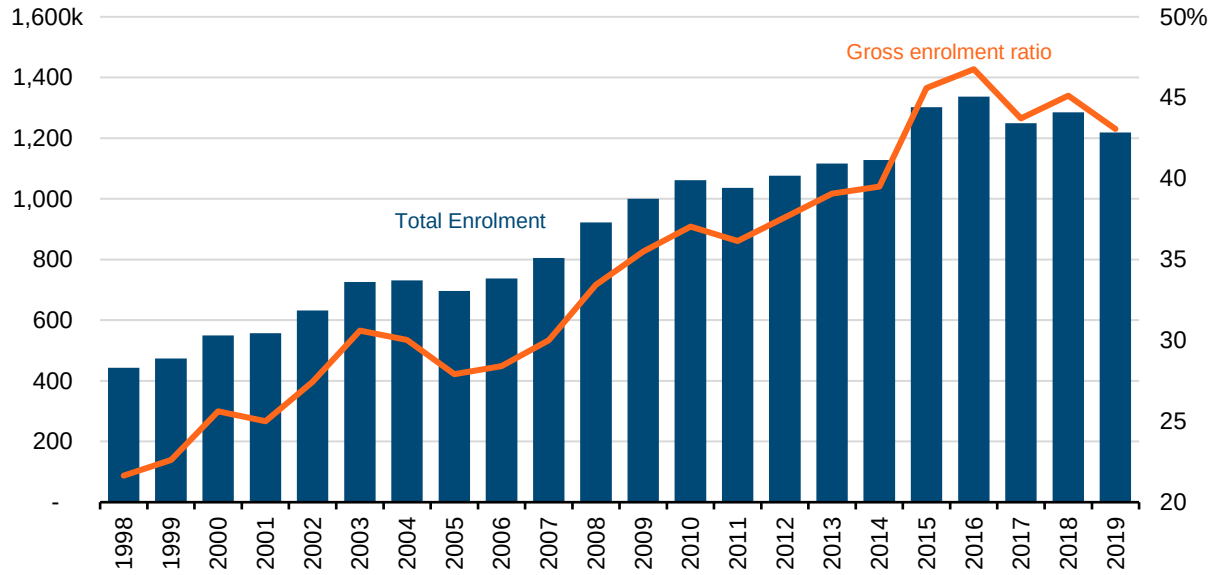
Recognising the competitive labour market and challenges faced by graduates, the government has taken various steps to promote graduate employability and marketability. The Malaysia Education Blueprint 2015-2025 for Higher Education (MEB-HE)[9] established in 2015 aims to fundamentally address key issues in the higher education system to prepare graduates for an increasingly complex and ever-changing future. To drive excellence in higher education system, ten shifts were identified, namely: 1) Holistic, Entrepreneurial and Balanced Graduates; 2) Talent Excellence; 3) A Nation of Lifelong Learners, 4) Quality of Technical and Vocational Education and Training (TVET) Graduates, 5) Financial Sustainability, 6) Empowered Governance, 7) Innovation Ecosystem, 8) Global Prominence, 9) Globalised Online Learning and 10) Transformed Higher Education Delivery. These ten shifts address key performance issues in higher education, particularly regarding to quality and efficiency, as well as global trends disrupting the higher education landscape[10].

[3] Malaysia's focus on expanding the tertiary educated workforce generally has a positive contribution to GDP at a macro level but the impact might differ at the individual level. See Hawati Abdul Hamid (2022)
[4] Dian Hikmah Mohd Ibrahim and Mohd Zaidi Mahyuddin (2017)
[5] Employers rate soft skills and work experience above the academic and professional qualifications that have been more emphasised by Malaysian education and training institutions. See KRI (2018)
[6] ——— (2021)
[7] Rao (2013)
[8] Salleh et al. (2017)
[9] MOHE (2015)
[10] Ibid.

1.1. The graduate labour market in Malaysia

Over the recent decades, the government has put considerable effort into widening access to tertiary education, allowing secondary school students to opt for further studies in public and private universities. As a result, Malaysia has seen a drastic increase in total student enrolment in tertiary institutions; from 442,625 students in 1998 to 1.22 million students in 2019[11], representing a 175% overall increase, as shown in Figure 1[12]. The figure also shows that the gross enrolment ratio[13] has been increasing, from 21.6% in 1998 to a peak of 46.8% in 2016.

Figure 1: Total enrolment and gross enrolment ratio in tertiary education



Source: UNESCO Institute for Statistics (2022)

The sizeable student enrolment has been achieved on the back of the government's developmental policy emphasising accessibility and inclusivity. Furthermore, MOHE has placed greater emphasis for students to venture into TVET and entrepreneurship programmes[14] thus enhance graduate employability. This is in response to the worrying trend of the youth unemployment rate (age 15-30 years) standing almost doubled the national unemployment rate, at 7.4% and 3.9%, respectively, in May 2022[15].

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[11] The enrolment of students in higher education increase in tandem with the development and focus of the economy. The last three decades witnessed a rapid expansion of higher education institutions and exponential growth in student enrolment. After Malaya's independence in 1957 and subsequently the formation of Malaysia in 1963, education policy was heavily influenced by the New Economic Policy (1970-1990) which emphasised strengthening the education system to promote national integration. On the back of economic transformation and diversification of its production base, the sectoral workforce composition has changed significantly in year 2000 onwards. See Hawati Abdul Hamid (2022)

[12] UNESCO Institute for Statistics (2022)

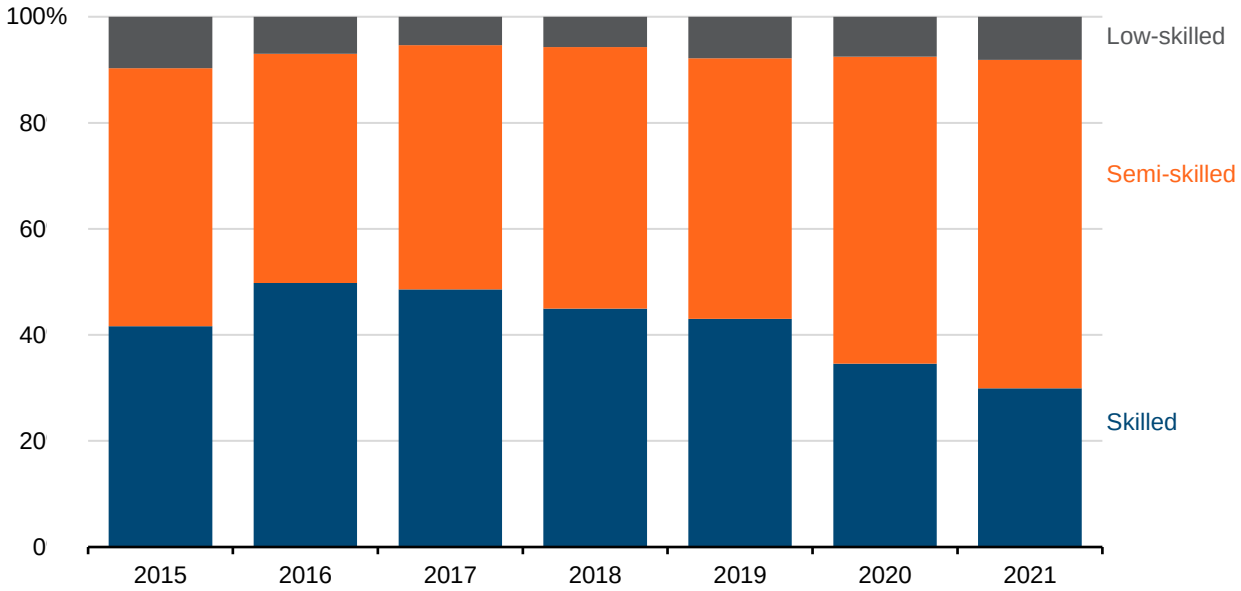
[13] Gross enrolment ratio is measured by the number of students enrolled in tertiary education divided by the population of the age group that officially corresponds to tertiary education.

[14] MOHE (2021a)

[15] DOS (2022e)

The graduate labour market in Malaysia is competitive, and there is an ever-increasing supply of workforce with tertiary education competing for job opportunities. Other than graduate unemployment, another imperative within the graduate labour market is skills-related underemployment. Figure 2 highlights that the Malaysian economy has been increasingly generating low-skilled and semi-skilled jobs instead of skilled employment, which subsequently influence wage prospects.

Figure 2: Share of jobs created, by skill level, 2015 - 2021



Source: DOS (2021b), authors' calculations

Figures 3-5 highlight the median wage and the compounded annual growth rate (CAGR) of all salaried workers across occupation skill groups encompassing skilled, semi-skilled, and low-skilled workers in Malaysia. Overall, the group that experienced the highest increase in median wage growth was the semi-skilled workers at 7.2% in 2011. Semi-skilled workers are the biggest group of workers within the economy, and although the percentage increase is the highest among the three groups, their median wage has only nominally increased by RM493 over the last ten years.

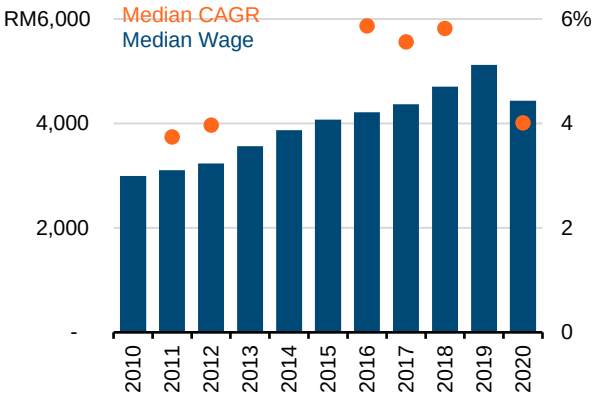
Meanwhile, skilled workers continued to experience sustained wage growth at around 6% from 2013 to 2019 but had a slight decrease to 4% in 2020. Comparatively, skilled workers had a nominal increase of RM1,443 over the ten-year period, which shows a stark contrast in wages earned by the rest of the workers in the economy.

Lastly, there has been an increase in the median wages of low-skilled workers; from -2.3% in 2011 to a peak of 6.0% in 2019. The increase could largely be attributed by the implementation of the minimum wage of RM800 in 2012 and the subsequent raises of minimum wage in 2016, 2018 and 2020 to RM1,000, RM1,100 and RM1,200, respectively[16].

[16] DOS (2022a)

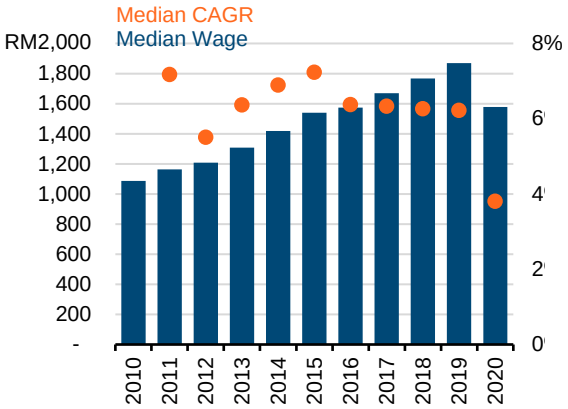
As shown in Figure 2, a large proportion of the jobs that are created in the Malaysian economy are semi-skilled. The creation of semi-skilled jobs has declined from 82,320 jobs in 2015 to 42,430 jobs in 2020[17]. Concurrently, the creation of skilled jobs has decreased significantly from 70,490 jobs in 2015 to 25,340 jobs in 2020. This would limit the opportunities for graduates to be employed in skilled jobs and increase the likelihood of being employed in semi-and low-skilled jobs—consequently, would have a compounding effect on their future wage growth since the average person would experience the highest growth potential within the first decade of their career, between 25-35 years old[18].

Figure 3: Median wages & CAGR of skilled workers, 2010-2020



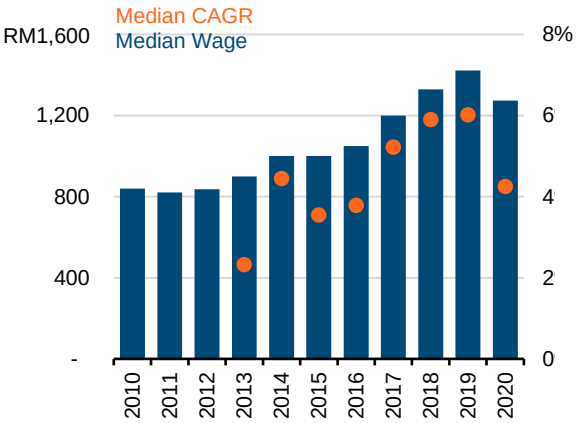
Source: DOS (2021b), authors' calculations

Figure 4: Median wages & CAGR of semi-skilled workers, 2010-2020



Source: DOS (2021b), authors' calculations

Figure 5: Median wages & CAGR of low-skilled workers, 2010-2020

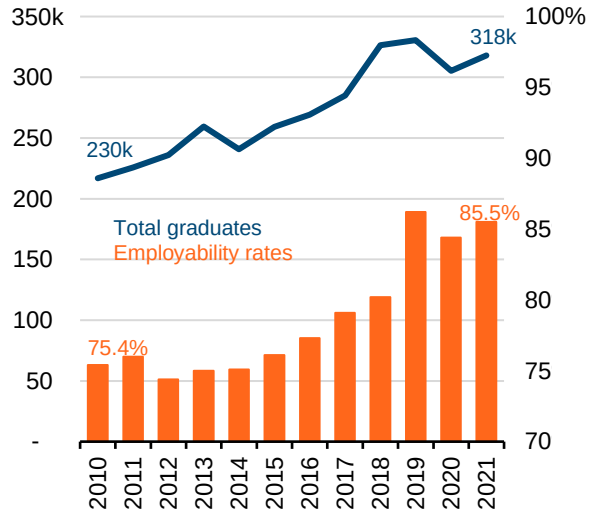


Source: DOS (2021b), authors' calculations

[17] DOS (2021b)
[18] Guvenen et al. (2019), pp. 62

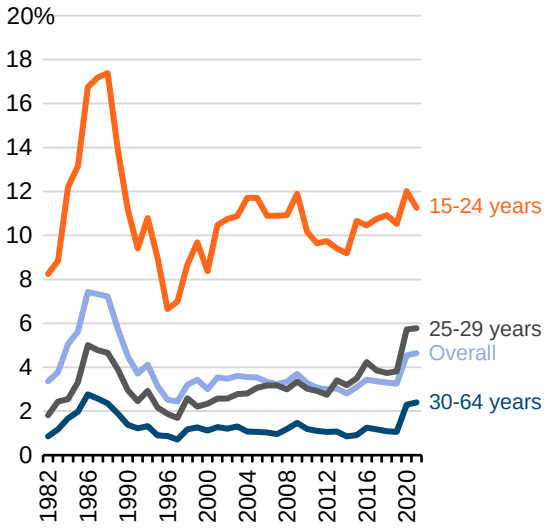
Graduate employability has persistently been a policy priority in the Malaysian Plans (RMKs) due to the various challenges faced by the workforce in the labour market, such as the lack of skilled jobs, skill mismatch, and long-term underemployment. Subsequently, this has put significant pressure upon HEIs as the suppliers of graduates. It should be noted that the issue of long-term unemployment and skill mismatch persists[19] despite the increase in graduate output (from 230,000 in 2010 to nearly 320,000 graduates in 2020) with high employability rates (from 75.4% in 2010 to 85.5% in 2020) (Figure 6). Furthermore, unemployment disproportionately affects young age (Figure 7), particularly those below 30 years old, which continues to be a cause of concern for policymakers[20].

Figure 6: Total graduates and employability rate, 2010-2021



Source: MOHE (various years), authors' calculations

Figure 7: Unemployment rates, overall and by age cohort, 1982-2021



Source: DOS (2022e)

Employers also asserted that graduates do not possess the competencies required[21], and this claim is supported by high unemployment rates and skill mismatches among young people and new graduates[22]. Figure 8 shows that graduate unemployment rates were above national unemployment rates until 2019. Even though graduate unemployment rates have been below the national unemployment rates for 2020 and 2021, it continues to stay above 4%. In absolute terms, the number of unemployed graduates in 2020 has increased by more than 20%, from 165,200 persons in 2019 to 202,400 in 2020[23]. Across 2015-2021, about a third of unemployed persons in the country are among those with tertiary qualifications (Figure 9).

[19] Our subsequent analysis focuses on employed and unemployed graduates and the challenges that they face in terms of unemployment and skill mismatch.

[20] One of strategy addressed in the recent Malaysia Plan (RMK-12) is on future talent development where it aims to reduce skill mismatch, specifically among graduates. See EPU (2021)

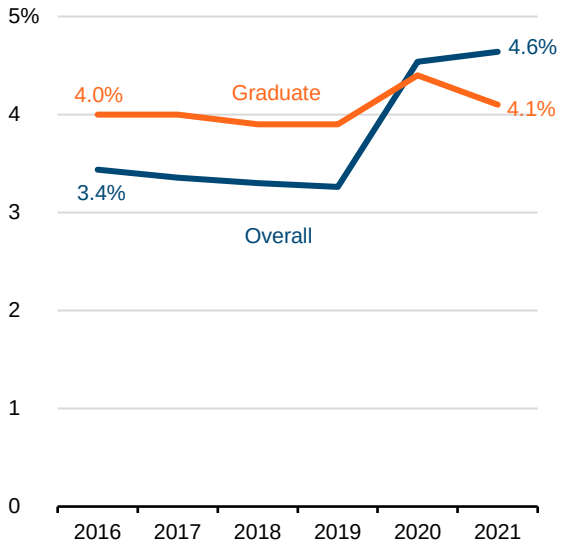
[21] KRI (2018)

[22] Muhammad Hisyam Mohamad (2022)

[23] Graduate statistics by DOS captures graduate labour force statistics in Malaysia. In 2020, total unemployed graduates (within the working aged population) were 202.4 thousand, rose about 22.5% as compared to the 2019 figure (165.2 thousand). See DOS (2022b), Table 1b.

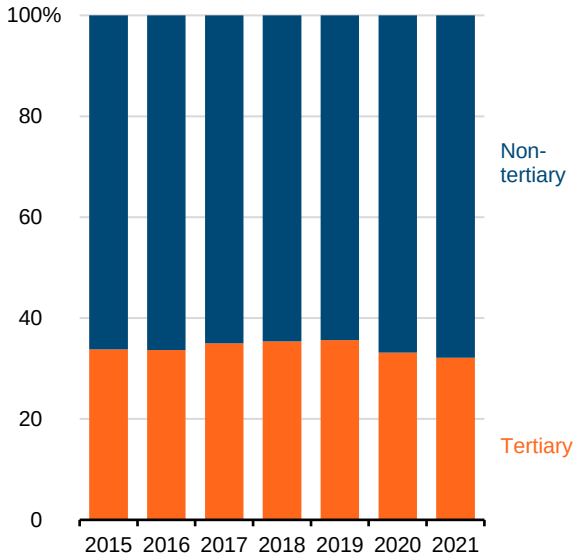
The issue surrounding youth unemployment is not unique to Malaysia. The Covid-19 pandemic has exacerbated the structural problems surrounding youth unemployment, which, in turn, will influence their future career growth prospects as they cannot secure a job placement or go into further education. According to the International Labour Organization (ILO)[24], the global youth unemployment rate is estimated to be at 14.9% in 2022, more than three times the adult unemployment rate, encompassing 73 million unemployed youth, which is still 6 million above its pre-pandemic levels in 2019. Furthermore, the ILO estimated in 2020 that almost one in five, or 272 million young people, are classified as not in education, employment, or training (NEET)—the highest level in 15 years[25]. NEETs are not a homogenous group, but there are a higher proportion of NEETs that have a lower level of education, with the majority of them being in their 20s[26]. These individuals may face further adverse economic outcomes as they lack academic and professional experiences compared to others within the labour market.

Figure 8: Unemployment rates, overall versus graduate, 2016-2021



Source: DOS (2022b)

Figure 9: Share of unemployed persons, tertiary versus non-tertiary qualification, 2015-2021



Source: DOS (2022e)

[24] ILO (2022), pp. 26-31
[25] Ibid.
[26] Carcillo et al. (2015), pp. 19-20

1.2. The "school-to-work transition" for fresh graduates

While the issue of graduate employability may seem to impact graduates in the short term, the long-term consequences should not be underestimated[27]. This is because starting a career on the wrong trajectory would have a detrimental effect on lifetime employment outcomes, such as career and earning progression and overall life satisfaction[28]. Additionally, a rocky transition from education to work would lead to higher vulnerability and risky behaviour[29].

On the other hand, starting a career in the right position enhances the likelihood of acquiring a high-quality job and promotes upward social mobility[30]. According to a report published by the Federal Reserve Bank of New York, most US workers experienced their highest wage growth in the first ten years of their employment from ages 25 to 35[31]. Beyond this period, wage growth is determined mainly by which income percentile workers are in, with an average of 60% rise for the median percentile, a 4.8-fold increase for the 95th percentile, and a 27.8-fold increase for the top 1%[32].

Meanwhile, the case of underemployment should not be overlooked. Skill-related underemployment (SRU)[33], sometimes called skill underutilisation, could cause difficulties for the workforce to further progress in their career (see Box Article 1). Working in a job that requires lower skills would affect wages and make them fall behind their peers. Figure 10 demonstrates that the SRU among tertiary-educated workers in Malaysia has been in double digits since quarter three in 2019 compared to around 8% in 2017. In the second quarter of 2022, out of 1.8 million underemployed persons in Malaysia, 37% were workers with a tertiary qualification. The SRU was also much higher among younger workers (under 35 years old) than older workers (above 35 years old). In Malaysia, the growth of high-skill occupations has flattened since 2002, while employed persons with tertiary qualifications continue to increase — exacerbating the issues of overqualification[34].

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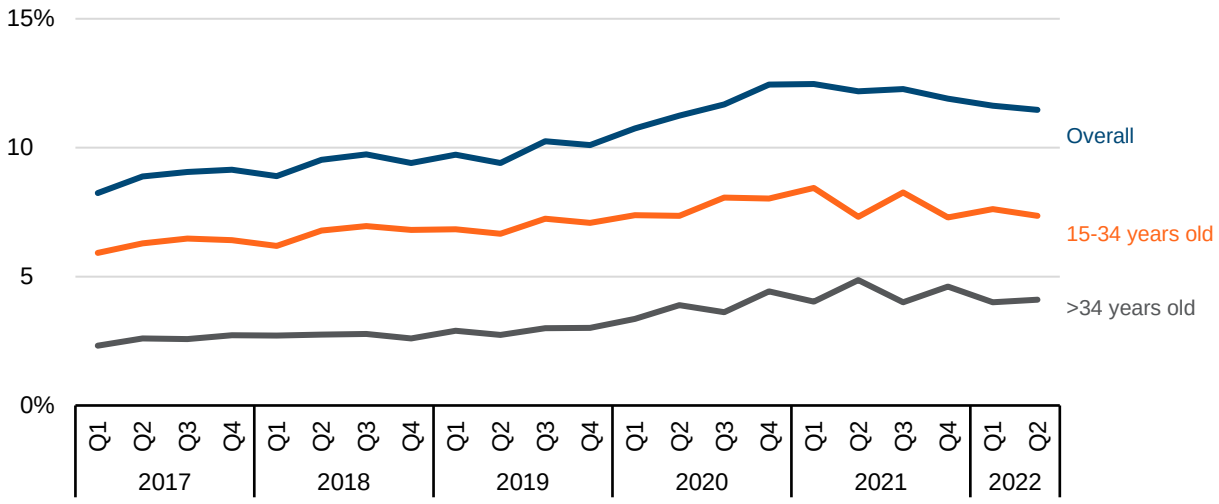
[27] Robst (2007)
[28] Mohd Amirul Rafiq Abu Rahim et al. (2021)
[29] Pastore et al. (2020)
[30] Employment outcomes for new graduates during their transition is important which later will influence their success in social ladder. However, having a degree alone is insufficient. Additional capital is required for them to gain positional advantage in the labour market through extra activities beyond academic programme. See Bathmaker et al. (2013)
[31] Guvenen et al. (2019)
[32] Ibid.
[33] Skill-related underemployment is generally defined as those who wanted to change their current Employment situation in order to fully utilised their occupational skills. Term overqualification has been used throughout this paper referring to the same definition as skill-related underemployment.
[34] KRI (2020), pp. 37.

Figure 10: Skill-related underemployment, Malaysia, 2017-2022



Source: DOS (2022c)

BOX ARTICLE 1: Underemployment in Malaysia

In the Labour Force Survey Report published by DOS in September 2020, new indicators related to underemployment were introduced to deepen the understanding of the country's labour-supply condition. There are two measurements of underemployment namely: (1) time-related and (2) skill-related.

Time-related underemployment refers to individuals employed less than 30 hours a week because of the nature of the job or the lack of demand for their work, who should be able and ready to work more hours.

Skill-related underemployment refers to individuals with tertiary education working in semi-skilled and low-skilled employment who are looking to change their existing job position to utilise their occupational abilities and skills.

While skill-related underemployment is measured by individuals with tertiary education in semi- and low-skilled employment, the term "overqualification" in this paper refers to young workers (from all education levels) in occupations that exceed the required education level.

Source: DOS (2022c)

1.3. Policy directions on graduate employability

The government has identified several key priority areas in dealing with the issue of graduate employability. These include promoting (1) TVET and (2) the Science, Technology, Engineering and Mathematics (STEM) routes; and encouraging (3) entrepreneurship among graduates as outlined in the Graduate Employability Strategic Plan[35]. Three key policy documents have recently been published, i.e. (1) the Shared Prosperity Vision 2030 (SPV 2030), (2) the National Entrepreneurship Policy 2030 (NEP 2030), and (3) the Twelfth Malaysia Plan (RMK-12), providing a range of employability-oriented measures to enhance graduates' employability in Malaysia. At the higher education level, the MEB-HE was established to address the emerging issue of higher education, which reflects the HEI's commitment to produce employable graduates in the challenging world of work.

The SPV 2030[36] outlined the country's vision and priorities for socioeconomic development. Under its 8th Guiding Principle—a needs-based approach economy—SPV 2030 highlights the importance of holistic approach to improving policies related to the *rakyat*'s economic well-being. This principle's first outcome aimed at holistically strengthening education and entrepreneurship programmes through better ecosystem development, human resource/talent, financing, and skills development. Additionally, the emphasis on education and TVET has been mentioned explicitly in the SPV 2030 in addressing critical issues related to low-earning and employment outcomes among students.

> *"Through this Vision, the rakyat will enjoy the prosperity of the country in a fair, equitable, and inclusive manner. This prosperity will only be achieved through continuous and earnest efforts. Increased economic growth should be accompanied by increases in household income, skills, and professionalism, wages and salaries, savings and ownership of wealth, as well as participation in entrepreneurship and businesses." – Minister of Economic Affairs (2019)*[37]

The NEP 2030[38], launched in 2020, aligns with the SPV 2030 framework as it aims to develop an inclusive and competitive entrepreneurial community for the global market. It also targets increasing the number of qualified, viable, and resilient entrepreneurs and enhancing local entrepreneurs' capabilities, particularly the Micro, Small and Medium-sized Enterprises (MSMEs). NEP 2030 also addresses the skill mismatch among graduates, and this policy (among others) is geared towards encouraging entrepreneurship as a career choice for graduates. This aim will be spurred by a call to the higher education sector to produce entrepreneurial graduates. Alongside this, the Professional Training and Education for Growing Entrepreneurs (PROTÉGÉ) programme provides training, especially to graduates who want to venture into entrepreneurship. PROTÉGÉ also provides marketability training to make it easier for graduates to get jobs after graduation.

[35] MOHE (2021a)
[36] MEA (2019)
[37] Ibid.
[38] MED (2019)

> *"NEP 2030 is intended to be the nucleus and catalyst to drive a culture of entrepreneurship in the country, with the ultimate objective of creating a holistic and conducive entrepreneurial ecosystem to support an inclusive, balanced, and sustainable socioeconomic agenda," – Malaysia's Prime Minister (2019)[39].*

The emphasis on TVET, STEM, and entrepreneurship in higher education to help facilitate better employment outcomes for graduates has been outlined in the MEB-HE. In addition to its commitment to producing graduates as job creators instead of job seekers, the MEB-HE also aims to provide equal pathways for TVET, at par with traditional academic routes. It also emphasised that young people must see the benefits of TVET and STEM in higher education.

> *"Preparing Malaysian youth to navigate this uncertain future requires imbuing them with transferrable skills and sound ethical foundations, and the resilience and enterprising spirit to forge new opportunities for themselves and others. It is important to move from a world of job seekers to a world of job creators." - MOE (2015)[40]*

The RMK-12[41] targets a better TVET ecosystem for graduates as part of the strategy to address challenges in the labour market, such as (1) reliance on foreign workers, (2) low compensation for employees (CE), and (3) high youth unemployment. Thus, a robust TVET ecosystem is a catalyst for transformation to address the demands of the industry, in line with the Industrial Revolution 4.0. New technologies, including (1) augmented reality (AR), (2) virtual reality (VR), and (3) artificial intelligence (AI), are all being used to supplement current TVET teaching and learning methods in addition to the practical training taking place in laboratories and workshops.

Furthermore, the 2021-2025 Graduate Employability Strategic Plan[42] (see Box Article 2) was also designed to cultivate future-proof talent through four main strategies, namely: (1) consolidation of talent excellence; (2) students' expansion of careers; (3) reinforcement of teaching and learning; and (4) empowerment of industrial relations. This plan, which succeeds the National Graduate Employability Blueprint (2012-2017) [43] that aimed for graduate employability rates to exceed 80% annually by taking into account graduates in the gig economy and entrepreneurs.

[39] MED (2019)
[40] MOHE (2015)
[41] EPU (2021)
[42] MOHE (2021a)
[43] MOHE (2012)

BOX ARTICLE 2: Graduate Employability Strategic Plan 2021-2025

The Graduate Employability Strategic Plan, launched by the Minister of MOHE in October 2021, outlined four main objectives, namely:

1. To improve the English proficiency of graduates and to nurture graduates that are equipped with the skills required in the 21st century;
2. The Ministry of Higher Education has to ensure that Graduate Employability is maintained above 80% as well as actively promote entrepreneurship and gig work;
3. A holistic approach to learning is needed, one whereby the courses offered in universities fulfil industry needs and are taught by proven experts within that particular field;
4. There is a need for higher collaboration between HEIs and industry, offering opportunities for students to pursue professional certification.

The objectives outlined above show that the ministry is taking the challenges of the 21st century into account as it attempts to have a holistic approach to tertiary education, highlighting the needs of industry and ensuring that graduates are equipped with the necessary skills as they prepare themselves for labour market needs. This is the continuation of Malaysia's development policy surrounding graduate employability, whereby there has been a steady growth of the tertiary educated workforce in Malaysia post-independence.

This plan also summarised several issues and challenges behind the issue of graduate employability, which are: (1) graduate unpreparedness to face the transition from school to work; (2) the millennial generation behaviour and thinking; (3) unpreparedness towards IR4.0; (4) unpreparedness for the job market and its ecosystem, on top of a lack in commitment among its related stakeholders; and (5) the dynamics of the global economy.

Source: (MOHE, 2021a)

2. Graduate Employability in Malaysia

2.1. Measuring graduate employability

The graduate output represents the total number of graduates produced by public and private HEIs in Malaysia, including those in TVET-related fields and institutions. The role of HEIs has risen in tandem with the soaring demand for tertiary education [44]. Correspondingly, the government has allocated substantial resources to nurture competitive human capital in response to development needs and globalization. In Malaysia, the various Malaysian Plans showcased the government's commitment to human capital development, which can be manifested in the large number of graduates produced annually.

[44] MOHE (2015)

Graduate employability has always been a focal point for the MOHE as a metric of success for HEIs—a reassurance of the value of education and its ability to provide employment opportunities and career growth. To a certain extent, graduate employability reflects the quality of graduates produced by HEIs as it represents the skills and knowledge needed to satisfy the job market.

There are many definitions of employability and its vital role in determining the country's labour market policy in the existing literature. Employability can be surmised as a set of skills that are not job-specific but cut horizontally across all industries and vertically across all jobs. It also relates to an individual's skills to obtain a job and the competencies to cope with challenging labour market conditions (Table 1).

Table 1: Concepts and definitions of employability

Definitions of employability
"Employability is viewed as the benefit and usefulness of the study programme for career and work tasks. The "benefit and usefulness" is measured using survey data on the graduates' assessments five to six years after graduation." (Støren and Aamodt, 2010)
"Employability has been defined as a set of skills, knowledge and personal attributes that make an individual more likely to secure and be successful in their chosen occupation to the benefits of themselves, the workforce, the community and the economy." (Yorke, 2006)
"Employability is defined as an individual's ability to secure and retain employment, to progress within the enterprise and between jobs, and to cope with changing technology and labour market conditions." (Wilson-Clark and Saha, 2019)
"Employability also includes attitude and personal attributes of loyalty, commitment, honesty, punctuality and integrity. It follows that employability encompasses aspects of proactive actions, personal management attitude and career management aptitude of the individuals as efforts to acquire the desired career." (Clarke, 2008)
"Graduate employability has the ability of a graduate to display the qualities needed by the employer for the organisation's future requirements. Employability skills are a set of achievements, understanding, and personal attitudes/qualities that mark the individual as potentially more able to get the desired job and successful in career choice." (Harvey, 2001)

In the context of Malaysia's higher education, the term graduate employability carries a different meaning from what has been contextualised in the literature. According to MOHE, graduate employability (as reflected in the GTS report) is measured according to the graduate's employment status. Graduates who are working, continuing their studies, improving their skills, or waiting for job placement are considered 'employable' under the GTS. Hence, employability is calculated as follows:

$$\frac{\boldsymbol{Number\ of\ graduates\ actively\ working, pursuing\ further\ study, up-and\ reskilling, and\ awaiting\ job\ placement}}{\boldsymbol{Total\ graduates\ in\ the\ GTS\ at\ the\ time\ of\ survey\ undertaken}} \times 100$$

Employability is commonly viewed as the primary target in many labour markets and human resource policies, especially in the context of fresh graduates. Fresh graduates hold an advantaged position in the economy as their qualification is a window of opportunity to achieve better labour market outcomes through their first job after graduation. Nonetheless, fresh graduates' adversities during their transition to a decent job are greatly influenced by their

labour market outcomes. Hence, the subsequent sections will discuss in detail, observations on fresh graduates' labour market outcome—being employed (Section 3) and being unemployed (Section 4). Appendix 1 explains in detail the distributions of fresh graduates pursuing further study and those that have enrolled in up- and re-skilling programmes.

