

**TERTIARY EDUCATION AND EMPLOYMENT IN THE EUROPEAN UNION:
A CASE STUDY OF MALTA**

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ABSTRACT

Education is heavily linked to economics and employment policy. In the European Union it is considered key for the acquisition of skills by the labour force, but also for the achievement of improved economic growth and better employment opportunities. Over recent years Malta has registered significant progress in tertiary education attainment and tertiary qualified labour force. Nevertheless, industry keeps facing major challenges brought about by labour and skills shortages and mismatches. While both the EU and Malta boast high employment rates, it is necessary to identify what impinges this current state of things and to raise awareness about the need for a more suitable and comprehensive data collection strategy on which policy can be tailored.

The present work is intended to take stock of the labour status of graduates in Malta within the wider EU context. It focuses specifically on tertiary educated employees and their participation in the labour market. The issue of skills mismatches and skills shortages is taking centre-stage in labour market fora at both EU and national level. The challenge is to make optimum use of the current human resources in order to stimulate economic growth while individuals reap the benefits of their investment in education.

A case study design focusing on Malta was selected for this research study, as the challenges presented are accentuated on this island state. A mixed methods approach was adopted to analyse existing quantitative data while primary data was gathered through semi-structured interviews with professionals in their respective fields.

The study lists a number of recommendations as it seeks to help inform a long-term policy for sustainable education and employment.

To my family, Mario, Jacques, Henri and Christophe.

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ABBREVIATIONS

CEDEFOP	European Centre for the Development of Vocational Training
DG EAC	Directorate General for Education and Culture
EC	European Commission
EMU	European Monetary Union
ERDF	European Regional Development Fund
ESF	European Social Fund
ESI	European Skills Index
EQF	European Qualifications Framework
ETF	European Training Foundation
EU	European Union
EU27	27 member states of the European Union
EURES	European Employment Services
GDP	Gross Domestic Product
ICT	Information Communications Technology
ILO	International Labour Organization
ISCED	International Standard Classification of Education
ISCO	International Standard Classification of Occupations
LFS	Labour Force Survey
MCAST	Malta College of Arts, Science and Technology
MEA	Malta Employers' Association
MQF	Malta Qualifications Framework
NSO	National Statistics Office
OECD	Organisation for Economic Co-operation and Development
PP	Percentage Points
SMEs	Small and Medium Enterprises
SOTEU	State of the Union – European Union
STEM	Science Technology Engineering Mathematics

TFEU	Treaty on the Functioning of the EU
UN SDG	United Nations Sustainable Development Goals
UM	University of Malta

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Chapter 1. INTRODUCTION

Speaking at the European Parliament in September 2023, the President of the EC Ursula von der Leyen highlighted the major challenges facing the European economy and businesses which include record-level labour and skills shortages.

74% of small to medium enterprises (SMEs) are saying they are facing skills shortages... Hospitals are postponing treatment because of lack of nurses. And two thirds of European companies that are looking for IT specialists cannot find them. And 8 million young people are neither in employment, education or training (von der Leyen, SOTEU, 13 September 2023).

In Malta the problems are even more accentuated. A recent Eurobarometer shows that 87 per cent of the surveyed Maltese SMEs face skills shortages for at least one of the roles within their organisation, the second highest in the European Union (EU) behind Austria (EC, 2023b).

It is a widely held notion that labour shortages hamper the capacity for economic growth. Enterprises resort to hiring employees with a different set of skills than the ones they actually need to fill certain positions. The hiring of foreign labour often makes up for the shortfall of skills existant in certain sectors.

The European Commission (EC) is highly aware of this problem, so much so that a Social Partner Summit, to specifically address this situation, has been convened for 2024 (EC, 2023b).

In this context, this dissertation examines the participation of tertiary educated employees in the Maltese labour market. In particular, this study aims to take stock of the skills shortages situation in Malta within the wider EU context and to propose measures that may be implemented in order to address the current state of affairs.

1.1 Aims and Research Questions

Both the EU and Malta look at education and employment as the right combination for economic growth and this is evident from the initiatives and investment injected in these sectors, which are discussed in the following sections. This must be sustained by a long-term strategy in the light of unfavourable demographics, turbulent times, fierce competition and at a time when the EU is trying to embark on the twin digital and green transitions.

Malta being the smallest member state of the EU can only benefit from the funds, investment, mobility schemes, direction and co-operative policies of the EU. Being an employees' market, graduates may seem to thrive during these times as employers are in search for the best talent in more quantities, however reports and statistics show that there is room for improvement, that EU citizens need to upskill and reskill to face the challenges ahead, that Malta is not maximising its most valuable human resources and that an ever increasing number of graduates are underperforming and therefore are underrated. It is thus important to examine this scenario.

Within this context, this research study aims to answer the following two research questions:

1. What is the labour status of tertiary qualified persons in Malta, when compared to the labour status of EU graduates?
2. How are tertiary educational institutions and other stakeholders responding to address skills mismatches among tertiary educated people in Malta's labour market?

This chapter sets the relevant background for this study by introducing the situation and carrying out an analysis of education and employment policies in the EU. It also establishes the relationship between European and national education policies, and goes on to explore the connections between tertiary education and employment in Malta.

1.2 Education and Employment Policies in the European Union

The EU underscores the importance of education in various policy spheres. As part of the UN 2030 Agenda for Sustainable Development, the EU committed itself to consider education as

a fundamental social and human right and a private and commercial good from which wider society benefits in terms of knowledge (EC, 2019b). At the same time, education is heavily linked to economics and employment policy. It is considered as key to acquire skills for the labour market, to improve economic growth and employment in the EU.

Education and training in the EU are the competence of member states as it is understood that the latter have specific national challenges whilst history and tradition also play an important part in shaping educational policy. At the same time, EU countries also share similar problems and opportunities. While the EU adopts the principle of subsidiarity in this area, Article 165 of the Treaty on the Functioning of the EU (TFEU) allows the EU to monitor and support national education policies. Benefits from these policies take long to materialise and therefore a long-term strategy is particularly required in this field (EC, 2020c).

It has been observed that in recent years there has been a centralization process by the EU to evaluate the sustainability of education and boost competitiveness. Following the financial crisis of 2008, Androulla Vassiliou - the then European Commissioner for Education, Culture, Multilingualism and Youths - argued that 'Europe will only resume growth by producing highly skilled workers who can contribute to innovation and entrepreneurship' (EC, 2012, p.2).

The EU has taken a number of strategic initiatives as it is understood that in a globalised and knowledge-based economy, Europe requires a highly skilled workforce to ensure that it can compete in terms of productivity and innovation. The Council Resolution on Education and Training in the European Semester recognised investment in this area as 'the most powerful investment that can be made in people and in the future and its social and economic returns for individuals, employers and society as a whole' (Council of the EU, 2021 p.3).

The EU links its economic objectives to investment in education and the creation and sustainment of high value-added jobs. The employment sector is extremely competitive and highly dependant on human capital. Back in 1994, the EU had set up the European Employment Services (EURES) portal specifically for recruiting EU nationals. It was

developed into a one-stop shop for employers, employees and jobseekers with a targeted mobility scheme to provide financial support where needed (EC, 2022).

By continuously investing in the education of its human resources and by promoting lifelong learning, the EU guides its citizens to develop their full potential to their satisfaction on course to meeting the demands of the labour market. Starting with the Bologna Process 1998-1999 which had led to the setting up of the European Higher Education Area and the Erasmus+ funding programme, the EU also aimed to modernise education through mobility. Its vision towards education continued to evolve and the European Education Area aimed to support ‘job creation, economic growth, social fairness and the experience of European identity in all its diversity’ (European Parliament, 2021).

Whereas the EU drive is for intra-European mobility (Erasmus programme and the European Alliance for Apprenticeships), member states fearing brain drain want to keep the best and most capable individuals at home. Such positions become even more pronounced and entrenched in times of crisis because higher levels of education can facilitate the recovery period. The exodus of thousands of young graduates from southern Europe during the Eurocrisis had led to intense debates among Spanish and Italian politicians as they deemed the adverse effects attached to brain drain very worrying: - ‘the unequal circulation of talent within the single market could be detrimental to their economic reconstruction’ (Lafleur et al., 2018, p.328).

For example, in response to the crisis, Germany launched “The Job of my Life” programme in 2013. Its objective was to attract young graduates to join its workforce (Lafleur et al., 2018). The industry’s capacity to employ graduates is higher in rich countries than in struggling economies. Employees in more economically and technologically advanced countries have better prospects for learning (Lundvall, 2008). This constitutes a challenge for countries lagging behind as they find it difficult to retain their educated human resources, particularly in the context of free movement of labour within the EU. Hence, this shows that in some instances EU education policy and national education policies converge, while in other instances there is no relationship and to a certain extent, they contradict each other.

Nevertheless, von der Leyen envisages to set up the European Education Area by 2025 to facilitate the mobility of learners and researchers and to improve the access to quality and inclusive education for all: ‘a continent in which people have a strong sense of their identity as Europeans, of Europe’s cultural heritage and its diversity’ (EC, 2020c, p.18). She also emphasises the tracking of the employability of graduates to ensure the good use of investment in this area.

In the 2017 Council Recommendation¹ on the tracking of graduates, member states committed to collect such data in higher education, vocational education and training that is comparable at European level. In the 2020-2024 Strategic Plan it is stated that the Directorate General for Education and Culture (DG EAC) will continue to work with the member states to develop a European system of data collection. They will be ‘encourage[d] to use harmonized graduate tracking information for evidence-based policy making and student information systems’ (EC, 2020c p.19).

Von der Leyen speaks of a European Degree of joint degrees conferred by an alliance of European universities. She has also called upon universities to enable automatic degree recognition among the participating institutions and everywhere in the EU thereby allowing for the development of a European approach to micro-credentials. At the ‘Skills Rush Conference’ organised by The Malta Chamber in July 2023, Prof. Alexiei Dingli advocated this overarching strategy and shared policy goals.

¹ Council Recommendation of 20 November 2017 on tracking graduates (Text with EEA relevance) (2017/C 423/01), Official Journal of the European Union, Brussels.

Picture from the 'Skills Rush Conference'



The EU also promotes strong collaboration between universities, research centres and firms as the recipe to provide an adequate supply of skills through investment in human capital (EC, 2020c). Von der Leyen, (2020) states,

the best investment in our future is the investment in our people. Skills and education drive Europe's competitiveness and innovation. But Europe is not fully ready. I will ensure that we use all the tools and funds at our disposal to redress this balance (EC, 2020c).

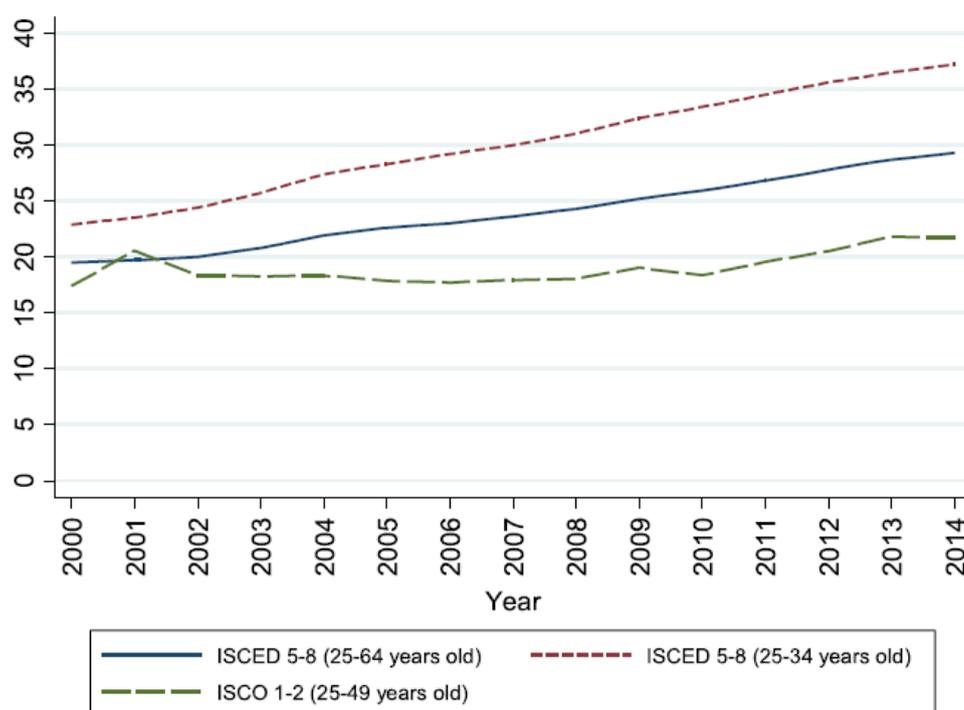
More recently, 'permacrisis', an extended phase of uncertainty and insecurity, has become the new normal. Indeed, faced with several challenges due to the economic recovery after the pandemic, the outbreak of war in Ukraine and the ensuing high energy prices, the EU was pressed to move towards energy independence at a time when the dual green and digital transitions have become an urgent priority.

Dedicating 2023 as the 'European Year of Skills' was deemed crucial for the EU to address these challenges because an adequate and well skilled workforce remains essential in what have been described as transformative times. The EU's optimistic response has been to combine reskilling and upskilling into 'permaskilling', meaning that the EU will repeatedly seek to bring out the best of its human capital by investing in skills (Cedefop, 2023, Euronews.next, 2023).

The EU has allocated EUR 65 billion between 2021 to 2027 under the EU Cohesion Fund, to encourage states to invest in education, training and skills. ‘It is actually a strong message to address a major challenge’, according to European Commissioner for Jobs and Social Rights Nicolas Schmit (Euronews.next, 2023). The European Social Fund (ESF), through funding to enhance the quality of human capital, the European Regional Development Fund (ERDF), through funding for educational infrastructure, the Recovery and Resilience facility through grants and loans to support reforms in member states, the comprehensive skills agenda and the Pact for Skills (2020 -2025) all contribute towards this aim.

Another collective endeavour is the European Skills Agenda, which sets out a five year action plan to help equip people in Europe with better skills ensuring sustainable competitiveness, social fairness and resilience (EC, 2020c). The key role of education for employment and economic growth has been particularly high on the agenda since the launch of the Lisbon Strategy 2000-2010, the goal of which was to turn the EU into ‘the most competitive and dynamic knowledge-based economy in the world, capable of sustainable economic growth with more and better jobs and greater social cohesion’ (European Parliament, 2009, p.1). Since the turn of the 21st century EU member states have experienced a dramatic increase of students at tertiary level. Data shown in Figure 1.1 depicts a steady growth of tertiary qualified employees especially among the younger cohorts when compared with those aged 25 to 64 years.

Figure: 1.1: Evolution of working population and young workers with tertiary educational attainment, EU27



Note1: International Standard Classification of Education (ISCED). ISCED 5-8 correspond to tertiary education levels, from short-cycle of tertiary education (ISCED 5) to doctoral level (ISCED 8).

Note2: International Standard Classification of Occupations (ISCO). ISCO 1 corresponds to “Managers” occupations and ISCO 2 to “Professionals” occupations.

Source: (Wilson et al., 2004)

Subsequently, the Europe 2020 strategy aimed to renew the effort in this area by increasing the number of tertiary educated citizens to at least 40%, align skills with labour market needs, and to reduce below 10% the number of early school leavers across its member states (Eurostat, 2020).

Notably, within the European Semester², the EU institutions monitor national policy reforms on education, training, and skills to help member states tackle the most pressing challenges.

² The European Semester is a core component of the Economic and Monetary Union and it annually aggregates different processes of control, surveillance and coordination of budgetary, fiscal, economic and social policies.

Country Specific Recommendations³ are regularly issued to member states by the EC and endorsed by the European Council. These cover the budgetary, economic and social areas, including education (EC, 2023a).

All these endeavours demonstrate the EU's commitment in education, the labour market, and the interlinkages between the two policy areas. Nevertheless, the challenges persist. It is envisaged that by 2025, most job opportunities in the EU will require higher qualifications usually awarded by universities and tertiary level institutions. Yet, two thirds of tertiary qualified pupils perceive a mismatch between the supply of graduates and the knowledge and skills the economy needs (EC, 2016). To address these challenges, the EC is helping member states design national skills strategies and action plans to support skills.

Specifically, the New Skills Agenda for Europe released in 2016 aims to strengthen human capital, employability, and the competitiveness of its member states. Its work is centred around three areas:

1. improving the quality and relevance of skills formation;
2. making skills and qualifications more visible and comparable;
3. improving skills intelligence and information for better career choices (EC, 2016).

Furthermore, the Strategic Plan 2020-2024 drafted by the Directorate General for Education, Youth, Sport and Culture points out that better skilled and more knowledgeable human resources contribute to the attainment of higher levels of economic growth and improvements in well-being and economic development (EC, 2020c).