2.2. Objective and structure of the paper

The main objective of this paper is to examine pertinent issues related to graduate employability in Malaysia. Our analysis observes several possible reasons for fresh graduate adversities in the labour market, such as skill mismatches, employment preferences and graduates' evaluation of the skills developed in HEIs. Our analysis is structured as the following:

Section 3 – Insights on Working Graduates

This section analyses the patterns and dynamics of working graduates and highlights several challenges that graduates face throughout the decade. Our key observation covers issues related to low starting pay, the insufficient job for graduates, graduates' satisfaction with their current position, and their intention to change jobs.

Section 4 – Insights on Unemployed Graduates

This section observes the situation of unemployed graduates and how it could relate to graduates' socio-economic backgrounds.

Section 5 – Graduate's Job Search Process

This section observes the trends in the graduates' job search process for working and unemployed graduates. The job search process is an important element to understand whether fresh graduates are going through a smooth transition in the labour market.

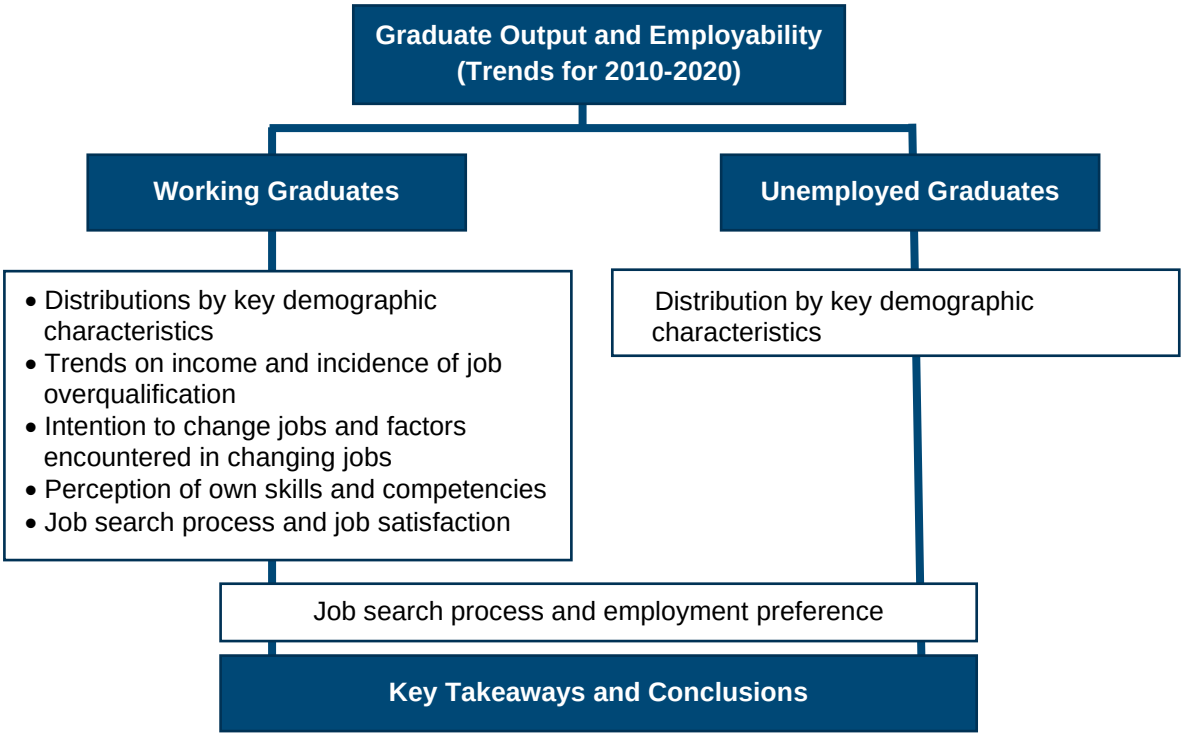
Section 6 – Summary of Key Takeaways and Conclusions

This section provides a summary of key takeaways from our analysis.

Framework of Analysis

The framework of this paper is illustrated in Figure 11. Since the study focuses on young and fresh graduates, the analysis will only cover survey respondents aged between 15 and 30.

Figure 11: Framework of the analysis



2.3. Data Source

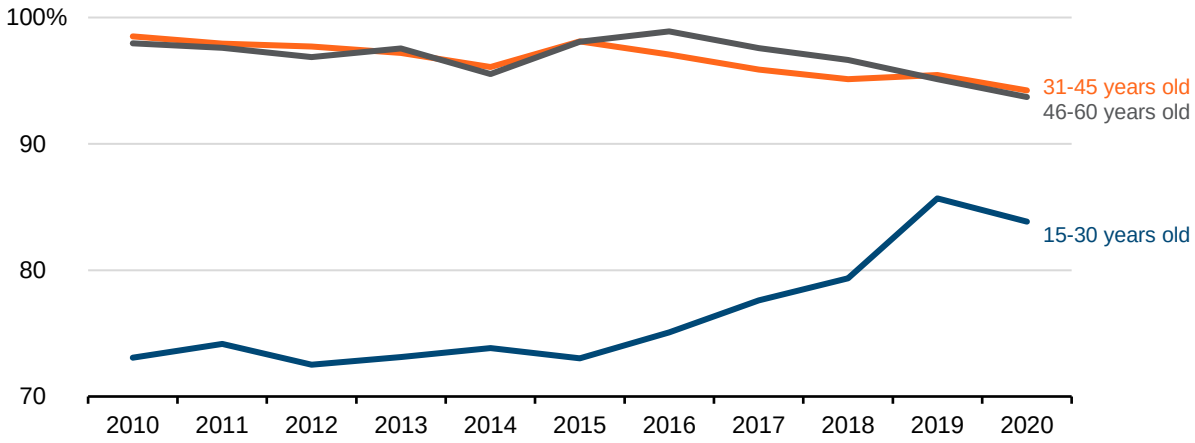
Our analysis draws from the Graduate Tracer Study (GTS) data obtained from the MOHE. The GTS is a survey conducted annually by the MOHE since 2006 in conjunction with convocation ceremonies of recently graduated students (usually within six months to one year upon completing studies). The purpose of the GTS is to collect information on the graduates' current employment status and to gather feedback on various aspects of their institutions.

From 2012 onwards, the GTS has been conducted online via the Graduate Tracer Study System (also known as *Sistem Kajian Pengesanan Graduan* - SKPG[45]). In 2018, the coverage of GTS was expanded to include graduates from the Teachers Education Institute (*Institut Pendidikan Guru* – IPG), as well as TVET graduates in all *Institut Latihan Kemahiran Awam* (ILKAs) administered by the Ministry of Human Resources, the Ministry of Youth and Sports, the Ministry of Agriculture and Food Industry, and the Ministry of Rural Development.

[45] http://graduan.MOHE.gov.my/SKPG/

The scope of our analysis is on fresh graduates who are at the early juncture of their working trajectory. Fresh graduates in the context of our analysis refer to students who participated in GTS from 2010-2020 aged between 15 to 30 years old, during the survey conducted. Moreover, one limitation that should be noted from the analysis is that the GTS captures very short first job experiences and other spells of employment outcomes and activities. Figure 12 appears that graduate employability is noticeably lower among the younger cohort (15-30 years old), which explains the different challenges faced by graduates from different age cohorts. Graduates aged beyond 30 years old may have a higher likelihood of already being employed and facing different employment experiences and outcomes as opposed to those aged below the 30s. The inclusion criteria for fresh graduates aged 15-30 years old also align with the context of the current study to evaluate the employment outcomes of graduates in their early trajectory of education-to-work transition.

Figure 12: Graduate employability rate, by age group, 2010-2020



Source: MOHE (various years), authors' calculations

Table 2 summarises the total respondents and the distribution by age group. Overall, our analysis covers 2,362,997 respondents aged 15 to 30 (92.4% of all respondents) from 2010 to 2020.

Table 2: Number of respondents, overall and by age group, 2010-2020

Convocation year	Overall sample	15-30 years old	Above 30 years old
2010	174,463	158,469	15,994
2011	185,830	171,133	14,697
2012	202,346	187,255	15,091
2013	212,802	196,550	16,252
2014	209,838	197,583	12,255
2015	229,568	201,214	28,353
2016	238,187	214,420	23,767
2017	255,099	234,728	20,371
2018	290,282	274,437	15,845
2019	298,551	281,968	16,580
2020	260,701	245,240	15,461
Overall	**2,557,663 (100.0%)**	**2,362,997 (92.4)**	**194,666 (7.6)**

Source: MOHE (various years), authors' calculations

2.4. Distribution of respondents

Table 3 represents graduates' distribution by selected demographic characteristics. The total graduate output had almost doubled from 158,469 in 2010 to 281,968 in 2019. However, in 2020, the total number of graduates decreased by 13.1% to 245,240 compared to 2019. The reduction in the number of graduates in 2020 is primarily due to the delayed convocation caused by the Covid-19 pandemic[46]. This situation is not unique to Malaysia. A recent study by Aucejo et al. (2020) indicated that graduates in the United States (US), especially those from lower-income families, were found to have a higher likelihood of delayed graduation due to the pandemic crisis in 2020[47].

Like in many other countries, females continue to outnumber males in higher education. Gender gap in Malaysia's HEIs began to appear in the late 1990s and rose quickly during the early 2000s[48]. However, the female-to-male ratio in graduate output in Malaysia has decreased from 1.61 (2010) to 1.31 (2020), indicating a growing number of males going into tertiary education.

Graduate distribution by type of institution indicates a decreasing trend from public universities (IPTA-UA) compared to those from public non-university institutes (IPTA non-UA) and private universities (IPTS). The share of IPTA (non-UA) graduates has shown an increasing trend since 2018 due to the inclusion of more TVET-related institutions, such as the ILKAs and vocational colleges that predominantly offer diploma and certificate qualifications. Therefore, the expansion of GTS coverage in 2018 has significantly increased GTS respondents with certificate-level qualifications, rising from less than 5% before 2018 to more than 8% after 2018.

The distribution by age shows that most graduates aged between 15-25 years, while those aged 26-30 only constitute less than 10%. The mean and median age is 22 years old, indicating that graduates are most likely from the 15-25 age cohort. By qualification, 80% of graduates have degree and diploma certifications, with a 40% split between the two qualifications. Two fields of studies, i.e. 1) *social science, business & law*; and 2) *engineering, manufacturing & construction*, contribute more than 60% of graduates yearly. The proportion of graduate output by field of study shows a similar pattern every year. As discussed earlier, the spike in TVET-related field institutions is due to the expansion of GTS coverage to include ILKAs and vocational colleges, which then translates to a spike in TVET-related field institutions starting in 2018.

In terms of family income, more than 80% of graduates are from a family with household income below RM5,000. However, as Malaysian family income has improved over the years, the proportion of graduates from a family who earns below RM2,000 has slowly declined and is

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[46] See Mohamad and Akbari (2022)

[47] Several other studies in other context also have shown the effect of Covid-19 on delays in graduation among university students, for example Saw et al. (2020), Soria et al. (2020) and Liu (2021)

[48] According to MWFCD and UNDP (2007), cited from Malaysia's Gender Gap Index report, the combined gross enrolment ratio in education (primary, secondary and tertiary) was in favour of male in 1980 (highest at 57%), but gender parity was achieved by 1990 where female was found to have higher enrolment ratio starting 2000, between 65.3% to 64.3%. According to ibid., cited from Malaysia's Gender Gap Index report, the combined gross enrolment ratio in education (primary, secondary and tertiary) was in favour of male in 1980 (highest at 57%), but gender parity was achieved by 1990 where females were found to have a higher enrolment ratio starting 2000, between 65.3% to 64.3%.

moving towards the RM3,000 to RM5,000 income bracket. In 2020, about one-fifth of the graduates were from a family earning between RM3,000 to RM5,000.

By employment status, most graduates were already working during the GTS survey was conducted. The percentage of working graduates has increased to more than half since 2016, attributed to the higher employability of TVET graduates in recent years. There was also a slight increase in those participating in re-and upskilling programmes in 2020 compared to 2019, which might be due to government intervention in various re-and upskilling programmes during the height of the pandemic to help cushion its impact on the labour market. Meanwhile, graduates who chose to further their studies have also seen a gradual increase in recent years. In addition to the concern about our graduates' ability to secure jobs soon after graduation, more needs to be explored in investigating their labour market dynamics over the years, which is what this paper aims to contribute.

Table 3: Distribution of respondents, aged 15-30, by selected demographic characteristics

Convocation Year		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Characteristics (%)/N		**158,469**	**171,133**	**187,255**	**196,550**	**197,583**	**201,214**	**214,420**	**234,728**	**274,437**	**281,968**	**245,240**
Gender	Male	38.2%	39.5	39.1	39.1	38.8	39.7	40.0	38.6	42.2	42.8	43.2
	Female	61.8	60.5	60.9	60.9	61.2	60.3	60.0	61.4	57.8	57.2	56.8
Institutions type	IPTA (UA)	59.1	53.8	53.2	51.0	53.0	46.3	44.4	47.5	40.7	39.1	38.6
	IPTS	18.6	24.6	28.4	32.0	32.4	38.4	40.6	38.8	33.5	33.8	32.0
	IPTA (Non-UA)	22.2	21.6	18.4	16.9	14.6	15.3	15.0	13.6	25.9	27.2	29.4
Age	15-20 years	38.9	40.1	40.8	41.3	42.3	43.0	39.3	41.5	46.4	47.7	45.5
	21-25 years	54.5	53.6	52.0	50.0	50.1	49.1	53.1	51.1	47.6	46.1	47.3
	26-30 years	6.6	6.3	7.1	8.7	7.6	7.9	7.6	7.4	6.0	6.2	7.2
	Mean	22.33	22.30	22.36	22.43	22.34	22.30	22.38	22.31	22.02	21.96	22.24
	Median	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0	22.0
Qualification	PhD	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.2	0.2	0.1
	Master	2.7	3.5	3.8	3.9	4.2	4.2	4.1	4.4	3.4	3.2	3.0
	Bachelor's degree	48.0	47.0	46.1	44.4	45.9	44.5	50.5	47.8	43.8	43.0	42.0
	Professional/ Postgrad cert.	2.0	0.5	0.3	1.7	0.3	0.3	0.3	0.3	0.3	0.5	0.4
	Diploma	37.9	40.4	43.3	46.3	47.2	47.0	40.8	43.1	43.6	43.0	43.1
	Certificate	9.3	8.6	6.5	3.6	2.1	3.9	3.9	4.1	8.7	10.1	11.3
Study field	Education	7.9	4.5	4.5	5.6	4.4	5.3	3.8	4.5	4.0	4.4	4.3
	Arts & humanities	7.0	7.4	7.1	6.8	7.2	8.3	8.0	7.8	7.8	8.0	7.8
	Soc sci., business & law	31.6	32.5	32.6	32.8	37.8	35.7	37.3	35.5	32.2	31.3	30.2
	Sciences, math & computers	11.8	12.1	11.6	11.0	11.6	11.9	11.4	12.2	11.7	10.7	10.9
	Engir., manuf. & constr.	30.6	30.7	28.1	27.9	24.3	24.4	24.5	24.6	29.7	30.8	32.5
	Agri. & veterinary	1.3	1.4	1.4	1.3	1.7	1.9	1.9	1.9	2.2	2.2	1.9
	Health & welfare	5.3	6.4	9.6	9.3	6.7	6.4	6.3	6.3	5.7	5.4	4.8
	Services & others	4.7	4.9	5.0	5.2	6.3	6.0	6.7	7.1	6.9	7.3	7.5
TVET vs Non-TVET	Non-TVET	75.3	75.9	78.1	79.3	81.7	80.8	81.0	81.8	71.0	69.0	66.7
	TVET	24.7	24.1	21.9	20.7	18.3	19.2	19.0	18.2	29.0	31.0	33.3
Family income	< RM1,000	34.2	31.4	29.0	25.4	23.2	21.1	19.0	17.4	17.0	16.1	14.8
	RM1,001 - RM2,000	32.1	32.1	31.4	31.0	29.7	29.9	28.9	28.3	28.6	27.9	26.5
	RM2,001 - RM3,000	17.9	19.1	20.2	22.1	22.3	22.6	23.4	22.1	21.2	20.9	20.2
	RM3,001 - RM5,000	9.4	10.5	11.6	12.8	14.7	15.1	16.2	18.5	18.8	19.0	20.1
	> RM5,000	6.3	6.9	7.9	8.6	10.1	11.2	12.5	13.7	14.3	16.0	18.4
Employment status	Working	45.6	48.9	47.4	44.2	45.6	46.8	52.1	52.0	56.6	61.8	58.1
	Furthering studies	18.2	18.5	18.7	21.5	22.1	19.8	16.0	18.4	16.6	17.6	18.8
	Re-and up-skilling	1.5	1.5	1.6	1.5	1.6	1.9	2.5	2.1	1.3	1.4	2.1
	Waiting job placement	7.7	5.3	4.8	6.0	4.5	4.5	4.5	5.0	4.8	4.9	4.8
	Unemployed	26.9	25.8	27.5	26.9	26.2	27.0	24.9	22.4	20.6	14.3	16.2

Source: MOHE (various years), authors' calculations

3. Insights on Working Graduates

As discussed in the previous section, the status and achievement of graduates' transition to the job market are commonly measured and monitored by graduate employability rate and other labour market indicators[49]. This section analyses the situation of working graduates, in terms of their income distributions, jobs and their intention to change jobs. The key findings will be discussed in five subsections. The first subsection presents the long-term trends of working graduates based on selected demographic characteristics. The second subsection outlines several key observations on working graduates. The third subsection will highlight key issues regarding graduates' income and the incidence of job overqualification. The fourth and fifth subsections discuss graduates' job satisfaction as well as the challenges encountered in their current job.

3.1. Characteristics of working[50] graduates and long-term trends

This subsection discusses graduates' employment status and trends according to selected demographic characteristics as detailed in Table 4. Overall, graduates with a "working" status have increased from 45.6% in 2010 to 58.1% in 2020, though the percentage of working graduates slightly decreased in 2020 when compared to 2019. This might be due to the slowdown of the economy caused by Covid-19 and the movement restriction orders affecting the graduates' job search process.

Females constitute slightly more than half of working graduates throughout the years. By type of institution, a third of graduates are from private institutions (IPTS). The share of working graduates from public universities, IPTA (UA), has dramatically decreased throughout the decade, from more than 50% in 2010 to only a third in recent years. Concurrently, the percentage of working graduates from public non-university institutions, IPTA (non-UA), has shown an increasing trend since 2018. Additionally, almost one-third of working graduates are from TVET-related institutions.

Distribution by age has shown that most working graduates are from younger age cohort or those below 25 years. By qualification, almost half of working graduates hold a bachelor's degree. The three main fields of study among working graduates are (1) *social sciences, business & law*; (2) *sciences, mathematics & computers*; and (3) *engineering, manufacturing & construction*. All together, these three fields made up about 74.0% of total working graduates. However, about half of all working graduates earn less than RM2,000.

According to employment type, the percentage of full-time/permanent employment shows a decreasing trend throughout the decade. Conversely, an increasing trend can be observed for the self-employed, rising from only 3.3% in 2010 to 22.2% in 2020. Meanwhile, the percentage of graduates in contract/temporary employment has been stagnant throughout the years, at about one-fifth of all graduates. For graduates in part-time positions, their proportion has gradually decreased from 20.7% in 2010 to 15.1% in 2020. This may imply that the expansion of higher

[49] Such as the Labour Force Survey and the Graduate Statistics.

[50] Working graduates in this context refer to graduates' employment status, who are already in employment, or working during the survey is conducted.

education enrolment has led to much greater competition for full-time/permanent employment which led to the rise of non-standard employment[51,52].

By occupational skill type, the percentage of graduates working in skilled jobs has not shown a great improvement throughout the years. From 2010-2018, the percentage of graduates working in skilled jobs has been declining from 63.8% to 47.0%. Even though the percentage have gone up to 64.3% in 2019 (and 62.7% in 2020), it is only a 0.5% increase compared to 2010. An increase for skilled occupation in 2019 is mainly contributed by an increase in technician & associate professional's positions—which mainly benefit graduates from TVET education who typically hold diploma and certificate qualifications. Across the years, at least one-third of graduates are working in semi-and low-skilled jobs, suggests that the economy has not been creating sufficient skilled jobs for them[53]. Distribution according to the type of industry has seen concentration in the services sector, followed by industry-related and agriculture sectors.

The distribution of working graduates based on these demographic characteristics alone is not adequate to understand the graduates' employment outcomes due to over representations of certain groups. Hence, the subsequent subsections will examine these demographic factors and highlight key issues related to working graduates.

[51] Diana Abdul Wahab (2017)

[52] Non-standard employment refers to employment types other than full-time/permanent.

[53] BNM (2021)

Table 4: Distribution of working graduates, by selected demographic characteristics

Convocation Year		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Characteristics (%)/N		72,307	83,610	88,760	86,800	90,122	94,238	111,704	122,045	155,465	174,149	142,544
Gender	Male	41.4%	42.4	42.7	42.1	41.1	41.6	41.6	40.0	44.3	43.9	44.6
	Female	58.6	57.6	57.3	57.9	58.9	58.4	58.4	60.0	55.7	56.1	55.4
Institutions type	IPTA (UA)	55.6	51.8	48.1	45.6	47.9	41.7	43.2	44.2	36.8	37.7	37.5
	IPTS	20.4	26.1	31.4	33.5	33.6	37.7	36.4	35.7	30.3	30.5	29.1
	IPTA (Non-UA)	24.0	22.0	20.5	20.8	18.5	20.6	20.4	20.1	32.8	31.8	33.4
Age	15-20 years	30.3	30.8	32.8	35.0	34.6	38.3	35.5	36.7	43.4	42.2	38.9
	21-25 years	59.0	59.8	56.7	53.2	54.0	50.2	54.7	53.5	49.3	50.4	52.2
	26-30 years	10.7	9.4	10.5	11.8	11.4	11.5	9.9	9.8	7.3	7.5	8.9
	Mean	22.8	22.74	22.78	22.77	22.77	22.65	22.63	22.57	22.17	22.19	22.51
	Median	23.0	23.0	23.0	23.0	23.0	22.0	23.0	22.0	22.0	22.0	23.0
Qualification	PhD	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.1
	Master	4.4	5.1	5.3	5.6	5.9	5.4	5.0	5.5	4.0	3.8	3.7
	Bachelor's degree	53.5	54.4	51.2	48.8	50.7	47.1	52.9	51.0	45.5	47.6	47.3
	Professional/ Postgraduate certificate	3.3	0.5	0.4	0.9	0.4	0.2	0.4	0.4	0.4	0.4	0.5
	Diploma	29.1	32.8	37.1	39.5	39.8	41.8	36.2	37.0	39.6	37.6	36.4
	Certificate	9.6	7.2	5.7	5.1	2.9	5.1	5.2	5.8	10.3	10.4	12.0
Study field	Education	6.9	3.0	4.1	4.5	4.1	5.7	3.5	4.3	3.7	4.0	4.6
	Arts & humanities	6.2	7.0	7.2	6.5	6.8	7.5	7.2	7.2	7.3	8.0	7.9
	Soc sci., business & law	31.0	33.6	32.4	32.5	37.6	35.4	37.1	35.7	32.0	30.8	29.5
	Sciences, math & computers	11.3	11.7	11.0	10.4	10.3	10.9	10.8	10.7	10.7	10.0	10.1
	Engir, manuf & constr.	32.9	31.9	30.1	30.0	25.5	26.0	26.9	27.3	32.2	32.6	34.0
	Agri. & veterinary	1.1	1.1	1.1	1.0	1.4	1.4	1.5	1.7	1.9	2.0	1.7
	Health & welfare	5.9	6.8	8.9	9.3	7.3	6.5	5.4	5.4	4.5	4.8	4.3
	Services & others	4.8	4.8	5.2	5.8	7.0	6.7	7.5	7.8	7.6	7.8	8.0
TVET vs Non-TVET	Non-TVET	73.9	75.5	75.9	75.9	78.3	76.2	75.5	74.8	63.6	63.7	61.9
	TVET	26.1	24.5	24.1	24.1	21.7	23.8	24.5	25.2	36.4	36.3	38.1
Family income	< RM1,000	30.5	28.5	26.9	23.3	21.4	19.6	18.3	16.9	16.7	16.2	14.7
	RM1,001 - RM2,000	33.3	33.6	32.4	32.6	31.2	31.5	30.4	30.3	30.8	30.2	29.0
	RM2,001 - RM3,000	19.5	20.3	21.6	23.2	23.8	23.7	24.5	23.2	22.1	21.8	21.0
	RM3,001 - RM5,000	10.0	10.7	11.6	12.9	14.6	15.0	15.8	17.9	18.3	18.3	19.3
	> RM5,000	6.7	6.9	7.6	8.1	9.0	10.1	10.9	11.7	12.1	13.6	15.5

(*continued*) **Table 4: Distribution of working graduates, by selected demographic characteristics**

Convocation Year		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Characteristics (%)/N		**72,307**	**83,610**	**88,760**	**86,800**	**90,122**	**94,238**	**111,704**	**122,045**	**155,465**	**174,149**	**142,544**
Monthly income	< RM1,000	28.7	29.1	29.9	27.5	26.0	24.6	21.7	21.4	12.0	17.5	16.5
	RM1,001 - RM2,000	43.7	42.5	41.5	42.7	42.7	43.5	45.1	45.7	56.7	51.3	54.6
	RM2,001 - RM3,000	22.3	22.4	21.6	22.4	23.0	23.6	25.7	24.3	23.3	22.8	20.6
	RM3,001 - RM5,000	4.6	5.2	6.1	6.5	7.1	7.2	6.3	7.3	6.9	7.2	7.3
	> RM5,000	0.6	0.7	0.9	1.0	1.1	1.2	1.1	1.2	1.1	1.2	1.0
Employment type	Self-employed	3.3	3.6	4.2	4.4	5.3	6.7	7.7	7.6	17.1	19.7	22.2
	Full-time/Permanent	53.2	51.7	48.3	49.8	48.3	48.8	48.9	48.5	44.1	42.3	40.1
	Contract/Temporary	22.8	21.8	22.3	21.7	22.1	21.4	21.7	22.4	21.3	21.5	22.6
	Part-time	20.7	22.9	25.2	24.2	24.3	23.1	21.6	21.6	17.5	16.5	15.1
Occupation	Managers	4.1	4.5	5.4	5.9	6.2	5.1	5.6	6.1	5.9	7.5	7.0
	Professionals	43.0	42.3	39.6	39.4	38.4	36.9	35.5	33.8	29.0	36.0	34.6
	Technicians & associate professionals	16.7	15.5	13.0	10.6	9.2	10.1	9.5	8.8	12.1	20.7	21.1
	Clerical support workers	12.8	15.0	18.1	17.4	19.1	19.2	18.7	17.7	15.2	12.2	11.8
	Service & sales workers	16.6	15.2	14.0	15.1	15.4	16.8	18.6	19.7	19.6	13.4	12.8
	Skilled agriculture,	0.7	0.6	0.5	0.4	0.5	0.6	0.6	0.7	0.8	0.3	0.4
	Craft & related trade	1.0	1.5	2.9	4.1	3.7	3.7	4.0	4.3	7.3	3.2	3.8
	Plant & machine operators	1.8	1.2	0.9	0.9	0.9	1.0	1.2	1.7	1.9	2.9	4.1
	Elementary occupation	3.2	4.2	5.7	6.2	6.5	6.7	6.3	7.2	8.3	3.7	4.3
	Skilled	**63.8**	**62.3**	**58.0**	**55.8**	**53.8**	**52.1**	**50.6**	**48.7**	**47.0**	**64.3**	**62.7**
	Semi-skilled	**33.0**	**33.6**	**36.3**	**38.0**	**39.6**	**41.2**	**43.1**	**44.1**	**44.8**	**32.1**	**33.0**
	Unskilled	**3.2**	**4.2**	**5.7**	**6.2**	**6.5**	**6.7**	**6.3**	**7.2**	**8.3**	**3.7**	**4.3**
Industry	Services	73.8	73.0	73.7	74.5	74.8	74.9	74.2	73.4	70.5	70.8	69.2
	Industry-related	22.8	23.4	22.7	21.5	20.7	20.6	21.0	21.6	24.6	24.2	25.6
	Agriculture	2.1	2.0	1.9	1.4	1.6	1.6	1.7	1.8	1.7	1.9	2.2
	Others	1.3	1.6	1.7	2.5	2.9	2.9	3.0	3.1	3.2	3.1	2.9
Total Employed (%)		**45.6**	**48.9**	**47.4**	**44.2**	**45.6**	**46.8**	**52.1**	**52.0**	**56.6**	**61.8**	**58.1**

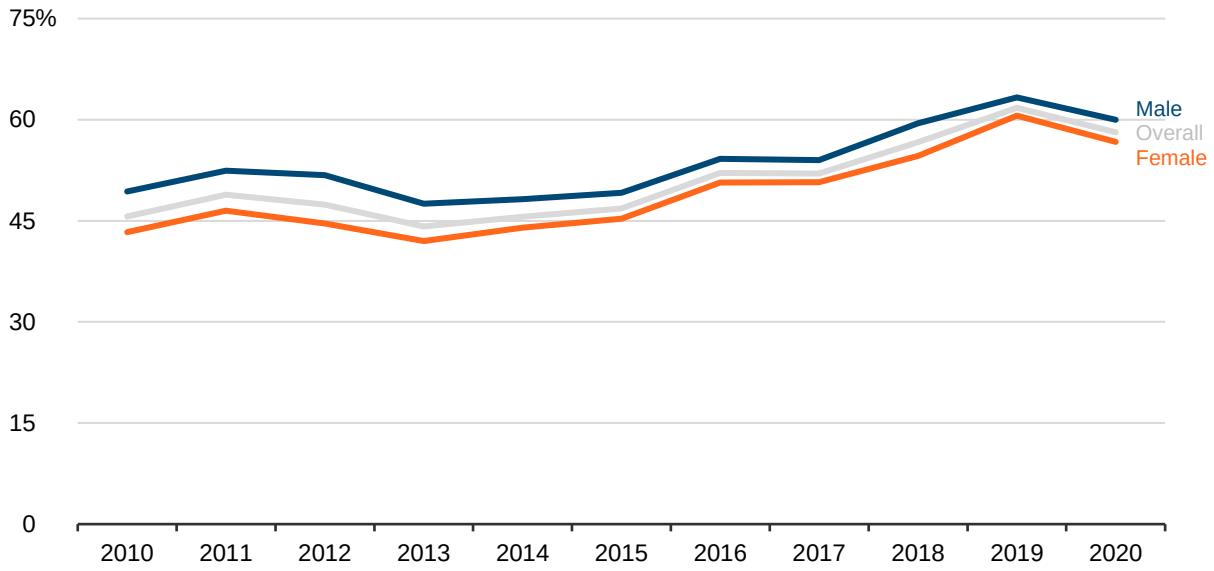
Source: MOHE (various years), authors' calculations

3.2. Key observations on working graduates

More females are in higher education, yet the percentage of working graduates among females is lower than males

As highlighted in the previous section, females continue to outnumber males in higher education. However, the proportion of male graduates with a working employment status is slightly higher compared to their female graduate peers (Figure 13). In 2020, the percentage of working graduates among males was 60% (2010: 49.3%), compared to 56.7% among females (2010: 43.3%). While the prevalence of working male graduates is higher than female graduates, the gap has narrowed in recent years. This gender gap may be explained by different preferences between genders. While females are more likely to further their studies, males tend to enter the labour force after attaining a certificate or diploma, though this may not necessarily lead to lucrative or rewarding jobs for males.

Figure 13: Percentage of working graduates, by gender

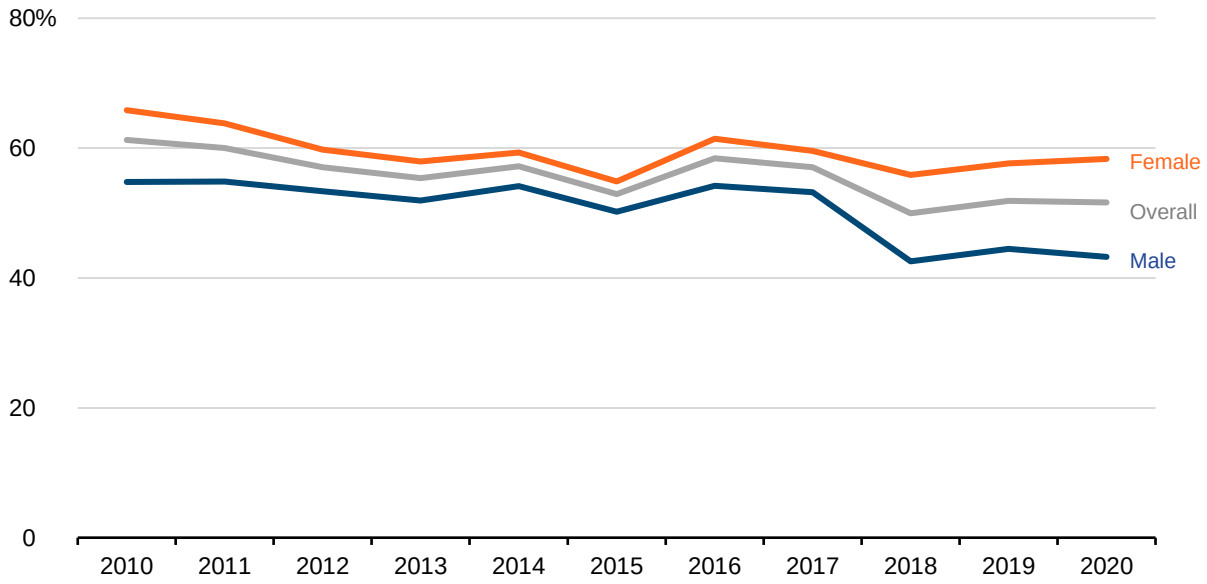


Source: MOHE (various years), authors' calculations

A declining trend in the share of working graduates who hold at least a bachelor's degree qualification

Figure 14 highlights a gradual decline in the percentage of working graduates holding at least bachelor's degree qualifications, from 61% in 2010 to 52% in 2020. The proportion of working females with at least bachelor's degree qualifications has been higher than males throughout the years, while the proportion of working graduates is higher among males. The observation indicates that more male graduates are working in jobs that require lower qualification requirements, particularly with either a diploma or certificate qualification.