1.3 The importance of Skills

The EC communication 'A New Skills Agenda for Europe' aims to better utilise people's existing skills. It states that skills mismatches indicators should measure the gap between

³ Country Specific Recommendations provide guidance to EU member states on macro-economic, budgetary and structural policies.

demand and supply of skills (macro-level) as well as conditions of workers, jobs or vacancies (micro-level) (EC, 2021a).

Skills mismatches are widely accepted as a factor that impede economic growth and as such require concrete policy measures both at the EU and national level. According to a study carried out by the European Economic and Social Committee in 2018, the productivity rate across the EU is reduced by 2.14% per year due to the current mismatches (EESC, 2018).

There are broadly two types of mismatches: vertical and horizontal mismatches. Over-qualification among graduates is a kind of vertical mismatch when graduates find themselves in a situation in which the level of qualification is more than the required level at the workplace. This is generally assumed that a lower level of demand was available than the higher education skills acquired. Another kind of incongruence experienced by graduates on entering the labour force is job mismatch by field of education. Commonly referred to as a horizontal skills mismatch, because the level of education or skills matches job requirements but the type of each is inappropriate for the current job, making the graduate less likely to be able to use the field-specific skills acquired during the course of study (Cedefop, 2010; EC, 2020b)

1.4 Tertiary Education and Employment in Malta

Higher Education in Malta is mainly provided by one state university, the University of Malta (UM), and two self-accrediting state vocational institutions – the Malta College of Arts, Science and Technology (MCAST) and the Institute for Tourism Studies (ITS). In addition, there are a number of private providers offering Higher Education programmes. This dissertation focuses on MCAST and UM because they represent the largest higher education institutions in Malta and produce approximately 80% of higher education graduates (NCHFE, 2016).

Malta's Higher Education system is fully in line with the three-cycle system of Bachelor, Master and Doctorate adopted as a common degree structure within the European Higher Education Area. The first cycle includes the short cycle qualifications at Malta Qualifications Framework (MQF) / European Qualifications Framework (EQF) level 5 and the Bachelor

qualification as MQF / EQF level 6. The second cycle represents the Master qualification at MQF / EQF level 7 and the third cycle is equivalent to a Doctorate qualification at MQF / EQF level 8 (NCFHE, 2016). Table 1.1 below is matching the MQF with the International Standard Classification of Education (ISCED) 2011 levels.

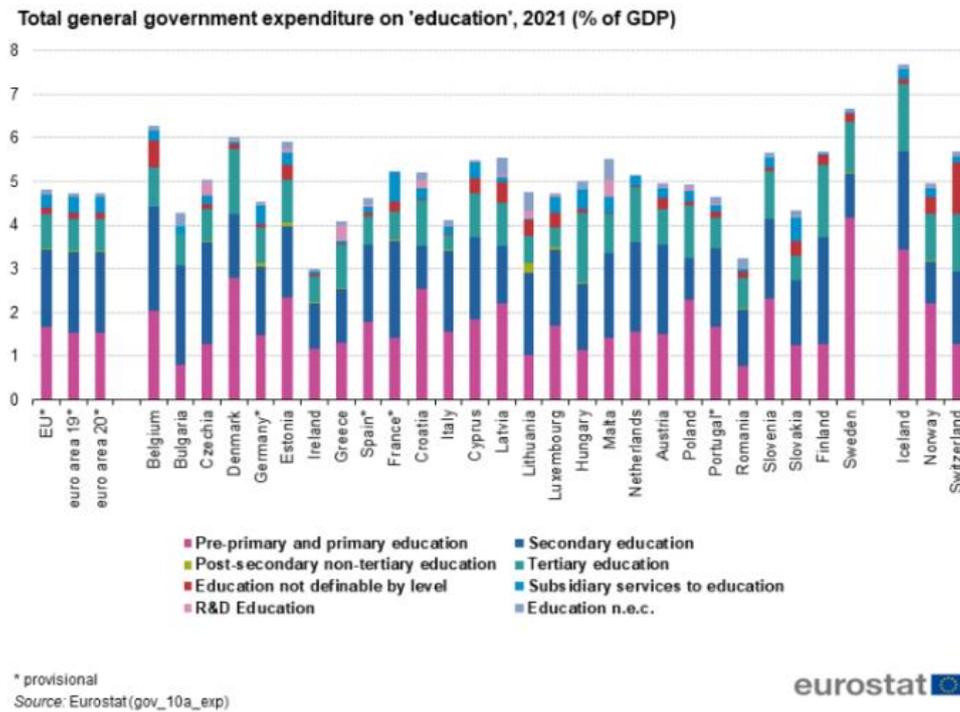
Table 1.1: Referencing of the Malta Qualifications Framework (MQF) to ISCED 2011

Malta Qualifications Framework			ISCED 2011
8	Doctoral Degree		8 Doctoral Degree/PhD or equivalent
7	Master's Degree Postgraduate Diploma Postgraduate Certificate		7 Master's Degree or equivalent
6	Bachelor's Degree		6 Bachelor's Degree or equivalent
5	Undergraduate Diploma Undergraduate Certificate Higher Education Certificate	Foundation Degree VET Higher Diploma	5 Short-cycle tertiary education

Source: NCFHE, 2016

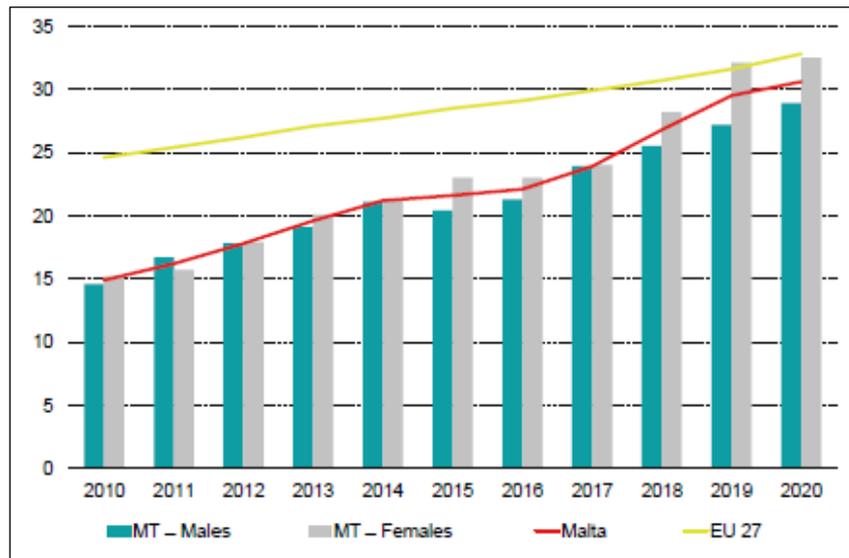
The government of Malta finances undergraduate courses offered by UM, MCAST and ITS to all Maltese and EU citizens. Postgraduate courses that lead to a professional warrant are also publicly funded (Eurydice, 2022). The government also provides additional aid in the form of a one-time maintenance grant to first year students and a yearly grant to students following a full-time day course at tertiary level. Figure 1.2 illustrates that the general government total expenditure on education in Malta is above the EU average. In 2017, expenditure on students' maintenance grants alone amounted to around 18% of public expenditure (Gauci, 2021).

Figure 1.2: Expenditure in Education – EU27, Euro Area and EFTA countries except Liechtenstein



During the 2010s tertiary education in Malta experienced a veritable leap forward, meeting the targets set by the EU three years before the deadline. According to these targets, by 2020, 40 per cent of the EU citizens aged between 25 and 64 had to have completed tertiary education. Malta's national target, in line with this strategy, was to reach the 33-percentage mark, a target that was achieved in 2017. Figure 1.3 below shows how the gap between the EU average and Malta was reduced from 9.7 percentage points (PP) in 2010 to 2.2 (PP) in 2020 (Central Bank of Malta, 2022).

Figure 1.3: Share of population aged 25 to 64 years with tertiary level of education (%)



Source: Eurostat, 2021

Statistics show that over the second decade of the 21st century, the number of people aged 25 to 64 with a tertiary level of education has increased across all member states of the European Union. Moreover, Figure 1.4 illustrates that in Malta, the share of the population aged 30 to 34 with a tertiary level of education stood at 39.8%. Thus the gap with the EU average of 41.0% was even narrower.

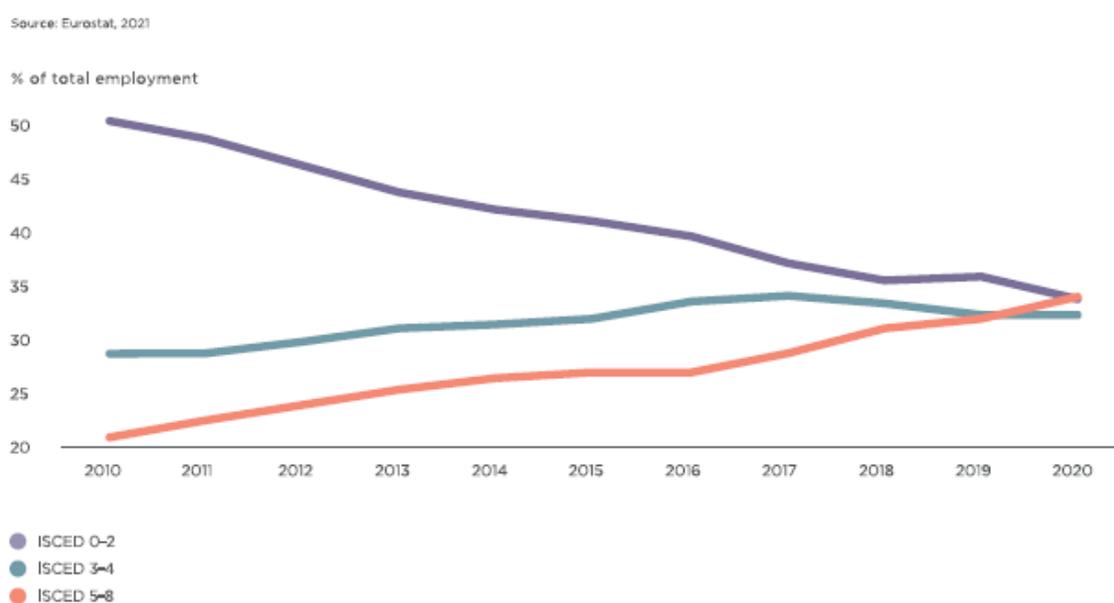
Figure 1.4: Population aged 30-34 years with tertiary educational attainment in 2020



Source: Eurostat.

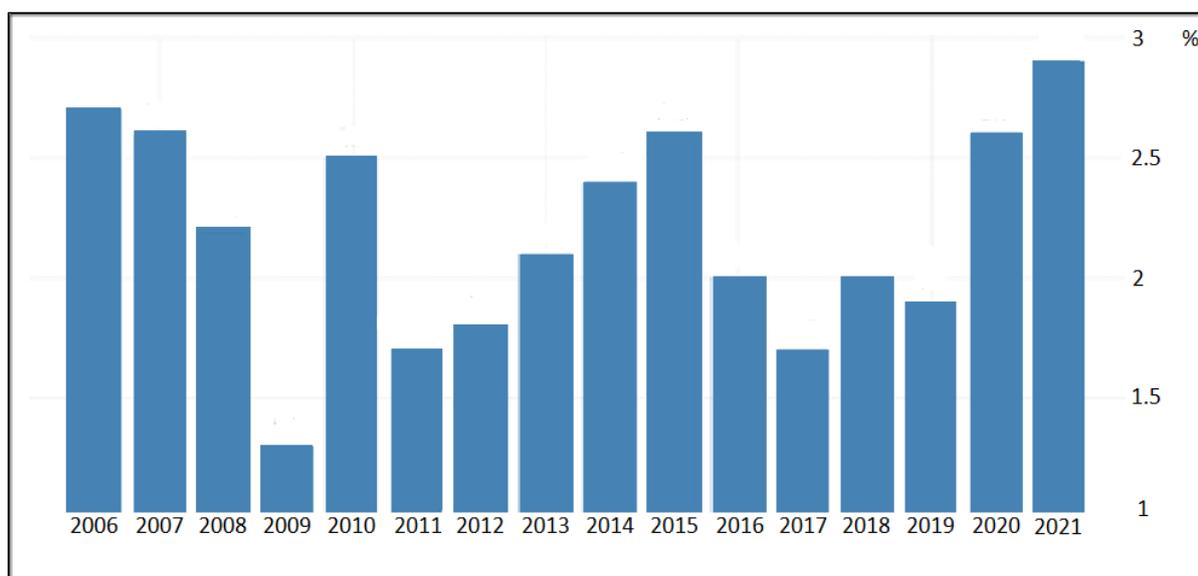
These improvements in educational attainment are reflected in the labour market. Indeed, a noteworthy increase was registered among employees with a tertiary level of education. In 2010, there were only 33,500 graduates, i.e. around 20% of the total population in employment. As depicted in Figure 1.5, a decade later graduates peaked at 87,000 i.e. around 35% of the total in employment (Eurostat, 2021b).

Figure 1.5: Level of Educational Attainment Trends in employment between 2010-2020 - Malta



Reflecting the overall buoyant performance of the labour market in recent years, with record low unemployment rates, over the past decade Malta has also registered low unemployment figures among graduates. Figure 1.6 shows that in December 2021, unemployment among those who had acquired a tertiary level of education stood at 2.9%. Compared to the 5.3% graduate unemployment in the Euro Area, Malta's results are undeniably satisfactory (Trading Economics, 2023).

Figure 1.6: Malta - Unemployment rate: Tertiary Education (MQF levels 5 to 8)



Source: Trading Economics, 2023

Table 1.2, which provides more recent data, shows that the situation for tertiary employment continues to improve, given that unemployment among tertiary graduates is insignificant and the number of inactive graduates is very low compared to the other levels of education.

Table 1.2: Labour status of persons aged 15 years and over compared

Education level	Employed		Unemployed		Inactive		Total	
	No.	%	No.	%	No.	%	No.	%
January-March 2023								
Secondary level education or less	75,399	25.8	3,484 ^u	40.6 ^u	113,515	69.6	192,398	41.5
Post-Secondary level education	114,369	39.2	3,539 ^u	41.2 ^u	36,884	22.6	154,792	33.4
Tertiary level education	101,988	35.0	:	:	12,714	7.8	116,264	25.1
Total	291,756	100.0	8,585	100.0	163,113	100.0	463,454	100.0
January-March 2022 (Revised)								
Secondary level education or less	73,034	26.4	3,567 ^u	42.7 ^u	114,050	70.2	190,651	42.6
Post-Secondary level education	108,975	39.3	3,176 ^u	38.1 ^u	35,485	21.9	147,636	33.0
Tertiary level education	95,013	34.3	:	:	12,822	7.9	109,436	24.4
Total	277,022	100.0	8,344	100.0	162,357	100.0	447,723	100.0

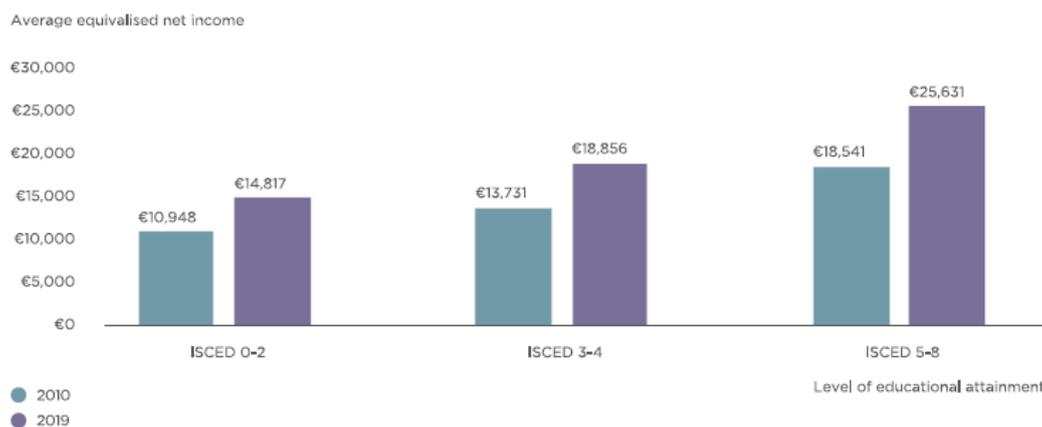
^u : Unreliable - less than 20 sample observations.

Source: NSO, 2023

The National Employment Policy of 2014 focused more on increasing labour market participation particularly of females, mainly through free childcare, and other measures to make work pay, as well as other measures to increase labour supply, notably through migration also from non-EU countries (Ministry for Education and Employment, 2014).