Figure 14: Percentage of working graduates who hold at least bachelor's degree qualifications, by gender

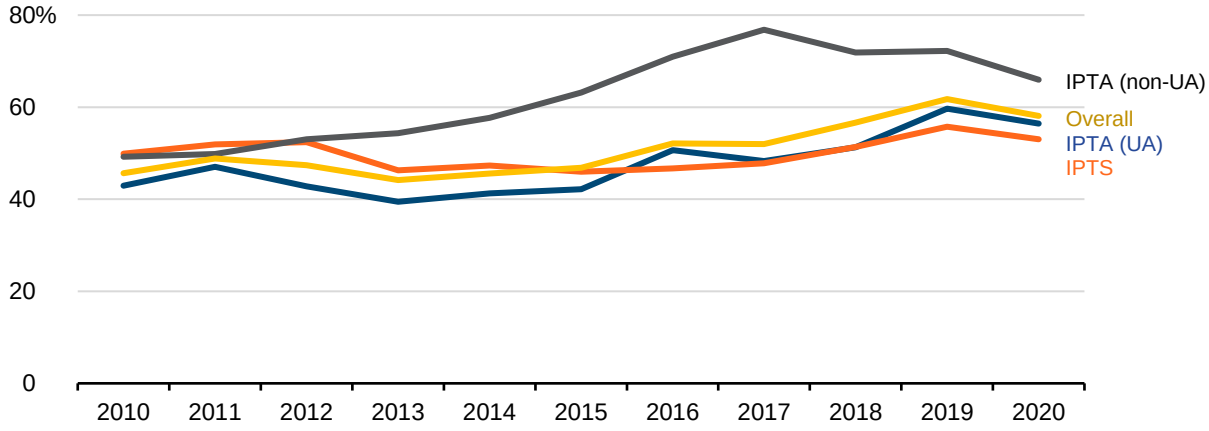


Source: MOHE (various years), authors' calculations

The proportion of working graduates by type of institution in Figure 15 shows a higher incidence of IPTA (non-UA) graduates—which are primarily from skilled-related (TVET) institutions—being employed compared to IPTA (UA) and IPTS. This finding is in line with the graduate employability statistics that showed the graduate employability rate is higher among TVET graduates. However, the percentage of working graduates from IPTA (non-UA) has declined in recent years after its peaked at 77% in 2017. Meanwhile, IPTAs (both UA and non-UA) have a higher proportion of working graduates than IPTS (Figure 15). The issue of employability among IPTA and IPTS graduates has also often been a public debate. Both the National Graduate Employability Blueprint 2012-2017[54] and the National Graduate Employability Strategic Plan 2021-2025[55] emphasise the critical roles of both the public and private HEIs to undertake institutional transformation that aims at producing highly competent graduates to fulfil the industry's needs.

[54] MOHE (2012)
[55] MOHE (2021a)

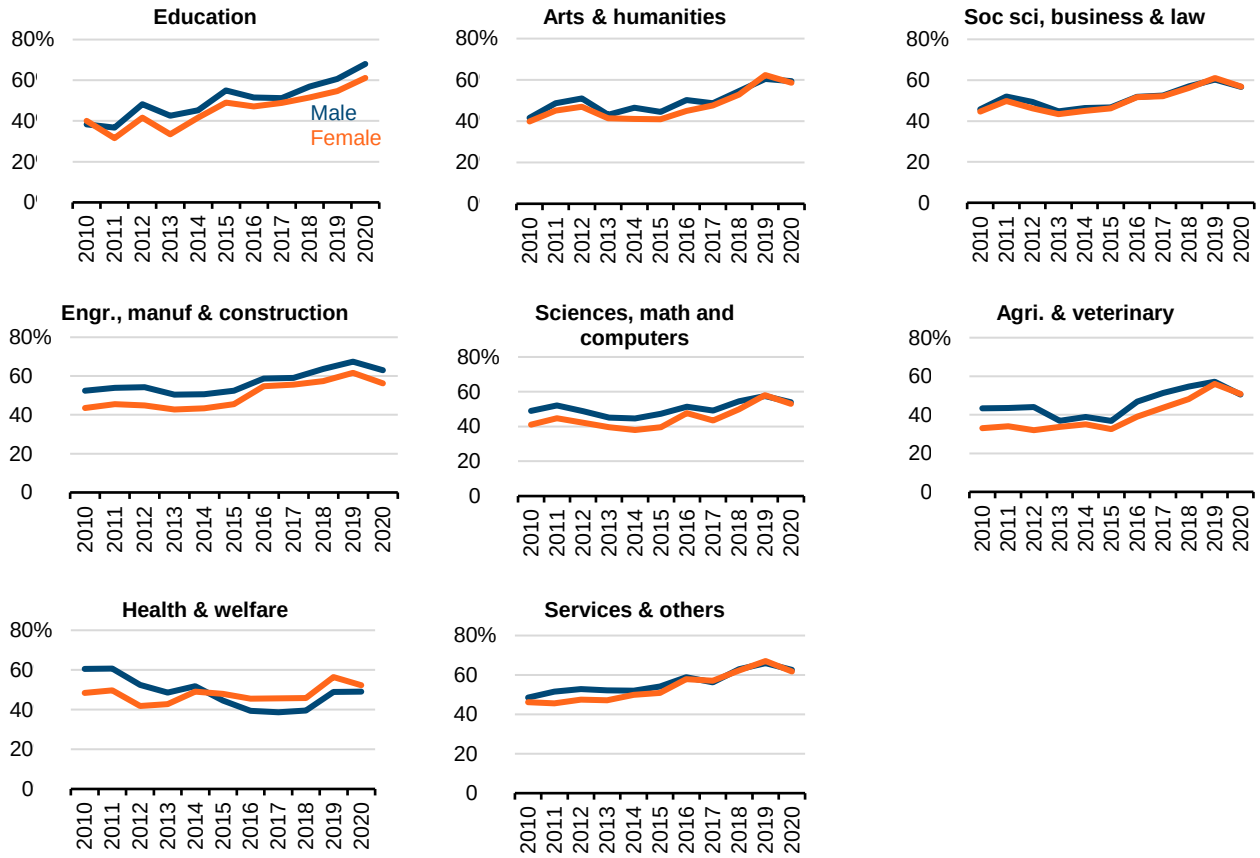
Figure 15: Proportion of working graduates, by type of institution



Source: MOHE (various years), authors' calculations

Figure 16 demonstrates the proportion of working graduates according to their field of study. Generally, almost all fields have shown an increase in working graduates throughout the decade. The proportion of working graduates by gender indicates that male graduates from *engineering, manufacturing & construction* fields continue outpacing female graduates. In *health & welfare* fields, female graduates began to outpace male graduates in 2014. Gender proportions for working graduates from *social sciences, business & law; arts & humanities;* and *services & others* have been almost equal throughout the years.

Figure 16: Percentage of working graduates, by gender and field of study

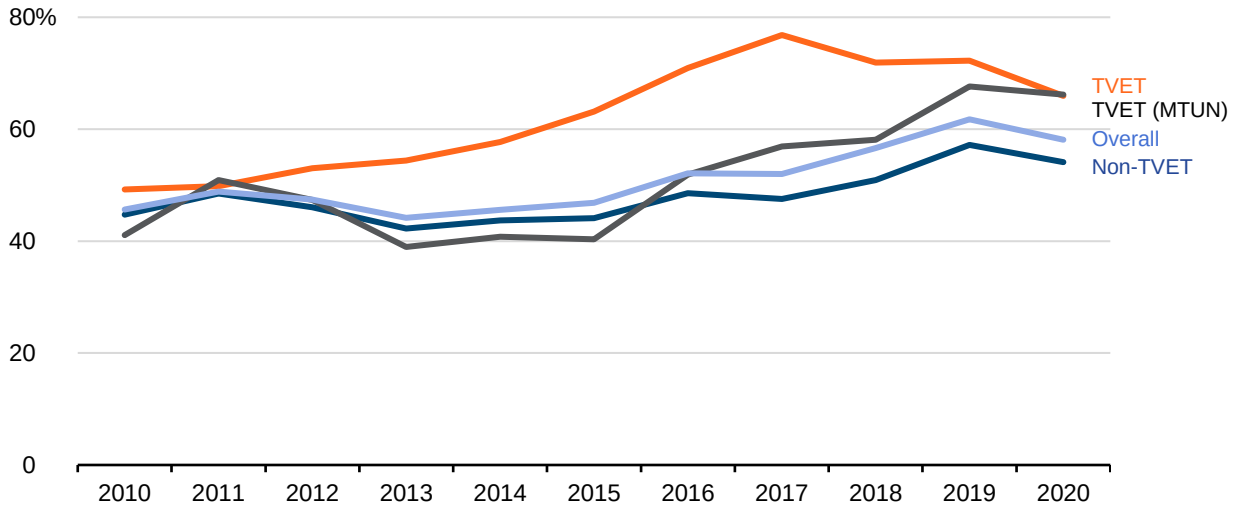


Source: MOHE (various years), authors' calculations

Across the decade, a higher proportion of working graduates are from TVET institutions

Figure 17 displays the percentage of working graduates according to the three HEIs types: (1) TVET[56], (2) TVET (MTUN)[57] and (3) non-TVET (IPTA & IPTS). Even though TVET has always been regarded as an unfavourable pathway for graduates, the percentage of working graduates from TVET and TVET (MTUN) institutions is higher than those from non-TVET (IPTA & IPTS) institutions. The proportion of working graduates from TVET institutions shows a slightly decreasing trend in 2018 onwards, but the reverse for TVET (MTUN), as shown in Figure 17. The likelihood of being employed is higher for TVET graduates as they move towards higher certification levels. This trend is also evident for TVET (MTUN) graduates, who mainly hold bachelor's degrees and postgraduate qualifications (Figure 18). This development could also imply as a success in the establishment of MTUN in 2006 to enhance pathways for TVET graduates. In both TVET and non-TVET institutions, there has been an improving gender gap in recent years as the share of working graduates among males and females is comparable (Figure 19).

Figure 17: Percentage of working graduates, by TVET and non-TVET institutions

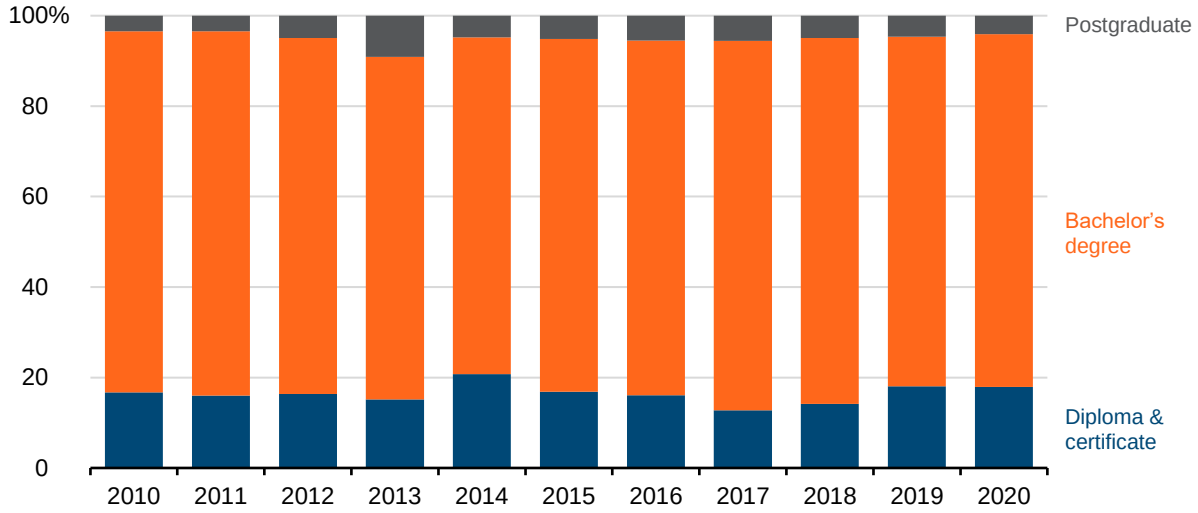


Source: MOHE (various years), authors' calculations

[56] For the current context, TVET refers to TVET institutions according to MOHE classification, except for those in MTUN.

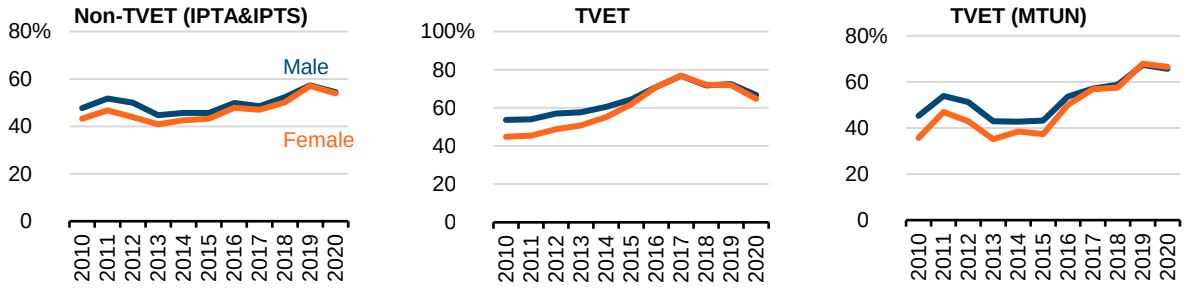
[57] MTUN refers to Malaysia Technical University Network, introduced in 2006. MTUN offers a variety of technical courses to suffice industrial needs and were consists of four public universities which are Universiti Tun Hussein Onn Malaysia, Universiti Teknikal Malaysia Melaka, Universiti Malaysia Perlis and Universiti Malaysia Pahang.

Figure 18: Percentage of working TVET (MTUN) graduates



Source: MOHE (various years), authors' calculations

Figure 19: Percentage of working graduates, by gender and by TVET and non-TVET



Source: MOHE (various years), authors' calculations

Figure 20 illustrates the percentage of working graduates by type of industry and gender[58]. Throughout the years, the share of females in the services sector has continually outpaced males. In the services sector, females are likely to be concentrated in traditionally "feminine" jobs, such as in education and household-related activities[59]. Meanwhile, the converse is observed in the industrial and agriculture sectors as males heavily dominate these two industries, though female participation has increased. Under-representation in certain occupations and industries could have an impact on income and career-progression for females[60]. It is then essential to further explore the different impacts of the gender divide in various occupations since it may increase the risk of skill mismatch between the genders and widen the pay gap[61].

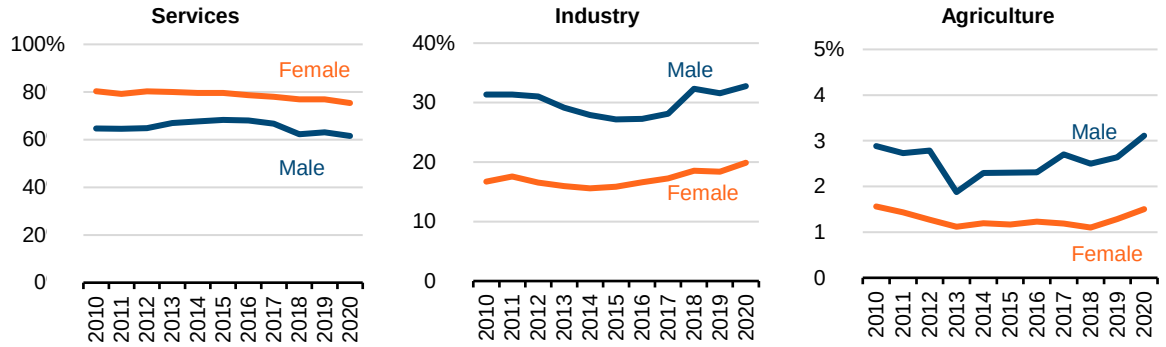
[58] Industry classification is based on International Standard Industrial Classification of all Economic Activities (ISIC) Rev.4 in ILOSTAT (2022)

[59] Cross and Bagilhole (2002)

[60] Acosta-Ballesteros et al. (2021)

[61] Pastore et al. (2022)

Figure 20: Percentage of working graduates, by gender and industry



Source: MOHE (various years), authors' calculations

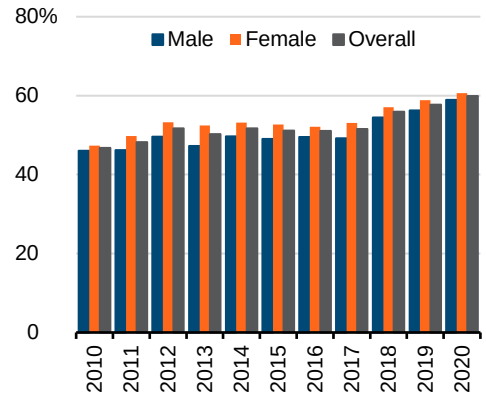
A higher share of graduates working in non-standard employment

Graduates are predominantly wage-earners where most of them working in full-time/permanent jobs. However, recent years show a growing proportion of graduates working in non-standard employment[62], rising from 47% in 2010 to 60% in 2020 (Figure 21). More females are observed to work in non-standard employment compared to males, though the gap between genders is relatively small. Interestingly, among those in non-standard employment, the proportion of working graduates who opt for self-employment has risen to double digits from 2018 onwards (Figure 22). In 2020, 22.2% of working graduates ventured into self-employment, compared to only 3.3% in 2010. Even during the Covid-19 era, the percentage of those who opted for self-employment rose by 2.5% compared to the preceding year. This is in line with the various initiatives undertaken by the government to encourage entrepreneurship as an alternative solution to integrate young people into the job market[63].

More males have opted for self-employment over the years (Figure 22). Self-employment is often regarded as a riskier profession with greater income volatility. Several studies have shown that females are more likely to be risk-aversed than males[64], which may explain why more male graduates ventured into self-employment throughout the period. Meanwhile, higher participation of females in non-standard employment is driven by their involvement in contract/temporary and part-time work.

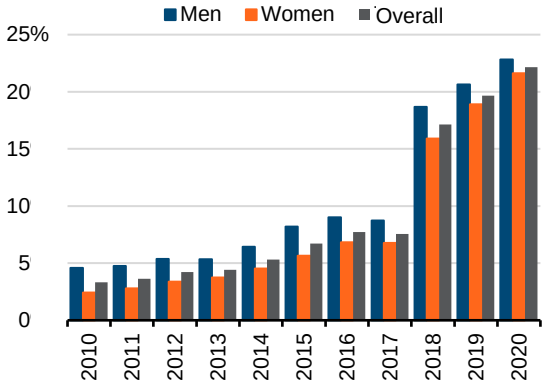
[62] The non-standard form of employment include self-employment, working part-time and temporary/contract basis.
[63] Noor Fzlinda Fabeil et al. (2022)
[64] Ajayi and Anyidoho (2022)

Figure 21: Percentage of working graduates in non-standard employment, by gender



Source: MOHE (various years), authors' calculations

Figure 22: Percentage of self-employed graduates, by gender



Source: MOHE (various years), authors' calculations

3.3. Income and incidence of overqualification

Graduates are trapped with low (starting) pay

Figure 23 illustrates the income distribution of working graduates. Across the decade, more than 70% of working graduates earn below RM2,000. Meanwhile, Table 5 shows the distribution of graduates earning less than RM1,500, between RM1,500-RM2,000, and above RM2,000 for 2019 to 2020[65]. While we observe quite a significant decrease in graduates earning below RM1,000 from 2010 to 2020 (Figure 23), Table 5 highlights that from 2019 to 2020, graduates with income below RM1,500 only increased by 2.3%. In that same period, the proportion of graduates earning more than RM2,000 decreased by 2.3% as well. This implies many graduates are actually trapped with an income below RM1,500.

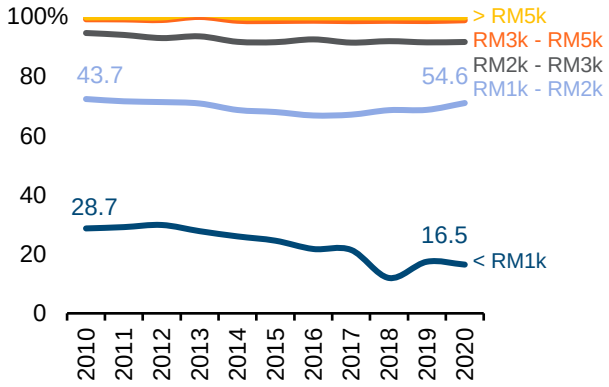
An interesting observation for 2018 was the sudden drop in the percentage of graduates earning below RM1,000. It is however uncertain to conclude that the decline was due to the implementation of the minimum wage—the revision of the minimum wage in 2018 from RM900 to RM1,000 only took effect in January 2019[66]. In fact, after the revision of the minimum wage, the percentage of graduates earn below RM1,000 showed a slight increase (about 5%) in 2019. Even if the implementation of minimum wages could have an effect in pushing graduates' income, the increment is minimal and would not be reflected to those in graduate-type jobs.

[65] Classification for income range below RM1,500 for GTS datasets is only available starting year 2019 and 2020. It is sensible to conclude that although the percentage of graduates earning below RM1,000 has been declining throughout the decade, the improvement in graduate income is marginal to slightly above RM1,000 and less than RM1,500.

[66] ——— (2018)

Despite females outnumbering male graduates in higher education, as well as more working females having a bachelor's degree qualification, the proportion of female graduates earning below RM2,000 has been steadily above 70% throughout the decade. Meanwhile, for males, the percentage shows a relative improvement from 70% in 2010 to a low of 62% in 2017, as shown in Figure 24. Figure 24 also shows a widening gender pay gap between 2010 to 2017, and then the gap narrowed in 2018 onwards, mainly because of the inclusion of respondents among TVET graduates in the GTS survey methodology. This is also a reason TVET graduates generally get paid less since they are mostly diploma and certificate holders.

Figure 23: Percentage of working graduates, by monthly income range



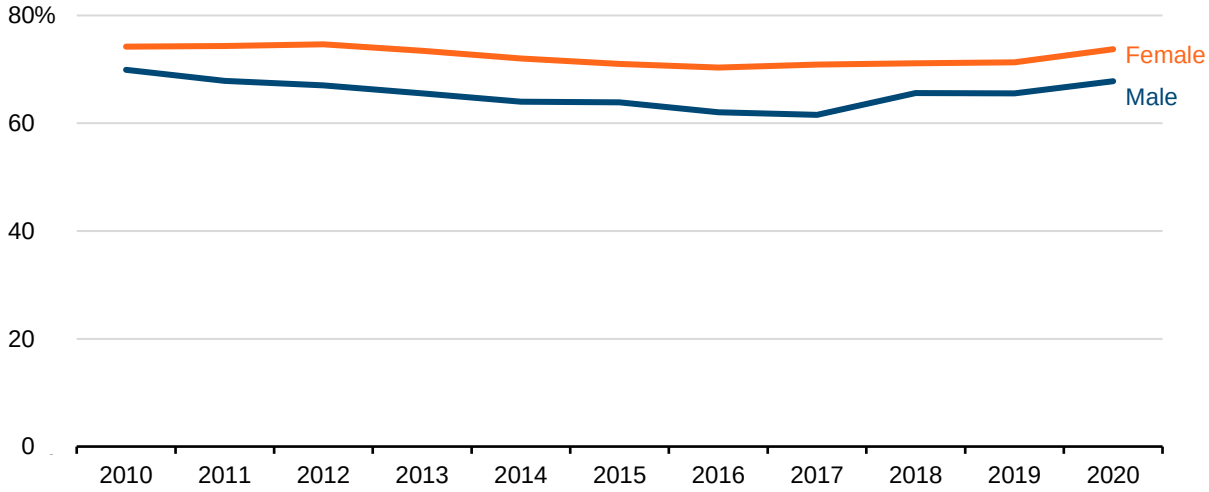
Source: MOHE (various years), authors' calculations

Table 5: Working graduates, by monthly income, 2019-2020

Income range	2019	2020
Less than RM1,500	48.8%	51.1
RM1500-RM2,000	20.0	20.0
More than RM2,000	31.2	28.9
Total	**100.0**	**100.0**

Source: MOHE (various years), authors' calculations

Figure 24: Percentage of working graduates earning below RM2,000 by gender



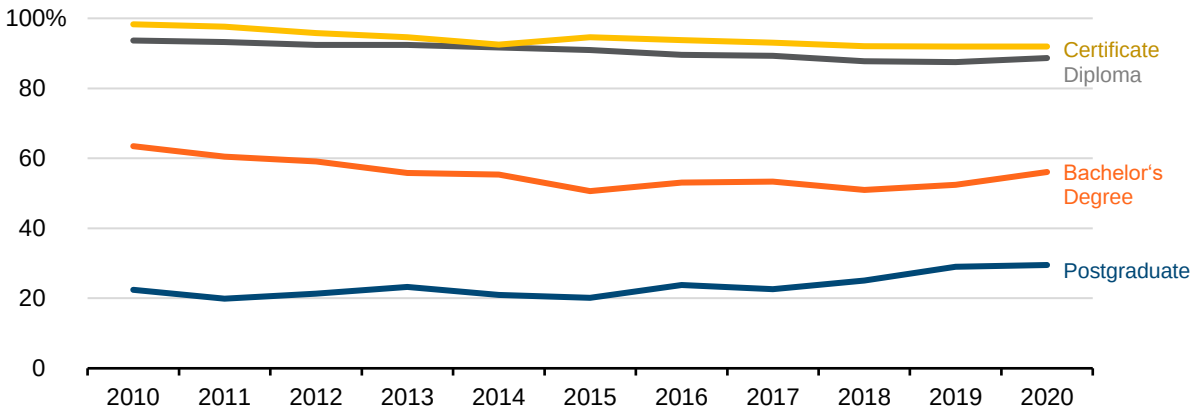
Source: MOHE (various years), authors' calculations

Almost all graduates with diploma and certificate qualifications earn below RM2,000

Graduates' income varies by their level of qualification. Almost all graduates with a diploma- or certificate-level qualifications earn below RM2,000, although there has been a gradual increase in their income in recent years (Figure 25). This reinforces the issue of low starting pay for TVET graduates since the majority of them either hold a diploma or a certificate.

On the other hand, increasingly more graduates with a bachelor's degree qualification are earning below RM2,000, rising from 51% in 2018 to 56% in 2020. Even among those with postgraduate qualifications (master's degree and PhD), the share of those earning below RM2,000 has increased to about 30% in 2020 compared to 20% in 2011. In addition, analysis among TVET graduates indicate that one out of ten are earning below than RM2,000 in the past ten years—emphasising the low starting pay among graduates with TVET qualification[67]. This indicates that the starting pay for fresh graduates remain low and have not grown since the past 10 years.

Figure 25: Percentage of working graduates earning income below RM2,000, by the level of study



Source: MOHE (various years), authors' calculations

As shown in Table 6, except for graduates from *science, mathematics & computer* fields, all fields of study indicate a marginal increase in the trend of graduates earning below RM2,000. The highest increase is represented by graduates from *engineering, manufacturing & construction* and *education* fields. This is unsurprising due to the decline in job offerings and job creation in these fields in 2020, particularly in the construction sector[68], as it is sensitive to economic cycles. Construction enterprises and workers are also particularly vulnerable to the economic downturn from the pandemic[69].

Table 6: Percentage of working graduates earning below RM2,000, by field of study

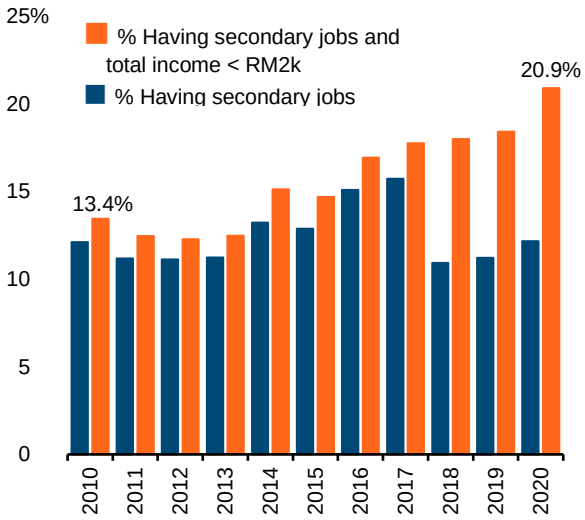
Field of study	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Education	48.8%	65.8	74.0	64.0	71.7	55.7	63.5	66.5	73.3	73.1	76.6
Arts & humanities	85.6	85.8	84.3	82.4	80.8	81.8	78.8	80.5	79.6	81.2	83.7
Soc sci., business & law	77.5	74.5	73.5	70.9	71.5	68.9	65.8	65.0	63.8	64.2	66.2
Sciences, math & computers	68.9	64.2	66.3	62.9	61.5	60.9	58.5	62.4	61.3	59.0	57.4
Engir, manuf & constr.	73.2	69.4	67.0	67.8	63.9	65.6	63.2	62.1	69.1	68.8	72.4
Agri. & veterinary	76.2	80.3	80.9	76.3	77.0	75.7	79.1	81.0	86.8	85.9	87.7
Health & welfare	48.5	54.1	63.2	67.7	52.8	61.5	69.2	69.6	65.7	62.5	65.1
Services & others	88.4	88.8	86.5	84.7	83.3	84.4	83.2	84.2	81.9	83.3	84.7
Total	**72.4**	**71.6**	**71.4**	**70.1**	**68.7**	**68.0**	**66.9**	**67.1**	**68.7**	**68.8**	**71.1**

Source: MOHE (various years), authors' calculations

[67] See Figure 88 in Appendix 2.
[68] DOS (2021a)
[69] Biswas et al. (2021) and Stiles et al. (2021)

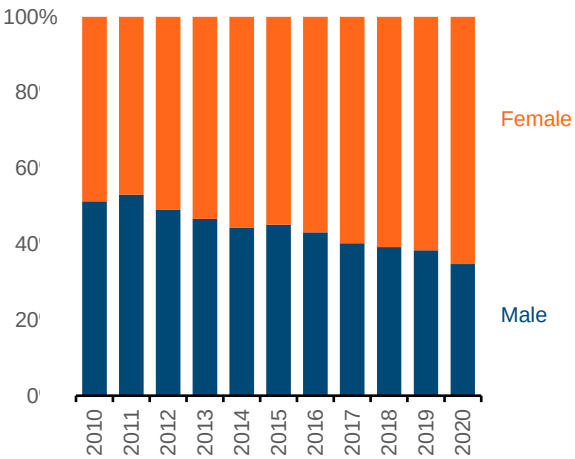
Low income have forced some graduates to find a second job to support their livelihood. As shown in Figure 26, the share of working graduates with secondary job have increased from 12% in 2010 to 16% in 2017. However, there was a sharp decline in 2018 where it dropped to 11% before gradually increasing by 1 percentage point in 2020. Despite having a secondary job, the proportion of graduates earning below RM2,000 has shown an increasing trend from 13.4% in 2010 to 20.9% in 2020. This share is also higher among females. Figure 27 highlights the increase in females with secondary jobs earning less than RM2,000, from 49% in 2010 to 65% in 2020.

Figure 26: Percentage of working graduates earning below RM2,000 and having secondary jobs



Source: MOHE (various years), authors' calculations

Figure 27: Percentage of working graduates having a secondary job with total income below RM2,000, by gender



Source: MOHE (various years), authors' calculations

Self-employment has been consistently higher among TVET graduates, rising from below 5% in 2010 to 24% in 2020 (Figure 28). By family income, the self-employed are primarily from low-income families[70] (Figure 29).

GTS also observed that majority of self-employed graduates are having their own business which emphasis the need of wider assistance schemes for business and new start-ups. Being self-employed and setting up a business is a risky endeavour. Without proper support and guidance, the business may have a higher propensity to fail. Graduates from well-off backgrounds may have access to better support from their families, especially in terms of financial support[71]. Individuals who obtain financial support, ideas, and motivation from their own families are more inclined to succeed in business than those who do not. Difficulties in finding support may hinder the graduates' intention to venture into self-employment[72]. A KRI study in 2018 has shown that a

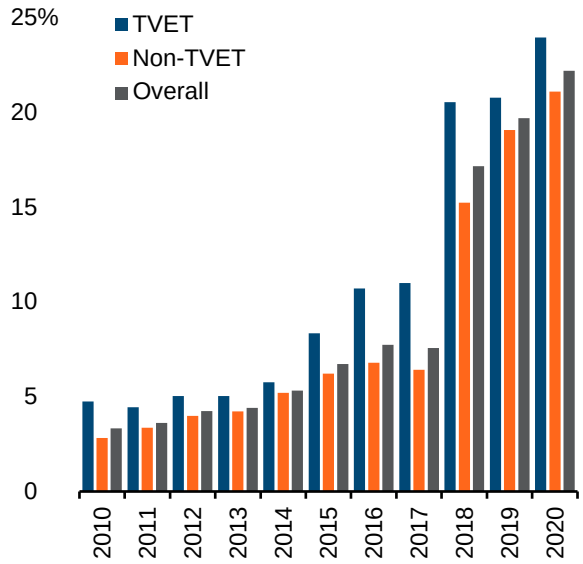
[70] Family income below RM5,000.

[71] Financial support from family is cited as the most frequent source of finance for setting up a business among new graduates. See Kostoglou and Siakas (2008)

[72] Simoes et al. (2016)

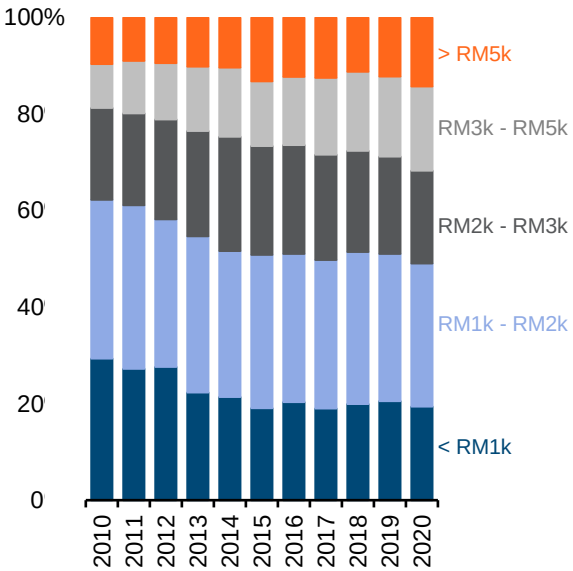
large majority of young workers do not receive support for their businesses and are unaware of various government assistance for youth-led start-ups[73].

Figure 28: Percentage of self-employed graduates, by (TVET and non-TVET)



Source: MOHE (various years), authors' calculations

Figure 29: Percentage of self-employed graduates by family income



Source: MOHE (various years), authors' calculations

Table 7 outlines self-employed graduates by field of study. Interestingly, most self-employed graduates are not from business-related fields. In recent years, the share of self-employed graduates has been higher among those from (1) *arts & humanities*, (2) *agriculture & veterinary*, and (3) *services* fields. Creativity is closely related to entrepreneurship, and a series of creative processes are used by entrepreneurs to identify new business opportunities, generate new ideas to improve product quality, resolve existing issues, and also address existing challenges/risks[74]. Therefore, the importance of creativity in both entrepreneurship and innovation should not hinder graduates from non-business-related fields from venturing into self-employment.