The most recent employment policy covering 2021 to 2030, has different objectives. It focuses more on improving skills and productivity, highlighting the fact that the economic structure in Malta has changed. It also states that in order to remain competitive Malta’s labour market requires higher skilled workers to fill particular posts. It thus follows that the level of human capital determines the type of investment that the country manages to attract which in turn generates economic growth (Ministry for Finance and Employment, 2021b). Figure 1.7 shows that tertiary educated workers earn more than two thirds of the workers with basic educational attainment and slightly more than a third of workers with an intermediate level of education. Differentials have remained broadly stable during 2010-2019.

Figure 1.7: Average equivalised net income by level of educational attainment



Source: Eurostat, SILC Survey, 2021a

On a less positive note, the Country Report on Malta presented by the EC in 2022, indicates that while the employment rate of people with tertiary education remained high and above the EU average, the responsiveness of tertiary education to labour market needs is not effectively matched. Table 1.3 indicates that between 2016 and 2020 enrolments at Masters level (ISCED

7) increased from 1,340 to 2,401 and from 1 to 33 at doctoral level (ISCED 8), but these enrolments were mainly in the fields of services and education. On the other hand, enrolments in Information Communications Technology (ICT) and Sciences occupy only a small share of total enrolments at post-graduate level (EC, 2022).

Table 1.3: Enrolments at ISCED 7 (EC, 2022)

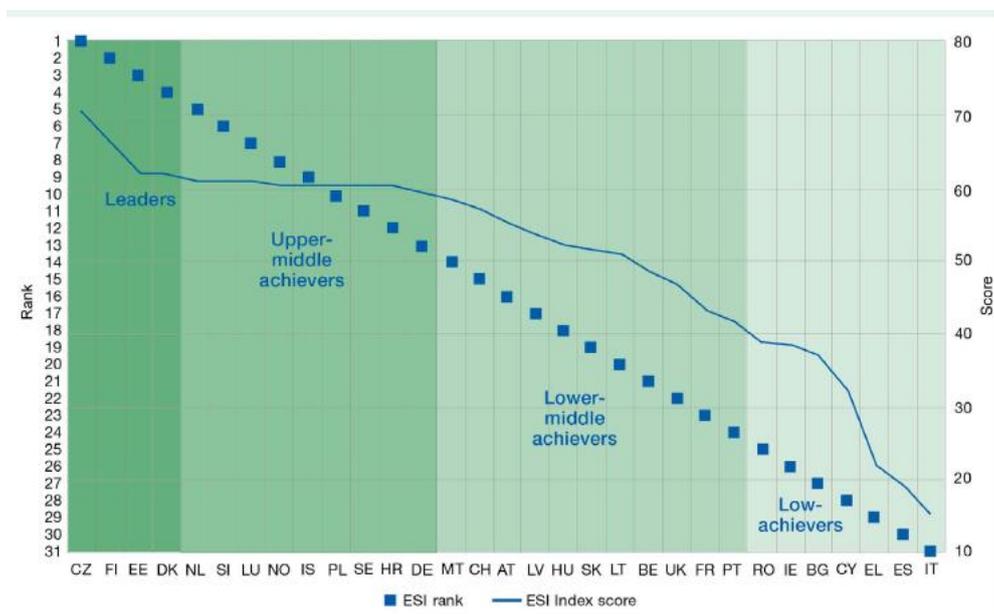
New entrants at ISCED 7 level		
	2016	2020
Education	6.27%	15.20%
Arts and humanities	12.16%	5.62%
Social sciences, journalism and information	12.69%	8.41%
Business, administration and law	33.96%	44.48%
Natural sciences, mathematics and statistics	4.63%	1.83%
Information and Communication Technologies	4.18%	2.67%
Engineering, manufacturing and construction	3.13%	5.71%
Health and welfare	22.61%	14.16%
Services	0.37%	1.87%

With regards to skills, the European Skills Index (ESI) (2022) measures the performance of the EU skills system. It is a Cedefop’s indicator which measures the “distance to the ideal performance”⁴ for each EU country as illustrated in Figure 1.8. National skills systems develop, activate and eventually match these skills at the workplace. Thus these three pillars are examined. Malta ranks 26th in the skills development Pillar. This pillar captures the training and education activities of the country and the immediate output of that system in terms of skills developed and attained. Malta registered the highest proportion of recent graduates in

⁴ The ideal performance is chosen as the highest achieved by any country over a period of 7 years. The ideal performance is scaled to be 100 and the scores of all countries are then computed and compared to that.

employment of all countries and thus for the Skills Activation Pillar Malta ranks 7th. This pillar includes indicators of the transition from education to work and labour market participation. In the skills matching pillar Malta places 2nd and it has one of the best low-waged workers (ISCED 5-8). This pillar indicates the degree of successful utilisation of skills, the extent to which skills are effectively matched in the labour market. Among the indicators of this pillar, Malta performs one of the poorest rates in “qualification mismatch”. Overall, this places Malta (Figure 1.8) in the “middle-achieving group for 2022” (Cedefop, 2022a).

Figure 1.8: Categorisation of European Skills systems based on ESI ranking and scores



Source: Cedefop, 2022b

This performance signals weaknesses in matching skills demand and supply and deserves to be studied to address these gaps.

1.5 Conclusion

This introductory chapter has shown how the EU has assumed the responsibility to assist its member states in line with its competences to be able to face the challenges ahead by

empowering tertiary qualified people to master economic growth while embracing the European identity.

The case in Malta shows that the state has registered significant achievements and is committed to continue to boost the sectors of education and employment although there are some challenges that must be addressed so that tertiary education and the labour market will be more in sync.

The rest of the dissertation is structured as follows: the next chapter will explore the theoretical arguments on education and employment and review relevant literature which identifies other variables that may determine the labour market outcomes.

Chapter 3 will explain the methodology employed in addressing the research questions while the following chapter will present the findings from the quantitative data available, and the qualitative data generated from the semi-structured interviews with key stakeholders in the areas of education and employment in Malta.

The final chapter will then present conclusions derived from the findings and policy recommendations in an endeavour to reach a better balance between demand and supply for tertiary educated persons in Malta thus ensuring an improvement to the return on investment in education, for both the individual as well as society at large.

Chapter 2. LITERATURE REVIEW

2.1 Introduction

Tertiary education is expected to increase the probability of employment. There are less tertiary educated unemployed than people with a lower level of education looking for employment (OECD, 2020; World Bank, 2021).

In the European Union, investment in education features high on the policy agenda and as tertiary attainment expands, the labour market is supplied with a greater pool of graduates which employers seek to utilise to maximise productivity. However as the number of individuals with tertiary qualifications grows, the probability of graduates in unmatched employment is likely to increase. It is certainly more tolerable to have overqualified individuals than a higher number of unemployed, but the underutilisation of graduates is also undesirable as it is comparable to a loss or a waste of potential.

This chapter will delve into the competing theories that attempt to explain the relationship between education and employment, the mitigating effects that play their part on the employability of tertiary educated individuals, skills mismatches and their implications on society and individuals, and the role of educational institutions in preparing the prospective employees to meet labour demands.

2.2 Tertiary education and employment

The Strategic Plan for 2020-2024 presented by the Directorate General for Education, Youth, Sport and Culture of the EU notes that ‘people with only basic education are almost three times more likely to live in poverty or social exclusion than those with tertiary education’ (EC, 2020c p.7). Holland et al. (2013) conducted research in fifteen developed countries, including ten EU member states, the United States, Canada, Australia and Japan and provided evidence that individuals with university degrees are paid 70 to 180 per cent more than workers who only completed compulsory education.

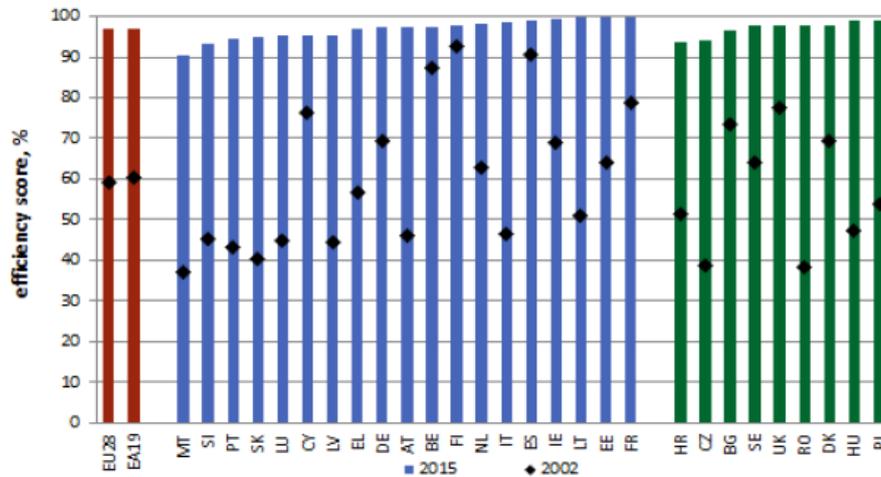
Based on the EU-SILC dataset of 2005 it is estimated that the private returns to tertiary education range between five to sixteen per cent for each additional year of education. Furthermore, labour productivity rises by approximately seven to ten per cent from that additional year (Canton et al. 2018).

Besides differences in income earned, education also affects other job characteristics. For instance, tertiary educated workers in both low-income and high-income countries are much more likely to be formal employees. The status in employment is closely linked to the quality of employment and it greatly influences the type of economic risk the worker faces in the job, the type of authority over the work establishment and other workers, the working conditions, job security, the type of contract and earnings security (ILO, 2020).

More broadly, a highly skilled workforce earns higher wages, contributes more to tax revenues, is more environmentally conscious, participates actively in society and therefore helps build stronger nations (World Bank, 2021).

Indeed education is viewed as an investment and not an expense since it is generally held that education pays off in the long-term (Bouchard, 2008). EU member states account the money dedicated for education as public spending. Canton et al's (2018) calculations of the efficiency scores of tertiary educational attainment for the EU28 and EA19 were significant, broadly speaking, between 2002 and 2015. This study represents a random probability analysis, carried out specifically in order to assess the quality of public spending on education in Europe. In order to measure the corresponding efficiency, it takes into account three dimensions, the most relevant of which for this dissertation being the first namely a quantitative assessment of tertiary educational attainment in relation to money invested. The other two dimensions, PISA scores in the area of science and inclusiveness lie beyond the scope of this current study. In so far as Malta is concerned, Canton et al's analysis shows that its spending is relatively high and yet it has relatively low rates of educational attainment. This is shown clearly in Figure 2.1.

Fig. 2.1 Efficiency scores related to tertiary educational attainment and spending on pre-primary to tertiary education



Source: Canton et al., 2018

Thus, Canton et al. (2018, p.28) argue that ‘spending on education is a genuine and decisive public investment’ since the expected returns are quite high both for the individual and society at large. They thus encourage more efficient investment in human capital rather than increased spending.

Likewise Camilleri (2020, p.1) argues that raising the standards to ensure quality education and social cohesion ‘creates a virtuous cycle of productivity outcomes, including job creation and societal well-being’.

A cohesive society works towards the well-being of all of its members, fights exclusion and marginalisation, creates a sense of belonging, promotes trust, and offers its members the opportunity for upward mobility (OECD, 2011 in Camilleri, 2015, p.7).

Tertiary education is fundamental for innovation and growth, especially in developed, knowledge-based economies such as most EU member states.

The long-run growth rate of an economy can be sustained by research, development and education which in turn drives innovation. Indeed the level of human capital will determine the type of investment attracted by a country as a high-quality level of human capital attracts high value-added sectors that in turn drive higher rates of economic growth (Ministry for Finance and Employment, 2021b, p.93).

2.3 Demand, supply and the impact on graduate earnings

However, when the supply of tertiary educated individuals is abundant, the graduate earnings premium will fall and likewise when the low skilled workers become scarce, their wages go up. Everything else remaining unchanged, this may result in a narrowing of the differential in earnings by education, thus reducing the individual return on education. Nevertheless, the stimulus of higher education can also lead to technological developments which in turn push up the demand for highly skilled people and the degree/skill premium re-adjusts accordingly. These adjustments should guide education policy to balance income distribution (Canton, 2018).

Such circumstances show that lifelong investment in human capital is crucial to keep up with the dynamism of the labour market. Technological progress has played an important role in the transformation and development of higher education, and in the enhancement of the quality of the educational process (David & Hill, 2021 in Profirou et al. 2022).

In studying high-skills utilisation in the retailing, computer services and transport and communications industries, Mason (2014) concludes that more and more graduates are being employed in these sectors which have traditionally hired non-graduate personnel. This is occurring primarily because the demands for generic skills, analytical ability and technical knowledge have risen but also because graduates are increasingly applying for such jobs. These employees upgrade the job as they are ready to take on additional tasks and responsibilities while aspiring for a promotion or to move on to jobs which offer better remuneration.

However, if employers do not recognise that the said job has been upgraded and hence the salaries on offer do not reflect the employee's input, this results in underemployment and the individuals concerned suffer from a wage penalty. This occurs even though graduates are able to respond to increased market pressures enabling the enterprise they are employed at to adapt to changing circumstances and more complex situations. Their abilities to respond to new

situations, the need for improved efficiency, and changes in management organisation, are not always given the credit they deserve.

This scenario explains how the burden to adjust to the expansion of available tertiary graduates weighs largely on the graduates themselves. It also explains why there is a wide-ranging variety of salaries and career prospects across the graduate labour market. Martin (2019) argues that expansion of higher education is incentivised by the ‘college wage premium’, whereby employers rely on qualifications as a screening tool and as a testament of academic completion, resilience, workers’ disposition and skills.

However, expansion of education also raised concerns about its effects on earnings, highlighting the fact that educational attainment had a cap in terms of productivity and wage returns (Freeman, 1976 in Capsada-Munsech, 2017). Skills supply and technical progress help to sustain the demand for high skills but this may lead to an imbalance between demand and supply.

2.4 Theoretical approaches to educational expansion at tertiary level

Since the 1960s the Human Capital Theory has been explored by several scholars who mostly agree that investment in human resources reaps economic dividends. The Organisation for Economic Co-operation and Development (OECD) defines human capital as the ‘knowledge, skills, competencies and other attributes embodied in individuals or groups of individuals that are relevant to economic activity’ (OECD, 1998, p.9).

Exponents of this theory hypothesise that higher educational input would lead to economic benefits for the individuals themselves, for the organisations they work for, and for society and the economy at large (Schultz, 1961). Human resource development specialists promote education and training of the workforce (Nafukho et al, 2004). Canton et al. (2018, p.6) have shown how ‘human capital accumulation is crucial for EMU (European Monetary Union) deepening and for promoting economic and social convergence in the EU’. Investment in human capital enhances competitiveness and improves the functioning of labour and product

markets. It also leads to economic and productivity growth, innovation activities, quality jobs, higher living standards and a more resilient economy in times of crises.

The human capital theory is built on the assumption that humans invest in their education to enhance their employment prospects while employers are ready to employ such people in order to maximise productivity. This theory holds provided that both employees and employers make the best choice and a perfect match between the two is achieved (Capsada Munsech, 2017). In fact, Becker (1964) argues that there can be cases of overeducation if there is misinformation between workers' skills and firms' needs when the employee is engaged, however, he argues that this is only temporary until both parties adjust.

This theory considers that graduates with the same qualifications but with differing competencies are naturally sorted by the market, with the most able obtaining jobs 'above their own level' and the least competent obtaining jobs 'below their level'. Hence workers are paid according to their productivity which does not depend entirely on the job (Allen et al., 2001).

More recently, Capsada-Munsech (2017) and Bouchard (2009) contested the human capital theory for ignoring social factors such as family backgrounds, access to elite higher education, cultural attributes, social networks, status and prestige. According to Marginson (2019 p.288) the human capital theory 'provided an economic justification for investment in expanding educational opportunity', but policy makers cannot exactly forecast what knowledge is required in the future.

A second theory, commonly referred to as the Signalling Theory, establishes that education simply provides signals, credentials rather than real economic potential (Becker, 1975). Faced with several asymmetries in information available to employers and potential employees, employers refer to education for signals. Employers also look for workers with good work ethic, intelligence, workers who are willing and able to conform to workplace values and norms. But these attributes are hard to verify until one is hired. On the other hand, given that education is the prime signal of a person's employability, individuals flock to attain a degree

and eventually they seek to stand out from the rest by reading for a master's degree (Becker, 1975 cited in Bouchard, 2009). In fact, as indicated in Table 4.5 graduates with a master's degree report lower rates of horizontal mismatch than graduates from other levels since the master's degree gives graduates access to jobs in the same field of study. The latter qualification indicates a higher extent of skills belonging to its holder, thus sending better signals to the employers of their capabilities, increasing the probability of matching the job requirements (EC, 2020b).

In turn, the Signalling theory has been criticised because it ignores competition among workers; the ability of individuals to demonstrate their skills to employers; whether workers have different preferences for showing or not showing their skills potential in given individual situations and wage strategies amongst others. In such circumstances, it is argued, individuals may also become overeducated (Capsada-Munsech, 2017).

Another theory developed by Thurow in 1975 is the Job competition model which places workers in competition with job vacancies. Jobs are ranked in order according to the educational level required and other job characteristics, while workers are also ranked according to the educational level. This gives the individuals the incentive to continue investing in their education, and yet even workers in the highest positions might become overeducated since there might be not enough available jobs to match their competences. But, in reality, the labour market cannot always be explained in terms of competition between jobs and workers' educational level (Capsada-Munsech, 2017).

Sattinger (1993) developed another theory which studies the relationship between education and employment. He presented the so-called Assignment theory which focuses on the fact that individuals choose to work in a sector which maximizes their earnings and the firms which employ them assign them jobs in line with their educational level. In this model, overeducation can appear but can be resolved through adjustments in wage maximization (Capsada-Munsech, 2017).

In analysing the different economic theories, Capseda-Munsech (2017) notes that the main challenge to understand mismatches between education and employment levels is to investigate the sociological factors such as social background, gender, social networks of employees and also take into account the preferences and tastes of employers beyond educational credentials and productivity, before concluding that mismatches are an inefficient economic situation in the labour market.

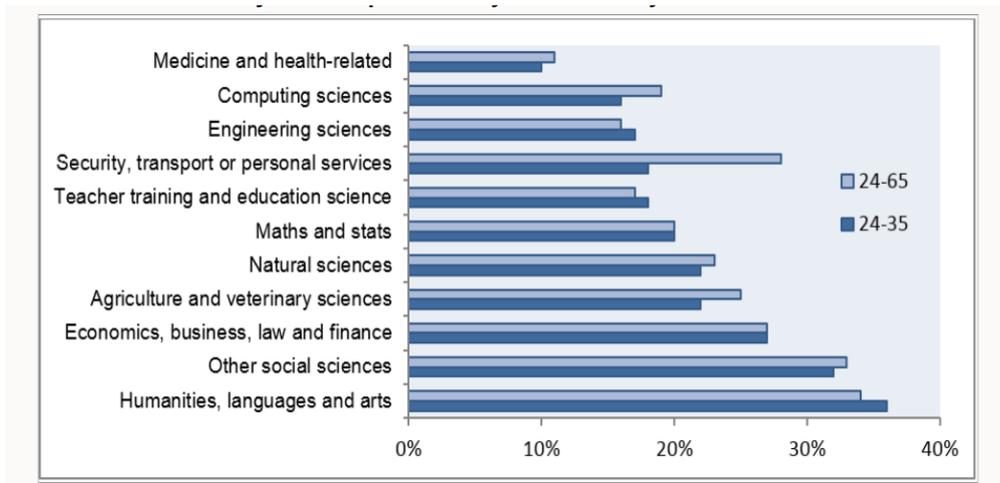
2.5 Skills mismatch and its implications

‘Success’ in the graduate labour market is typically defined as graduates securing employment in jobs that make appropriate use of the skills and knowledge developed during their university studies (Mason et al, 2009 p.6).

Anticipating skills to support evidence-based policy making is crucial for citizens, enterprises, economies and societies. Back in 2017 the Institute of Labour Economics found out that underutilised human capital received little policy attention. ‘Policy recommendations on skills mismatch tend to be vague, as the term skill mismatch is often used without any mention to the specific type of mismatch in question’ (Cedefop, 2018, p.9). However, more recently, due to global competition, demographic and technological changes, skill mismatch has taken centre stage in Europe.

Skills mismatches can be vertical, occurring when the education level of an individual is higher or lower than that required for a particular job; or horizontal, a situation that arises when it is not the level but the type of education or skills that are unfit for the job. There can also be skill shortages or gaps. When the imbalance between the demand and supply of skills takes time to resolve, it impinges real costs on individuals, societies and enterprises. As Figure 2.2 indicates, the rate of overqualified graduates is higher than 30% in the field of Humanities, Languages and Arts and in Other Social Sciences.

Figure 2.2: Share of overqualified graduates by field of study, EU28



Source: Cedefop European Skills and Jobs Survey (ESJ), 2015a

There is a strong relation between fields of study and overeducation. The scientific and technical fields, provide more occupation-oriented knowledge and skills and therefore overeducation is less probable. Generic degrees equip the individuals with skills that are not immediately transferable to the labour market. Moreover, medicine and law graduates are less prone to overeducation since stakeholder groups can regulate the supply of tertiary educated graduates, automatically reducing the occurrence of overeducation (Capsada-Munsech, 2017).

The choice of higher education institutions can also be a determining variable in overeducation. The market does not value all degrees in the same way. ‘Those from more prestigious institutions are always more valuable than degrees from less prestigious places regardless of academic discipline, thus also influencing the labour market’ (Murphy 1993, p.22).

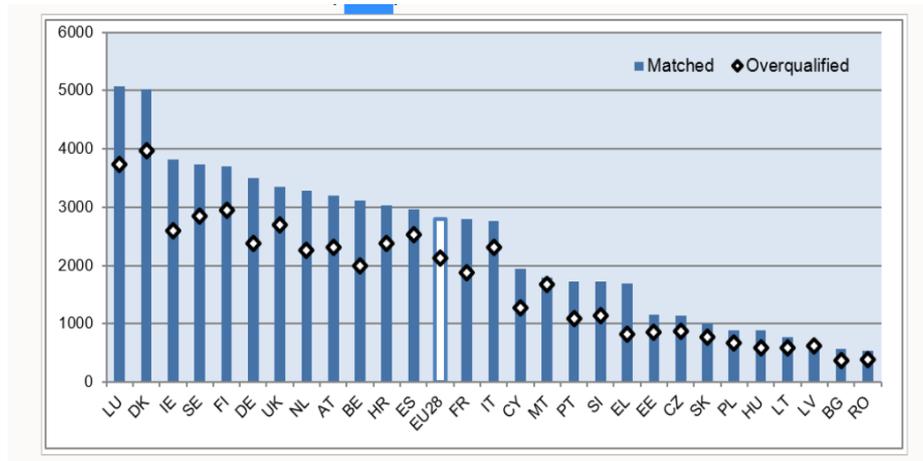
Empirical evidence presented by Di Pietro & Cutillo, (2006), McGuinness, (2003), Robst, (1995) in Capsada-Munsech, (2017) shows that employers take institutions’ quality and prestige as a signal for graduates’ productivity. They are more likely to employ the new recruits in high-skilled positions coming from such institutions than new recruits coming from less prestigious institutions and probably with a more disadvantaged social origin, even though they possess a similar degree.

Battu et al. (1999) have also monitored how overeducation impinges on earnings. The degree, class, and type of institution awarding the qualification, plays an important bearing on the level of earnings. First class degrees have eight to thirteen percent premium over a lower-second class degree; likewise graduates from more prestigious universities earn eight to eleven per cent more than graduates from polytechnics (Battu et al. 1999 in Cedefop, 2010).

Moreover, Cedefop (2010) quotes Battu et al. (1999) who stated that individuals in the private sector and private practice are more likely to be matched. Higher occupations increase the likelihood of matching. An architect who has specialised in restoration is more likely to be in a befitting profession if he or she is operating in a historical city where restoration is valued rather than when this same graduate is practicing the profession in an urban city. Likewise a firm employing a few people cannot afford to keep professionals in an unmatched position as it will be detrimental to the team, the individual and to the productivity of the company.

Battu (1999) also argues that as the number of graduates has increased across the EU27, less able individuals entered the pool of tertiary level. As a result, over time, the quality of tertiary education workers has fallen. It is therefore highly probable that the incidence of overeducation has increased. Higher education expansion can be translated into a surplus of educated workforce in relation to labour market demand. Consequently, graduates suffer from a wage penalty as wage returns to graduates decrease. Hartog (2000) cited in Capseda-Munsech (2017, p.9) documented that 'each year of overeducation provides from one half to two thirds of the economic value of one required year of overeducation'. The Cedefop (2015a) European Skills and Jobs survey states that this wage gap amounts to 24% less gross hourly earnings in comparison to matched graduates. Furthermore, other negative effects to overeducation are less job satisfaction and lower productivity.

Figure 2.3: Average gross monthly wages of tertiary education graduates by education mismatch status, EU28



Source: Cedefop's ESJ, 2015a

A survey among the European Training Foundation (ETF) partners carried out in 2019 found out that one in four tertiary graduates were employed in jobs that they were overqualified for. As a result, human capital loss can occur among tertiary graduate students. There could be multiple reasons to explain this phenomenon however it is also evident that young graduates who lack experience and the skills required by employers find transition in the labour market more challenging. They have also most likely the highest educational level (Capsada-Munsech, 2017; ETF,2022).

Logically it is assumed that higher education raises productivity. The latter is also determined by the vertical match between educational level and job level. Being employed in a job below one's own level of education implies underutilisation of skills and investment, resulting in lower wages. Contrarily, working in a job above one's level in effect raises the productivity limit, allowing the workers to be more productive. This however depends on the ability of the individual, to rise to the occasion and maximise his/her potential.

In reality, wages do not increase in proportion to the job level requested as it is argued that such individuals still require some knowledge and skills to perfect match their job. Allen and Van der Velden (2001) conclude that skill mismatches cause job dissatisfaction, which lead workers

to seek a better suited job elsewhere. Thus, adjustments in the labour market directly reflect ‘the relation between job content and individual abilities and less by the material and social rewards provided by the work’ (Van der Velden, 2001, p.450)

Matching may also be affected by the business cycle. If graduates start working during an economic recession, the chances of over-education are more probable and the equilibrium will take longer to be established because of a general lack of job opportunities. It could also be the case that the graduate takes the job of a non-graduate. This phenomenon may also take place when there is enough supply of graduates not only in an economic downturn (Cedefop, 2010).

On the other hand, research shows that graduates were more satisfied with job security, level of responsibility, hours, work and flexibility, even though they were underemployed compared to matched graduates (Linsley, 2005 and Kler, 2006 in Cedefop,2010). Still the majority of studies show a negative relationship between mismatch and job satisfaction (Battu et al, 1999 in Cedefop, 2010).

Countries with educational systems which are oriented towards vocational education present lower overeducation cases because they cater for job specific skills. This reduces the chance of skills mismatch. Overskilling tends to be a short-term issue for those with vocational training but a long-term issue for tertiary educated individuals filling overskilled positions (Mavromaras & McGuinness, 2012). Those who graduated from generic courses are more likely to fall into overeducation – compared to those from occupation-specific fields. However graduates from generic courses will most likely use overeducation as a stepping stone to a matched job (Verhaest & van der Velden, 2013 in Capseda-Munsech, 2017).

Social background also affects the field of study choices. It is argued that individuals invest in their education especially when they consider that they have an advantage based on their parents’ occupation. This increases the probability of further enhancing the knowledge and skills in the field and hence the probability of the new graduate being employed in a mismatched employment is further reduced (Capsada-Munsech, 2017).

Children from manual-working backgrounds tend to prefer technical fields; children of the self-employed and small employers focus on financial and commercial fields; offspring of farming backgrounds are more likely to enrol in agricultural fields; and children of the service class are more prone to enrol in traditionally prestigious fields with social closure like medicine or law (Capsada-Munsech, 2017, p.3).

Murphy, (1993) cited in Swail W., (2005) suggests that the labour market must accept the products of tertiary education because students choose to follow certain educational paths irrespective of the labour market. Moreover, some students enrol in courses they are interested in, hoping that these will open up opportunities for them. Other graduates take up jobs that offer the best possible salary and career prospects at the time when they were on the look out for jobs and they stick to them (Marginson, 2019). Therefore, an element of skills mismatch will always be present in the labour market.

2.6 The role of tertiary education institutions in developing competencies

According to Feldman et al. (2008), competent and skilled human capital demands investment in higher education, institutions committed to advanced learning, research and public service. These are considered essential to a modern economy. Universities and educational institutions organise scientific inquiry and augment human capital. This economic view tends to reduce ‘the role of universities as public entities for intellectual discourse, the cultivation of experimentation and innovative ideas’ (Feldman et al., 2008 p.177).

However this broader role of universities does not exclude the economic purpose. Universities and educational institutions cannot evolve as closed systems without taking into consideration labour market trends. Bouchard (2008), opines that developed economies increasingly depend on knowledge-based activities due to the dominance of the third sector (services) and that there is a relation between income and the number of years spent at school. Youngblood et al. (2017) argue that a social partnership type of interaction needs to exist between educational institutions and regional entities of the labour market. Furthermore, a competence-based approach should be integrated in the curricula design of each field of study as it proves “the readiness and ability

of the individual to solve a variety of professional tasks, to apply existing knowledge and skills in a specific professional situation” (Youngblood et al., 2017 p.2807).

Highly qualified personnel join the industry with in-built competencies. They bring knowledge of recent scientific research with them and help to set standards in an industry. They transfer academic knowledge at the work place (Feldman et al., 2008).

Lundvall (2008) believes that tertiary educated personnel are able to perform tasks better than the average worker and are more proactive to explore technical opportunities, meaning that the rate of return on investment in higher education will correspond to technological advancement. In a fast-changing economy, knowledge becomes obsolete more quickly than it used to do and it is therefore important for the industry to invest in its people to keep abreast with new competences. This implies a shift from a ‘knowledge-based economy’ to a ‘learning economy’. This shift should be echoed in the education system where teachers impart methods to students in order to become individual learners. Likewise, academics need to engage in continuous learning.

Lundvall (2008) also argues that higher education should contribute to general competencies such as the skill to communicate, cooperate and interact with others to make the transition between university life and working life as seamless as possible. ‘Problem based learning and combining theoretical work with periods of practical work are an obvious response to traditional form of learning’ (Lundvall, 2008 p. 220). Prospective graduates upgrade their learning by being exposed to problems outside the lecture room. Such educational reforms should be forged on network relationships between industry and university.

Research suggests that structured work experience increases the probability of graduates to find employment within six months after their graduation in a graduate level-job as exposure to employability skills are better captured at the workplace rather than the classroom. Moreover ‘success’ can be achieved by a strong involvement of employers in the course design and delivery (Theicler, 1997).

Educators have a pivotal role in this process. The training methods they apply, how they impart knowledge, how they stimulate their students to acquire skills and competences, how they engage with tertiary education students to help them nurture resilience to prepare them for the everchanging demands of the labour world; are all key in the teaching and training programmes (Tuck et al., in Profiroiu et al., 2022).

According to Agarwal, ‘generic skills that provide flexibility, adaptability and opportunities for life-long learning will provide young people with the best basis for a career in any area’ (Agarwal, 2008, p.266). Brodjonegoro (2008) opines that graduates need to have the cognitive ability to deal with a task and the creative ability to deal with uncertainty. Thus educational institutions become responsible to facilitate this role of bringing to the classroom both hard skills such as factual knowledge and soft skills from experiential knowledge. He also argues that governments should encourage institutions to produce high quality human resources not just increase the numbers of graduates. Expansion should only be encouraged if there is demand from the market.

In this respect, it is argued that ‘the economic benefits, both to the individual and to the wider economy of a university degree will clearly depend on the quality and breadth of skills imparted’(Holland et al. 2013 p.12).

2.7 Conclusion

There is a mutual positive relationship between education and employment. Investment in education reaps dividends in employability and in turn generates individual and social well-being.

The dynamism of the labour market has triggered a greater demand for tertiary qualified personnel thus pushing the wage premium upwards. However, through similar laws of supply and demand, the limit on earnings can only be determined by the labour market.

The theoretical arguments presented in this chapter originate from a basic economic argument which questions whether society is maximising its investment in human capital. This literature review has shown that there is room for improvement and that the sociological background of graduates has to be taken into account.

Demand and supply of the labour market directly influence earnings but tertiary educational institutions have a role to play in developing sets of competences that enable graduates to ensure self-fulfilment while meeting labour demands. This equilibrium is not naturally achieved and recent studies show that overqualification among tertiary educated individuals is on the increase, leading to a loss of human capital potential. Besides, one cannot dismiss the non-monetary gains of education and employment namely social stability and self-fulfilment. And yet skills mismatches ought to be addressed.

Chapter 3. METHODOLOGY

3.1 Introduction

As discussed in Chapter 1, Malta has registered significant progress in tertiary education attainment and tertiary qualified labour force over recent years. This begs the question whether the skills acquired by the individuals are fully translated into the labour market for the benefit of the individuals and society.