Table 7: Percentage of self-employed graduates, by field of study

Field of study	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Education	1.8%	4.1	4.6	3.4	5.2	3.9	5.5	6.2	14.5	19.7	22.3
Arts & humanities	5.8	6.8	7.9	7.8	8.8	11.6	11.8	11.1	27.2	29.9	31.4
Soc sci., business & law	3.3	3.4	4.1	4.3	5.2	6.5	6.7	6.8	16.0	19.1	20.8
Sciences, math & computers	2.9	3.3	3.4	4.0	5.0	5.6	7.1	7.0	14.4	16.6	17.5
Engir, manuf & constr.	3.6	3.6	3.8	4.3	5.0	7.1	8.0	7.9	16.9	18.0	21.3
Agri. & veterinary	3.3	5.5	5.6	6.0	8.7	10.0	13.8	13.8	26.5	26.8	29.9
Health & welfare	0.9	1.4	2.5	2.7	2.4	3.3	6.4	5.2	11.2	14.0	15.2
Services & others	5.0	5.3	6.5	6.3	6.4	7.7	9.2	8.3	19.6	23.9	29.7
Total	**3.3**	**3.6**	**4.2**	**4.4**	**5.3**	**6.7**	**7.7**	**7.6**	**17.1**	**19.7**	**22.2**

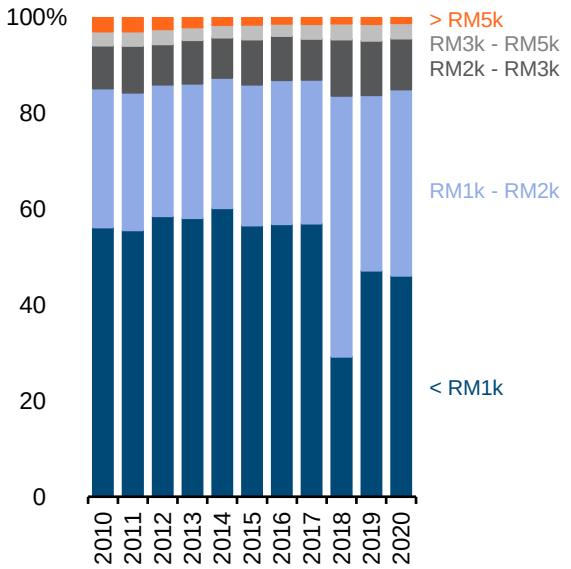
Source: MOHE (various years), authors' calculations

[73] KRI (2018)

[74] Sumarwati et al. (2022)

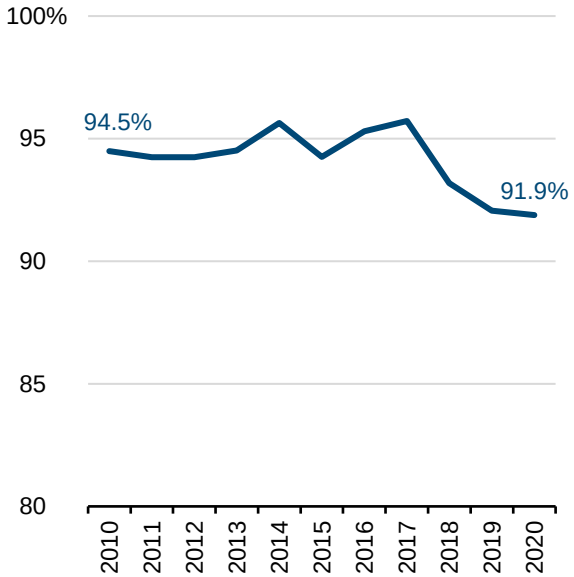
Figure 30 shows monthly income of self-employed graduates. Self-employed graduates have a higher likelihood of earning below RM2,000. Figure 30 indicates that more than 80% of the self-employed earn below RM2,000. In fact, those self-employed have double the share of those earning less than RM1,000 relative to wage-earners. Despite the majority of self-employed graduates earning below RM1,000, they show high degrees of satisfaction with their job. Figure 31 depicts that the percentage of self-employed graduates satisfied with their current job has been persistently high, with a percentage above 90% throughout the decade.

Figure 30: Percentage of self-employed graduates, by monthly income



Source: MOHE (various years), authors' calculations

Figure 31: Percentage of self-employed who satisfied with the current job



Source: MOHE (various years), authors' calculations

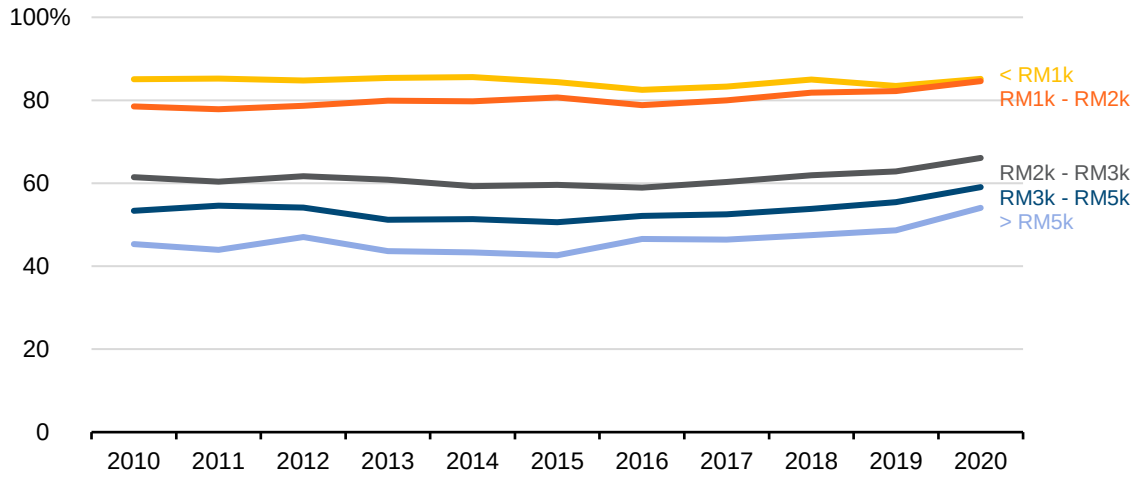
Tough labour market conditions often force job seekers to accept low-income jobs as an option to avoid unemployment[75]. When taking low-pay work, they may face challenges for higher salary negotiations in their next job. Those who can afford to wait, such as graduates from financially supportive families, may be able to postpone their entry into the labour market by upskilling or continuing their education and only look for jobs when conditions are better[76]. Nevertheless, not all graduates are fortunate enough to do so.

Of all working graduates earning below RM2,000, a majority (almost 90%) are from low-income families (Figure 32). Dissecting by the type of study funding, graduates with scholarships and those with student loans (PTPTN)[77] generally earn lower than self-funded graduates (Figure 33). Graduates under PTPTN had the most proportion who made below RM2,000 but were recently overtaken by scholarship students in 2018. This part may be likely due to the inclusion of TVET graduates from ILKAs that mainly receive sponsorship from the ministry.

[75] Immervoll and Scarpetta (2012)
[76] Siti Aiysyah Tumin (2021b)
[77] Wan Saiful Wan Jan (2020)

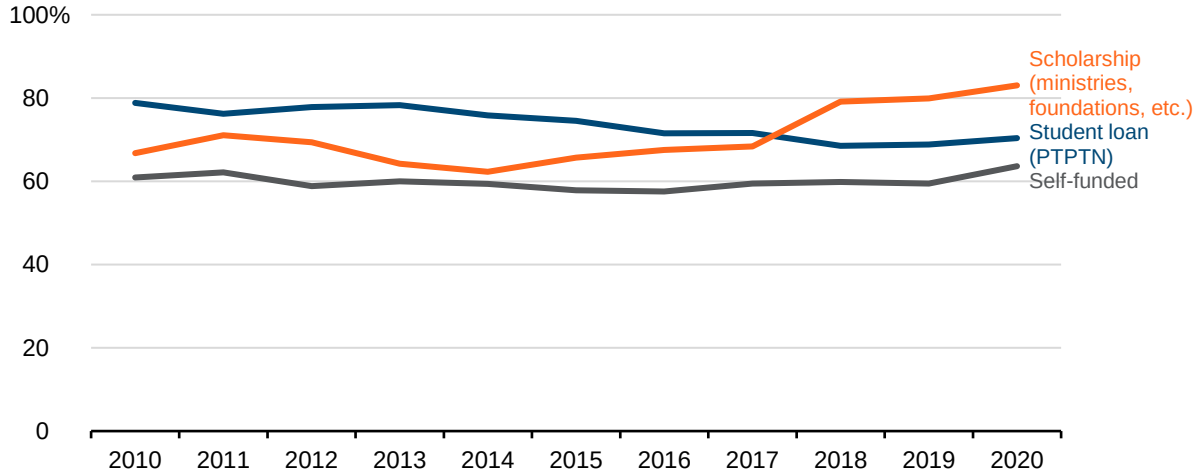
While student loans are generally seen as a good kind of debt in the form of an investment for potential future earnings, our findings do not seem to support it. This is because adverse employment outcomes among graduates (in this case, a low starting salary) may have a compounding effect in deteriorating their upward mobility—which needs to be highlighted as most scholarship recipients and PTPTN borrowers are from low-income families.

Figure 32: Percentage of working graduates earning below RM2,000, by family income



Source: MOHE (various years), authors' calculations

Figure 33: Percentage of working graduates earning below RM2,000, by study funding



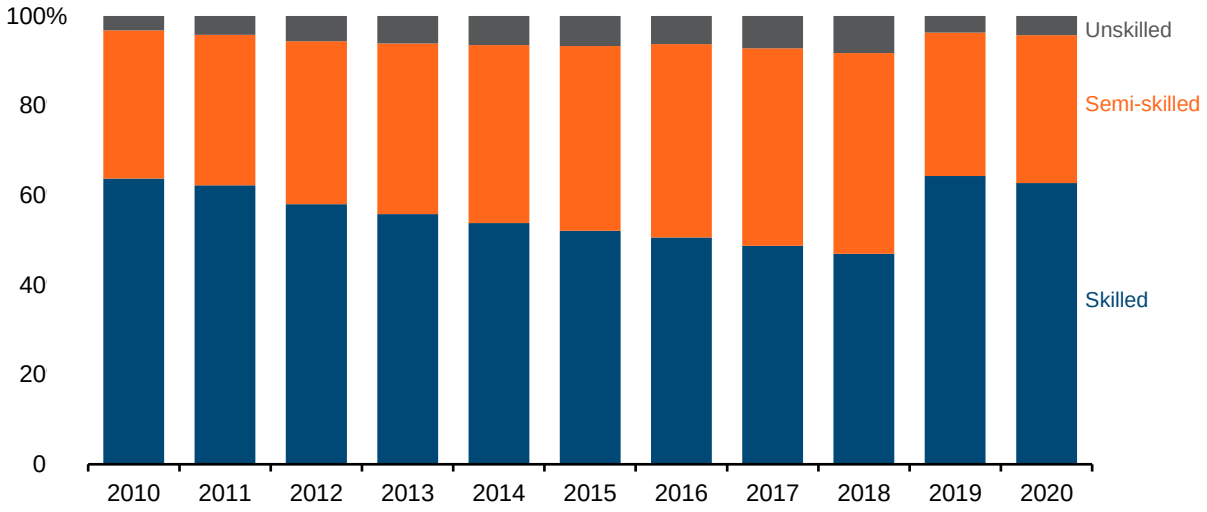
Source: MOHE (various years), authors' calculations

While the percentage of graduates working in skilled jobs has generally been decreasing, the recent upturn in 2019 shows a significant improving trend

Higher education qualification is generally considered an essential element in building graduates' character and preparing them for high-skilled jobs. The investment in higher education would provide a substantial economic benefit that would last over their career trajectory. Figure 34 shows that there has been an improvement in the share of graduates working in skilled jobs in recent years, from its low of 47% in 2018 to more than 63% in 2020. Given that there has been an increase in graduates working in skilled jobs, the share of graduates working in semi-skilled is also shrinking from 44% in 2017 to 33% in 2020.

Alone, securing a skilled job may not translate to better labour market outcomes. An aspect that should also be given due attention is the extent to which the job obtained brings meaningful employment outcomes to graduates, especially in terms of skill matching, employment quality, job satisfaction, and most importantly, decent wages.

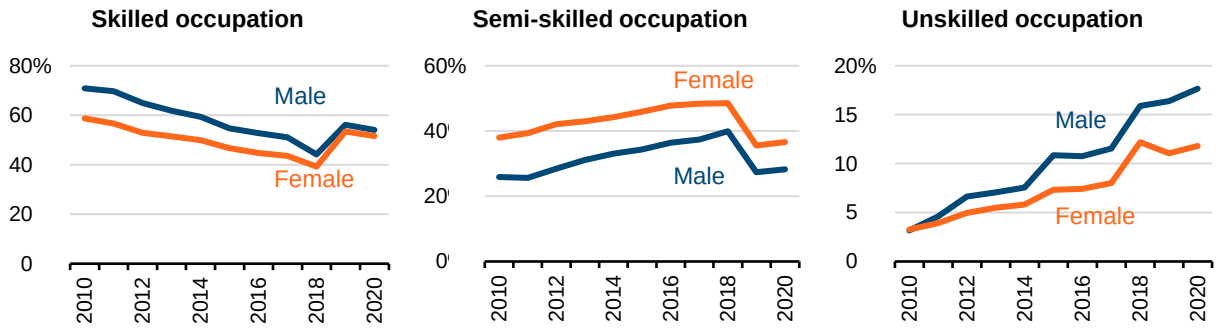
Figure 34: Percentage of working graduates, by skill level



Source: MOHE (various years), authors' calculations

The employment status by gender and skill displayed in Figure 35 shows marginal differences in the share of employment among males and females for skilled jobs. However, the share of females in semi-skilled has been consistently higher than males. The gender gap in unskilled jobs is widening throughout the period, from 3% in 2010 for both genders to 18% for males and 12% for females in 2020. At the same time, the upward trend of graduates involved in unskilled jobs is worrying since it highlights an increasing trend of overqualification among graduates.

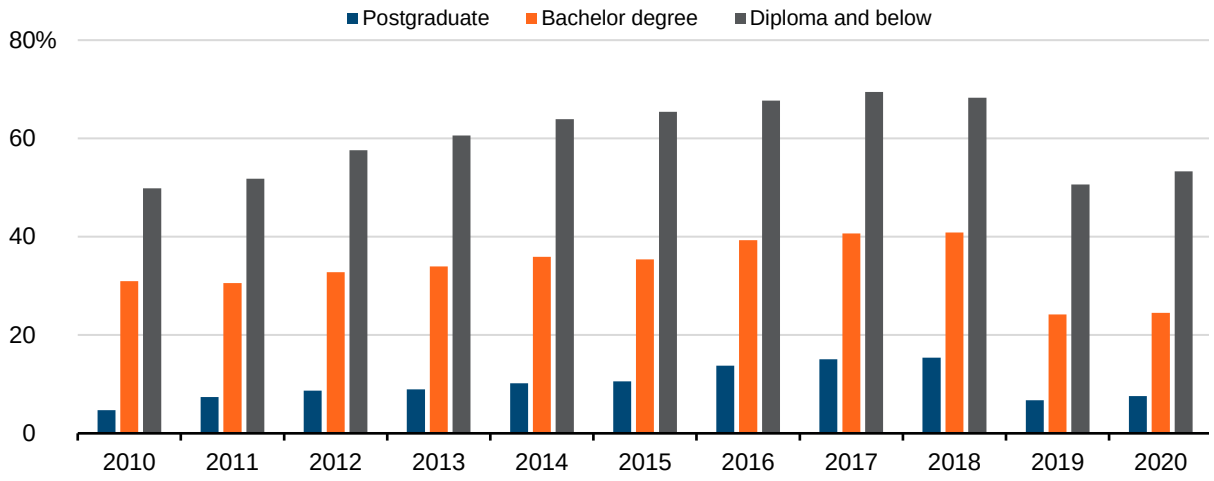
Figure 35: Percentage of working graduates, by gender and skill level



Source: MOHE (various years), authors' calculations

An assessment of the incidence of overqualification by qualification level in Figure 36 shows that the highest share of overqualified graduates is among diploma and certificate holders, followed by those with bachelor's degrees and postgraduate qualifications.

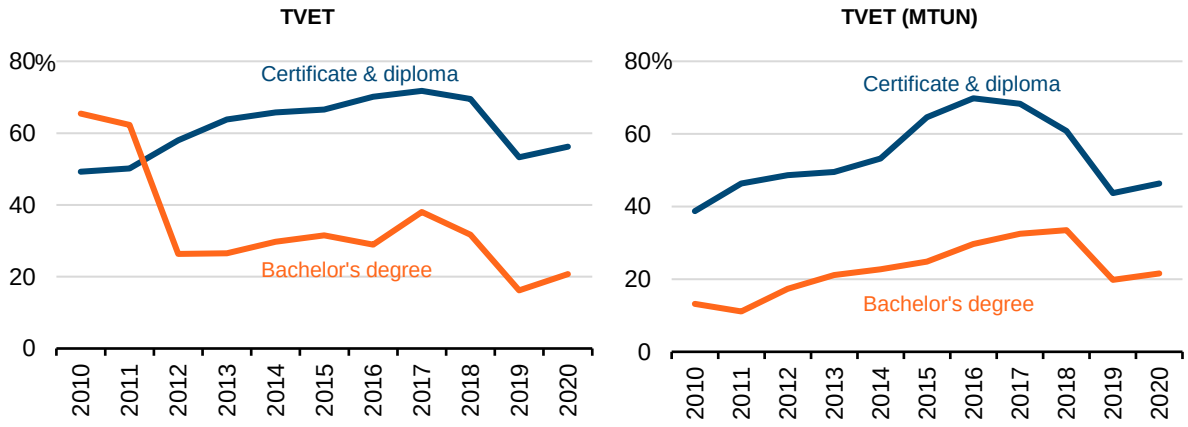
Figure 36: Percentage of working graduates but overqualified, by the level of study



Source: MOHE (various years), authors' calculations

A higher share of overqualified are observed among TVET and TVET (MTUN) graduates with certificate and diploma qualifications (Figure 37). The analysis coincides with our earlier findings that employment outcome is better among TVET (MTUN) graduates. However, the outcome (in terms of the incidence of overqualification) is better for graduates with at least a bachelor's degree in both TVET and TVET (MTUN).

Figure 37: Percentage of working TVET graduates but overqualified



Source: MOHE (various years), authors' calculations

Table 8 displays the distribution of overqualified graduates by field of study. *Health & welfare* fields generally have lower proportions of overqualified working graduates than other fields. In 2019 and 2020, only around 15% of graduates from *health & welfare* were overqualified.

Conversely, graduates in the *services* sector consistently recorded high incidence of overqualification. Meanwhile, despite a majority of *agriculture and veterinary* graduates being in overqualified jobs, the proportion has significantly declined from 2019 (to 57.9%) compared to the preceding year, about 81.0%. Additionally, *social science, business & law* fields, which comprise around 30% of graduates' composition throughout the years, have also shown significant improvement in overqualification, where it declines to below 40% in 2019 and 2020 compared to more than 50% in the years before.

Table 8: Percentage of working graduates but overqualified, by field of study

Study field	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Education	15.9%	28.6	32.6	24.7	31.9	28.3	29.8	33.9	36.8	24.9	26.4
Arts & humanities	42.4	43.3	47.0	45.3	45.5	49.8	49.4	52.7	57.5	34.5	38.0
Soc sci., business & law	50.0	49.4	53.5	55.0	57.5	59.2	58.2	59.3	59.2	39.1	39.0
Sciences, math & computers	33.8	34.3	38.7	38.8	39.6	41.0	41.0	46.0	45.9	28.1	26.4
Engir, manuf & constr.	25.8	25.5	29.2	36.2	33.9	37.4	39.0	40.6	46.7	31.7	36.0
Agri. & veterinary	59.3	61.4	65.0	67.2	67.5	65.3	70.7	74.6	81.0	57.9	57.9
Health & welfare	13.9	18.2	30.6	30.2	24.0	26.1	33.4	33.1	30.9	15.1	15.7
Services & others	68.6	66.2	66.1	66.4	67.8	73.1	72.1	75.0	76.5	65.4	66.6

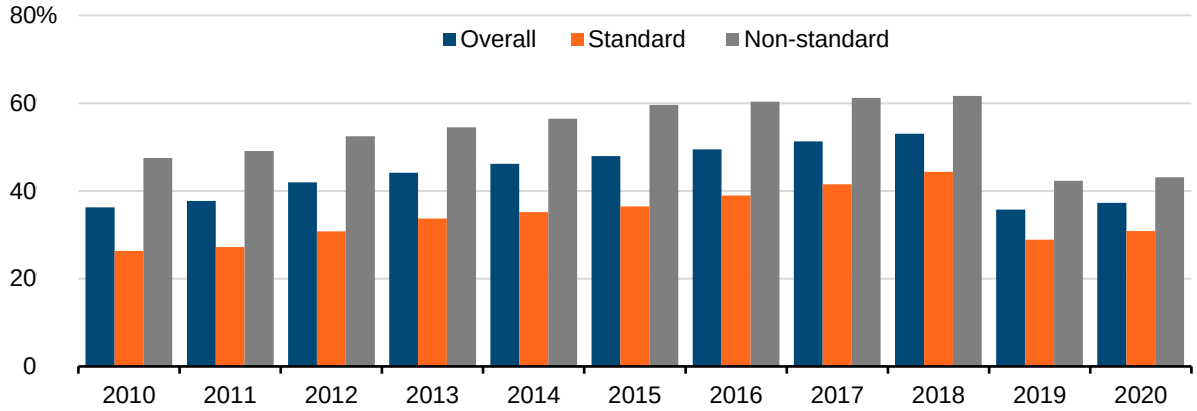
Source: MOHE (various years), authors' calculations

Overqualified graduates are mainly in non-standard employment

Many overqualified graduates are working in non-standard jobs (Figure 38). The growing size of informal occupation in Malaysia[78] could be a driver of the increase in overqualified graduates in the labour market. In the context of GTS, the increase in self-employed graduates would be the case, while the proportion of graduates in contract/temporary and part-time jobs has been stagnant throughout, about more than a third. When we dissect our observations according to the type of employment (See Table 15 in Appendix 2), the proportion of overqualified graduates in full-time/permanent employment has stagnated around 30-40% throughout the decade. The proportion of overqualified graduates in contract/temporary employment is stagnant and is more likely to be closer to the proportion of overqualified graduates in full-time/permanent employment. A higher incidence of overqualification is observed for those in part-time employment (about 50 to 70%) and the self-employed (about 60-80%). Part-time jobs usually deal with jobs in basic services, such as waitress, cashier, etc. While those in self-employment may not regard their status as equivalent to managerial or professional positions.

[78] Siti Aiysyah Tumin (2021a)

Figure 38: Percentage of overqualified graduates, by employment type



Source: MOHE (various years), authors' calculations

BOX ARTICLE 3: The causes of over and under-qualification in the context of high informality

The ILO stated several reasons behind the causes of over and under-qualification[79] in the context of high informality, as follows[80]:

1. The low education base of people – reduces labour mobility, the chances of finding a formal job, and (as skills beget skills) opportunities for further education and skill acquisition;
2. Unequal access to training – residence, gender, household consumption and income correlates with access to skills. Access is also affected by previous educational attainment and the lack of options that exist;
3. Underdeveloped markets for skills – these rely on informal sources of information, often from friends and family, rather than reliable and comparable information about the quality of skill development opportunities offered in the informal economy (e.g. informal apprenticeships);
4. A lack of attention from public training providers to the needs of the informal economy – providers are slow to respond and do not usually deliver training in ways that are accessible to those in the informal economy; and
5. Constraints to training among small and household enterprises in the informal economy (e.g. opportunity cost of one-person training in a two-person enterprise or a lack of suitable training options for those working full time).

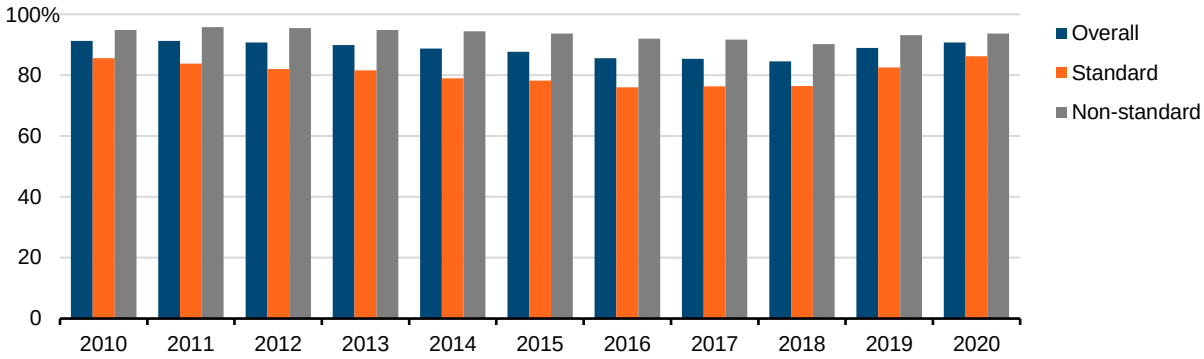
Therefore, understanding the various causes of overqualification in the labour market for young graduates is essential for the country to establish appropriate solutions to address the issue of skill mismatch, particularly in non-standard forms of employment. This is especially timely given the emphasis in recent policy discourse encouraging entrepreneurship among graduates.

[79] Under-qualification refers to lacking sufficient qualification for a particular occupation.
[80] Excerpt from Palmer (2018)

Overqualification results in wage penalties, and the majority are from economically disadvantaged backgrounds

Overqualification is often associated with income penalties, which is evident in our case. In terms of income, Figure 39 shows that almost all overqualified graduates earn below RM2,000, underscoring the negative consequences of overqualification on income. In comparison between graduates in standard and non-standard type of employment, it is observed that overqualified graduates earning below RM2,000 are slightly higher among those in non-standard employment.

Figure 39: Percentage of overqualified graduates earning below RM2,000, by employment type



Source: MOHE (various years), authors' calculations

Table 9 demonstrates an increasing trend of graduates in skilled occupations who earned below RM2,000 since 2015. Despite an improved trends for graduates working in skilled jobs in 2019 and 2020, half of them is still trapped in low-paying jobs (below RM2,000). The table also illustrates that graduates' earnings have been stagnant throughout, that almost all graduates (for about 85-96%) working in semi-and unskilled occupations earning less than RM2,000[81]. Hence implying overqualified graduates have higher incidences of wage penalties[82].

Table 9: Percentage of working graduates earning below RM2,000, by occupation and skill

Occupation	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Skilled	61.7%	59.7	57.5	54.5	51.5	48.8	47.1	46.6	48.0	54.5	56.1
Semi-skilled	91.1	90.9	89.9	89.2	88.0	87.0	84.7	84.5	83.3	88.6	90.4
Unskilled	93.0	94.3	96.1	94.1	93.7	92.3	91.7	90.8	90.7	92.1	93.0
Total	**72.4**	**71.6**	**71.4**	**70.1**	**68.7**	**68.0**	**66.9**	**67.1**	**68.7**	**68.8**	**71.1**

Source: MOHE (various years), authors' calculations

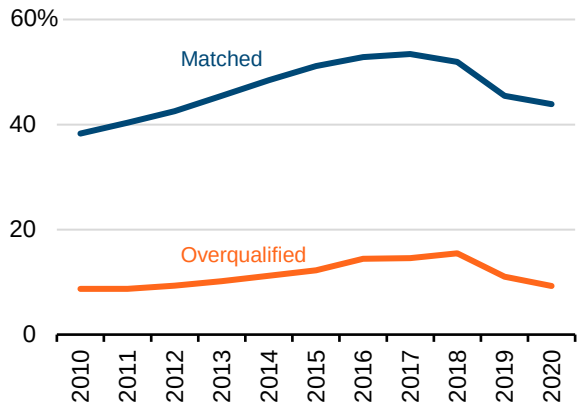
The flip side of explanation for Table 9 above, Figure 40 illustrates that more than 40% of graduates with skilled jobs earn above RM2,000 from 2010 to 2020, peaked at 53% in 2017. Meanwhile, those in overqualified jobs have significantly lower shares, hovering around 10% throughout the decade.

[81] Detail breakdown of the percentage of working graduates in each sub-category in each skill type is shown in Appendix 2 Table 16.

[82] Recent study using SWTS datasets on the effect of overqualification on wages in Malaysian context indicates that the wage gap is as high as 21.3%. See Mohd Amirul Rafiq Abu Rahim et al. (2021)

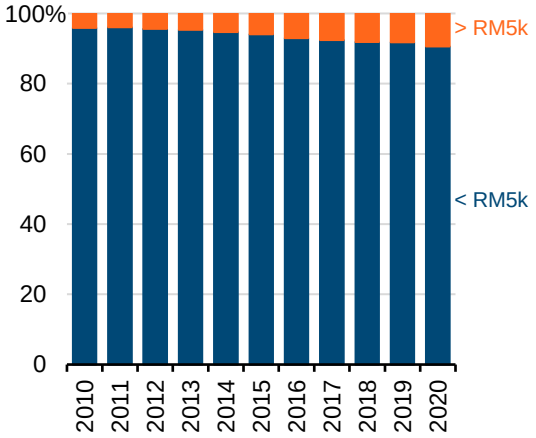
While there is a growing share of overqualified graduates from families with incomes above RM5,000 (Figure 41), more than 80% of graduates with family incomes below RM5,000 are overqualified. By educational funding, recipients of *financial assistance & scholarship* and PTPTN have a higher likelihood of being in overqualified employment. This is then followed by self-funded (Figure 42). The reason behind this analysis is to highlight that the majority of scholarship recipients and PTPTN borrowers are from low-income backgrounds; hence, the case of overqualification among these two groups would affect the rates of upward mobility.

Figure 40: Percentage of overqualified graduates earn more than RM2,000



Source: MOHE (various years), authors' calculations

Figure 41: Percentage of working graduates but overqualified, by family income



Source: MOHE (various years), authors' calculations

The structural problems within the economy cannot be isolated from the low-wage problem

The structural problems within the economy cannot be isolated from the issue of low wages. The labour market has seen a concentration of employment growth in lower-paying economic activities[83]—reliance on foreign workers, lack of high-skilled job creations and significant mismatches between skills required by industry and those that workers possess. The 2021 Labour Force Survey[84] data showed that 16% of employed persons in Malaysia are in the manufacturing sector—which previously employed almost 30% of the workforce a decade ago—and deindustrialisation took place. Consequently, Malaysia's labour market is moving towards service-based, but it does not provide enough high-value-added jobs[85] and is more likely to employ higher shares of semi-skilled workers.

Median wages in the services sector have increased marginally to RM2,403 in 2021 from RM1,580 in 2010[86] (wage CAGR 3.9%; overall wage CAGR Malaysia is 3.3%). A third of jobs in the services sectors are in wholesale and retail services, as well as in accommodation, food and beverages. These two industries have experienced 6% and 4% employment growth since 2010. However,

[83] Siti Aiysyah Tumin (2021b)
[84] DOS (2022b)
[85] KRI (2020)
[86] DOS (2022d)

wages in 2021 remain between RM1,697 and RM1,581—25% and 30% below the national median wage (the 2021 national median wage is RM2,250). This figure reflects all workers regardless of age. At the same time, our analysis in this section has shown that graduates suffer from low starting salaries. In contrast, the overall wage growth for all sectors in Malaysia has been almost stagnant for decades.

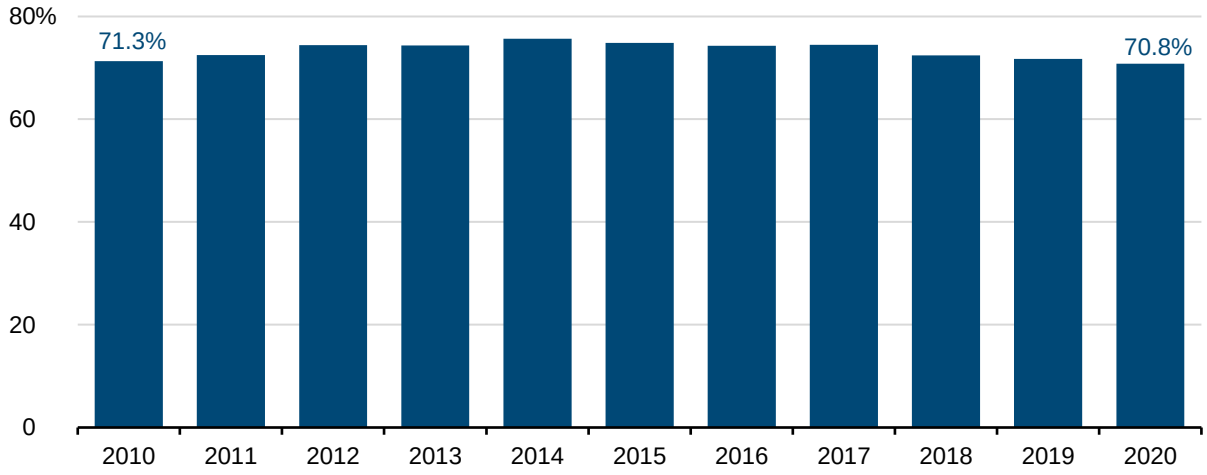
Beyond unemployment, the issue of graduate employability should also include incidences of underemployment and overqualification. We often hear that young people are willing to opt for non-standard types of employment, such as freelancing, food delivery riders, or being self-employed. These jobs are precarious and often do not match the skills acquired. Overqualification is not just an indication that there are not enough jobs to go around for graduates, but it can trap them in further overqualification problems in the next career.

3.4. Graduate satisfaction with current job

In general, graduates are satisfied with their current job

More than 70% of working graduates are generally satisfied with their current job[87] (Figure 43). Job satisfaction implies that the employees' work expectations are met[88]. It also explains an employee's attitude with a relationship between expectations and employment outcome. Several factors could affect job satisfaction, such as salary and benefits received, working conditions, career progression opportunities, as well as challenges in the workplace[89].