As a matter of fact Malta ranks poorly in the skills matching pillar and this has placed Malta with the lower-middle achievers on the ESI (refer to Figure 1.7) (Cedefop, 2022a). This performance signals weaknesses in matching skills demand and supply and deserves to be studied further so as to address these gaps.

According to Azzopardi and Dingli (2023), there are multiple reasons why Malta is not utilising the full potential of its human resources: the economy may be producing jobs which do not require the level or field of education that the workforce already has; the jobs on offer are at a lower level of education than workers have; people are being promoted to positions that do not match their skills and are thus inefficient at what they are expected to do; the skills being requested are not available; people are willing to take jobs at a lower level than they are qualified in; and some workers may be exploited into providing the expertise they are not being paid for. These reasons all point to elements of mismatch between the supply and demand of graduate employees in Malta and will be dealt with accordingly in a subsequent chapter that deals with the findings.

The aim of this current chapter is to explain the motivation behind this study, to further explain the research questions, and to illustrate the research process employed especially during the collection of data. It is also meant to justify the research design selected and the methods employed in analysing the data. Data collection and analysis were carried out over a period of ten months and are correct until 16th September 2023. Conclusions were drawn and policy recommendations reflect the interpretation of the findings done up until that date. At the end

the limitations which are inherent in a case study approach and others which featured during the course of research are also exposed.

3.2 Aims and research questions

Considering the public investment in tertiary education, it is justified to ensure that this investment is being used efficiently and that graduates are contributing productively to the economy in the most effective manner.

In view of this and other challenges brought about by turbulent times as outlined in Chapter1, the EU dedicated 2023 to ‘The European Year of Skills’, a move meant to stimulate action in this area in preparation for times ahead. This further motivated the author to carry out research in this field and to draw comparisons between Malta with its distinct characteristics and the EU.

There is arguably no blueprint for education policy as no one size fits all formula; each country has its specific characteristics which need to be addressed. Malta being an island state and one of the EU27, with limited resources apart from its human resources and a country which comparatively invests heavily in education, does not afford to underachieve in this area. Unemployment among graduates is low in Malta but the available data suggests that there is scope to improve skills mismatch.

Motivated by these circumstances the aims of this work are reflected in two specific research questions:

1. What is the labour status of tertiary qualified persons in Malta, when compared to the labour status of EU graduates?
2. How are tertiary educational institutions and other stakeholders responding to address skills mismatches among tertiary educated people in Malta’s labour market?

3.3 Research design

This research will apply a case study design focusing on understanding the dynamics of tertiary education and employment in Malta. Eisenhardt and Volmar (2020) state that case research is appropriate to address ‘big picture’ theoretical gaps and dilemmas. Malta’s case study will create the opportunity to delve deeper into the topic in question and provide an understanding of the link between tertiary education and employment during the decade leading up to 2020 and the more recent years.

This focused approach will help policy makers to form strategies to address the mismatch between the labour market demands and the supply of graduates from the local institutions.

Yin (2009) defines a case study research as,

An empirical enquiry that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident (Yin, 2009, p.14).

A principal criticism to single case study is the researcher’s subjectivity but as Berg and Lune argue:

Quantitative measures appear objective, only so long as we don’t ask questions about where and how the data were produced... pure objectivity is not a meaningful concept if the goal is to measure intangible as these concepts only exist because we can interpret them (Berg and Lune, 2010, p.340)

Another disadvantage of a case study design is its generalisability. In this case there is little scope for this since it is determined from the outset that the aim is to shed light on the Malta case as an EU member state. On the other hand, Flyvbjerg (2006) opines that a case study often reveals more information than one can find in a theory as it activates more actors (employers, educators, policy makers, graduates, employees).

A case study on Malta permits a thorough investigation of a particular scenario which cannot be easily compared. Malta has in recent years registered considerable progress in tertiary education attainment with relatively high public investment, nevertheless Canton et al. (2018) demonstrate that efficiency scores are poor. High employment rates, labour shortages and increasing mismatches are being experienced. The country highly depends on the availability of skilled and educated human resources to attract investment and for economic growth, so it cannot afford to underutilise its human capital.

An advantage of a case study design is that it allows for the use of different research methods. Indeed, this study adopts a mixed method approach, using both qualitative and quantitative data. It is important to highlight at the outset that when analysing skills mismatches in Malta the available quantitative data is still in its experimental phase. According to the EC, no general agreement on the way to measure skills mismatch exists:

Firstly it is difficult to compare the supply and demand of labour because the 'supply' comes from the side of individual persons and the 'demand' from the side of businesses. Secondly, proxies like level and field of education (supply side) and rates/occupation (demand side) need to be used and the use of proxies could be challenged (EC, 2021a).

Thus, for the purpose of this study, experimental statistical data will be supported with other secondary information as well as primary data collected via interviews with professionals in their respective fields.

3.4 Research methods – primary qualitative data generated from interviews

Qualitative data generated from interviews with key people who are working directly in the area will help to address gaps in the secondary sources that are currently available and will also contribute to shape policy-making in the area. The following table lists the interviewees who consented to participate in this research study:

Table 3.1- Interview Participants, their designation and the reason why they were selected.

Interviewee	Role	Rationale
Marisa Xuereb	President of the Chamber of Commerce	The demand side - representing the Industry
Joe Farrugia	Director General at MEA	The demand side – representing Employers
Edel Cassar	Director MCAST Strategy Implementation Office	The supply side - vocational courses
Prof Carmel Borg	University of Malta (UM)	Academic in the field of Education
Prof Alfred Vella	Rector – University of Malta (UM)	The Supply side – academic courses
Glorianne Camilleri	Deputy Director - National Skills Council	Responsible to come up with a National Skills Strategy

In qualitative data gathering, the focus is on the interviewee’s viewpoint. In this case, interviewees were carefully selected to represent the demand side of the research question: being the industry and employers’ representatives; the supply side as represented by officials from tertiary educational institutions; and the public sector being the shaper of policy.

During qualitative data gathering, interviewees also convey their values, beliefs and emotions. Since in this research study all participants were high-profile figures synonymous with the institutions they represent and with a tertiary level of education, they were all well read into the subject.

Taking into account these characteristics of the participants, the questions in these semi-structured interviews were open ended to encourage the interviewees to share ideas that they think are relevant. [Interview questions are included in Appendix II]. This allowed for follow-up questions which interviewees were happy to address as well; at other times interviewees were also answering subsequent questions, thus generating richer and more in-depth argumentation and data. Indeed, flexibility is important when conducting interviews,

particularly in changing the order of questions, skipping particular guided questions to avoid overlapping questions, following up leads and clarifying answers.

The themes covered by the interview questions were aimed to help address the research questions about the labour status of graduates and skills mismatches in an effort to inform policy. These themes were then discussed in Chapter 4 together with the findings which emerged from the analysis of the data generated from interviews.

The questions directed to participants representing the employers and the industry dealt with the availability of talent, level of skills available, the work ethic or lack of, the need of transversal skills and the dynamics between the industry and educational institutions to better address mismatch between the demand and supply of talent.

On the other hand, the questions directed to educational institutions treated the issue at hand more holistically. These participants were asked about the choice of study programmes, lifelong learning opportunities, internships and placements, labour market mismatch, the stipend, guidance services, tracer studies, work related competences and professional development of lecturing staff and collaboration with industry.

The third stakeholder which was interviewed in this complex equation represents the Skills Council originally setup in 2016 as an advisory body but by Subsidiary Legislation 605.10 it became autonomous and was entrusted by the government to come up with a national strategy in trying to bridge the gap between the world of work and educational institutions (Government of Malta, 2020). The participant from the Skills Council was asked about the mismatch between the demand and supply in the labour market, the digital and green transition that are revolutionising the world of work, upskilling and continuous professional development for all the workforce, the setting up of skills intelligence to mould policy accordingly and of forming networks between guidance services and industry staff .

Interviews were recorded and transcribed via the MS Teams platform. This facilitated the transcription process. Heritage, (1984) cited in Bryman (2016), opines that transcription helps to counteract the natural limitation of memory and intuitive guesses that might happen on what people say in interviews. It allows for a thorough understanding by going through what the participant said repeatedly. Furthermore, quotations of experts in the field sustain the researcher's argument elicited from the transcript.

Nevertheless, the whole exercise is time-consuming. Starting from, presenting the set of questions to the Ethics board, getting them approved, sending consent letters to the Office of the Prime Minister to conduct interviews with public service personnel, setting up appointments with key people, receiving refusals, finding alternative interviewees to those already identified without compromising the objective, transcribing interviews, highlighting themes relevant to the research questions, analysing them and finding gaps, is all very laborious.

Furthermore, although the limitations are discussed in more detail later in this chapter, it is relevant to highlight that there were also some challenges to recruit participants. In particular, after getting approval from the Office of the Prime Minister and the set of questions were forwarded to the respective entities, one public entity – JobsPlus - refused to participate in the interviews, although it was ready to share published data. Other potential participants from the Education department were contacted but refused to participate in the interviews for various reasons. Given these challenges and the time available, the sample of participants was limited. Nevertheless, it is considered that this small sample made up of key people in their areas, notably three participants representing the education sector, two participants from the employment sector and another participant representing the government's policy shaping, still provides a good overview of different relevant stakeholders on the topic at hand.

All the semi-structured interviews were scheduled by appointment and the candidates consented to participate and that their details would not be confidential. Three interviews were held on-line while the other three were held in person at their place of work. The duration of

the longest interview was around one hour and a half and the shortest interview was 45 minutes long.

3.5 Research methods - qualitative and quantitative secondary sources

This study also made use of secondary data including published literature and dissertations, news articles, online journals and articles. Several other documents were also analysed including conference papers, national newspaper articles, the National Employment Policy and the Framework for the Education Strategy for Malta 2014-2024, the Higher Education Strategy for Malta 2015-2024, position papers by constituted bodies such as the Chamber of Commerce and the Malta Employers Association, EY Malta Attractiveness Survey, HR Pulse Survey 2022 by PWC, strategic plans by the UM and MCAST.

Attempts were made to consult tracer studies conducted among graduates by the UM and MCAST but these are only carried out on an ad hoc basis because they are only carried out on the initiative of certain faculties. More comprehensive tracer studies conducted by the UM were held in the years 2000, 2002 and 2004 which are considered outdated for this study and MCAST does regular tracer studies but matching of labour outcome and the duration for finding a matching job is not surveyed. This means that they could not help in the construction of a comprehensive picture of the labour status of graduates between 2010 and 2020 and the issue of skills mismatch for this cohort of graduates.

In fact an important challenge faced during this research was that information is at times available but this is scattered and there is no plan to start collecting it in an endeavour to inform policy. This means that no longitudinal analysis can be conducted as these are not held regularly over time.

The Employability Index carried out by the Employment and Training Corporation (ETC) in 2015 which adapts the educational-qualification match and the economic-sector match was indeed a valid ad hoc exercise, able to classify graduates as shown in Table 3.2 below:

Table 3.2: Educational Qualification vs Economic Sector Matrix, (ETC, 2015)

Educational Qualification

	Overqualified	Qualified	Total
Economic Sector Match	Overqualified/Match (1)	Qualified / Match (2)	Total Match
Economic Sector Mismatch	Overqualified/Mismatch (3)	Qualified/Mismatch (4)	Total Mismatch
Total	Total Overqualified	Total Qualified	Grand Total

- (1) Employment that matches the individual’s study area but does not require the level of educational qualification attained (“overqualified/match”) or vertical mismatch, for example an architect working as a draughtsman.
- (2) Employment that requires the individual’s level of education and that matches the relevant area of study (“qualified/match”), for example a teacher working as a teacher.
- (3) Employment that neither matches the individual’s study area nor requires the level of educational qualification attained (“overqualified/mismatch”) for example an accountant working as a property negotiator.
- (4) Employment that requires the individual’s level of education but does not match the relevant area of study (“qualified/ mismatch”) or horizontal mismatch for example a journalist working in a marketing department. (ETC,2015 p.19)

To enable this classification, the International Standard Classification of Occupations (ISCO 08) was paired to the International Standard Classification of Education (ISCED 11) and that was in turn paired to the national equivalent referred to as the Malta Qualifications Framework (MQF) levels 5 to 8 as described in Chapter 1 – Table 1.1.

For this exercise, the three higher educational institutions in Malta (UM, MCAST and ITS) provided a list of all the students who graduated in 2012 and 2013 indicating the MQF level attained. Employment data was then extracted from the ETC (currently Jobsplus) database showing the employment history and specific job designation / occupation of each individual for each employment record, whilst filling a matrix as suggested above for each faculty and

institute at the UM, MCAST and ITS (ETC, 2015). However, as highlighted earlier, this was an ad hoc study which was not followed up in recent years.

Another relevant study is the Eurograduate pilot survey which was conducted by the EC in 2018 for graduate cohorts of 2012/2013 and 2016/2017 from UM and MCAST and the net response rate from all graduates of these two cohorts was 11% and 11.3% respectively (EC, 2020b) [See also section 4.1]. This low response rate in the case of Malta is considered weak to draw a realistic picture of the situation, yet it sheds some light on the labour force status and adequacy of employment: education and employment mismatch among seven EU countries including Malta and Norway. Indeed, despite its limitations, the author decided to use data from this survey as the rationale of this pilot study falls squarely with the objective behind the two research questions outlined earlier, besides the data available of other EU member states proved useful to evaluate the EU context and derive comparisons.

Given the relevance and the current national interest in the subject at hand, the present author had the opportunity to attend two conferences organised by The Malta Chamber in Valletta. “Jumpstart Learning – Education Conference” was intended to raise the culture of learning and its leadership, further up on the Maltese agenda, being that 2023 was dedicated to the European Year of Skills. The second conference – “Skills Rush – Have we missed the bus?” was held in an endeavour to keep up with the changing economic realities and in preparation for the digital and green transitions which require reskilling and upskilling, thus insisting on education reforms to address future job challenges (The Malta Chamber, 2023b). The discussions during these two conferences also provided relevant information which was used in this dissertation.

As regards statistical data, the Eurograduate pilot survey and data published by the National Statistics Office were the main sources for the statistical data used in this study. This data is based on the Labour Force Survey (LFS) which is an ongoing exercise using a quarterly gross sample of 3,200 private households aiming to have a continuous assessment of labour market trends and the criteria employed for this survey tally international methodologies used by the International Labour Organisation (ILO) (National Statistics Office, 2021b). Furthermore, this statistical data for Malta will not be analysed in isolation but in an EU context. In this respect,

Eurostat data will be analysed as well and the LFS data published by Malta's NSO is comparable to that for other EU member states.

3.6 Limitations

As stated earlier, one major obstacle encountered in this study is the lack of data, and the fact that where the data exists this is rather sporadic. This shortcoming was also expressed at European level by the EC Expert Group on Graduate Tracking (2020) who noted that:

1. a central registry of education is missing in several countries;
2. cooperating with educational institutions is sometimes complex;
3. a number of member states lack a comprehensive national graduate tracking system;
4. when they exist, graduate tracking systems are often structurally different and not easily comparable across countries;
5. in several countries, administrative data on the different relevant aspects (education, social security, employment, tax register, tax authority etc.) are either missing or not linked to each other (EC, 2020c, p.12).

This was indeed the author's experience. In particular, when trying to set an interview with Jobsplus staff, the invitation was declined and the main reason provided was the lack of data. Indeed, once an employer informs Jobsplus that a person was recruited, the entity receives basic details of the employee but not the level of education of that individual and the job description and thus cannot analyse whether there is a case of over or underemployment among graduates.

Another problem was encountered with existing tracer studies. Although as explained earlier some were outdated for this study, those which are regularly conducted miss important data to analyse mismatches for example. There is no comprehensive data which can portray whether on completion of their studies, the graduates actually started working in their chosen field of study, whether they are under or over-employed and how long it took them to start a career of their choice matching their area of study. Thus no comparative analysis can be carried out about career prospects in the different fields. This lack of quantitative data was a main limitation in

the research process for this work. In view of these limitations, the author decided to carry out interviews with key stakeholders in order to mitigate this lack of quantitative data by generating qualitative information. Nevertheless, it is relevant to highlight that the participants who accepted to take part in this research study contributed qualitatively from their experience, but hardly referred to evidence-based research during their respective interviews. This again reflects the lack of quantitative data on skills mismatch referred to above.

3.7 Conclusion

While Malta has registered significant progress in tertiary education expansion during the 2010-2020 decade, and graduates enjoy close to full employment, issues on the proper utilization of human capital and the labour status of tertiary qualified individuals persist and cannot be overlooked. Thus, a case study design was employed in this dissertation to address the research questions.