Figure 42: Percentage of working graduates who are satisfied with their current job



Source: MOHE (various years), authors' calculations

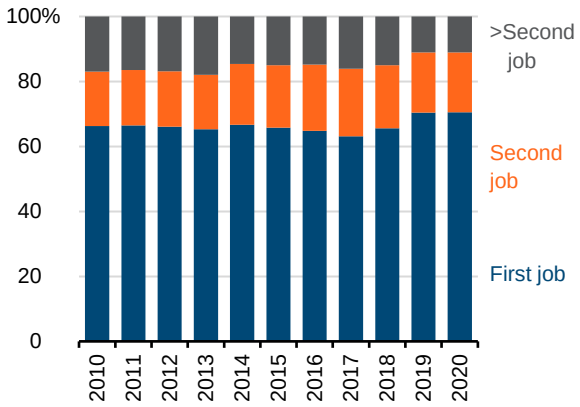
[87] There are self-rating questions in GTS that ask respondents to rate their satisfaction towards their current job (1 indicates highly disagree and 5 highly agree)
[88] Bakotić (2016)
[89] Spector (1997)

Graduates stay in their first job because they earn better

It is common to job hop to attain a better salary and career progression. Literature has documented that the trend is normal, not just among the millennials and Gen Z, but for workers in general in search of the right career fit[90]. Figure 44 illustrates about 70% of working graduates are in their first job. However, this is insufficient for us to conclude that graduates do not prefer job hopping as the timeframe of the GTS survey undertaken is only between six to 12 months after the completion of their studies.

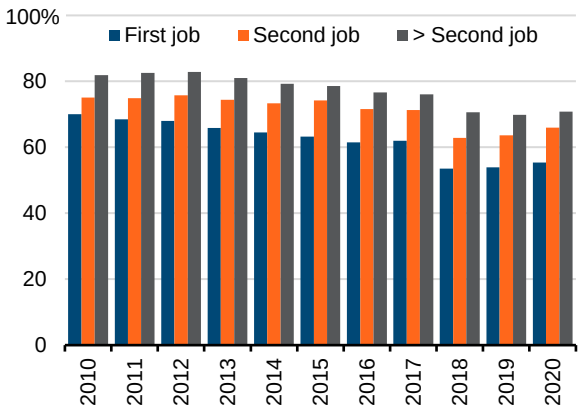
Figure 45 shows the proportion of working graduates earning below RM2,000 by the number of jobs held. It is demonstrated that a higher proportion of graduates (about almost a third) earn below RM2,000 despite being on their second job or more. This scenario also suggests that those in their first job earn slightly better than those in their second job and above. Based on Figure 46, we can conclude that graduates who are not in their first job may have difficulties finding stable and full-time employment. Graduates are "job-hopping" in search of full-time employment. However, the analysis shows that only half of the graduates in their first jobs are in full-time employment, and that proportion decreases as the number of jobs held increases.

Figure 43: Percentage of working graduates, by the number of the total job held upon study completion



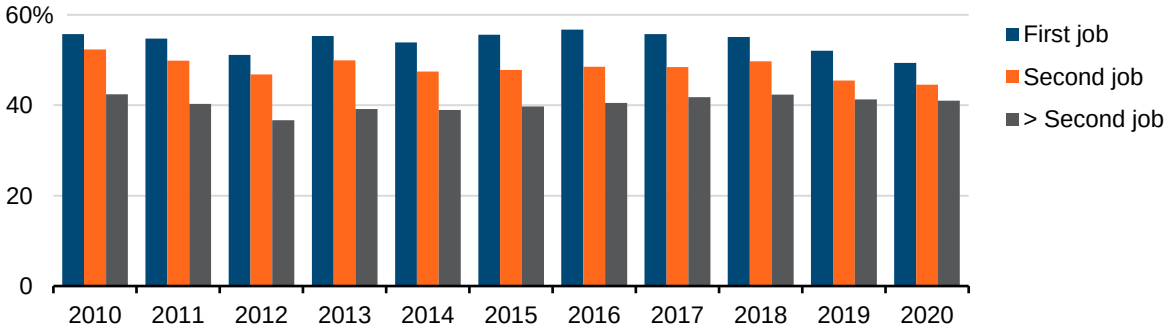
Source: MOHE (various years), authors' calculations

Figure 44: Percentage graduates earn below RM2,000, by total job held upon study completion



Source: MOHE (various years), authors' calculations

Figure 45: Total jobs held and full-time employment



Source: MOHE (various years), authors' calculations

[90] Gallup (2016)

Graduates' competency in performing their current jobs is generally higher, with improvements in English

The main challenge of HEIs is to ensure graduates are well-prepared with theoretical knowledge and equipped with the ability to apply the skills and competencies developed. KRI's SWTS study in 2018 has shown that employers emphasise soft skills over hard skills[91], while graduates admitted they lacked soft skills. Hard skills are known as technical abilities that are useful for a specific organisation's main business[92]. In contrast, soft skills refer to behavioural skills described by both intangible and emotional intelligence[93]. Essentially, soft skills are harder to measure and are more subjective.

In GTS, 11 questions were asked to measure graduates' competencies for their current job[94]. Analysis in Table 10 shows a few differences in how graduates assess their competencies and abilities. The percentage of graduates rate their competency skills developed in HEIs have been high for most questions, with proportions above 80% throughout the decade. The lowest proficiency level is indicated for writing and speaking in English, even though it has improved from 70%[95] in 2010 to more than 80% in 2020.

The issue of English proficiency among graduates is not new in the Malaysian context[96]. Higher education must emphasise English proficiency in preparing graduates for real work environments. Nevertheless, the strong relationship between HEIs and industries is also essential in ensuring that the curricula developed align with industry needs[97], including the emphasis on language competencies.

Meanwhile, competencies for Bahasa Melayu in both speaking and writing have decreased, from about 90% in 2010 to about 85% in 2020. The government's move to emphasise the empowerment of Bahasa Melayu[98], which includes compelling foreign students to learn Bahasa Melayu, comes in a timely manner as it would encourage stronger Bahasa Melayu competencies among students[99].

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[91] KRI (2018)
[92] Rao (2013)
[93] Ibid.
[94] The competency attributes are measured in 5 scale levels of self-reported agreement, where 1 indicates the lowest agreement level and 5 indicates the highest level of agreement. Hence, the percentage of ratings 4 and 5 (agree and strongly agree)
[95] General tracer study indicates that over 70% were considered high level of satisfaction to some extent. See Connor et al. (1997)
[96] For example, MEF (2016) and Salleh et al. (2017)
[97] Nesaratnam et al. (2020)
[98] Mohamed Farid Noh (2021)
[99] Suraya Ali (2022)

Graduates' satisfaction towards their current job moderated due to skill mismatches

Our subsequent analysis examines how graduates perceived their satisfaction on their current job[100]. GTS shows that more than 80% of working graduates agree that their current employment brings them valuable experience. Additionally, across all aspects, GTS indicates that graduates' satisfaction towards their current job improved slightly over time except for study relevancy and program usefulness (Table 11). The two elements show a decrease in trends which may imply that graduates are increasingly discouraged about their ability to apply the skills developed in their current job. The issue of overqualification and low employment outcomes highlighted in the previous sections could negatively impact the graduates' job satisfaction. This is illustrated by the declining trend of graduates' satisfaction towards their current job throughout the period (about 71.3% agree that their current job provided high self-satisfaction in 2010 compared to 70.8% in 2020).

[100] Similar to our analysis in the previous subsection, the items asked in this section were in the range between 1 to 5, where 1 denotes the lowest level of agreement (or dissatisfaction), and 5 denotes the highest level of agreement (or satisfaction).

Table 10: Graduates' assessment of the acquired level of competency

Competency item	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Workplace adaptability	87.2%	88.2	88.6	90.3	89.6	88.7	89.0	89.7	88.4	88.8	89.0
Problem-solving and decision-making skills	82.9	83.4	84.6	87.0	85.6	82.6	82.7	83.6	82.1	82.4	83.3
Confidence in performing the required task	86.1	86.4	87.1	89.0	88.0	86.9	87.0	87.7	85.7	86.0	86.6
Working in a team	85.9	86.2	86.9	87.7	86.9	86.2	86.0	87.0	86.8	87.2	87.8
Communication skills	87.2	87.7	88.4	90.0	89.3	87.3	87.2	88.1	86.4	86.6	86.9
Proficient in Bahasa Melayu (Speaking)	91.2	90.2	89.1	89.9	89.7	88.7	88.1	89.3	86.3	86.4	86.0
Proficient in Bahasa Melayu (Writing)	90.3	89.1	88.0	88.4	88.4	87.1	86.6	87.7	84.6	84.8	84.6
Proficient in English (Speaking)	69.6	72.7	75.1	77.1	78.1	75.0	76.6	78.1	80.0	80.5	80.9
Proficient in English (Writing)	70.6	74.0	76.0	78.3	79.2	75.9	77.4	78.8	80.5	80.5	81.1
Usage of ICT	83.4	84.3	84.9	86.2	86.0	85.1	84.8	85.2	84.4	83.0	82.9
Ability to use ICT applications	82.9	83.6	84.3	85.7	85.7	84.3	84.1	84.5	83.7	82.8	83.4

Source: MOHE (various years), authors' calculations

Table 11: Graduates' assessment on satisfaction towards current job

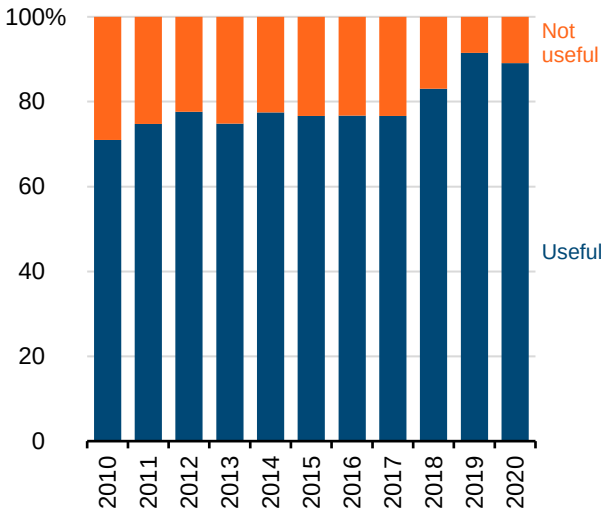
Satisfaction item	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Gives valuable experience	85.4%	86.5	86.9	87.4	88.4	88.7	88.3	89.1	87.9	87.9	88.0
Very challenging	79.9	81.4	82.2	81.8	82.6	81.9	81.3	81.6	79.9	79.4	78.6
Many things can be learned	85.8	86.8	87.3	87.6	88.4	88.9	88.5	88.9	87.7	87.3	87.3
Relevant to the field of study	67.6	67.8	69.2	69.0	69.9	67.8	66.8	66.9	65.5	64.8	62.5
High-self satisfaction	71.3	72.5	74.4	74.3	75.7	74.8	74.3	74.5	72.4	71.7	70.8
The study programme is useful for their current job	82.1	84.1	85.8	82.7	83.9	83.0	82.5	82.3	65.5	76.6	73.8

Source: MOHE (various years), authors' calculations

Overqualified graduates admit the skills developed in HEIs are relevant, but a growing number concede their programme is not relevant to their current job

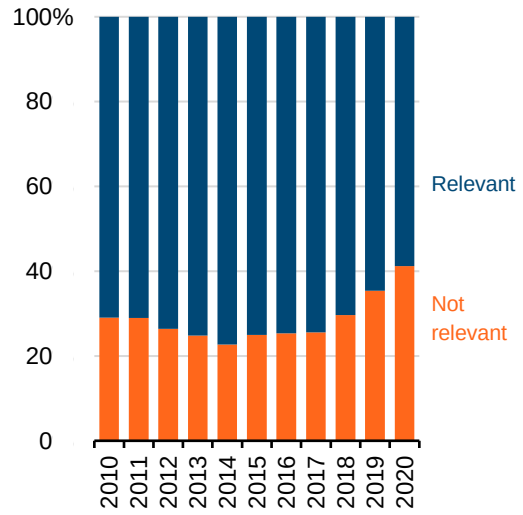
Next, our analysis looks at the extent to which graduates evaluate the skills acquired in HEIs are relevant to their current job and whether those skills are useful. Figure 47 shows that at least 70% of overqualified graduates assess their study programme as useful for their current job. However, we observed that an increasing trend of overqualified graduates concede their study programme is not relevant to their current job (Figure 48). Thus, even though overqualified graduates evaluate their study program as useful, due to the qualification mismatch, the skills they possess are not fully utilised in their current job (which makes them think that the skills developed during their studies are not that relevant for their current job).

Figure 46: Percentage of working graduates but overqualified, by the usefulness of the programme



Source: MOHE (various years), authors' calculations

Figure 47: Percentage of working graduates but overqualified, by study relevancy



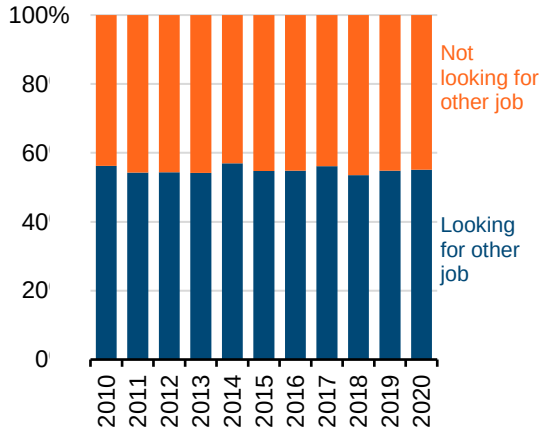
Source: MOHE (various years), authors' calculations

3.5. Intention to change jobs and challenges encountered

More than half of working graduates want to change jobs, and the share is higher among females

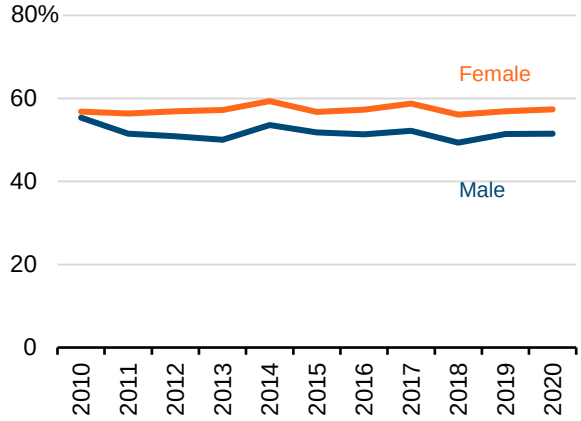
Despite the high satisfaction with their current job, more than half of working graduates intend to change their job (Figure 49). Between genders, it was found that females had a higher likelihood of wanting to change jobs than males (Figure 50). A driving factor of this may be due to the higher concentration of females in low-income and non-standard forms of employment (sections 3.2 and 3.3), and thus a stronger desire to seek more stable work.

Figure 48: Percentage of working graduates who are looking for other jobs



Source: MOHE (various years), authors' calculations

Figure 49: Percentage of working graduates who are looking for other jobs, by gender



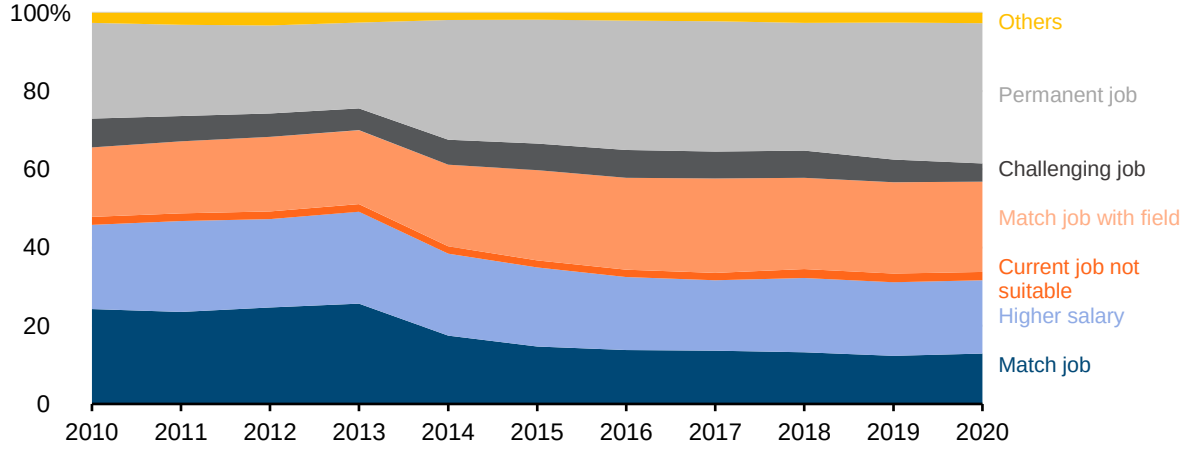
Source: MOHE (various years), authors' calculations

Looking for a permanent job is the top reason to change jobs

Figure 51 presents seven main reasons why graduates are looking for other jobs. Looking for a permanent job has consistently being the main reason, with the percentage of looking for permanent jobs increasing from 24% in 2010 to more than a third in 2020. The share of graduates looking for a higher salary has also been high and consistent throughout the decade, at around 20%, especially as graduates are stuck in low starting pay.

Regardless of better representation of graduates in skilled jobs starting in 2019, looking for a suitable job and one that matches their qualifications or field of study constitutes more than a third of the reasoning to change jobs across the years. It is also interesting to see that the percentage of graduates looking for match jobs has been shrinking since 2013, but those who are looking for match jobs with their field of study show an increasing trend since 2013. This indicates that the issue of horizontal mismatch (working in the wrong field) is a matter of concern for graduates.

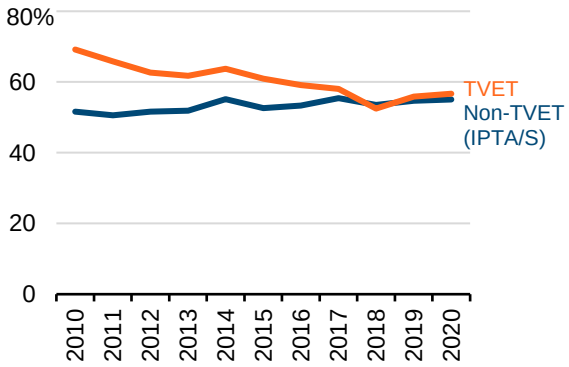
Figure 50: Reasons for looking for another job



Source: MOHE (various years), authors' calculations

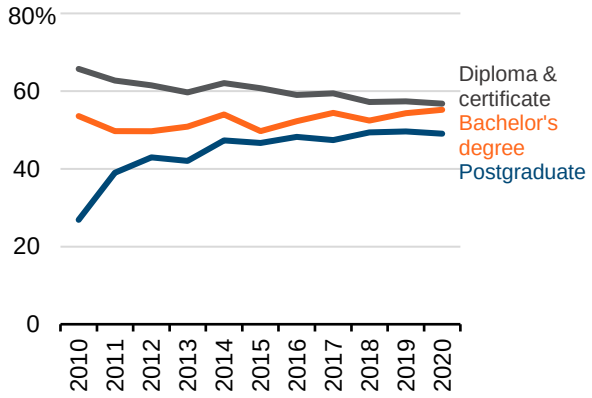
The intention to change jobs among non-TVET graduates (IPTA & IPTS) is stagnant throughout, at about 52% to 55%, while the trend for TVET graduates shows a declining trend (Figure 52). Among the different levels of study, Figure 53 shows that the intention to change jobs is declining among diploma and certificate holders but increasing for those with bachelor or postgraduate degrees. In terms of field of study, more than half of working graduates wanting to change jobs in the last decade (Table 12). Observations by study fields indicate the highest increase in the share of those wish to change jobs (from only 27.3% in 2010 to 61.7% in 2020) among graduates with *education* field, followed by *health & welfare* in the past 10 years. At the same time, other fields show a stagnant share of those wanting to change jobs.

Figure 51: Percentage of working graduates who are looking for other jobs, by education level (TVET and non-TVET)



Source: MOHE (various years), authors' calculations

Figure 52: Percentage of working graduates who are looking for other jobs, by level of study



Source: MOHE (various years), authors' calculations

Table 12: Percentage of working graduates who are looking for another job, by field of the study field

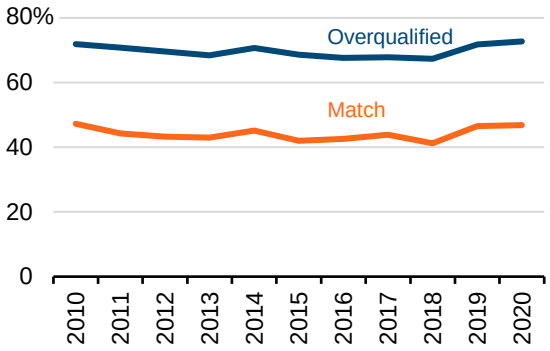
Study field	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Education	27.3%	46.6	54.6	49.5	59.8	49.1	51.9	57.0	60.5	60.2	61.7
Arts & humanities	65.7	63.1	62.3	60.0	63.3	64.3	63.1	65.5	64.1	67.4	67.9
Soc sci., business & law	60.5	56.9	55.1	56.6	59.7	56.1	55.1	56.5	52.8	53.4	53.8
Sciences, math & computers	56.7	52.6	54.5	54.1	57.1	53.8	53.6	57.4	52.9	53.1	49.5
Engir, manuf & constr.	59.2	54.4	53.5	52.4	54.4	54.0	52.8	52.1	49.3	51.6	53.5
Agri. & veterinary	61.5	63.8	68.4	68.5	70.8	66.1	70.4	68.6	71.7	71.8	68.1
Health & welfare	32.1	33.7	45.2	48.5	39.9	40.0	49.7	50.4	45.9	45.2	46.3
Services & others	64.2	58.9	55.5	53.9	58.9	57.8	56.4	58.7	56.4	59.0	58.7

Source: MOHE (various years), authors' calculations

The share of overqualified graduates who want to change jobs is almost twice as high as that of graduates who have jobs equivalent to their qualifications (Figure 54) and has increased in 2019 and 2020. This trend may highlight that overqualified graduates are in search of better opportunities in the job market. Even for those with match qualifications, the tendency to have the intention to look for another job is as high as 50%. As expected, those who earn a low income (below RM2,000) have a higher likelihood of changing jobs (Figure 55). Even so, the share of those

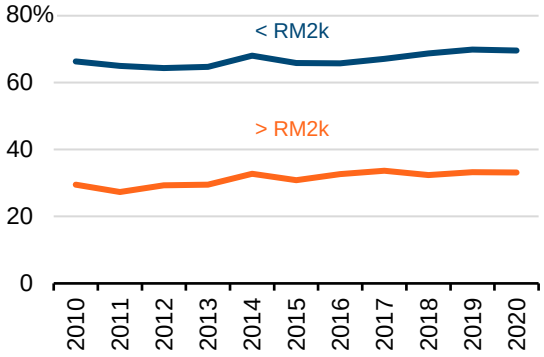
who earn more than RM2,000 and intend to change jobs shows an upward trend, reaching 33% in 2020 from just about 30% in 2010.

Figure 53: Percentage of working graduates who are looking for other jobs, by overqualified versus match



Source: MOHE (various years), authors' calculations

Figure 54: Percentage of working graduates who are looking for other, by monthly income



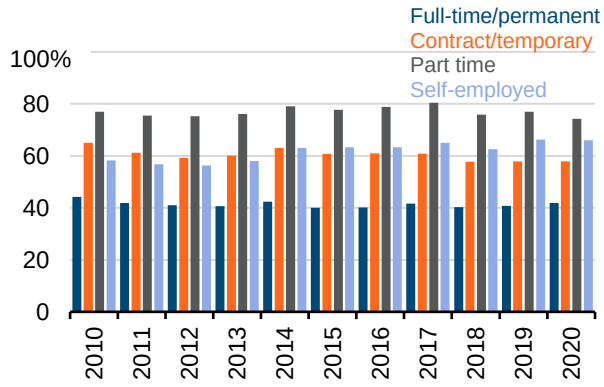
Source: MOHE (various years), authors' calculations

A higher likelihood of changing jobs among graduates in non-standard employment

In terms of employment status, a high share of those who want to change jobs is recorded among graduates working in non-standard employment [101] (Figure 56). As non-standard jobs are precarious, and thus graduates may continue searching for other employment opportunities in standard jobs that offer stable income and better career progression opportunities.

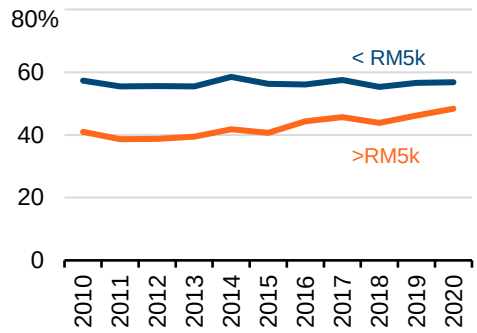
Family background also plays an important role. In line with the reasoning to continue studies to a higher level for social mobility, most graduates with a family income below RM5,000 intend to change jobs (Figure 57). Obligations towards student loans may also be among the factors for graduates to switch to higher-paying or stable employment. Figure 58 reveals that almost 60% of graduates with PTPTN loans want to change jobs.

Figure 55: Percentage of working graduates who are looking for other jobs, by job status



Source: MOHE (various years), authors' calculations

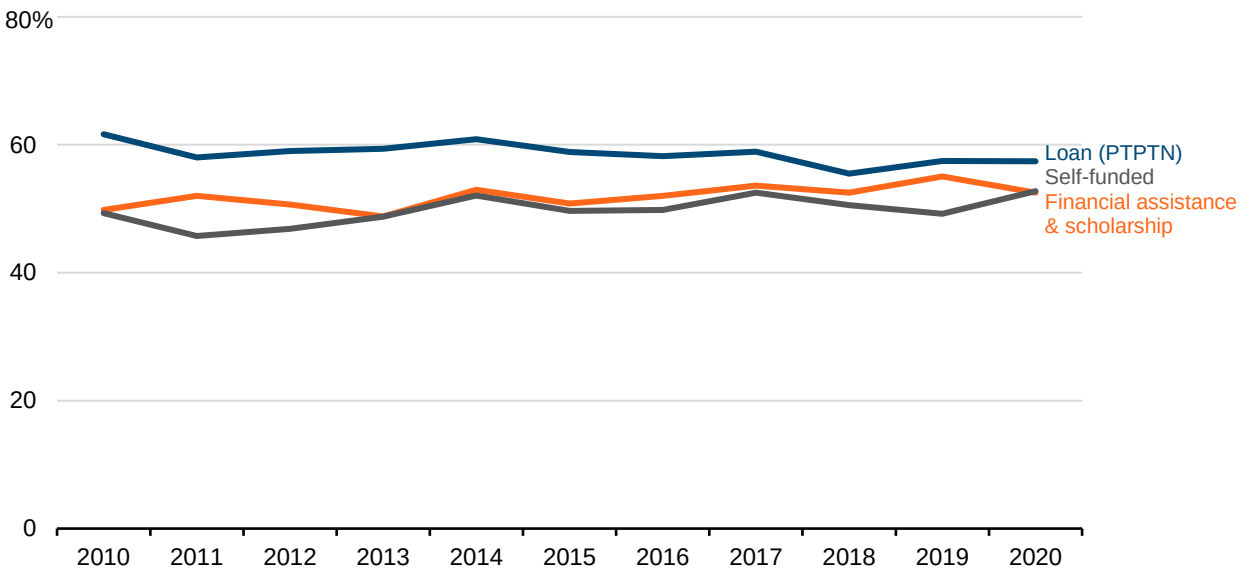
Figure 56: Percentage of working graduates who are looking for other jobs, by family income



Source: MOHE (various years), authors' calculations

[101] Non-standard type of employment refers to contract/temporary, part-time and self-employed.

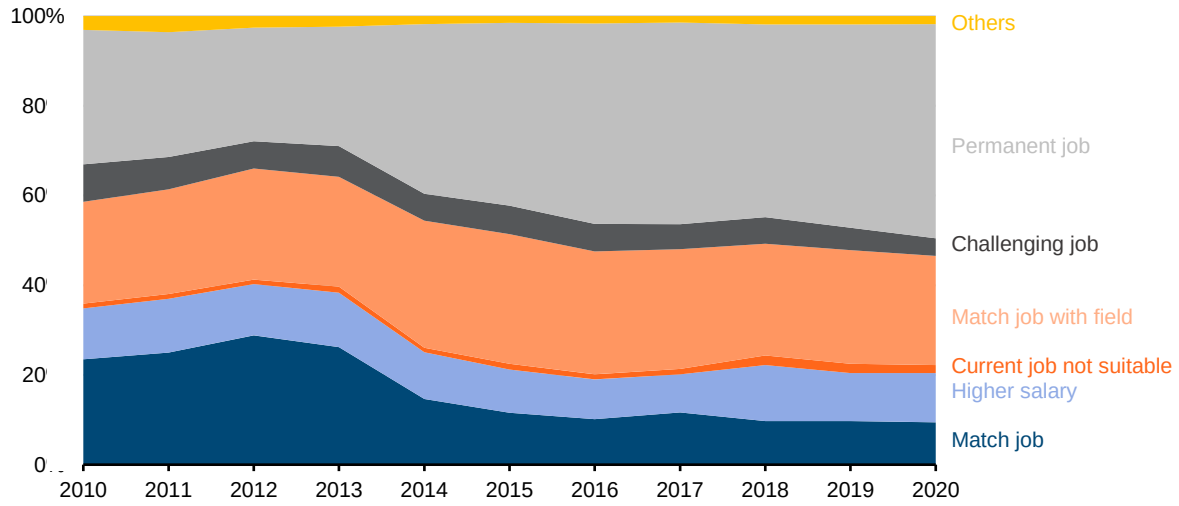
Figure 57: Percentage of working graduates who are looking for other jobs, by education funding



Source: MOHE (various years), authors' calculations

Furthermore, there has also been a high share of self-employed graduates wanting to change jobs. Figure 59 revealed that the main reason self-employed graduates want to change their jobs is that they are looking for a permanent job, as they are concerned about job security and stability. Hence, it can be concluded that self-employment is not regarded as an option for lifetime employment and instead is viewed as a temporary form of work while searching for more stable employment.

Figure 58: Reasons for looking for another job among the self-employed



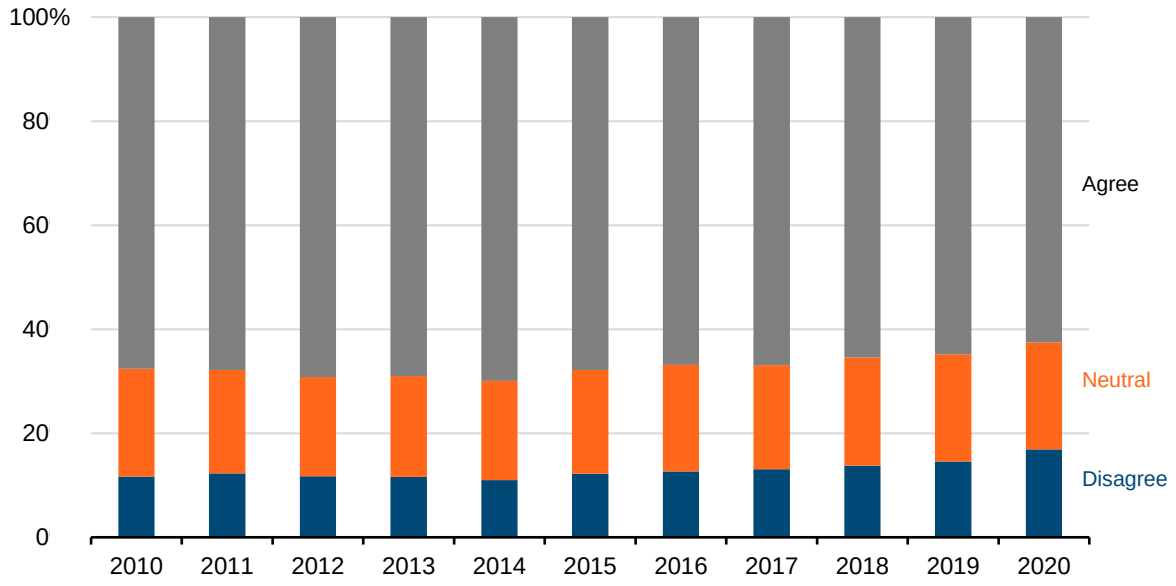
Source: MOHE (various years), authors' calculations

Yusof et al. (2017) indicate that being entrepreneur is the lowest career option for graduates. There are two important explanations for this. The first is because, generally, graduates seek employment opportunities from the government and private sectors as it gives a fixed income every month, unlike entrepreneurs who face challenges in terms of stable wages and remuneration. The second reason is the lack of exposure by HEIs in instilling entrepreneurship interest and mindset to become an entrepreneur[102].

Are graduates taking the wrong field of study? It seems that it is not the case in our context, as most graduates stated that their study programme is relevant to their current job (at least more than 60% say so) (Figure 60). MOHE has undertaken a commendable and continuous effort to ensure programmes offered in HEIs stay relevant to industries' needs. In 2019, 38 academic programmes in 19 universities were dropped as they no longer promised job opportunities to graduate[103]. More recently, the Universiti Malaya (UM) and Universiti Utara Malaysia (UUM)[104] have dropped selected programmes to ensure programmes offered stay relevant, competitive and industry friendly.

In addition, graduates need better career advice to help them define their potential and skills that match different career choices—where this role could be strengthened at the university level through career centres or graduate employability divisions[105]. It is also essential for graduates to find out what skills they will need to penetrate specific industries, especially when their programmes are specialised for certain fields such as in education and agriculture.