Although Malta is part of the EU and is in line with a number of EU trends and complexities; the demographics, the social fabric and the culture of educational institutions are unique to Malta. It was therefore paramount to apply a mixed approach involving both qualitative and quantitative data to carry out this research. Although statistics will provide the structure of argumentation, the interviews will provide the primary data for this research study as they provide the interpretation which is not present in data and statistics. The two types of data therefore compliment each other and compensate for the strengths and weaknesses of each (Looi, 2014).

This chapter has outlined the rationale behind certain choices of data sources and research methods employed to counteract limitations, address the research questions and contribute to policy.

CHAPTER 4. FINDINGS AND ANALYSIS

4.1 Introduction

The European Union's 'New Strategic Agenda 2019-2024' had the declared intention of stepping up investment in education and skills in preparation for the envisaged rapid transformation of the workplace (EC, 2020b). For decades, the Education authorities of the EU27 countries have been aware of the limitations in the collection and analysis of cross-country data of graduates and their performance outcomes in the labour market which makes it difficult for them to elicit best practices and to learn from each other. Within this context and acting on the objectives set by the EU Agenda for Higher Education, the EU Council of Ministers for Education recommended the tracking of graduates through their transition into the workforce (EC, 2016).

Between October 2018 and February 2019, the EC ran a pilot survey in seven member states (Austria, Czechia, Croatia, Germany, Greece, Lithuania and Malta) and Norway. The subjects of the Eurograduate survey were Bachelor and Master-level graduates from two cohorts namely: 2012/13 and 2016/17 (EC, 2020b) and it was meant to help policy makers address higher education challenges and help to inject the right investment in the sector. [See also Section 3.5]

The survey covered three aspects of higher education: sustainable employment, the development of personal skills and active citizenship. While it is widely recognised that active citizenship is a very important aspect, the objectives of this present study necessitate the prioritisation of the first two aspects mentioned above. As explained in the previous chapter, the analysis carried out mainly draws on quantitative data from this pilot study, Eurostat and NSO data, together with qualitative data generated from semi-structured interviews with key education stakeholders in Malta, policy documents and reports.

The analysis starts by narrowing in specifically on the labour status of graduates, this data shows how access to education leads to a more qualified labour force. Secondly, attention will be devoted to the graduates' field of study since this is a main element which highly impacts

various employment aspects including earnings, mobility and skills mismatches. Furthermore, trends in skills mismatches among graduates between 2010 and 2020, schemes or measures to channel students where there is demand in the labour market, or different approaches through work-based learning and life-long learning employed by higher educational institutions will be analysed and examined. Lastly, the issue of work ethic will also be explored. Although it does not feature strongly in the literature review carried out earlier in this work, this factor was given due importance by the participants in the interviews.

4.2 Trends in tertiary education since 2010

In line with the Human Capital Theory, governments have generally been increasing their investment in education with the objective of giving wider access to more individuals in the hope that more will in turn contribute to society. Similarly, since the late 1980s, Malta has moved from a very restricted to a more inclusive higher education scene. A support system was introduced to encourage participation at tertiary level. Maltese and EU nationals studying full-time first cycle and short cycle courses do not pay tuition fees.⁵ The stipend system, whereby students receive a financial contribution to help them cover the opportunity cost of not working, was introduced in 1987 with the aim of increasing the number of tertiary qualified individuals.

Further tweaks to the stipend system along the years have made it possible for students to work up to 25 hours per week without losing their stipend. At the same time, students can avail themselves of the opportunities and scholarships made available by the European Social Fund which aims to promote tertiary education, particularly at post-graduate level and development of skills for the labour market (EC, 2021b).

This has contributed to an expansion of the tertiary education sector and Malta's workforce has become more qualified than ever. Currently 35% of Maltese aged 15 years and over are holders of PhDs, Masters, Bachelor Degrees and Diplomas. In the decade between 2010 and 2020, graduates aged 30 to 34 years in Malta have increased from 26% to 40%. This outperforms

⁵ At Master level no fees are paid if the additional degree is needed for entry to a regulated profession. For other Masters and higher level degrees, tuition fees apply but are quite competitive ex. EUR400 annually.

the developments at an EU level. In fact, in contrast, one of the targets of the Europe 2020 Strategy was to increase the share of population aged 30-34 having completed tertiary education from 31% to 40% (EC, 2014). With reference to Table 1.3, although the target in the EU27 was achieved, the average increase was just over 7% (Eurostat, 2021b).

Coupled with the fact that in recent years, unemployment in Malta has been at historically low levels, Eurostat statistics (2022) report that over 90% of graduates between the age of 20 and 34 years are in employment while the EU 27 average for the same age group is 82.4%. These positive figures are supported both by an increasing number of tertiary qualified individuals and a substantial number of imported highly skilled foreigners in a flourishing labour market (Central Bank of Malta, 2021). And yet employers may not be fully content with the quantity of Maltese graduates available in the labour market as well as the quality of graduates joining their workforce. For instance, the EY Attractiveness Survey (2021) recommends that Malta should prioritize education and skills to remain globally competitive, as 69% of the companies surveyed reported that finding the required specialized skills is a challenge. The EY Attractiveness Survey (2022) found that two-thirds of Maltese firms are unable to find the required specialised skills in the Maltese labour market.

In this context, one of the participants in the interviews, Prof Carmel Borg from the University of Malta (2023) has indicated that a highly qualified workforce does not necessarily translate into a highly skilled workforce. Quoting the United Nations Sustainable Development Goals – 4 (UN SDG4) which calls for ‘inclusive and equitable quality education and the promotion of lifelong learning opportunities for all’, Borg argues,

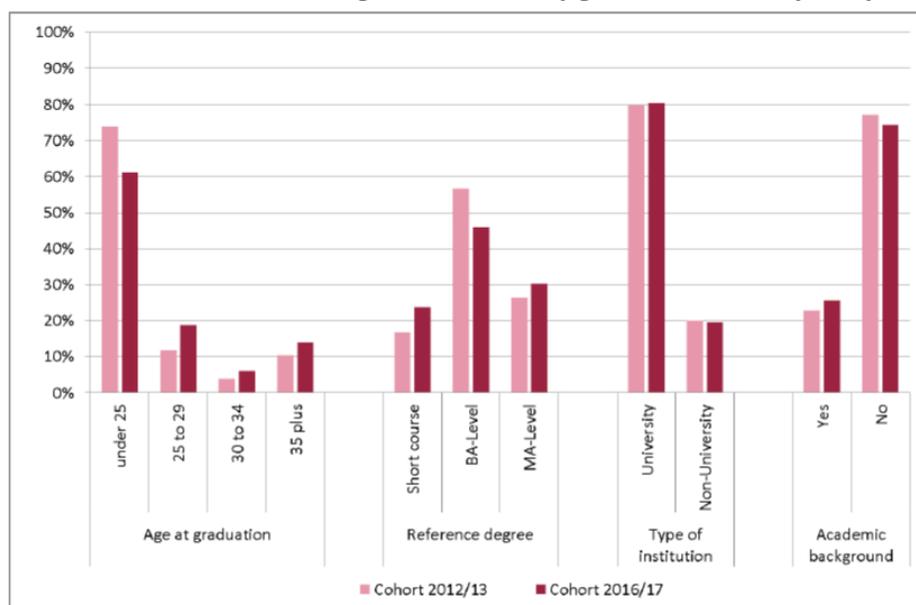
the qualifications on offer by tertiary institutions in Malta and elsewhere do not necessarily offer what they claim: there is not guarantee [on this] (Borg, 2023 pers.com., 28 March).

This reflects the Signalling Theory, as presented in the Literature Review, which proposes that qualifications achieved through a formal education process merely send signals to employers on who the most suitable candidate for a particular job could be. Being completely in the dark at the point of recruitment, they refer to qualifications to select whom they believe the best candidate for their job requirements is. Only future assessments on the performance of the

individuals employed on the basis of qualifications will reveal whether the right calls were made at pre-employment stage.

Since the number of graduates is increasing, the graduates' family and social background is increasingly becoming more diverse. Hence, the graduates need to be prepared for the transition between university and the world of work. Whereas in the past the majority of graduates were themselves the offspring of graduates, for whom the transition the workforce was somehow smooth and natural, at this day and age the family background of many new young graduates may be completely alien to the professions and they may find it harder to adapt.

Figure 4.1: Distribution of age at graduation, degree type, institution and academic background for Cohorts 2012/13 and 2016/17 - Malta



Reference degree: degree the respondents were surveyed for, while they may have obtained other degrees as well.
 Academic background: at least one parent holds a Bachelor or higher degree.
 Source: EUROGRADUATE 2018.

Figure 4.1 portrays data gathered by the Eurograduate survey and shows that the parents of more than 70% of the graduates interviewed, have no tertiary education. Among the eight participating countries, the number of parents of graduates with no academic background exceeded the 70% mark for both cohorts only in Malta. This demonstrates that tertiary

education has become more accessible, but at the same time it could also mean that those graduates with a non-academic social background find it more difficult to integrate into the labour market. In line with this information, Borg argues that this does not necessarily translate into lower middle-class and working-class students obtaining the necessary skills to reach the higher echelons of management and the workforce.

We know through sociology that children, students coming from privileged classes, middle class upwards, do provide a context where certain skills are acquired in a natural way. That might not be the case with the children and students coming from certain social classes (Borg, 2023 pers.com., 28 March).

The stipend system, might have been one of the contributing factors for so many working-class students to join tertiary courses (Borg, 2023 pers.com., 28 March). Indeed, while acknowledging that there is no evidence to prove it, the Rector of the University of Malta, Prof. Alfred Vella, refuses to dismiss the stipend as a contributing factor. Nevertheless he points to the fact that so many students seem to need to work long hours, 30 plus hours per week, while juggling their studies in a manner that is probably not too easy. He argues that

if students need to work, as opposed to those who choose to work, shows that the stipend is hardly making a significant effect on their sustenance needs (Vella, 2023 pers.com., 4 May).

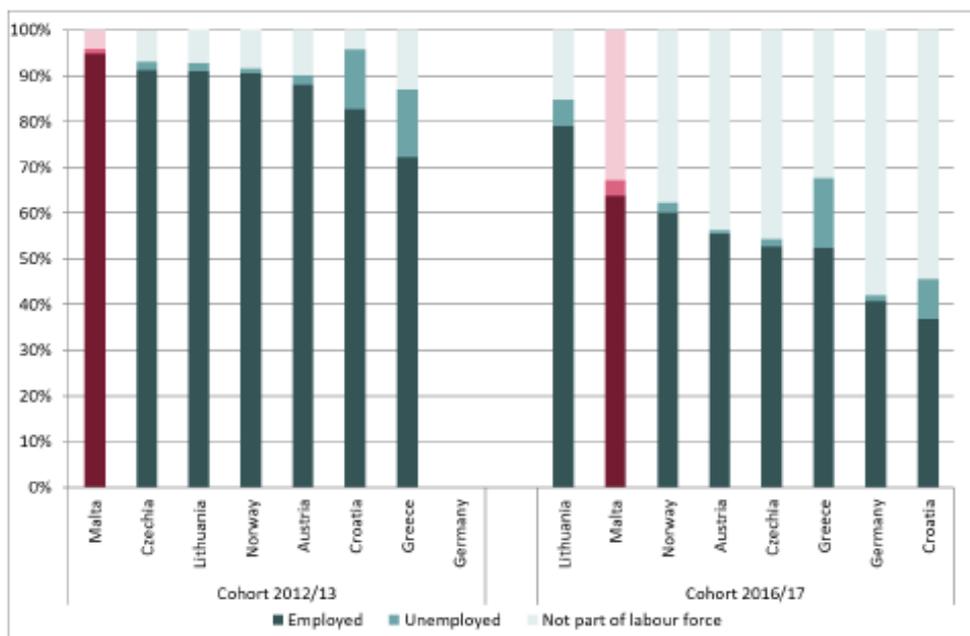
The stipend system was introduced in 1988. In 1981 the student population of the University of Malta amounted to 922, but it almost doubled to 1,682 in around ten years (Schembri, 1990). By 2019, it increased seven-fold to 11,650 (UM Strategic Plan 2020-2025). But, as Vella (pers.com., 4 May 2023) points out, one must not overlook the fact that the number of undergraduate students at the University of Malta has been decreasing for the past few years. While attributing part of this decline to demographics and lowering birth rates, he also admits that the student population at Malta's only native university, only appears to keep increasing because the increases in the postgraduate cohorts are larger than the decreases in the undergraduate students. Simultaneously, the University of Malta hosts a 'healthy number of international students at a ratio of 1:9, mainly following post-graduate courses' (Vella, 2023, pers. com., 4 May).

To put Vella’s statements above in context, one must not forget that academic options on offer are also on a steady increase and therefore continue to attract more individuals. Besides, MCAST, ITS and other private educational institutions also offer courses at tertiary level.

4.3 Labour force status

Over the past few years, employment rates for higher education attainment level have been high. In Malta, in 2018, 90.4% of those with ISCED levels 5 to 8 were in employment. Figures 4.2 and 4.3 below illustrate that Malta registered 90.4% in employment with ISCED levels 5 to 8 when the EU 28 average was 84.5%. Both figures below indicate that graduates in Malta enjoy relatively high rates of employment even though cohort 2016/17 for Bachelor level graduates were second highest in employment ranking.

Figure 4.2: Labour force status of Bachelor level graduates (reference degree) by cohort and country in 2018



One Czech BA- graduate from 2012/13 has been excluded for this analysis because its weight of 10 had a too high influence on the unemployment rate of small groups.

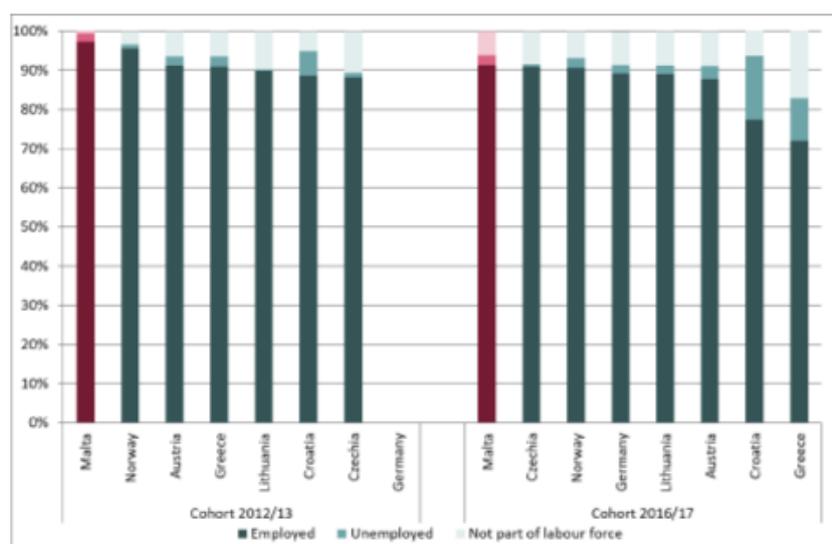
Unemployed: available for the labour market, but do not have a job; Out of labour force: fulltime studying, military or alternative service, can't work.

Reference degree: degree the respondents were surveyed for, while they may have obtained other degrees as well.

The 2012/13 cohort in Germany was not formally part of EUROGRADUATE.

Source: EUROGRADUATE 2018.

Figure 4.3: Labour force status of Master level graduates (reference degree) by cohort and country in 2018



Unemployed: available for the labour market, but do not have a job; Out of labour force: fulltime studying, military or alternative service, can't work.
 Reference degree: degree the respondents were surveyed for, while they may have obtained other degrees as well.
 The 2012/13 cohort in Germany was not formally part of EUROGRADUATE.
 Source: EUROGRADUATE 2018.

Table 4.1: Labour Force status by cohort and highest degree in 2018 - Malta

	Cohort 2012/13				Cohort 2016/17			
	Short course	BA-level	MA-level	PhD	Short course	BA-level	MA-level	PhD
Employed	97,5%	93,5%	96,4%	tfc	71,0%	67,9%	85,3%	tfc
Unemployed	0,2%	0,4%	2,4%	tfc	2,3%	2,5%	5,2%	tfc
Out of labour force	2,2%	6,0%	1,2%	tfc	26,6%	29,6%	9,5%	tfc
Total:	100%	100%	100%	tfc	100%	100%	100%	tfc

Unemployed: available for the labour market, but do not have a job.
 Out of labour force: fulltime studying, military or alternative service, can't work.
 Highest degree: highest of all reported degrees, including degrees obtained before and after the degree respondents were surveyed for (reference degree).
 Tfc: too few cases.
 Source: EUROGRADUATE 2018.