Figure 59: Graduates' assessment on the relevance of study programme for the current job

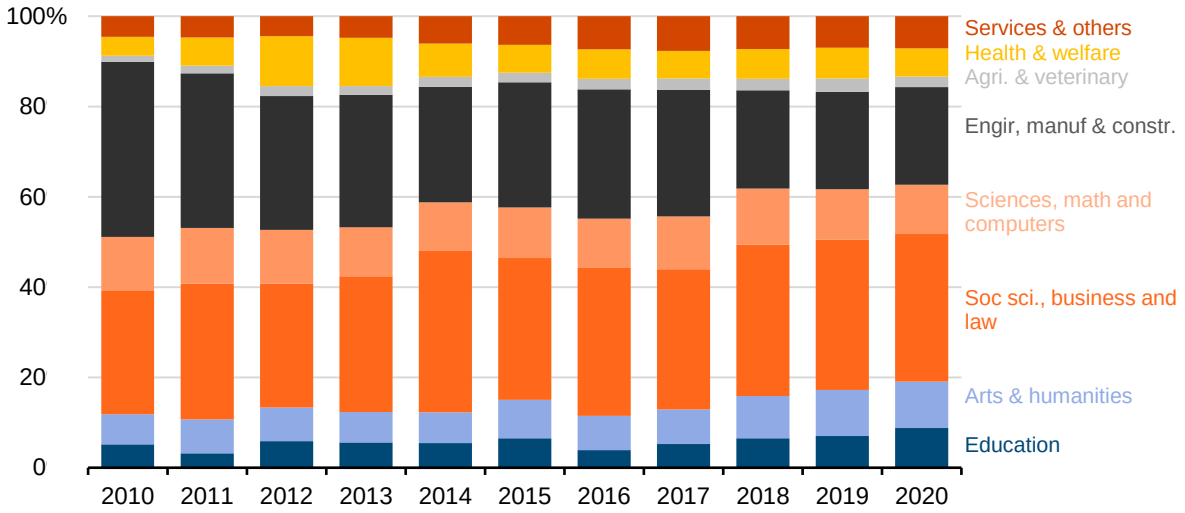


Source: MOHE (various years), authors' calculations

[102] Yusof et al. (2007)
[103] Jun (2019)
[104] Muhammad Hisyam Mohamad (2022)
[105] KRI (2018)

By field of study, the share of graduates looking for job related to their fields is the highest among those from *social sciences, business & law* backgrounds. It is interesting to see that even though the share of overqualified graduates is the highest among *agriculture & veterinary* and *other* fields, the proportion of them looking for a job with match fields is the lowest (Figure 61).

Figure 60: Looking for another job related to the study field, by field of study



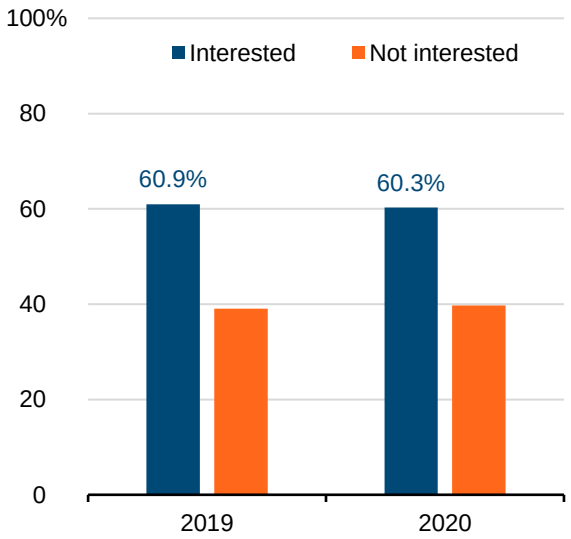
Source: MOHE (various years), authors' calculations

The Entrepreneurship Action Plan-HEIs (EAP-HEI)[106] identifies entrepreneurship as a relevant skill for graduates to adapt with the rapidly changing job market. This is in line with the National Entrepreneurship Policy 2030 (NEP 2030) [107] that aimed to transform Malaysia into an entrepreneurship nation by 2030. Towards this end, HEIs have been imparting entrepreneurship skills in the curriculum. Students are also encouraged to participate in entrepreneurship-related activities through training courses and workshops.

Beginning in 2019, the GTS survey asked graduates whether they are interested to become an entrepreneur. Figure 62 shows that more than half of the graduates in the 2019 and 2020 cohorts were interested to become an entrepreneur. Meanwhile, Figure 63 demonstrates that most graduates who cited their interest in entrepreneurship were already in self-employment. Table 13 compares self-employed graduates interested in being entrepreneurs by field of study. The figure shows that the percentages are higher among those who studied (1) *education*, (2) *health & welfare* and (3) *social sciences, business & law*, while lowest among graduates from (1) *engineering, manufacturing & construction*, and (2) *services* fields, indicating a lesser interest in working on their own.

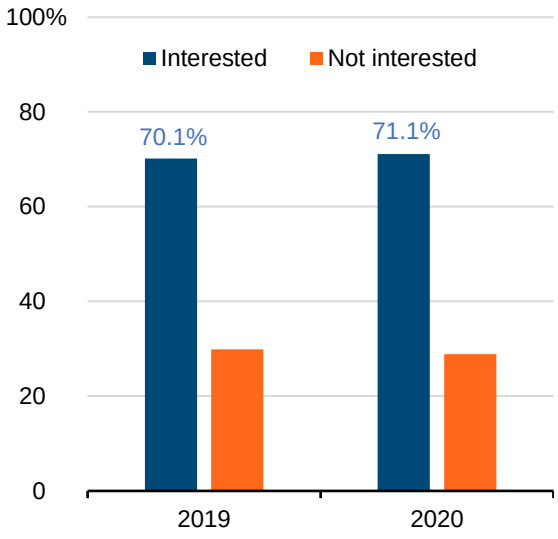
[106] MOHE (2020)
[107] MEDC (2019)

Figure 61: Percentage of graduates interested in being an entrepreneur



Source: MOHE (various years), authors' calculations

Figure 62: Percentage of self-employed graduates interested in being an entrepreneur



Source: MOHE (various years), authors' calculations

Table 13: Percentage of self-employed graduates interested in being an entrepreneur by field of study

Field of study	2019	2020
Education	56.6%	64.6
Arts & humanities	54.1	55.9
Soc science, business & law	55.3	63.3
Sciences, mathematics & computers	46.7	50.6
Engineering, manufacturing & construction	25.3	23.1
Agri. & veterinary	43.1	42.9
Health & welfare	53.9	64.3
Services & others	33.6	32.7
Total	**43.1**	**44.7**

Source: MOHE (various years), authors' calculations

KEY TAKEAWAYS

Our analysis of working graduates in the GTS identified several challenges young fresh graduates face in the labour market especially in terms of (starting) pay and how it is affected by overqualification. Our study also examined graduates' job satisfaction and their intention to change jobs. For this section, the key takeaways are:

- Employment outcomes generally improve according to academic qualifications.
    - However, almost all graduates still face low starting salaries, with nearly 70% earning below RM2,000 throughout the decade.
    - Despite graduating with at least a bachelor's degree, more than 50% of graduates still earn below RM2,000.
- TVET graduates are generally more employable as they have the relevant skills demanded by the industry.
    - Yet, their starting salaries are still behind non-TVET graduates as over 90% earn below RM2,000 compared to 60% among non-TVET graduates.
    - Employment outcomes for graduate from TVET (MTUN) who hold bachelor's degrees are better than those from TVET graduates with diploma and certificate qualifications as it offers better opportunities for skilled jobs.
- Overqualification remains a huge issue for graduates as there is a structural mismatch between the jobs created and the graduates entering the labour force.
    - In recent years, despite 60% of our graduates being hired in skilled occupations, more than half still earn below RM2,000. For semi- and unskilled occupations, the majority are from TVET backgrounds.
    - A third of overqualified graduates work in non-standard employment, covering those employed in contract/temporary, part-time and self-employed.
    - The highest share of overqualified graduates is among diploma and certificate holders. They also have the highest share of those that are self-employed.
- Graduates from low-income families generally earn less than their peers. They face a more significant challenge in climbing the career ladder.
    - Graduates from families with income below RM5,000 are more likely to secure a lower-paying job.
    - Scholarship recipients and PTPTN borrowers generally earn less compared to those who are self-funded.
- Although most graduates are satisfied with their current work, many expressed the intention to change jobs and search for more stable employment with better pay.
- Graduates' competency in performing their current jobs is generally higher, with improvements in the English language skills.

4. Insights on Unemployed Graduates

The effects of unemployment differ by socioeconomic status, and in general, is detrimental to overall society as it could lead to a rise of discouraged workers[108]. According to the OECD, discouraged workers are defined as inactive jobseekers, who are those willing and can engage in a job but have stopped searching as they do not believe that there are suitable roles for them[109]. The length of time a person is discouraged depends on the national unemployment rate. Higher unemployment rates would mean fewer vacancies available for the same amount of people[110]. Additionally, individuals with lower socio-economic status are often forced to take up any available position as they do not have the freedom to have long periods of unemployment[111]. This could lead to lower wages and a form of poverty trap with subsequent job mismatches unless there are market interventions in the form of government assistance to help alleviate the economic burden[112].

In the context of the young graduates, unemployment issue thereby present a unique challenge for graduates as they are unable to participate within the labour force even after they have attained higher education[113]. Among the main reasons for this is that there need to be improvements made in the quality of Malaysian graduates as the lack of soft skills has been limiting their prospects in addition to tough job market itself[114]. Section 4.1 and 4.2 presents the demographic profile of unemployed graduates to identify the potential causes and factors that would increase the likelihood of unemployment. Then, section 4.3 provides a closer examination of the job search process and employment preferences to determine any identifiable trends that make them unsuccessful.

4.1. Characteristics of unemployed graduates and long-term trends

Table 14 highlights the distribution of those that are unemployed by demographic characteristics. The distribution of the data shows that unemployment is higher among females, there are more female students in tertiary education, and a higher percentage of unemployed females compared to male graduates. IPTS graduates have higher instances of unemployment compared to graduates from public institutions such as IPTA (UA) and IPTA (non-UA). Individuals from lower age group of 21-25 represent a higher proportion of graduates that are unemployed as compared to those who are between 26-30 years. Furthermore, the level of study matters as the results show that postgraduate holders had a lower unemployment rate as compared to bachelor's degree and diploma holders. TVET graduates had a lower unemployment rate as compared to non-TVET graduates. Lastly, graduates from lower-income households had a higher likelihood of being unemployed.

[108] Ham et al. (2001)
[109] OECD (2001)
[110] Finegan and Margo (1993)
[111] Ham et al. (2001)
[112] Barrett et al. (2018)
[113] Zaliza Hanapi and Mohd Safarin Nordin (2013)
[114] Ibid.

Table 14: Distribution of unemployed graduates, by selected demographic characteristics

Convocation Year		2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Characteristics (%)/n		42,690	44,214	51,463	52,814	51,715	54,291	53,458	52,568	56,643	40,373	39,628
Gender	Male	35.2%	35.2	34.1	35.0	35.3	36.4	36.3	35.2	37.9	37.5	39.3
	Female	64.8	64.8	65.9	65.0	64.7	63.6	63.8	64.8	62.1	62.5	60.7
Institutions type	IPTA (UA)	50.9	47.6	51.9	51.0	53.8	49.2	47.0	49.9	44.0	35.7	34.2
	IPTS	20.6	28.1	32.7	34.5	33.1	41.0	47.0	46.7	41.3	51.3	42.3
	IPTA (Non-UA)	28.6	24.3	15.4	14.6	13.2	9.8	6.1	3.4	14.8	13.0	23.6
Age	15-20 years	37.7	39.4	35.5	32.4	33.0	33.6	31.5	30.2	35.5	39.6	39.3
	21-25 years	59.1	56.6	59.4	61.6	60.8	60.0	61.5	62.5	58.3	53.8	53.6
	26-30 years	3.2	4.1	5.2	6.1	6.2	6.4	7.0	7.3	6.2	6.6	7.2
	Mean	22.3	22.3	22.4	22.4	22.3	22.3	22.4	22.3	22.0	21.9	22.2
	Median	22	22	22	22	22	22	22	22	22	22	22
Qualification	PhD	0.0	0.0	0.1	0.1	0.1	0.2	0.4	0.4	0.4	0.3	0.1
	Master	1.8	2.6	3.1	3.4	3.7	3.9	4.3	4.6	3.6	3.7	2.8
	Bachelor's degree	51.8	48.9	51.7	55.5	56.4	55.3	60.0	60.1	55.4	50.2	47.7
	Professional/ Postgraduate certificate	0.1	0.1	0.1	0.3	0.1	0.1	0.1	0.2	0.2	0.4	0.3
	Diploma	33.9	38.6	41.0	39.2	38.9	39.5	34.3	33.8	35.4	37.9	38.8
	Certificate	12.4	9.8	4.2	1.5	0.7	1.0	0.9	0.8	5.1	7.5	10.3
Study field	Education	2.1	2.5	3.1	3.5	4.4	5.4	4.5	5.4	4.6	7.8	5.4
	Arts & humanities	8.9	8.7	8.1	7.3	8.3	10.1	10.7	10.2	9.5	9.5	9.3
	Soc sci., business & law	31.4	31.3	30.8	32.5	38.0	35.7	37.6	37.9	34.9	35.7	32.1
	Sciences, math & computers	13.0	13.0	12.5	11.7	11.3	12.5	12.2	11.5	11.4	9.6	10.1
	Engir, manuf & constr.	32.4	29.8	25.8	26.7	23.4	22.1	20.1	19.8	24.1	21.3	27.4
	Agri. & veterinary	1.5	1.6	1.6	1.4	2.2	2.6	2.5	2.1	2.5	2.4	2.3
	Health & welfare	5.6	7.7	13.4	11.9	6.1	5.3	5.7	6.3	6.2	5.9	5.0
	Services & others	5.1	5.5	4.8	4.9	6.2	6.3	6.7	6.7	6.7	7.8	8.4
TVET vs Non-TVET	Non-TVET	68.4	73.0	80.4	80.4	82.1	85.0	90.6	92.9	82.7	86.0	74.4
	TVET	31.6	27.0	19.6	19.6	17.9	15.0	9.4	7.1	17.3	14.1	25.6
Family income	< RM1,000	40.9	37.6	33.9	31.1	28.9	26.2	23.6	21.2	20.3	19.9	18.7
	RM1,001 - RM2,000	31.3	31.3	31.0	30.6	30.1	30.3	29.1	28.9	28.3	27.2	26.6
	RM2,001 - RM3,000	15.5	17.1	18.2	20.2	20.2	20.9	22.1	20.9	20.8	20.2	19.2
	RM3,001-RM5,000	7.7	8.8	10.2	11.3	12.6	13.3	14.4	17.0	17.7	18.1	18.7
	> RM5,000	4.6	5.3	6.7	6.8	8.1	9.3	10.8	11.9	13.0	14.7	16.8
Total unemployed (%)		**26.9**	**25.8**	**27.5**	**26.9**	**26.2**	**27.0**	**24.9**	**22.4**	**20.6**	**14.3**	**16.2**

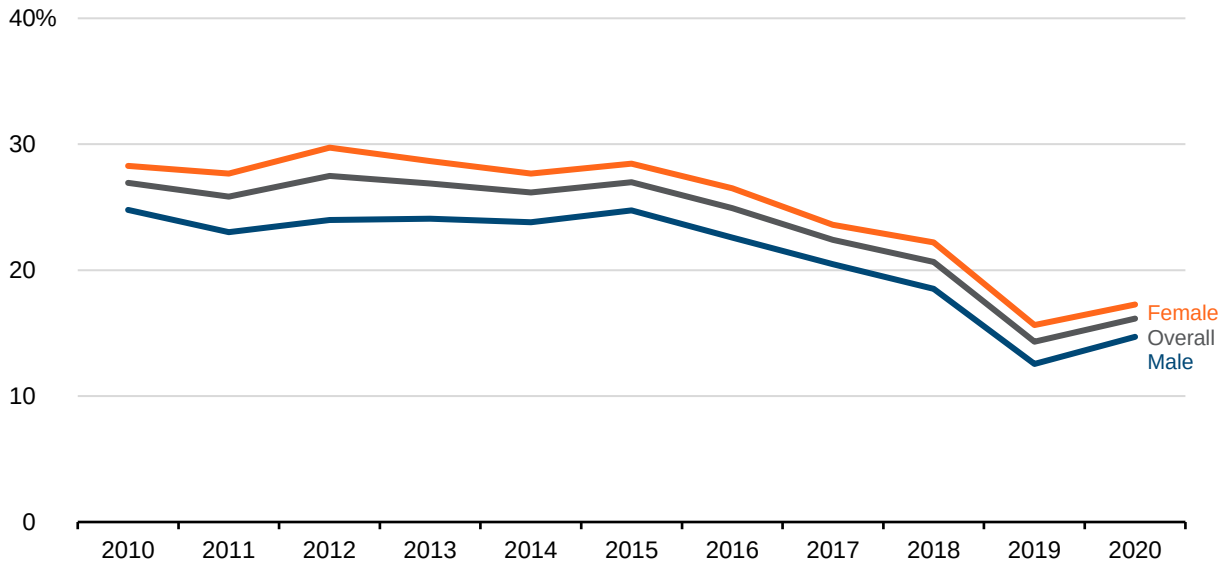
Source: MOHE (various years), authors' calculations

4.2. Key observations on unemployed graduates

There are more unemployed female graduates as compared to male graduates; fortunately, the unemployment rate has been in decline for both, but the gender gap persists

Despite an overall decline in the total unemployment rate among the respondents from 26.9% in 2010 to 16.2% in 2020, Figure 64 shows that the proportion of unemployed females is higher than that of males. However, the gap has been narrowing since 2013, with the reduction being attributed to improvements in the employment rate among female graduates[115].

Figure 63: Percentage of unemployed graduates, overall and by gender



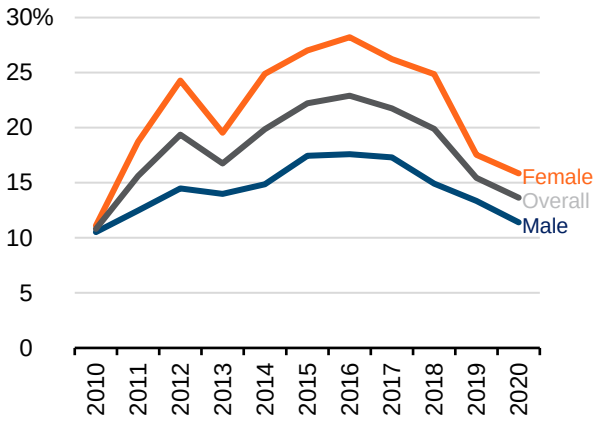
Source: MOHE (various years), authors' calculations

When broken down by gender and level of study, female graduates have higher unemployment rates at all levels of educational attainment compared to male graduates (Figures 65-67). This is a worrying trend as the mechanism that is considered an instrument for social mobility does not produce the intended impacts for females.

This disparity is even more apparent when comparing male and female graduates with a postgraduate qualification, with a percentage difference of as high as 10% between 2015-2017 (Figure 65). On the other hand, among graduates with a bachelor's qualification, the gender unemployment gap is closing as there is a convergence in the unemployment rate of male and female graduates (Figure 66). This suggests a more levelled playing field in the opportunities for male and female bachelor graduates when entering the labour market. Meanwhile, the unemployment rate for graduates with a diploma qualification showed the highest decline for both male and female graduates (Figure 67). However, it is noted that the gender gap persists, indicating that male graduates have a slightly higher chance of being employed.

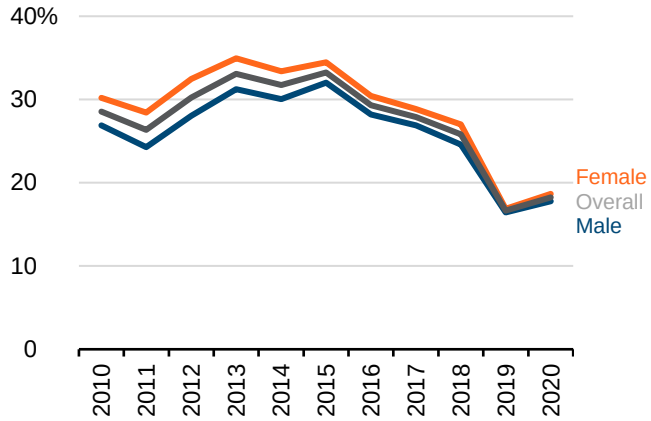
[115] MOHE (various years)

Figure 64: Percentage of unemployed graduates with a postgraduate qualification, overall and by gender



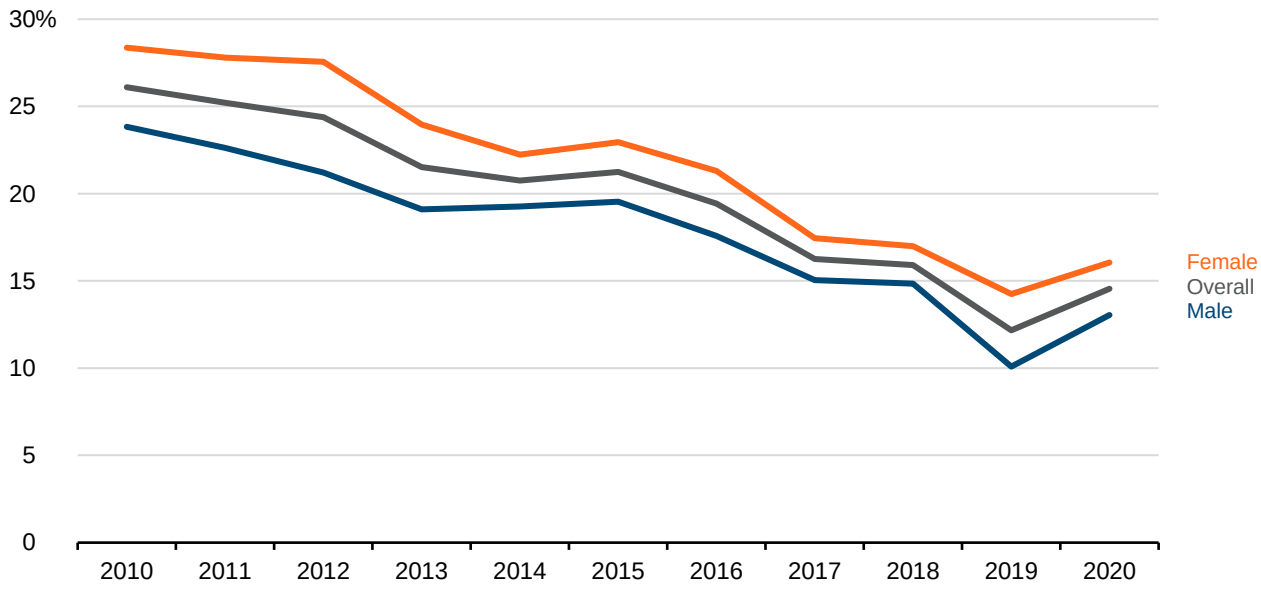
Source: MOHE (various years), authors' calculations

Figure 65: Percentage of unemployed graduates with bachelor's qualification, overall and by gender



Source: MOHE (various years), authors' calculations

Figure 66: Percentage of unemployed graduates with diploma qualification, overall and by gender



Source: MOHE (various years), authors' calculations

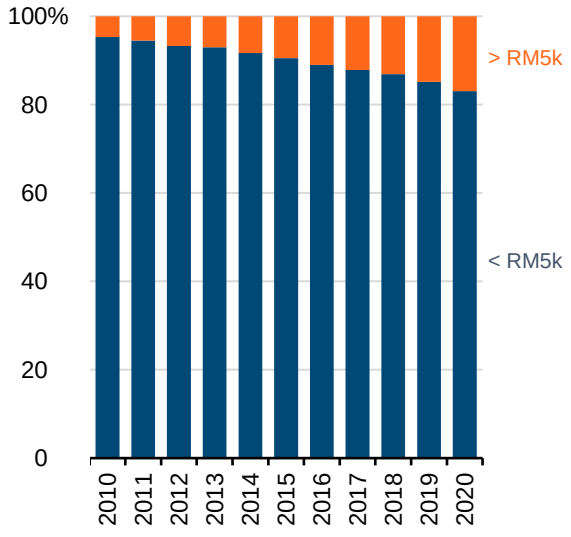
Graduates from low-income families make up the lion's share of those that are unemployed, but the trend is declining

Education is often stated as the great equaliser[116], as it provides the necessary tools for individuals to improve their livelihood irrespective of income. However, the GTS data shows that a higher percentage of graduates from lower-income families make up the majority of graduates and those who are unemployed.

Figure 68 shows that most graduates with a family income of under RM5,000 still make up the lion's share of those unemployed. Within this sample, education, seen as a means of achieving social mobility, could be harder to elevate those most vulnerable within society. However, it should be noted that within the samples, only 6-12% of the respondents come from families earning above RM5,000. Nonetheless, the data has shown a gradual reversal of this trend in the unemployment rate of families that earned below RM5,000, with a steady decline from 95% in 2010 to 83% in 2020. It should be noted that this improvement could be due to the rise in the average median wage for an individual, which has increased from RM1,500 in 2010 to RM2,442 in 2019[117].

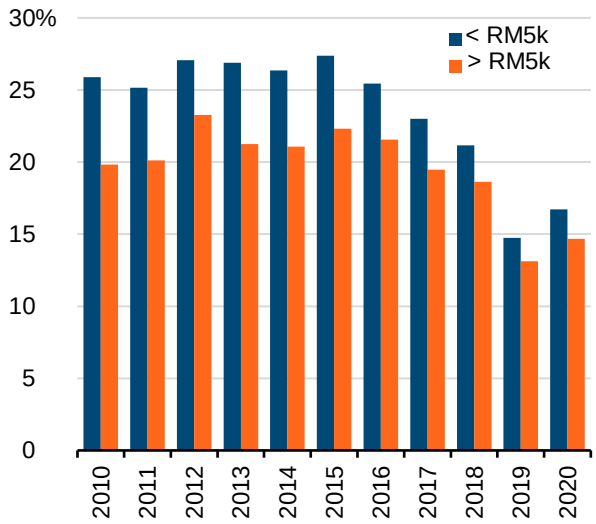
However, Figure 69 gives a better insight into the unemployed according to family income. It shows that for the first half of the decade, almost 25% of graduates from families with an income below RM5,000 were unemployed, but it declined to 16.7% in 2020. There is a slight difference among cohorts in other years, with the percentage being 19.8% in 2010 with a slight decrease to 14.7% in 2020.

Figure 67: Share of unemployed graduates, by family income



Source: MOHE (various years), authors' calculations

Figure 68: Percentage of unemployed graduates, by family income



Source: MOHE (various years), authors' calculations

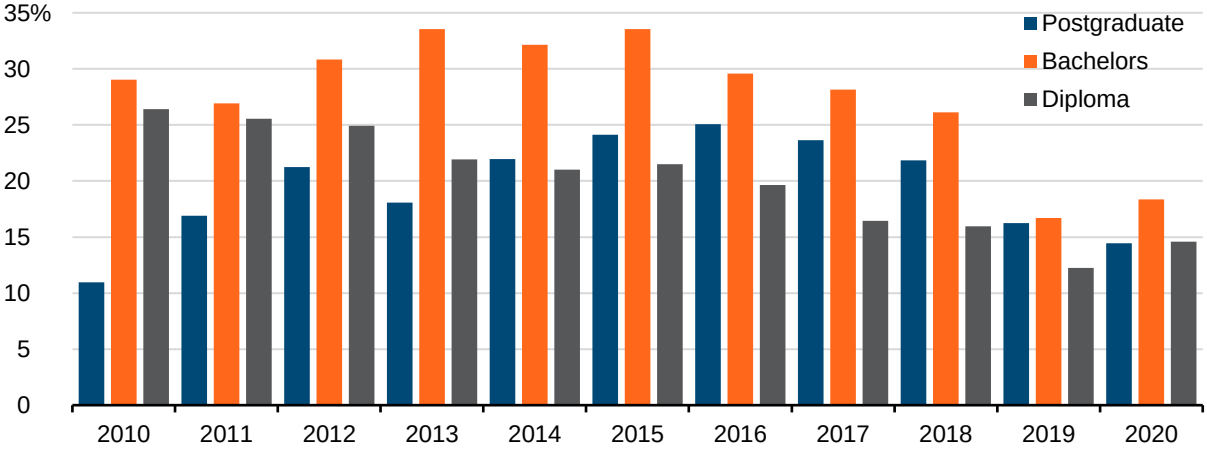
[116] Saavedra (2022)
[117] DOS (2021b)

Graduates with a bachelor's qualification have higher instances of unemployment compared to graduates with postgraduate and diploma qualifications

Interestingly, bachelor's degree graduates had higher instances of unemployment compared to graduates with postgraduate or diploma qualifications. Figure 70 shows that between 2010 and 2018, the proportion of bachelor graduates who were unemployed was between 26% to 34%, consistently the highest among the three study levels.

Meanwhile, the share of employed diploma holders has been favourable in recent years. The percentage of diploma holders that are unemployed has declined significantly, from 26% in 2010 to a low of 12% in 2019 (though it raised slightly to 15% in 2020 due to the Covid-19 pandemic). However, an argument can still be made that whilst it is good that they have found employment, the majority earn below RM2,000, with a high percentage of graduates working in non-standard employment, as highlighted earlier in Section 3. It also highlights structural weaknesses concerning mismatches within the labour force that need to be addressed, as these graduates have already completed their tertiary education and have yet to secure any employment terms successfully immediately after completing their studies.

Figure 69: **Percentage of unemployed graduates, by level of study**



Source: MOHE (various years), authors' calculations

As outlined earlier in the paper, two potential issues may drive these unemployment numbers, especially among graduates with higher qualifications. Firstly, our graduates are not equipped with the industry-related skills necessary to find placements within firms (supply). Secondly, there are not enough jobs being created within the labour market to cater for the influx of graduates (demand). This is further reinforced through an examination of the postgraduate unemployment rates, which in 2014 onwards were higher than that of those with a diploma qualification. This trend showcases that not enough high-skilled jobs are being created annually to cater to the supply of tertiary educated workforce produced yearly[118] or may be an indicator that permanent jobs are decreasing in the job market, as addressed in the earlier section.

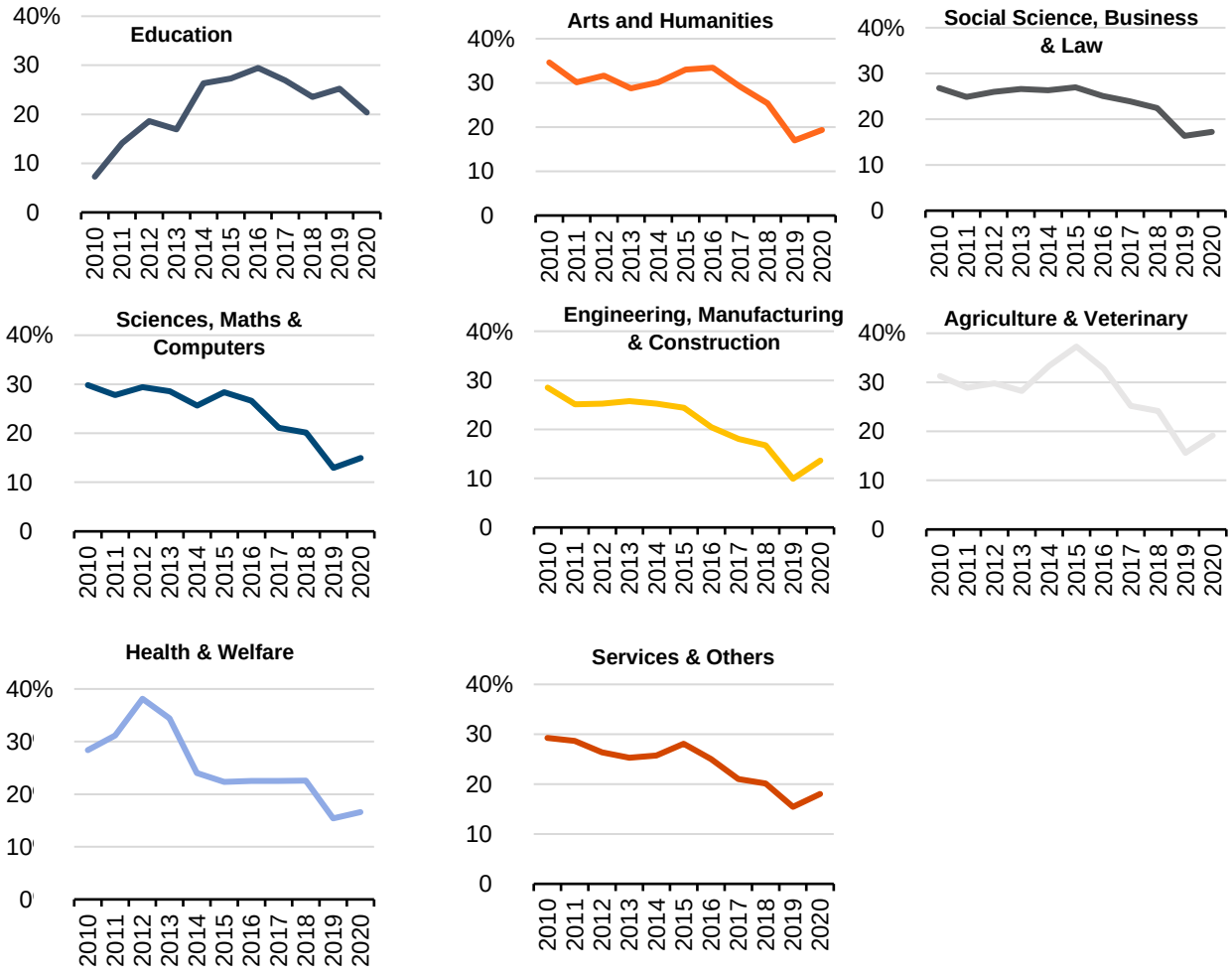
[118] DOS (2021b)

There has been a decline in the graduate unemployment rates across all fields of study, except for those who studied education

Overall, the percentage of unemployed graduates has declined across all fields of study, except for *education*—the only field that experienced an increase from below 10% in 2010 to 20% in 2020. However, it is worth noting that graduates across all fields of study except for *education* had high proportions of unemployment, at around 30% in 2010, and have experienced various degrees of success in declining their unemployment rate.

Figure 71 shows that the two fields of study with the largest shares of graduates, namely, *social science, business & law*, as well as *engineering, manufacturing & construction*, have experienced a decline of 10 and 15 percentage points, respectively, in the past decade. Furthermore, the fields of study that should be highlighted in terms of the decline in the percentage of unemployed are *arts & humanities, agriculture & veterinary*, as well as *health & welfare*. However, the fluctuations in the trends still be looked at with caution due to the low number of students that graduate from these respective fields. It should also be noted that in 2020, there was a slight increase in the unemployment rate across all fields of study, mainly attributed to the effects of the pandemic, which caused a spike in the unemployment rate for all working persons in Malaysia.