Table 4.1 shows that graduates with a bachelor's degree and short course of the 2016/17 cohort have the lowest employment rates at 67.9% and 71% respectively, indicating that those graduates often continue studying and are often out of the labour force – 29.6% and 26.6%

respectively. Graduates from the 2012/13 cohort would have completed their studies and entered the workforce by 2018.

According to the State of the Maltese economy report published by Ministry for Finance and Employment (2021a), these increases have changed the composition of education level of the employed population. Whereas in 2014, 27% of those employed had tertiary level of education, this share had increased to 31% by 2019.

4.4 Earnings

Besides employment status, another important aspect of the impact of tertiary education on the labour market is earnings level. Once graduates achieve a foothold in the labour market, one may be able to assess the return on investment on their educational achievements through their level of earnings (EC, 2020a).

Figure 4.4 shows the difference in income between those workers with MQF level 3 to 4 and MQF 5 to 8 and how the income increased over the years. The income differential for tertiary education is notable at around Eur6,700. This differential has increased since 2010, indicating a higher return for tertiary education over the period under review.

Figure 4.4: Income disparities between different levels of educational attainment - Malta



Maltese graduates do attach a great deal of importance to employment and salary levels right from the start of their career as stated by the Strategy Director at MCAST Edel Cassar.

Guidance services do report that salary is one of the most basic questions, that parents and students ask these days. It never used to be (Cassar, 2023, pers. Com., 20 March).

Even the Rector of the University of Malta shares this view about the importance future graduates give to earnings. He argues that in Malta people in general, students included, display a tendency to favour salaried employment and part-time earnings over studying at tertiary level, even though in the long-run the latter would benefit them more.

This is a factor that may be causing scepticism about whether one should go to a university. Because it's, you know, a lost opportunity, right? You could make a lot more money in a stipended (sic.) job and a part-time job on top of that because that's the other thing that especially in this country, people do, but as a student you would not be able to do that (Vella, 2023, pers. Com., 4 May).

However, the high levels of employment among Maltese graduates may not translate into higher earnings, especially when compared to graduates from western Europe. In comparison to the other Eurograduate survey participating countries, Table 4.2 shows that Maltese graduates earn slightly less than the average (EC, 2020a). One can also note that the 2012/2013 cohort have higher earnings than the 2016/2017 cohort. However this could also mean that the 2012/2013 had more time to settle and find more rewarding jobs.

Table 4.2: Only graduates in employment: Median gross hourly earnings in purchasing power parities in 2018 by cohort and country

Cohort	Austria	Czechia	Germany	Greece	Croatia	Lithuania	Malta	Norway
2012/13	16.2	12.3	n/a	7.6	8.8	10.6	12.9	17.4
2016/17	14.0	10.5	19.5	6.6	8.2	9.6	10.6	15.7

The 2012/13 cohort in Germany was not formally part of Eurograduate
Source: Eurograduate, 2018

According to the Eurograduate survey earnings differ a lot by country. Germany and Norway pay double the amount to graduates than in Croatia. Whilst Malta's figures are below those of more developed countries such as Austria, Germany and Norway, they are broadly comparable to those in Czech Republic and Lithuania, whilst being higher than those in other Mediterranean countries such as Greece and Croatia.

Malta Employers' Association Director General Joe Farrugia agrees and points at the high rent and property prices which make salaries seemingly low:

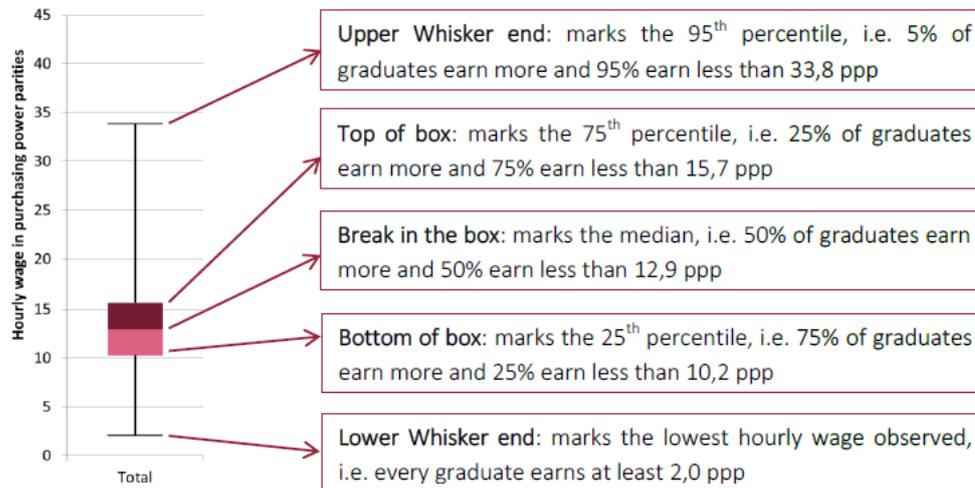
there are countries with a higher wage level than ours certainly. We cannot compete with Germany or the Netherlands. In some countries wages are much higher than ours. But then our wage level is higher than in some countries, certainly than the Eastern European countries and also along the Mediterranean, our wages compare very well. What is happening, however, is the cost of staying here. So I believe that rent in particular and property prices are pushing people away from Malta (Farrugia, 2023, pers.com., 7 March).

Consonant with the conclusions of Canton et. al. 2018 as indicated in the Literature Review, Farrugia argues that shortage has the greatest effect on earnings and also on mobility.

the shortage is still pushing up wages. But in times of shortages, ...that increases mobility. And you have pressure on wages which is not matched with productivity..... At the moment, it is an employees' market and companies are having to absorb higher costs for the overview of recruitment and retention of employees (Farrugia, 2023, pers.com., 7 March).

4.4.1 Earnings and the area of study

Figure 4.5: Only graduates in employment: Boxplot chart of gross hourly earnings in purchasing power parities five years after graduation (cohort 2012/2013) (Malta)



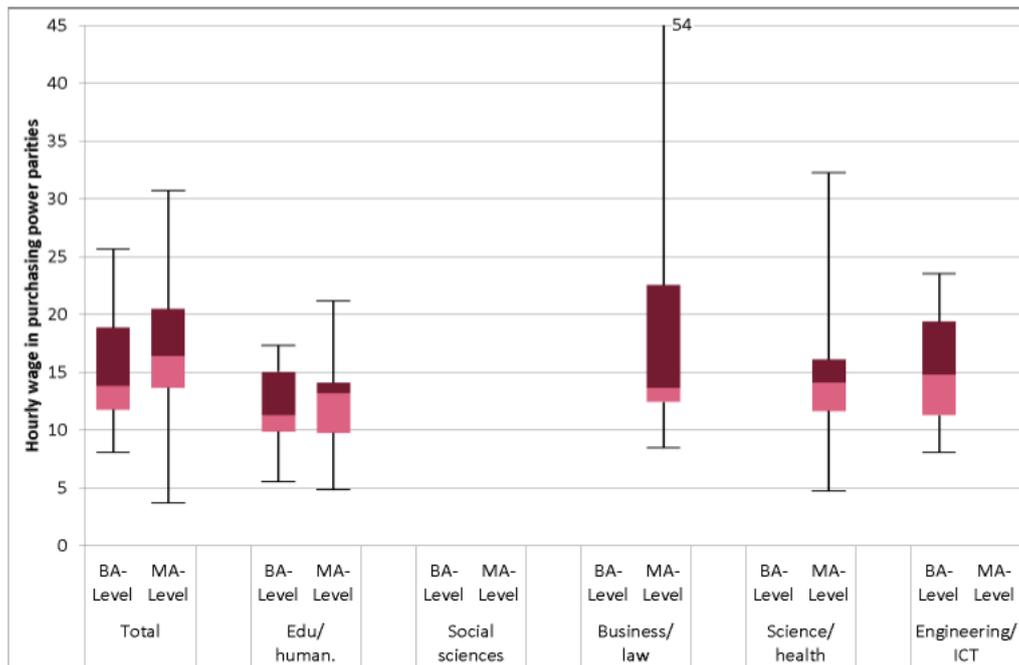
Note that the maximum hourly earnings are not displayed because it would exceed the limits of the graphic. Instead, the 95th percentile is shown. Data also includes employed graduates who are still (part-time) enrolled in other study programmes.

Source: EUROGRADUATE 2018

The area of study is another variable which impinges on earnings. Demand created by the labour market dictates salaries and there is a broad range of earnings for graduates with the same level of education but in different fields of study. Figure 4.5 explains the wide range of earnings for graduates in different areas of study. This was confirmed by the industry. Farrugia (2023) also inferred that in relation to the level of education it is demand which mostly has a direct effect on remuneration.

In some areas where there is a shortage, wages are rising much faster than in others. Therefore today a skilled craftsman can easily earn as much as a graduate and in some areas, maybe even more. I'm certain that someone who trained to be an electric technician would earn more than a graduates in social work (Farrugia, 2023, pers. com., 7 March).

Figure 4.6: Only graduates in employment: Differences in the distribution of gross hourly earnings in purchasing power parities five years after graduation (cohort 2012/2013) by fields of study and highest degree (Malta)



Data also includes employed graduates who are still (part-time) enrolled in other study programmes.
 Upper whisker end: 95th percentile; Top of box: 75th percentile, Break in box: Median; Bottom of box: 25th percentile; Lower whisker end: lowest hourly earnings observed.
 Highest degree: highest of all reported degrees, including degrees obtained before and after the degree respondents were surveyed for (reference degree).
 Field of study (highest degree): Education, arts & humanities; Social sciences, journalism & information; Business, administration, law & services; Natural sciences, mathematics, statistics & health; Engineering & information and communication technologies (ICTs).
 Missing boxes: too few cases.
 Source: EUROGRADUATE 2018.

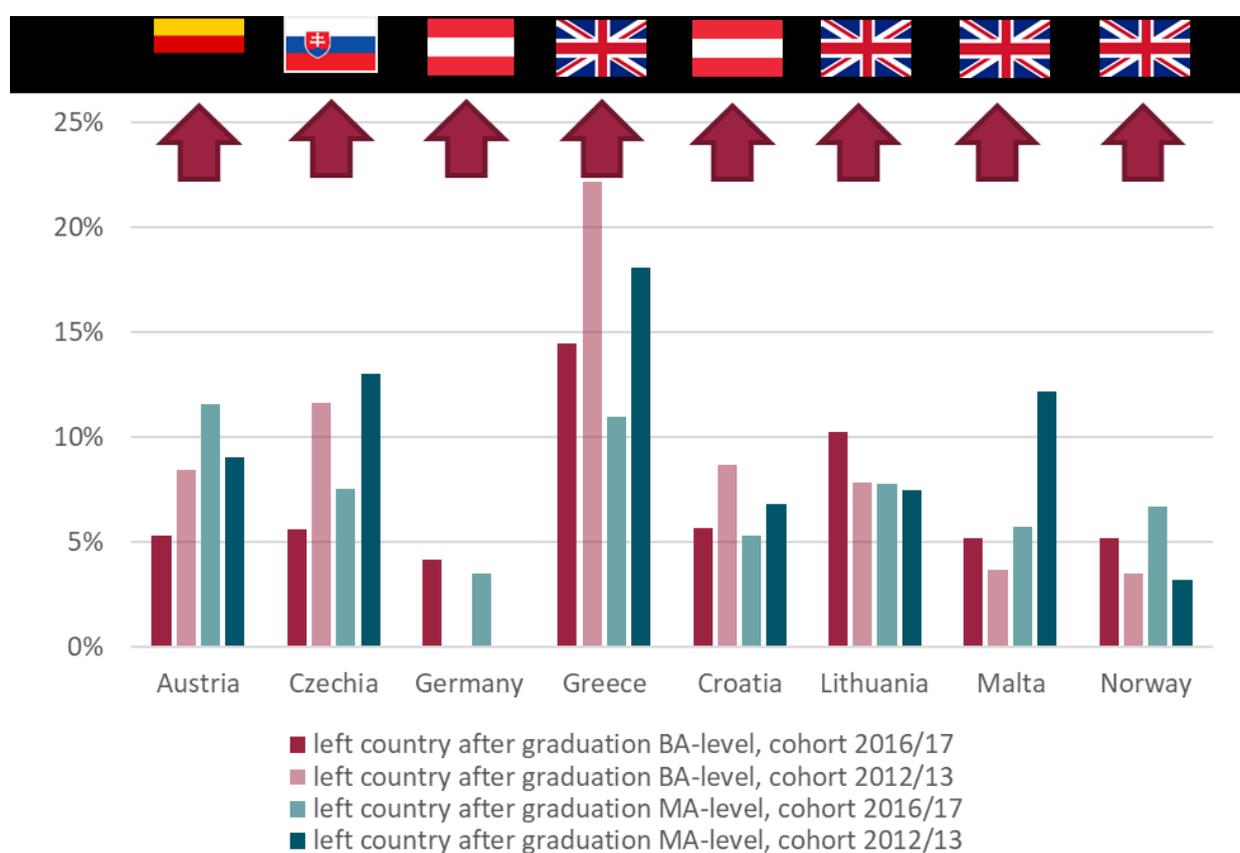
In all countries, one year after graduation, Technology and Engineering graduates earn more than 20% than those who graduated in Education, Arts and the Humanities. Study-related work-experience also ensures an 8% wage premium. Master graduates record higher earnings than Bachelor (EC, 2020a).

4.4.2 Earnings and mobility

Another factor which characterises the labour market for graduates is when they leave their countries of origin to seek employment in more well-off countries. Marisa Xuereb, speaking in 2023 prior to the expiry of her term as President of The Malta Chamber, argues that ‘some of our better graduates leave the country before they actually start working in the local industry’ (Xuereb, 2023, pers.com., 25 February). Figure 4.7 depicts the tendencies observed in the mobility of graduates in a select group of countries and illustrates that this is a phenomenon which affects several countries.

The data suggests that in countries where the average earnings are higher, the less probability there is for graduates, bachelor's and master's degree holders alike, to seek employment abroad, and vice versa. This holds true for Germany and Norway whose economies and labour markets are structured in such a way that they offer employment opportunities that benefit most, matching both the level of education and the salaries on offer. In countries where this is not possible, either because of lower average earnings or because of the size and potential of the economy, graduates tend to improve career prospects by moving abroad. Furthermore, it is interesting to note how the choice of destination is heavily influenced by cultural, linguistic and historical affinities. Most naturally German, Austrian and Croatian graduates rotate among that group of countries because of the close historical and linguistic ties; graduates from Czechia tend to move to Slovakia because of the historical association of both countries; while the Maltese and Greeks have historical ties with Britain.

Figure 4.7: Percentage of graduates moving abroad and main country of destination



Source: Eurograduate Survey, 2018

The Eurograduate survey shows that graduates who were employed in vertical mismatched positions, or even unemployed, were 15% more likely to leave the country. On average, graduates working outside of the country of graduation earn nearly 30% more than those who stay in their country of origin (EC, 2020b). The President of The Malta Chamber (2023), asserts that opportunities for career progression in other countries are probably better than in Malta, particularly for Maltese workers, who have a reasonably good command of a number of languages which gives them a head-start. The fact that English is the language of instruction renders Malta's workforce particularly adept at being mobile (Xuereb, 2023, pers. com., 25 February). Nevertheless, the data does not seem to support the employers' claim for high outward migration of Maltese graduates. Compared to Czech Republic and Lithuanian figures, the countries with salaries closest to Malta's, outward mobility is less popular among Maltese graduates.

Thus, whilst outward mobility of Maltese graduates exacerbates labour shortages, it does not seem to constitute the main issue for lack of labour supply in Malta. The local industry tries to make up for the labour shortage by importing labour from abroad but this is not considered a sustainable solution because it induces employers to reduce investment in training. Imported labour is mostly seen as a quick fix solution for employers who want to make up for the labour shortage while keeping wage costs low, if not stagnant. This happens to the detriment of tertiary educated employees who go abroad for better job prospects with higher earnings.

then the gaps that are created are being filled in largely by third country nationals (Xuereb, 2023 pers. com., 25 February).

Xuereb insists that Maltese companies would always prefer a Maltese graduate to a third country national but for their work ethic which, according to Xuereb and Farrugia, has seen a dip over recent years.

Whereas the work ethic will be discussed later in the chapter, job mobility is directly related to employment status and is also promoted by the EU, however employers may not be handling it appropriately.

And this is where the balance needs to be struck because job mobility could be a positive force in the labour market. So an employer should not expect a person to seek a job for life in his company or organization and that is healthy because as people change jobs they develop new skills, they become more streetwise (Farrugia, 2023 pers.com. 7 March).