Figure 70: Percentage of unemployed graduates, by field of study



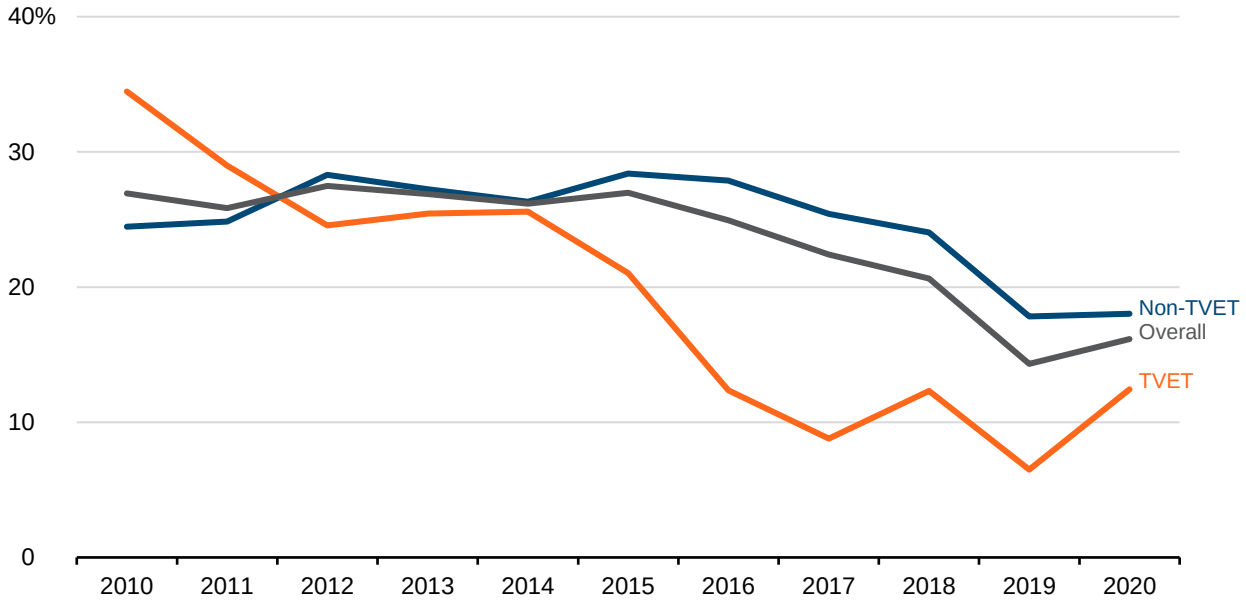
Source: MOHE (various years), authors' calculations

Since 2012, TVET graduates have consistently had a lower percentage of unemployed graduates as compared to non-TVET graduates

Since 2012, TVET graduates have had lower proportions of unemployment compared to non-TVET graduates—reflecting the high degree of employability as lauded by the government in recent years. The focus towards TVET can be construed as a success within government policy, as exemplified by its decline in unemployment rates.

Figures 72 highlights that there has been a sharp decline in the percentage of unemployed graduates from the TVET route from 34% in 2010 to a low of 6% in 2019, even with the expansion of TVET institutions in the GTS dataset from 2018 onwards. Comparatively, unemployment rates of non-TVET graduates have been largely stagnant from 2010 to 2018, fluctuating between 24% and 28%. However, there have been some improvements in recent years, as the rate dropped to below 20% in 2019 and 2020.

Figure 71: Percentage of unemployed graduates, by TVET and non-TVET



Source: MOHE (various years), authors' calculations

KEY TAKEAWAYS

Unemployed graduates and the trends that surround them require targeted government policy to prevent these graduates from being discouraged from the labour market. Ensuring these issues being addressed in the early stages of a graduate's career is crucial as the first ten years of working are the most important period with the most potential for career growth. The acceptance of a low starting salary driven by a pressing need to earn a living would only result in adverse outcomes, especially among those from lower-income families. In this section, the key takeaways are:

- Although there are a higher number of female graduates in tertiary education, they have a higher unemployment rate than male graduates, and this gender gap has persisted throughout the decade.
    - Unemployment among female graduates is higher than males at all levels of qualification but is most pronounced among graduates with a postgraduate qualification, where the percentage difference between male and female graduates with postgraduate qualification is as high as 10%.
    - Among those that have attained a bachelor's degree or equivalent, the gender gap has been closing as male and female graduates have begun to experience similar unemployment trends in recent years.
- The share of unemployed graduates is higher among those from families with income less than RM5,000 than those from families with income more than RM5,000.
- Graduates with a bachelor's degree or equivalent have higher instances of unemployment as compared to those with a postgraduate or diploma.
    - This represents a structural weakness within the economy as an educated workforce is unable to secure employment that matches their qualifications.
    - For those who have attained a diploma, their lower unemployment rate is contributed by higher employment of graduates from TVET institutions albeit the majority of them are in low-wage jobs.
- Generally, employment outcomes have improved for graduates regardless of their field of study, as almost all have experienced a decline in unemployment except for *education*.
    - However, it should be noted the percentage of unemployed graduates has overall declined but is still quite high at around 30% in 2010 across all fields of study.

5. Insights on the Job Search Process

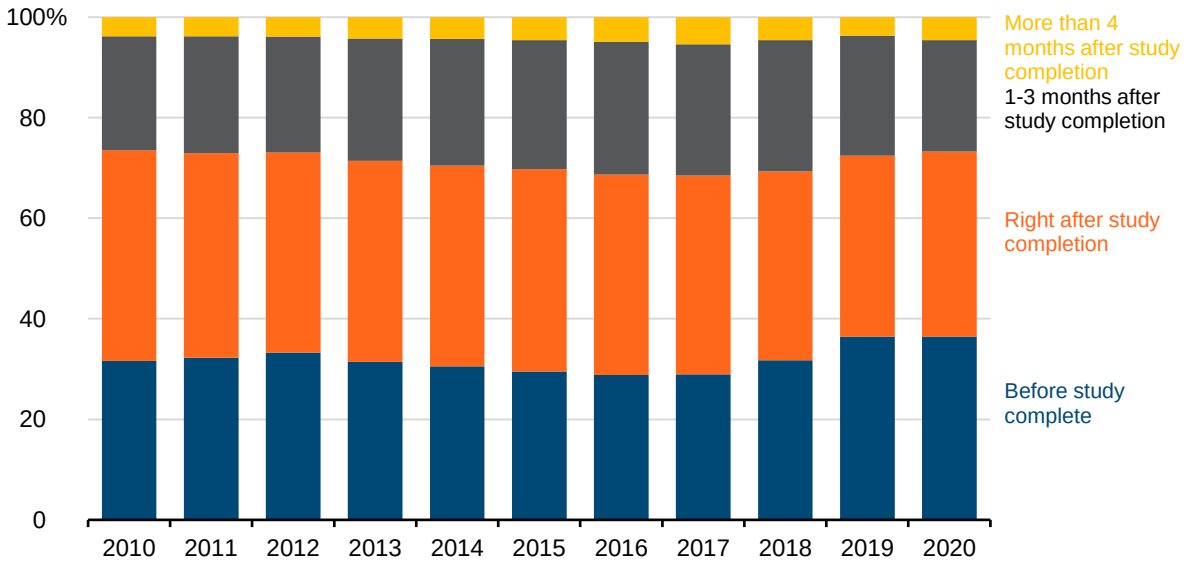
The job process has been evolving throughout the years, reflecting the increasing utilisation technology and competition in the labour market. This section outlines the job search process among working graduates, the platforms they have used, and a contrast of what the job search process is like for unemployed graduates.

5.1. The job search process among working graduates

Graduates are proactive. Their job search starts even before their study completed

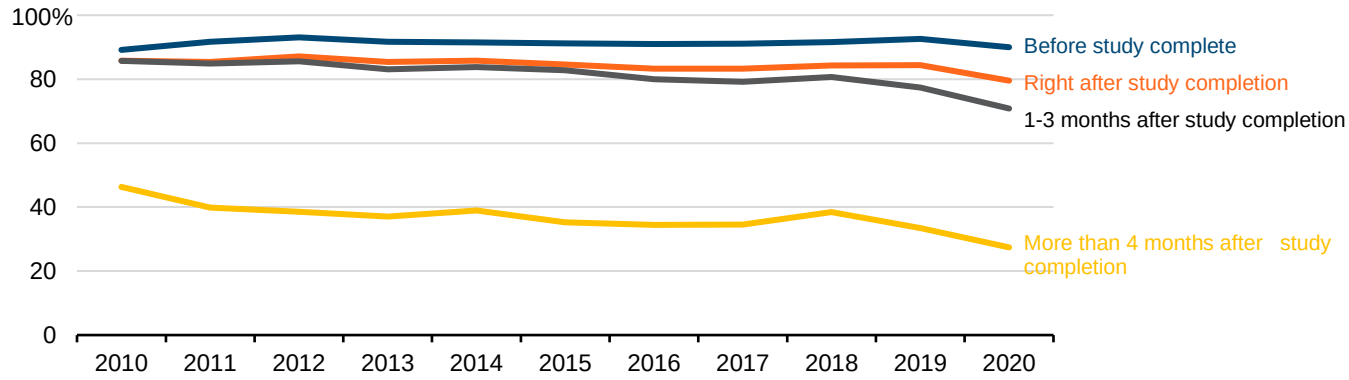
Figure 73 shows the period when graduates start looking for a job. Over the years, graduates have been seen to be more proactive in looking for a job as represented by the earlier start. Around one-third of graduates begin their job search even before completing their studies. Only a small share (i.e. less than 5%) of graduates start looking for work four months after completing their studies. This shows the determination of graduates to get a job soon after completing their studies. GTS also shows a shorter waiting time among those who start their job search early. The share of graduates who waited less than three months for their first jobs is higher (more than 90%) than those who start their job search later (Figure 74).

Figure 72: Percentage of working graduates by the period when they start looking for a job



Source: MOHE (various years), authors' calculations

Figure 73: Percentage of graduates who waited less than three months for their first job, by the period when they start looking for a job

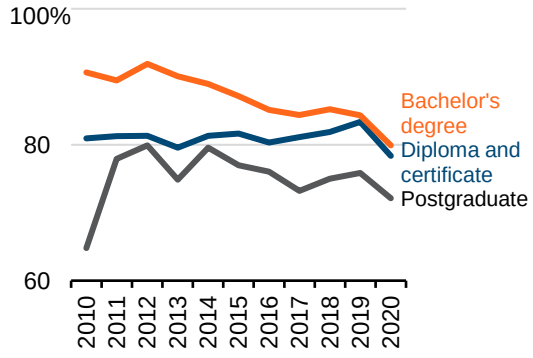


Source: MOHE (various years), authors' calculations

Postgraduates are found to have a longer waiting time for their first jobs compared to graduates with other qualifications. Over the years, the proportion of postgraduates who secured jobs in less than three months after graduation is about 70% (Figure 75). The proportion for diploma and certificate holders was somewhat stagnant throughout, about 80%, while a trend for bachelor's degrees declined from 90% in 2010 to 80% in 2020. This indicates that the higher the qualification level, the longer the waiting time for the first job.

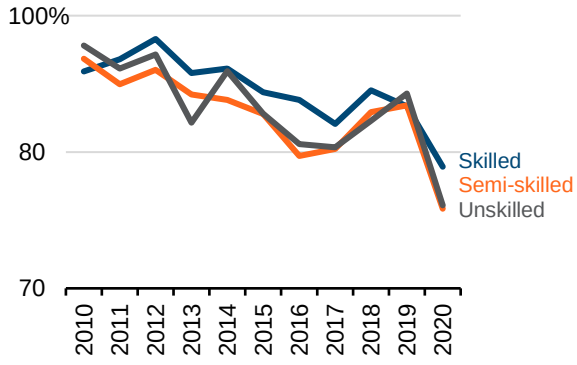
The percentage of graduates waiting less than three months for their first job has worsened from about 90% in 2010 to 78% in 2020 across all skill types (Figure 76). Meanwhile, waiting times for TVET and non-TVET graduates have not significantly changed. As expected, non-TVET graduates have had shorter waiting time for first jobs since 2010 (about 87%), but showing a declining trend, to 79% in 2020 as the job market condition becomes tougher. For TVET graduates, the proportion who secure their first job in less than three months is somewhat stagnant, from 81% in 2010 to 79% in 2020 (Figure 77). It can be concluded that finding job is not that difficult, but securing a good one is tough for graduates.

Figure 74: Percentage of working graduates who waited less than three months for their first job, by level of study



Source: MOHE (various years), authors' calculations

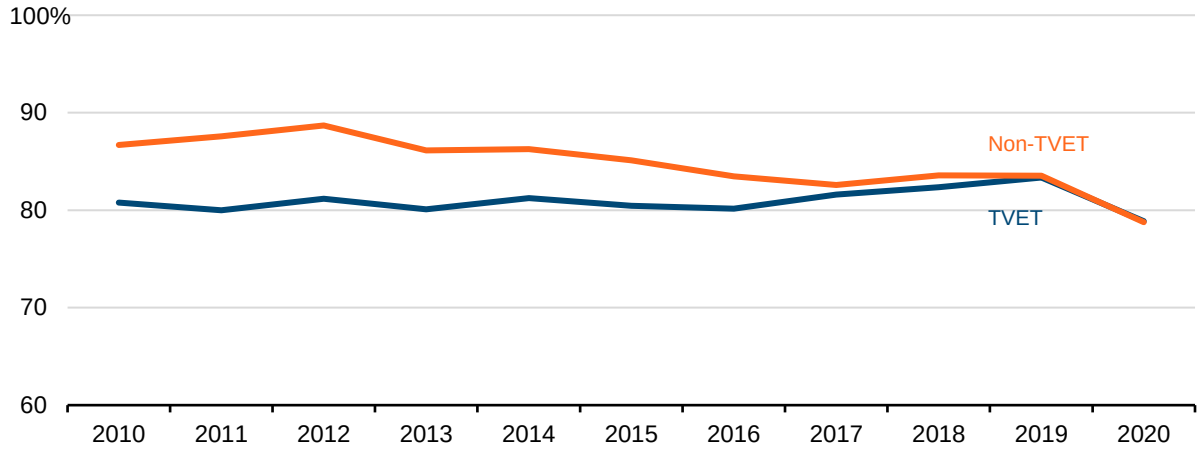
Figure 75: Percentage of working graduates who waited less than three months for their first job, by skill level



Note: Among those who are currently in their first job

Source: MOHE (various years), authors' calculations

Figure 76: Percentage of working graduates who waited less than three months for their first job, by field of study and (TVET and non-TVET)

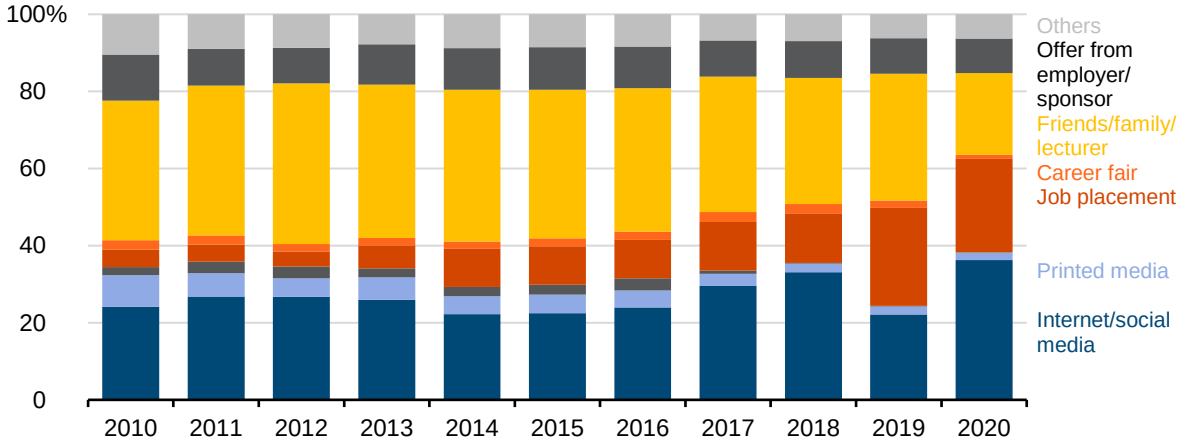


Source: MOHE (various years), authors' calculations

To find a job, graduates rely on the internet/social media and job placement

Figure 78 depicts the various job search platforms graduates used for job search. Five to ten years ago, graduates predominantly relied on the internet/social media and personal networks such as friends, family & lecturers (constituting about 60%). The trend for a direct offer from an employer or scholarship sponsor has been stagnant for a decade, between 9% to 12%. During the Covid-19 crisis, the reliance on job placement (e.g. through Human Resources Department, etc.) and the internet/social media (about 60% in 2020 and 48% in 2019) showed a significant increase. The reliance on these two platforms is not unique to Malaysia—lockdowns and government restrictions on people's mobility have affected the job search process of the general labour force everywhere[119].

Figure 77: Platform for getting the current job



Source: MOHE (various years), authors' calculations

[119] Balgova et al. (2022)

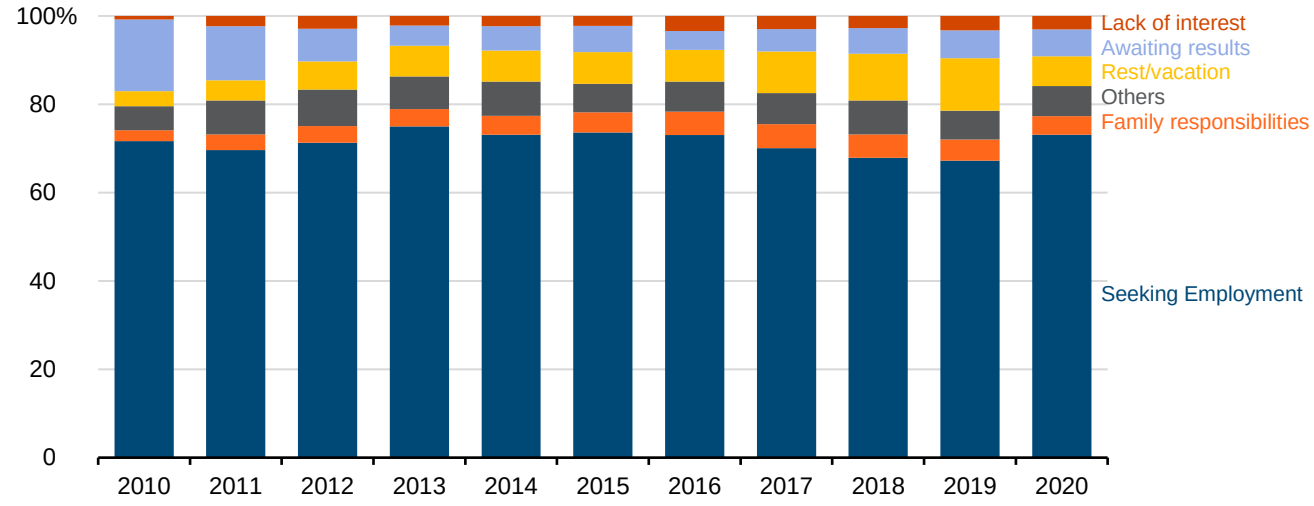
5.2. Job Search Process among unemployed graduates

Over 70% of the unemployed have consistently shown active interest in seeking employment

Among the unemployed graduates, they were asked to provide reasons for unemployment as a means to gauge their interest in joining the labour force. Figure 79 highlights that a large majority of the unemployed have answered that they are "actively seeking employment but unsuccessful in their efforts". Meanwhile, there is a slight occurrence of those that have listed a "general lack of interest in employment" as the main reason for unemployment, while still small, this proportion has been increasing, making up above 3% from 2016 onwards. This trend should be addressed to prevent a further rise in NEETs among young graduates.

Interestingly, there is also an apparent increase in the number of unemployed graduates whose main reason is "wanting to have a period of rest or a vacation". Lastly, there has also been a rise of those citing "familial responsibilities" from 2% in 2010 to between 4% to 5% from 2011 and onwards. This could be attributed to the increase in the ageing population[120].

Figure 78: Unemployed graduates, by main reason for unemployment



Source: MOHE (various years), authors' calculations

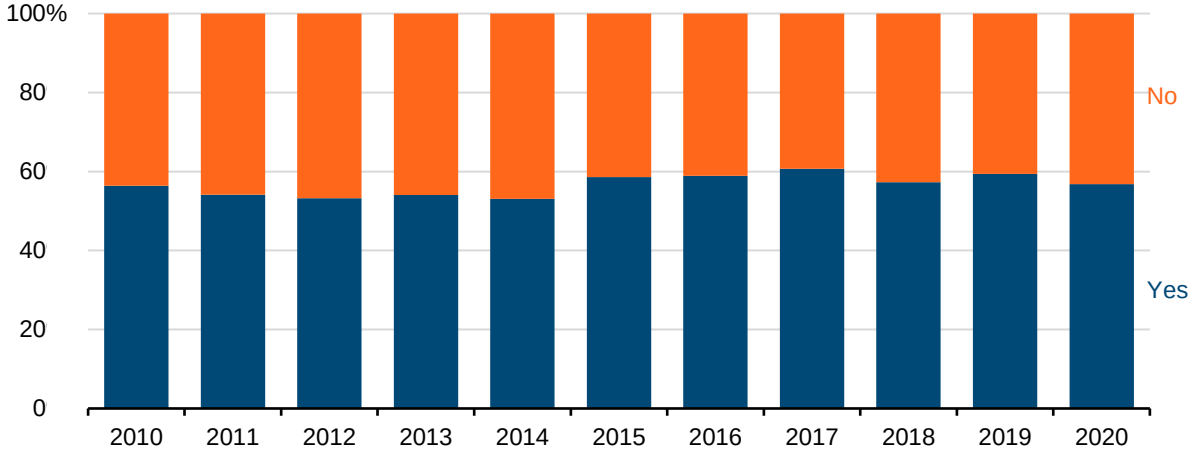
More than half of the unemployed have been interviewed for a prospective job

The previous figure has shown that consistently over the years, there were over 70% of unemployed are still actively seeking employment. Despite the majority actively looking for a job, Figure 80 shows that only half have attended interviews. These findings can be attributed to the short time between the respondents' graduation and the survey time. Unlike the option for working graduates, those unemployed did not have to list their job search preferences and which platforms they use, which could help further recommendations to improve their outcomes.

[120] DOS (2017)

Having the opportunity to attend and hone graduates' soft skills during an interview is an essential process for our graduates to develop, especially at the beginning of their careers.

Figure 79: Unemployed graduates, by total interviews attended

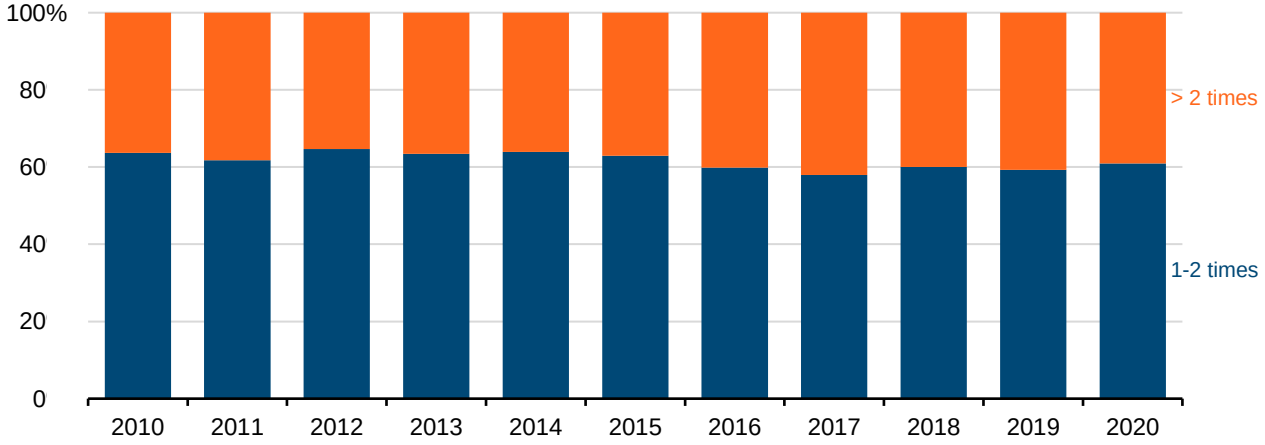


Source: MOHE (various years), authors' calculations

More than 60% of the unemployed have only attended 1-2 interviews

The interview process is an important aspect of the job search process as individuals would continually learn and improve on how to succeed during an interview in terms of preparation and how to answer any questions that the potential employers pose to them. Within the GTS data, Figure 81 shows that of those unemployed, the percentage of those that have only attended 1-2 interviews has maintained constant at around 60%. This is expected given that the survey is only distributed around six to twelve months after graduation, as graduates may not have had the opportunities to attend any interviews. However, the stagnation could still be used as an evaluation for active labour market policy (ALMP) programmes, as the programmes may not have been sufficient to provide the graduates with the necessary soft skills.

Figure 80: Unemployed graduates, by total interviews attended



Source: MOHE (various years), authors' calculations

6. Summary of Key Takeaways and Conclusions

This working paper presents insights from the GTS dataset conducted annually by MOHE. It analyses the sociodemographic characteristics of Malaysian young and fresh graduates, trends of graduate employability over the last decade and key issues faced by graduates transitioning from higher education to work.

At a glance, the last decade has been marked by healthy labour market conditions for fresh graduates. Employability rates continued to increase for male and female graduates from around 70% in 2010 to more than 80% in 2020. The incidence of unemployed graduates upon graduation has declined from 27% to 16% during the same period. In recent years, more graduates have been employed in skilled jobs. However, observing beyond the headline employability and unemployment indicators suggests a more challenging job market for fresh graduate workforce. Our analysis has identified several key findings as follows:

Key Takeaway 1: There are not enough graduate-level jobs, and the starting pay is dismal for the majority of graduates

- Every year at least one-third of fresh graduates entering the job market face "overqualification"—a situation where graduates hold positions that do not correspond with their educational qualifications. Although the incidence of overqualification has been declining since 2019, the concentration of the Malaysian economy on the non-modern services sector and less high-tech industries continue to hamper positive growth in the labour market, especially in the creation of quality jobs that offer higher pay for graduates.
- Overqualification is also apparent among graduates from low-income families, and this would have adverse consequences as they face a higher risk of being trapped in low-income situations. More than 80% of those who are overqualified for the work that they are doing are from low-income families earning below RM5,000. The incidence of overqualification is also seen to be growing among graduates from higher-income families as well.
- Despite the increasing number of graduates working in skilled jobs, more than half of them are earning less than RM2,000, pointing to a lacklustre growth in starting pay for graduates. This is reinforced by recent data showing that although the percentage of working graduates earning below RM1,000 is declining, the salary increment has not been high as most are still trapped with an income below RM1,500.
- *Undeniably, the issues surrounding overqualification and underemployment, as well as low starting pay and sluggish wage growth, signal a more serious structural issue of the economy beyond the control of an individual graduate. This highlights that policies aimed at addressing structural issues are not within the ambit of higher education alone.*

Key Takeaway 2: Promising career pathway for TVET graduates. Higher TVET qualification results in better employment outcomes

- The government's emphasis on TVET as an alternative pathway for students is promising, with significant progress seen from rising employability rates among TVET graduates from 65.0% in 2010 to 87.6% in 2020.
- However, the starting salary for most TVET graduates is dismal, given that the majority are certificate and diploma holders. Nine of ten TVET graduates earn below RM2,000, compared to 60% among non-TVET graduates. Nevertheless, TVET graduates with higher qualifications, especially those from TVET (MTUN) who have attained bachelor's degrees, outperform other graduates.
- *Policies that aim to strengthen the TVET ecosystem and improve the quality of TVET programs are in a good direction. Furthermore, strategies that support students to acquire credentials at a higher level, as seen with the establishment of MTUN, could further enhance career pathways for TVET students.*

Key Takeaway 3: A growing number of graduates are involved in self-employment, but it is not viewed as a sustainable career path. Higher job dissatisfaction rate suggests a lack of options elsewhere

- The percentage of self-employed among working graduates rose to around 20% in 2020 from about 3.0% ten years ago. Involvement in self-employment is observed to be higher among TVET graduates. Rising self-employment could be a result of entrepreneurial spirit among graduates as indicated by high interest among respondents that want to be an entrepreneur. Additionally, developing a holistic, entrepreneurial and balanced graduate became the first agenda under the Malaysia Education Blueprint 2015-2025 (Higher Education)[121], intending to prepare graduates with entrepreneurial qualities to become independent and resourceful persons in the future.
- However, self-employment could also be an alternative to avoid unemployment, especially when stable full-time jobs with decent pay are harder to find. Our study found that more than half of graduates venturing into self-employment intend to change their profession. Many did not view self-employment as a lifetime career choice but as temporary work while searching for full-time employment. Even among graduates who studied in business-related fields, only a small proportion indicated an interest in pursuing self-employment.
- *Policies that promote entrepreneurship require handholding graduate entrepreneurs to be sustainable and resilient. Extending social protection to cover those in non-standard employment will help them mitigate unforeseen risks.*

[121] MOHE (2015)

Key Takeaway 4: Females outnumber males in higher education, yet gender comparison indicates imbalances in the labour market outcomes

- There are more females in higher education, but they face challenges in the job market with unfavourable outcomes than males. Firstly, the unemployment rate is persistently higher among female graduates than among males throughout the period. Over the years, the proportion of working graduates has generally been skewed towards males, although there is also a high proportion of working graduates that are females but with a bachelor's degree and postgraduate qualifications.
- Despite more graduates being hired in skilled jobs recently, more females are trapped in semi-skilled jobs, indicating a higher incidence of overqualification among female graduates. The proportion of females working in non-standard employment, mainly as self-employed, has been higher than males throughout the years. Females also tend to enter into a more restricted range of professions than males, particularly in the services sector.
- As more females worked in semi-skilled and non-standard jobs, they generally earned less than males and were more likely to have a second job. However, second jobs have not contributed much to their incomes since females still make up the greater share of working graduates earning below RM2,000.
- *A gender-sensitive active labour market policy can help to improve gender gaps given that improving females' participation in higher education is a necessary but insufficient condition to promote economic empowerment among females.*

Key Takeaway 5: Adverse labour market outcomes among graduates from low-income families

- The higher unemployment rate, skill mismatch and low starting salary make it especially difficult for graduates from low-income families to improve their labour market outcomes. The percentage of unemployed graduates is higher among those from low-income families (less than RM5,000).
- Graduates from low-income families cannot afford to wait for the best offer in the job market and are often forced, due to their socioeconomic circumstances, to accept low-income jobs to avoid long periods of unemployment.
- On the other hand, if graduates from low-income families go into self-employment, they would face difficulties setting up a business as it requires a high degree of capital and a good support network, as businesses have a higher propensity to fail due to limited support.
- *Active and passive labour market policies can help to lessen the burden one would face during the "school-to-work" transition by providing relevant support whilst trying to find a suitable job fit to their acquired skills and level of study.*

Key Finding 6: High percentage of working graduates want to change jobs, indicating a notable job dissatisfaction

- While graduates acknowledge that what they have studied is useful for their current job, a higher percentage consider that the skills they learnt were not practical enough to fulfil their jobs' requirements.
- Although working graduates are generally satisfied with their current job, more than half intend to change jobs. The tendency to change jobs is higher among those with postgraduate qualifications, who work in non-standard employment, females who earn below RM2,000 and from low-income families. Looking for permanent jobs that are relevant to the field of study and provide higher salaries was cited as among the main reasons why working graduates want to change jobs.
- *A forward-looking approach to skill matching in the labour market is needed, not just ensuring skill matches for current demand but also for the future. This could also involve talent projection and development— a strategic process of identifying future skills needed to enable better education and training choices.*

Key Takeaway 6: The job search process starts even before study completion, resulting in a shorter waiting time for the first job

- For one-third of working graduates, their job search process started even before the completion of their studies. This leads to a shorter waiting time for their first job, especially among female graduates, who stand a higher chance of being employed in less than three months after study completion. Internet, social media and job placements were cited as the top three platforms primarily used in the job search process.
- A declining trend of unemployment among respondents has been observed over the years, from 27% in 2010 to 14% in 2019, before a slight increase to 16% in 2020. The distribution of unemployment is skewed towards females, bachelor's degree and diploma holders, non-TVET graduates, graduates from low-income families and aged 21-25 years. Among unemployed graduates, at least 70% are actively looking for a job. However, those who have attended at least one or two job interview is at 60%
- *Innovative ways to provide a more effective job search process for new graduates are essential as it should be accessible, particularly for those most in need.*

Conclusion

The key findings highlight several policy implications that require further exploration towards addressing the numerous issues faced by young fresh graduates. Nonetheless, it cannot be viewed in isolation as there are also equally pressing structural issues that need to be addressed in parallel. We need to produce higher quality jobs that befit our graduates' qualifications and skillset, in addition to preparing a workforce capable of withstanding the tough job market and also agile enough to respond to rapid changes in the job market.

Appendix 1 Insights on Graduates Pursuing Further Study and Participating in Up- and Re-skilling Programmes

The trends for working and unemployed graduates have been discussed in Section 3 and Section 4, respectively. This appendix highlights the composition of graduates in the remaining components within the graduate employment status, i.e. (1) graduates that opt to go into further study and (2) graduates that participated in upskilling & reskilling courses.

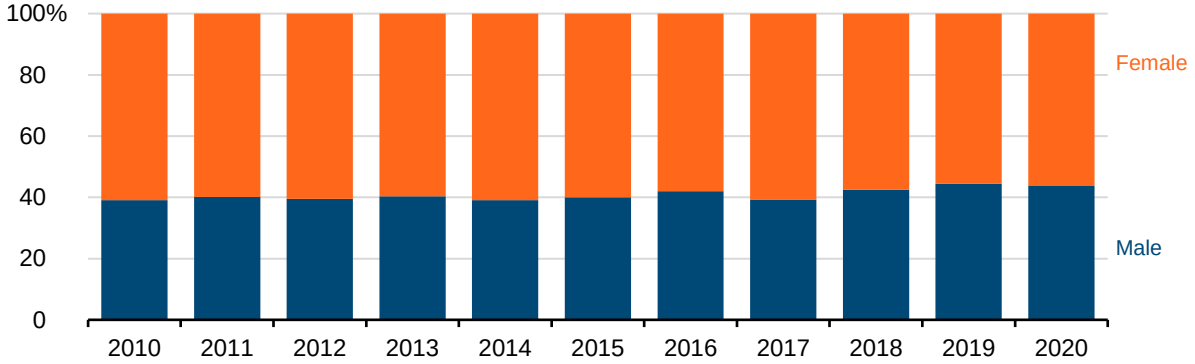
On average, out of the total students who graduated annually, 18.7% would go for further study, and 1.7% go for upskilling & reskilling courses.

Graduates pursuing further study

The percentage of graduates that go into further study has been consistent throughout the years

According to Figure 82, the share of male and female graduates furthering study has been consistent throughout the years with a ratio that is almost identical to the gender ratio for total enrolment, i.e. around 40:60 every year. This is in line with the existing literature whereby women are actively encouraged to pursue higher education by expanding access to universities as part of the UN's SDG No. 5: Gender Equality[122]. In the UNESCO study encompassing 938 global universities, 86% of universities worldwide systematically tracked women's application, entry and exit rates into their universities[123]. The higher intake of women into university may also stem from changing norms surrounding tertiary-educated women in society and the workplace[124].

Figure 81: Share of graduates opting for further study, by gender



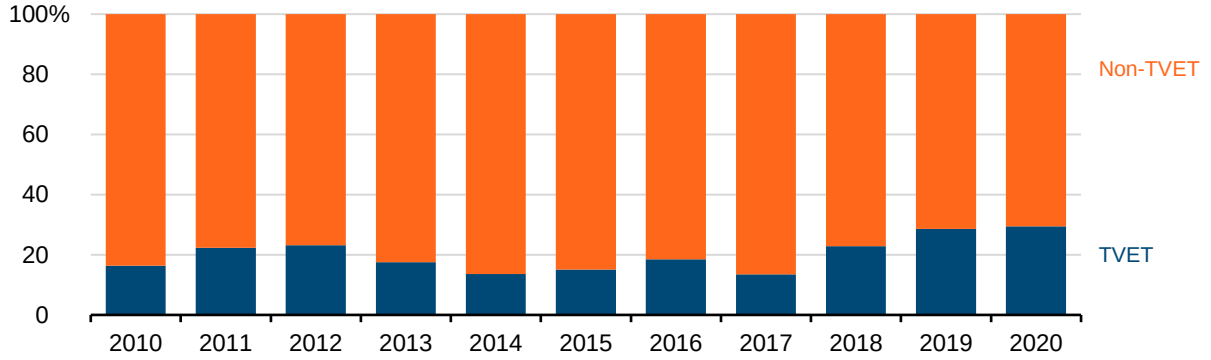
Source: MOHE (various years), authors' calculations

[122] UNESCO-IESALC (2022)
[123] Ibid.
[124] OECD (2021)

Non-TVET graduates are the dominant group that opts for further study

In comparison between non-TVET and TVET graduates, Figure 83 shows that the vast majority of graduates that have opted to further study are predominantly non-TVET graduates by an 80:20 ratio throughout the decade. There have been some fluctuations throughout the decade with some increases in the share of TVET graduates opting for further study in recent years.

Figure 82: Share of graduates opting for further study, by TVET & non-TVET

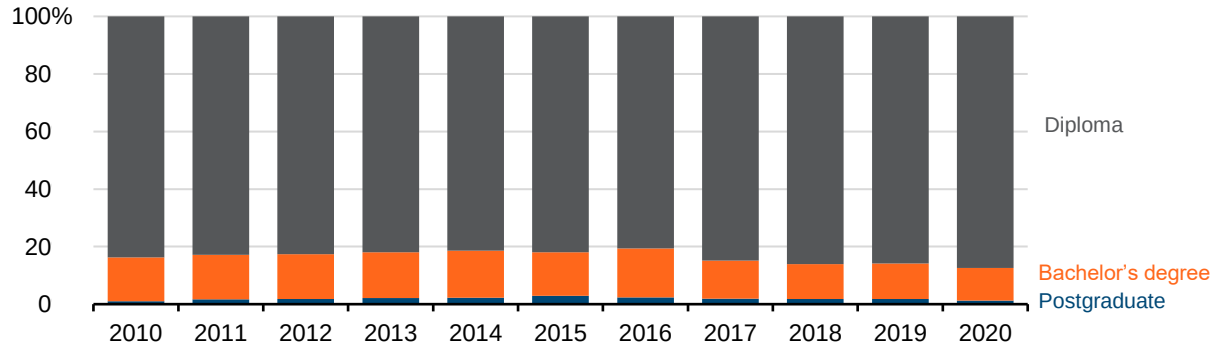


Source: MOHE (various years), authors' calculations

Over 80% of graduates with a diploma or certificate have opted to go into further studies

A comparison between the three levels of study highlights that the graduates that have chosen to go into further study were graduates with a diploma or certificate. The composition in Figure 84 shows that over 80% of all graduates who goes to further study are diploma holders, which has increased since 2016. The GTS data also shows that among all diploma and certificate holders, 30% chose to pursue a higher qualification, compared to only around 10% among bachelor's degree holders and about 6% among postgraduate holders.

Figure 83: Share of graduates opting for further study, by level of study



Source: MOHE (various years), authors' calculations

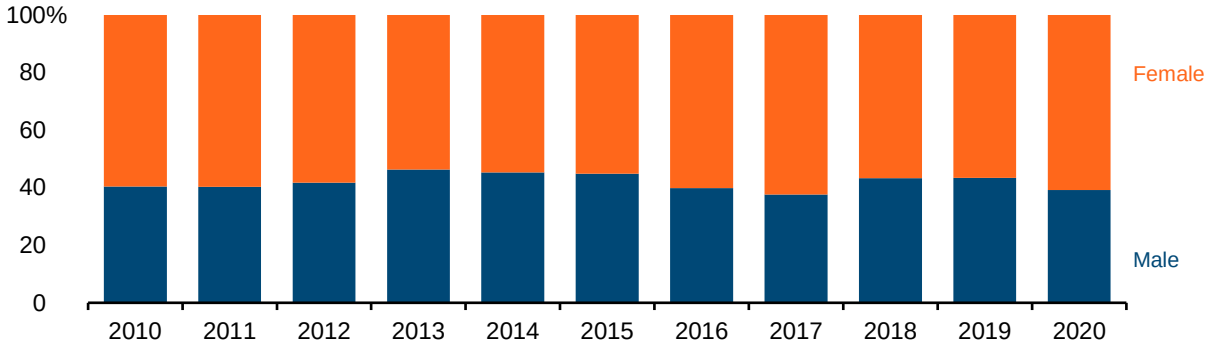
Graduates pursuing up- & re-skilling programmes

A higher number of female graduates have chosen to up- & re-skill compared to male graduates

The second component that will be explored within this subsection is up- & re-skilling, where graduates have chosen to undertake a course to build upon existing skills or learn new skills within tertiary education. The term, up-skilling & re-skilling, is now contemporarily seen as a response to technological change as 1 billion people would need to up-skill or re-skill to address the needs of the Fourth Industrial Revolution[125]. In general, the share of graduates that have chosen this route is relatively small, at around 1-2% annually.

In terms of the gender breakdown, Figure 85 reflects the gender ratio of male to female graduates in tertiary education at around 40:60. In terms of the overall low percentage of up-skilling & re-skilling, it might be due to the age of the respondents, up-skilling & re-skilling might be needed when the person's current skills are not enough to meet the demands of the labour market. The timing of the survey can also play a role as 6-12 months may not be enough time for new and fresh graduates to decide that their skills are not fit to meet the demand of the labour market.

Figure 84: Share of graduates opting for up-skilling & re-skilling, by gender



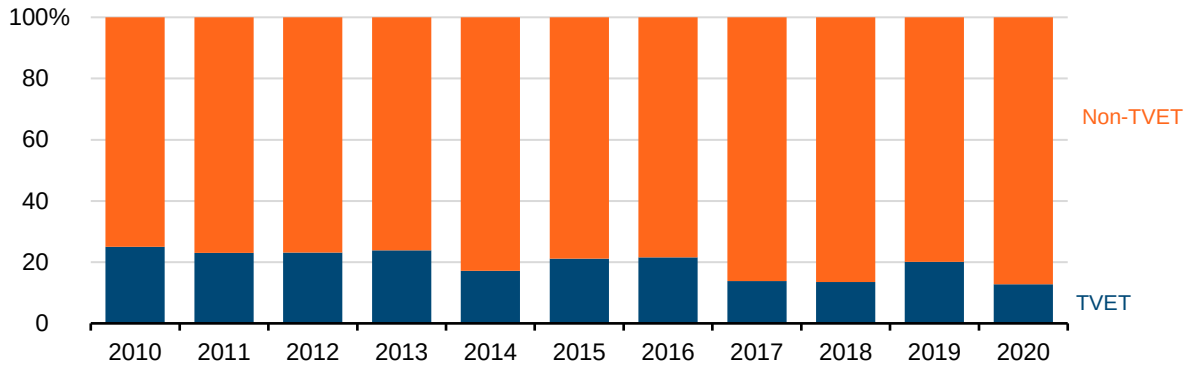
Source: MOHE (various years), authors' calculations

A higher number of non-TVET graduates opt to up-skill & re-skill compared to TVET graduates

Figure 86 shows that the share of TVET graduates that chose to up-skill & re-skill had been markedly lower than non-TVET with even a shrinking share in recent years. This could be attributed to the high employability rate of TVET graduates, which lessens the need to go for upskilling & reskilling programmes.

[125] World Economic Forum (2020)

Figure 85: Share of graduates opting for up-skilling & re-skilling, by TVET & non-TVET

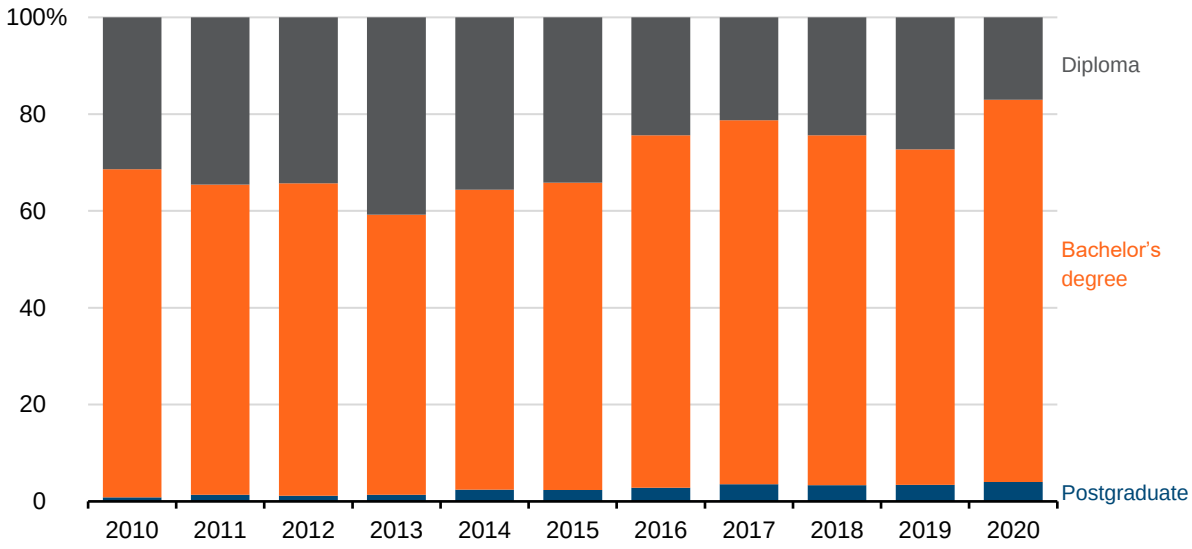


Source: MOHE (various years), authors' calculations

Bachelor's degree holders have the highest share and contribution of those that venture into upskilling & reskilling

The compositional breakdown in Figure 87 also reflects the large share contribution from bachelor's degree holders, whereby almost 80% of those that choose to up-skill & re-skill are those that hold a bachelor's degree. This might be an area of concern for policymakers as postgraduate holders have experienced a slight increase in tandem with bachelor's degree holders in the percentage share of graduates that have chosen to up-skill & re-skill. As postgraduate holders are the most employable compared to the two other groups, policymakers may need to find out why an increasing number of them have begun to up-skill & re-skill within 6-12 months of graduation. They would already be more specialised within their chosen field of study and may have opted to venture out of that field due to low demand for their skills within the job market.

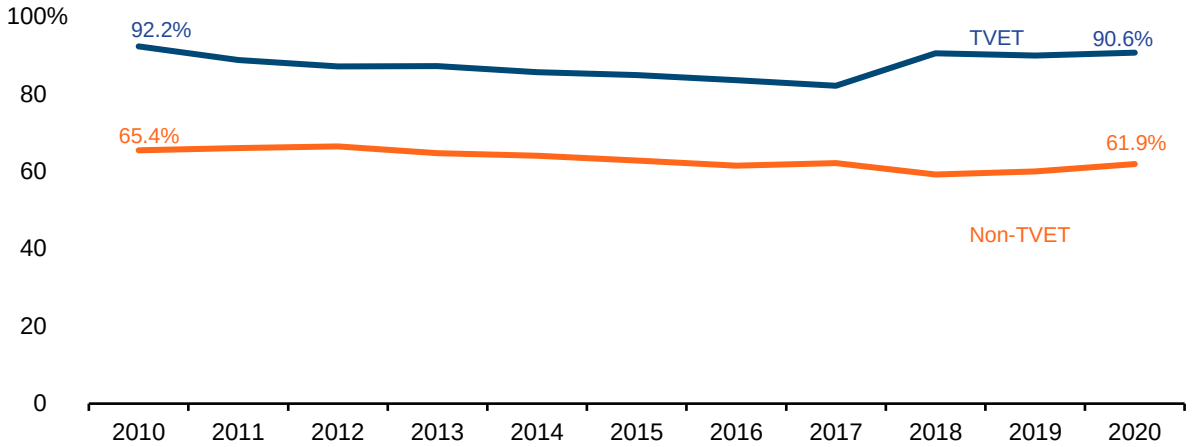
Figure 86: Share of graduates opting for up-skilling & re-skilling, by the level of study



Source: MOHE (various years), authors' calculations

Appendix 2 Insights on Working Graduates : Supplementary Information

Figure 87: Percentage of working graduates earning below RM2,000 by TVET and non-TVET status institutions



ource: MOHE (various years), authors' calculations.

Table 15: Percentage of graduates working in overqualified jobs, by employment type

Type of employment	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Full-time/Permanent	26.3%	27.2	30.8	33.7	35.2	36.4	38.9	41.5	44.4	28.9	30.8
Contract/Temporary	35.6	35.6	37.6	40.3	42.3	44.3	45.1	45.7	48.0	29.4	30.5
Part-time	58.3	60.2	63.4	64.6	66.4	70.7	71.9	73.7	70.8	52.4	53.2
Self-employment	61.7	60.2	65.9	68.5	70.0	79.3	81.8	81.9	84.2	61.0	63.4

Source: MOHE (various years), authors' calculations

Table 16: Percentage of working graduates earning below RM2,000 by occupation and skill

Occupation	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
(1) Managers	70.3%	69.5	66.7	65.1	63.0	60.7	59.4	58.7	57.0	59.6	57.3
(2) Professionals	52.8	51.9	50.8	48.3	45.9	42.9	42.1	41.5	40.0	42.8	44.1
(3) Technicians & Assoc. Professionals	82.5	78.1	73.9	71.6	67.4	64.6	58.7	57.8	62.8	73.1	75.4
(4) Clerical support workers	93.9	92.1	90.6	89.9	88.5	87.1	83.4	82.0	81.4	85.4	86.7
(5) Service & sales workers	89.1	89.7	88.5	87.9	87.0	86.5	85.4	85.9	83.9	90.5	93.7
(6) Skilled agriculture, forestry, livestock and fishery workers	89.9	86.7	86.0	82.1	85.5	81.7	82.1	86.7	86.4	92.4	91.7
(7) Craft & related trades workers	94.8	91.9	92.1	91.2	89.7	89.2	86.7	86.7	84.2	88.7	89.1
(8) Plant & machine operators and assemblers	88.5	92.8	91.0	89.6	87.0	86.8	88.4	88.8	88.3	92.8	92.3
(9) Elementary occupations	93.0	94.3	96.1	94.1	93.7	92.3	91.7	90.8	90.7	92.1	93.0
Skilled (1,2,3)	**61.7**	**59.7**	**57.5**	**54.5**	**51.5**	**48.8**	**47.1**	**46.6**	**48.0**	**54.5**	**56.1**
Semi-skilled (4,5,6,7,8)	**91.1**	**90.9**	**89.9**	**89.2**	**88.0**	**87.0**	**84.7**	**84.5**	**83.3**	**88.6**	**90.4**
Unskilled (9)	**93.0**	**94.3**	**96.1**	**94.1**	**93.7**	**92.3**	**91.7**	**90.8**	**90.7**	**92.1**	**93.0**
Total	**72.4**	**71.6**	**71.4**	**70.1**	**68.7**	**68.0**	**66.9**	**67.1**	**68.7**	**68.8**	**71.1**

Source: MOHE (various years), authors' calculations

7. References

———. 2018. *Minimum Wages Order 2018*. Government of Malaysia. Putrajaya.

———. 2021. "Why Is It Difficult for Public University Graduates to Get Jobs Compared to Private University Graduates?". Afterschool.my. Accessed 10 October. https://afterschool.my/articles/why-is-it-difficult-for-public-university-graduates-to-get-jobs-compared-to-private-university-graduates-.

Acosta-Ballesteros, Juan, María del Pilar Osorno-del Rosal, and Olga María Rodríguez-Rodríguez. 2021. *Measuring the Effect of Gender Segregation on the Gender Gap in Time-Related Underemployment.* Journal for Labour Market Research 55 (1):1-16.

Ajayi, Kehinde F, and Nana Akua Anyidoho. 2022. *Self‐Employment Preferences among University Graduates in Ghana: Does Gender Make a Difference?* Development Policy Review 40 (2):e12562.

Aucejo, Esteban M, Jacob French, Maria Paola Ugalde Araya, and Basit Zafar. 2020. *The Impact of Covid-19 on Student Experiences and Expectations: Evidence from a Survey.* Journal of public economics 191:104271.

Bakotić, Danica. 2016. *Relationship between Job Satisfaction and Organisational Performance.* Economic Research-Ekonomska Istrazivanja 29 (1):118-130.

Balgova, Maria, Simon Trenkle, Christian Zimpelmann, and Nico Pestel. 2022. *Job Search During a Pandemic Recession: Survey Evidence from the Netherlands.* Labour Economics 75:102142.

Barrett, Christopher B., Michael R. Carter, and Jean‐Paul Chavas. 2018. "Introduction to "the Economics of Poverty Traps"." In *The Economics of Poverty Traps*, 1-20. Chicago: University of Chicago Press.

Bathmaker, Ann-Marie, Nicola Ingram, and Richard Waller. 2013. *Higher Education, Social Class and the Mobilisation of Capitals: Recognising and Playing the Game.* British Journal of sociology of Education 34 (5-6):723-743.

Biswas, Ankan, Abhinandan Ghosh, Adrish Kar, Tuhin Mondal, Buntee Ghosh, and Prasanta Kumar Bardhan. 2021. *The Impact of Covid-19 in the Construction Sector and Its Remedial Measures.* Journal of Physics: Conference Series.

BNM. 2021. *Getting the Great Reset Right: Structural Labour Market Issues in the Post-Covid-19 World*. Outlook and Policy in 2021. Kuala Lumpur: Bank Negara Malaysia. https://www.bnm.gov.my/documents/20124/3026377/emr2020_en_box3_labourmkt.pdf.

Carcillo, Stéphane, Rodrigo Fernández, Sebastian Königs, and Andreea Minea. 2015. *Neet Youth in the Aftermath of the Crisis.* doi: doi:https://doi.org/10.1787/5js6363503f6-en. https://www.oecd-ilibrary.org/content/paper/5js6363503f6-en.

Clarke, Marilyn. 2008. *Understanding and Managing Employability in Changing Career Contexts.* Journal of European Industrial Training.

Connor, Helen, I La Valle, E Pollard, and B Millmore. 1997. *What Do Graduates Do Next?*: ERIC.

Cross, Simon, and Barbara Bagilhole. 2002. *Girls' Jobs for the Boys? Men, Masculinity and Non-Traditional Occupations.* Gender, Work & Organization 9 (2):204-226.

Dian Hikmah Mohd Ibrahim, and Mohd Zaidi Mahyuddin. 2017. *Youth Unemployment in Malaysia: Developments and Policy Considerations*. In Outlook and Policy, Annual Report. Kuala Lumpur: Bank Negara Malaysia. https://www.bnm.gov.my/documents/20124/6443040/ar2016_en_box6.pdf.

Diana Abdul Wahab. 2017. *Graduate Labour Market Analysis in Malaysia*. University of Leeds.

DOS. 2017. *Population and Demographics: Ageing*. 1 (1): 1-2. Accessed December 2020. https://www.dosm.gov.my/v1/uploads/files/6_Newsletter/Ageing.pdf.

DOS. 2021a. *Malaysia Employment Statistics Second Quarter 2021*. Putrajaya: Department of Statistics Malaysia.

DOS. 2021b. *Salaries & Wages Survey Report, Malaysia, 2020*. Putrajaya. https://www.dosm.gov.my/v1/index.php?r=column/cthemeByCat&cat=157&bul_id=VDRDc0pGZHpieEUwMDNFWHVHSnpkdz09&menu_id=Tm8zcnRjdVRNWWlpWjRlbmtlaDk1UT09.

DOS. 2022a. *Evolusi Perintah Gaji Minimum Dan Pelaksanaannya Di Malaysia*. https://www.dosm.gov.my/v1/uploads/files/6_Newsletter/Newsletter%202022/DOSM_ILMIA_4_2022_SERIES%2058.pdf.

DOS. 2022b. *Graduate Statistics 2021*. Putrajaya.

DOS. 2022c. *Labour Force Statistics Report, June 2022*. Putrajaya: Department of Statistics Malaysia.

DOS. 2022d. *Labour Force Survey Report 2021*. Putrajaya: Department of Statistics Malaysia.

DOS. 2022e. *Labour Force Survey Time Series Statistics 1982-2020*. Putrajaya: Department of Statistics Malaysia. https://www.dosm.gov.my/v1/index.php?r=column/ctimeseries&menu_id=bnk3bk0wTTkxOXVHaVg3SUFDMlBUUT09.

EPU. 2021. *Rancangan Malaysia Kedua Belas, 2021-2025*. Prime Minister Department. Putrajaya: Economic Planning Unit. https://rmke12.epu.gov.my/bm/dokumen/rmke-12.

Finegan, T. Aldrich, and Robert A. Margo. 1993. *Added and Discouraged Workers in the Late 1930s: A Re-Examination*. In NBER Working Paper Series on Historical Factors in Long Run Growth. Cambridge, Massachusetts: National Bureau of Economic Research https://www.nber.org/system/files/working_papers/h0045/h0045.pdf.

Gallup, Inc. 2016. *How Millennials Want to Work and Live*. In Gallup News: Gallup. https://www.gallup.com/workplace/238073/millennials-work-live.aspx?thank-you-report-form=1.

Guvenen, Fatih, Fatih Karahan, Serdar Ozkan, and Jae Song. 2019. *What Do Data on Millions of U.S. Workers*

Reveal About Life-Cycle Earnings Dynamics? New York: Federal Reserve Bank of New York. https://www.newyorkfed.org/medialibrary/media/research/staff_reports/sr710.pdf.

Ham, Maarten van, Clara H. Mulder, and Pieter Hooimeijer. 2001. *Local Underemployment and the Discouraged Worker Effect.* Urban Studies 38 (10):1733-1751. https://www.jstor.org/stable/43196602.

Harvey, Lee. 2001. *Defining and Measuring Employability.* Quality in Higher Education 7 (2):97-109.

Hawati Abdul Hamid. 2022. *Malaysian Higher Education and Economic Growth: A Causality Analysis*.

ILO. 2022. *Global Employment Trends for Youth 2022: Investing in Transforming Futures for Young People* Geneva: International Labour Organization. https://www.ilo.org/wcmsp5/groups/public/@dgreports/@dcomm/@publ/documents/publication/wcms_853321.pdf.

ILOSTAT. 2022. "International Standard Industrial Classification of All Economic Activities (Isic) Rev.4 ". International Labour Organization. Accessed 5 October 2022. https://ilostat.ilo.org/resources/concepts-and-definitions/classification-economic-activities/.

Immervoll, Herwig, and Stefano Scarpetta. 2012. *Activation and Employment Support Policies in OECD Countries. An Overview of Current Approaches.* IZA Journal of Labor Policy 1 (1):1-20.

Jun, Soo Wen. 2019. *Higher Education Dg: 38 Academic Programmes Irrelevant to Job Market Demand Dropped.* Malaymail, 23 September Malaysia. https://www.malaymail.com/news/malaysia/2019/09/23/higher-education-dg-38-academic-programmes-irrelevant-to-job-market-demand/1793343.

Kostoglou, Vassilis, and Kerstin V Siakas. 2008. *Graduates' Entrepreneurship: Investigating Self-Employment of University Graduates.* Proceedings of the 2nd International FINPIN Conference—Promoting Entrepreneurship by Universities.

KRI. 2018. *The School-to-Work Transition of Young Malaysians*. Kuala Lumpur: Khazanah Research Institute.

KRI. 2020. *Work in an Evolving Malaysia. The State of Households 2020 Part Ii*. Kuala Lumpur: Khazanah Research Institute.

Liu, Ran. 2021. *Disparities in Disruptions to Postsecondary Education Plans During the Covid-19 Pandemic.* AERA Open 7:23328584211045400.

MEA. 2019. *Shared Prosperity Vision 2030*. Putrajaya: Ministry of Economic Affairs. https://www.epu.gov.my/sites/default/files/2020-02/Shared%20Prosperity%20Vision%202030.pdf.

MED. 2019. *National Entrepreneurship Policy 2030*. Putrajaya: Ministry of Entrepreneurship Development https://www.pmo.gov.my/wp-content/uploads/2019/08/Dasar-Keusahawanan-Nasional-DKN-2030_x.pdf.

MEDC. 2019. *National Entrepreneurship Policy 2030*. Ministry of Entrepreneur Development and Cooperatives. Putrajaya: Ministry of Entrepreneur Development and Cooperatives.

MEF. 2016. *English Proficiency Critical to Enhance Employability of Graduates*. Kuala Lumpur: Malaysian Employers Federation.

Mohamad, Shafi, and Syed Farhan Akbari. 2022. "The Global Pandemic and Challenges for Tertiary Education in Malaysia." In *Assessing University Governance and Policies in Relation to the Covid-19 Pandemic*, 204-218. IGI Global.

Mohamed Farid Noh. 2021. *Guna Bahasa Melayu.* Berita Harian, 28 November https://www.bharian.com.my/berita/nasional/2021/11/892963/guna-bahasa-melayu.

Mohd Amirul Rafiq Abu Rahim, Diana Abdul Wahab, and Rohana Jani. 2021. *Overeducation and Its Effect on Wages: The Case of Young Workers in Malaysia.* International Journal of Advanced Research in Education and Society 3 (3):31-48.

Mohd Amirul Rafiq Abu Rahim, Diana Abdul Wahab, Rohana Jani, and Nazim Aimran. 2021. "Labour Market Challenges Amidst the Covid-19 Crisis: Addressing Youth Vulnerability." In *Handbook of Research on the Impact of Covid-19 on Marginalized Populations and Support for the Future*, 206-226. IGI Global.

MOHE. 2012. *The National Graduate Employability Blueprint 2012-2017*. Putrajaya: Ministry of Higher Education.

MOHE. 2015. *Malaysia Education Blueprint 2015-2025 (Higher Education)*. Putrajaya: Ministry of Education Malaysia. https://www.mohe.gov.my/muat-turun/penerbitan-jurnal-dan-laporan/pppm-2015-2025-pt/101-executive-summary-pppm-2015-2025/file.

MOHE. 2020. *Entrepreneurship Action Plan of Higher Education Institutions 2021-2025*. Ministry of Higher Education Malaysia. Putrajaya: Ministry of Higher Education Malaysia,.

MOHE. 2021a. *Graduate Employability Strategic Plan 2021-2025*. Putrajaya: Ministry of Higher Education Malaysia.

MOHE. 2021b. *Graduate Tracer Study Report* Putrajaya: Ministry of Higher Education Malaysia.

MOHE. various years. *Graduate Tracer Study Microdata*. Ministry of Higher Education.

Muhammad Hisyam Mohamad. 2022. *Um, Uum Discontinuing Some Courses Shows They Want Grads to Be Employable.* New Straits Times, 9 August https://www.nst.com.my/opinion/columnists/2022/08/820662/um-uum-discontinuing-some-courses-shows-they-want-grads-be.

MWFCD, and UNDP. 2007. *Measuring and Monitoring Gender Equality: Malaysia's Gender Gap Index*. Kuala Lumpur: Ministry of Women, Family and Community Development

Nesaratnam, Seetha, Wan Hisham Wan Salleh, Yi Von Foo, Wan Mahmud Wan Syazwan Wan Hisham, Pusat Perdagangan, Phileo Damansara, and Petaling Jaya. 2020. *Enhancing English Proficiency and Communication Skills among Malaysian Graduates through Training and Coaching.* International Journal of Learning and Development 10 (4):1-21.

Noor Fzlinda Fabeil, Juliana Langgat, Khairul Hanim Pazim, and Roslinah Mahmud. 2022. *Self-Employment among Graduates During the Covid-19 Pandemic: Necessity or Opportunity Entrepreneurship Driven.* Economics and Business Quarterly Reviews 5 (1).

OECD. 2001. "Glossary of Statistical Terms: Discouraged Workers." https://stats.oecd.org/glossary/detail.asp?ID=645.

OECD. 2021. *Education at a Glance 2021: OECD Indicators*. Paris. https://www.oecd-ilibrary.org/docserver/b35a14e5-

en.pdf?expires=1667225753&id=id&accname=guest&checksum=519E2247A32AF6E82CBF16C8D7827A97.

Palmer, Robert. 2018. *Jobs and Skills Mismatch in the Informal Economy*. Geneva: International Labour Organization. https://www.ilo.org/wcmsp5/groups/public/---ed_emp/---ifp_skills/documents/publication/wcms_629018.pdf.

Pastore, Francesco, Claudio Quintano, and Antonella Rocca. 2020. *Stuck at a Crossroads? The Duration of the Italian School-to-Work Transition.*

Pastore, Francesco, Claudio Quintano, and Antonella Rocca. 2022. *The Duration of the School-to-Work Transition in Italy and in Other European Countries: A Flexible Baseline Hazard Interpretation.* International Journal of Manpower.

Rao, Manchanahalli Satyaranayana. 2013. *Soft Skills-Enhancing Employability: Connecting Campus with Corporate*: IK International Pvt Ltd.

Robst, John. 2007. *Education and Job Match: The Relatedness of College Major and Work.* Economics of Education Review 26 (4):397-407. doi: 10.1016/j.econedurev.2006.08.003.

Saavedra, J. 2022. "School - the Great Equalizer That Vanished." https://blogs.worldbank.org/education/schools-great-equalizer-vanished.

Salleh, Noorziah Mohd, Jude Emelifeonwu, Jonathan Winterton, and Kwok Mow Chan. 2017. "Work-Readiness in Malaysia." In *Transitions from Education to Work*, 84-104. Routledge.

Saw, Guan K, Chi-Ning Chang, and Uriel Lomelí. 2020. *Fall Enrollment and Delayed Graduation among Stem Students During the Covid-19 Pandemic.* The Network for Research and Evaluation in Education (NREED) Data Brief (1).

Simoes, Nadia, Nuno Crespo, and Sandrina B Moreira. 2016. *Individual Determinants of Self‐Employment Entry: What Do We Really Know?* Journal of Economic Surveys 30 (4):783-806.

Siti Aiysyah Tumin. 2021a. *Informality in the Malaysian Economy*. (49/21). Accessed 15 January 2021. https://www.krinstitute.org/assets/contentMS/img/template/editor/20201228_View_InformalityGrowth_FINAL2.pdf.

Siti Aiysyah Tumin. 2021b. *Starting Point Matters: Low Wages in the Job Market*. 11.

Soria, Krista M, Bonnie Horgos, and Molly McAndrew. 2020. *Obstacles That May Result in Delayed Degrees for Graduate and Professional Students During the Covid-19 Pandemic.*

Spector, Paul E. 1997. *Job Satisfaction: Application, Assessment, Causes, and Consequences*. Vol. 3: Sage.

Stiles, Shelly, David Golightly, and Brendan Ryan. 2021. *Impact of Covid‐19 on Health and Safety in the Construction Sector.* Human factors and ergonomics in manufacturing & service industries 31 (4):425-437.

Støren, Liv Anne, and Per Olaf Aamodt. 2010. *The Quality of Higher Education and Employability of Graduates.* Quality in Higher Education 16 (3):297-313.

Sumarwati, Sri, Mohd Hasril Amiruddin, and Ahmad Rizal Madar. 2022. *The Comparison Level of Entrepreneurial Intention and Creative Thinking Skills among Polytechnics Students in Malaysia.* Online Journal for TVET Practitioners 7 (1):75-84.

Suraya Ali. 2022. *Important for Students to Master Both Bm, English.* the Sun, 29 March https://www.thesundaily.my/local/important-for-students-to-master-both-bm-english-LG9008148.

UNESCO-IESALC. 2022. *Gender Equality: How Global Universities Are Performing, Part 2*. Times Higher Education and the UNESCO International Institute of Higher Education in Latin America and the Caribbean (IESALC). https://unesdoc.unesco.org/ark:/48223/pf0000381739.

UNESCO Institute for Statistics. 2022. *School Enrollment, Tertiary (% Gross) - Malaysia*. The World Bank. https://data.worldbank.org/indicator/SE.TER.ENRR?locations=MY.

Wan Saiful Wan Jan. 2020. *Malaysia's Student Loan Company: Tackling the Ptptn Time Bomb*. Vol. 5, *Trends in Southeast Asia*. Singapore: ISEAS - Yusof Ishak Institute.

Wilson-Clark, Gemma, and Soumi Saha. 2019. *Transitions from School to Work. Unicef Technical Note.* UNICEF.

World Economic Forum. 2020. *The Reskilling Revolution: Better Skills, Better Jobs, Better Education for a Billion People by 2030*. Oliver Cann. Davos, Switzerland: World Economic Forum. https://www.weforum.org/press/2020/01/the-reskilling-revolution-better-skills-better-jobs-better-education-for-a-billion-people-by-2030/.

Yorke, Mantz. 2006. *Employability in Higher Education: What It Is-What It Is Not*. Vol. 1: Higher Education Academy York.

Yusof, Mohar, Manjit Singh Sandhu, and Kamal Kishore Jain. 2007. *Relationship between Psychological Characteristics and Entrepreneurial Inclination: A Case Study of Students at University Tun Abdul Razak (Unitar).* Journal of Asia Entrepreneurship and sustainability 3 (2):1.

Zaliza Hanapi and Mohd Safarin Nordin. 2013. *Unemployment among Malaysia Graduates:Graduates'attributes,Lecturers' Competency and Quality of Education* International Conference on Education & Educational Psychology 2013 (ICEEPSY 2013), Antalya, Turkey.