4.5 Field of study

While the educational institutions in Malta leave individuals free to choose any tertiary level course they want provided they satisfy an established set of requirements to enrol, this issue is considered controversial as data shows that the field of study chosen might lead students into a mismatched occupation that will deter the labour status of the individual and impact earnings. Two participants interviewed for this study represent the different schools of thought on this matter

The Rector of the University of Malta deems the role of the institution he leads is

to assist people and our students to reach their potential in the area of their choice, not the university's choice. And if you are to, let's say, try to bring about some kind of social engineering where you produce more engineers than poets, or more medics than pharmacists, because those will be the places that are in demand by the economy, if you're going to do those things, it is certainly not the remit of the university to get involved in those kinds of experiments. It will have to be more the state, through incentives or disincentives (Vella, 2023, pers. com. 4 May).

The Director General of the Malta Employers Association stands at the far end of the spectrum on the matter as he argues that,

there might be an oversupply of graduates, but not in all areas. For example, we know that we do have a shortage of students pursuing STEM subjects.... When certainly there is a demand for engineering. It's the same in the IT sector as well. Therefore we need to channel more students to follow courses that lead to a more productive and rewarding career (Farrugia, 2023 pers.com. 7 March).

On her part Cassar highlights that this issue can be curtailed by a long-term economic strategy.

In Malta we don't have an economic strategy. We do not know which sectors we want to grow for the future and which sectors are no longer viable... Education lag doesn't give you what you want today; not even the next day. It gives it to you in three years, in higher education in four years' time. ...In education we need to know where you are heading. Do we want more accountants or do we want more engineers? (Cassar, 2023 pers.com., 20 March).

Rather than trying to channel graduates in areas where there is demand in the labour market, the University rector argues,

let the university deliver education to students in the best manner possible. And if Malta does not need the historians or the economists or the chemist, then there is the rest of Europe that can be a beneficiary of the educational efforts of the island. In other words, see Malta as and in our case a subset of Europe, not an identity unto its own (Vella, 2023, pers. com. 4 May).

In Malta preferential stipends are awarded to students enrolled in prescribed courses, at the University of Malta as an incentive for students to opt for science courses and other courses where graduates are more in demand than others, however figures show that this does not make any significant difference in students' choices, considering the persistent low share of graduates in STEM subjects.

Asked about the STEM subjects which are in high demand by employers in certain sectors, Cassar holds that STEM subject should be promoted better among students.

The different professions offered should be better exposed as a lot of young people are not aware of what the actual job entails and what the rewarding prospects attached aredemistify it, stop saying maths and physics are hard. (Cassar, 2023, pers. com., 20 March).

Vella is not confident about the results being achieved.

We still brave after STEM. But the fraction of students who go to STEM subjects remains almost static. (Vella, 2023, pers. com. 4 May).

He explains that the numbers of students are nowadays fragmented among the different scientific courses offered and no additional individuals from other courses are being attracted. He points to the system employed at secondary school level in Malta whereby from a very

young age pupils are channelled into fields that will shape and dictate their future as potential graduates.

We should be teaching a whole range of subjects, including languages and literature and also the sciences, and let the specialisms, if you like, come later. Perhaps even the sixth form should be reformed in this manner (Vella, 2023, pers. com. 4 May).

In the transition from secondary to post-secondary to tertiary level to work, the match between education and employment is crucial for the individual as the choices made at the beginning of a career path can have a lasting effect.

For the economy of a country, less than optimum allocation leads to suboptimal use of the skills and competencies acquired by graduates which could affect economic growth.

Comparatively, in table 4.3 one can note that Malta ranks first in the number of Business, Administration and Law graduates and last in the number of graduates for Education, Natural Sciences, Mathematics, Statistics, Engineering, Agriculture and Services. STEM subjects being at the very bottom of the list, thus supporting the claims by interview participants about the lack of graduates in this area.

Table 4.3: Distribution of graduates by field of study in ISCED-7 in 2016- Eurograduate Survey

	Education	Arts and Humanities	Social sciences, journalism, information	Business, administration, law	Natural sciences, mathematics, statistics	ICTs	Engineering, manufacturing, construction	Agriculture, forestry, fisheries, veterinary	Health and welfare	Services	Total
AT	13%	8%	10%	32%	7%	4%	14%	1%	11%	1%	100%
CZ	12%	7%	14%	21%	5%	5%	17%	3%	10%	6%	100%
DE	11%	17%	7%	20%	12%	4%	17%	2%	8%	2%	100%
GR	8%	7%	16%	26%	15%	4%	12%	1%	10%	2%	100%
HR	8%	10%	7%	33%	5%	5%	15%	4%	9%	5%	100%
LT	5%	7%	13%	33%	5%	2%	13%	3%	17%	1%	100%
MT	2%	7%	9%	44%	3%	3%	8%	0%	24%	0%	100%
NO	10%	8%	10%	32%	7%	4%	12%	1%	14%	2%	100%

Source- ETER Database of July 2019

AT-Austria, CZ-Czech Republic, DE-Germany, GR-Greece, HR-Croatia, LT-Lithuania, MT-Malta, NO-Norway

Table 4.4 shows the field of study choices that the 2012/13 and 2016/17 cohorts made. The Eurograduate survey shows that there were no drastic changes between the two cohorts under the spotlight. In business and administration, it is popular in Malta for students to complement their first degree with a master's degree in management or business administration, as a master in management is perceived to support them attain managerial positions. Furthermore, medicine and law occupations require a qualification at MQF/EQF level 7 which is typically a long degree that encompasses both first cycle and second cycle programmes together (EC, 2020a). Nonetheless, it is clear that the relatively low share of graduates in STEM areas, engineering and ICT has remained persistently at a rather low level.

Table 4.4: Distribution of field of study by sex and reference type of degree per cohort – Malta

Field of study	2012/13					2016/17				
	male	female	short course	BA	MA	male	female	short course	BA	MA
Education, arts & humanities	17%	27%	17%	29%	12%	18%	33%	48%	21%	17%
Social sciences, journalism & information	4%	16%	4%	13%	12%	9%	10%	2%	14%	8%
Business, administration, law & services	32%	32%	46%	26%	36%	29%	30%	19%	28%	41%
Natural sciences, mathematics, statistics & health	14%	18%	5%	16%	25%	16%	23%	16%	20%	24%
Engineering & ICTs	32%	6%	28%	16%	14%	28%	4%	15%	18%	9%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Reference degree: degree the respondents were surveyed for, while they may have obtained other degrees as well.

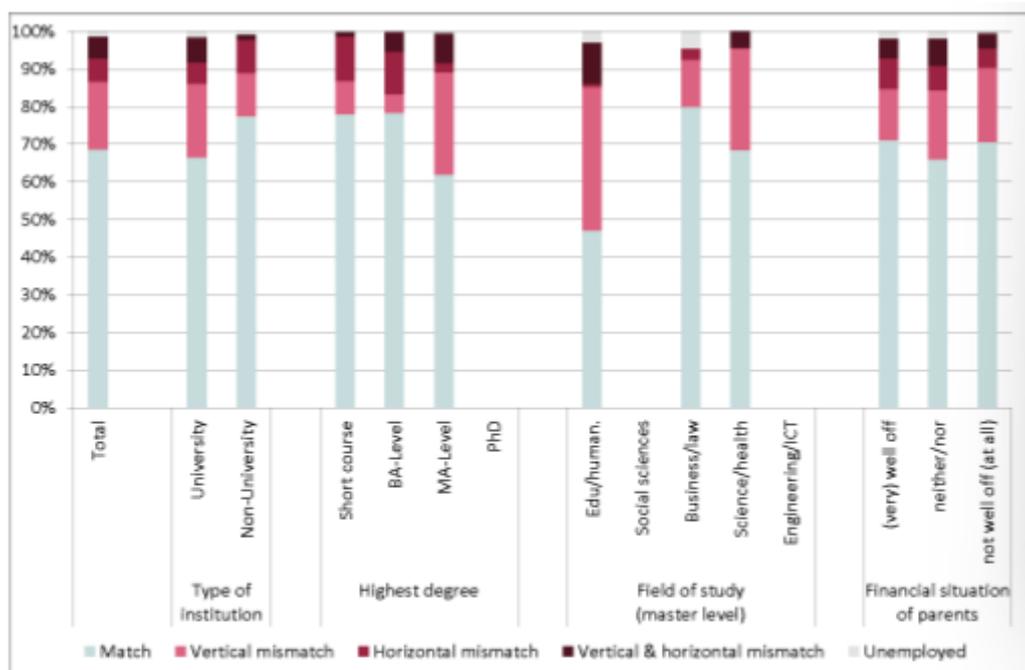
ICTs: information and communication technologies.

Source: EUROGRADUATE 2018.

4.6 Job mismatches

Figure 4.8 shows that mismatch differs considerably by field of study, it is evident that in fields which are highly in demand by the labour market, there is no mismatch. In particular it is estimated, that in all the Eurograduate participating countries, studying STEM-related fields, graduates stand a 20% less chance to be mismatched, compared to other fields of study (EC, 2020b),

Figure 4.8: Only graduates who are part of labour force: Skills (mis) match five years after graduation (2012/2013 cohort – Malta)



Vertical mismatch is only counted if graduates are overqualified for their job, not if their job usually would require a higher degree than the highest one they hold.
 Highest degree: highest of all reported degrees, including degrees obtained before and after the degree respondents were surveyed for (reference degree).
 Field of study (highest degree): Education, arts & humanities; Social sciences, journalism & information; Business, administration, law & services; Natural sciences, mathematics, statistics & health; Engineering & information and communication technologies (ICTs).
 Missing columns: too few cases.
 Source: EUROGRADUATE 2018.

Table 4.5: Only graduates in employment in 2018, skill mismatch (Malta, cohort 2012/13)

Highest Degree	Match	Vertical Mismatch	Horizontal Mismatch
Bachelor level	78.2%	4.9%	11.3%
Master Level	60.5%	26.8%	2.4%

Source: Eurograduate survey (EC, 2020a)

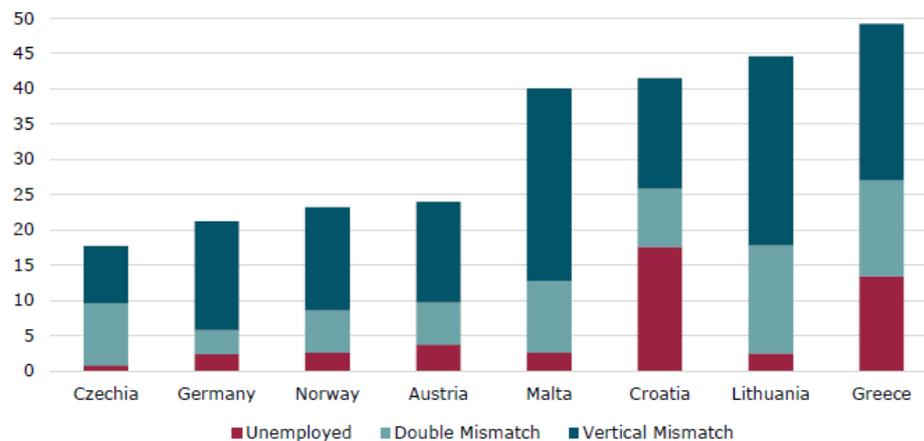
Table 4.5 Shows that 60.5% of graduates with a master degree as their highest degree reported a match compared to 78.2% of those with MQF/EAF level 5 programme or a bachelors degree. The masters graduates have also reported a 26.8% of vertical mismatch and only 2.4% horizontal mismatch. This suggests that master graduates feel that they are overqualified for the job. Nonetheless, one can deduce that the Masters' level gives the graduates access to jobs

which are in the same field of study as the rates for horizontal mismatch are comparatively lower than for the Bachelor level. (EC, 2020a)

Furthermore, having higher educated parents also facilitates the matching of study to employment (EC, 2020b). This shows that as has been discussed in Chapter 2, social status matters significantly when finding the most suitable employment.

Graduates who are unemployed or employed in a vertically mismatched job or horizontally mismatched or even both, that is double mismatched job are considered to be in a difficult situation. They face skills depreciation and they earn significantly less. According to the Eurograduate survey, ‘graduates earn 13% less in a vertical mismatch situation and 18% less in a double mismatch situation, compared to those with a perfect match between their field of study and their job’ (EC, 2020b p. 8).

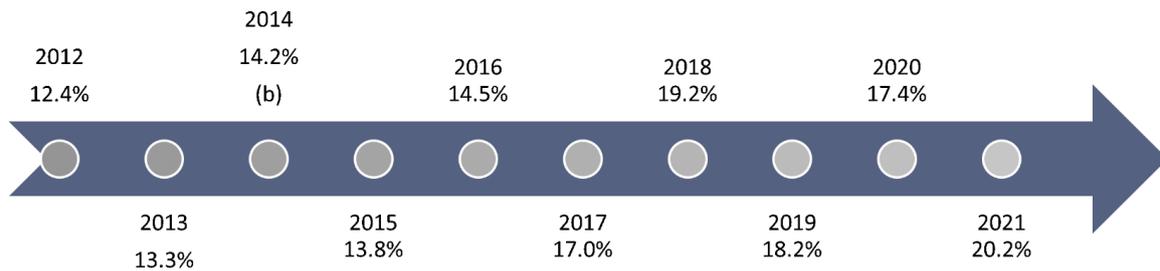
Figure 4.9: Graduates at risk, MA-level graduates, cohort 2016/17 - (%)



Source: Eurograduate, 2018

This survey shows that 40% of Maltese graduates find themselves in such a difficult situation one year after graduation, putting Malta among the countries with the higher extent of mismatch (together with Croatia, Lithuania and Greece). Furthermore, the extent of vertical mismatch is particularly high in Malta.

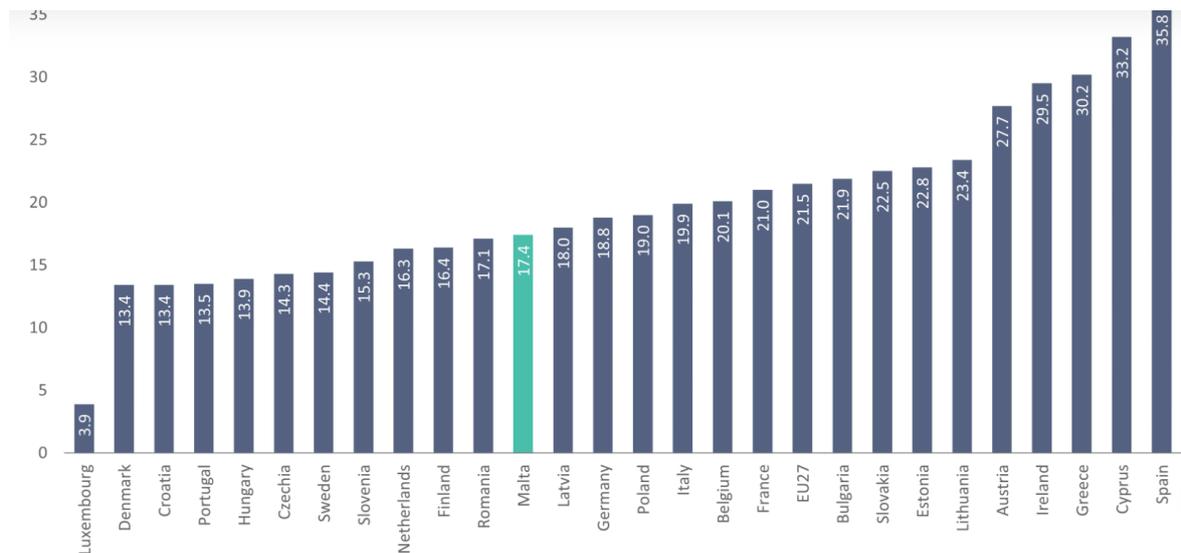
Figure 4.10: Overqualification among tertiary graduates in Malta (NSO, 2021)



(b) break in time series

Apart from the Eurograduate data, Malta’s National Statistics Office (2021) demonstrates that overqualification in Malta has generally increased steadily in recent years – Figure 4.10. This follows the EU trend. Malta places in fact in the 12th place from the 27 member states with figures ranging from 3.9 per cent in Luxembourg to Spain being 35.8 per cent as shown in Figure 4.11. This can also be related to unemployment rates. With high unemployment rates, such as in Spain or Greece, graduates are likely to accept jobs even if the available job does not match the level of education attained. On the other hand, the over-qualification rate tends to be lower in countries with relatively less unemployment, including Malta. Taking a broader comparison including all EU27 member states, Malta’s over-qualification is roughly mid-range, thus better than that emerging from the more limited sample in the Eurograduate survey. The over-qualification rate remains below the EU average which in 2019 was at 21.5% (Ministry for Finance and Employment, 2021b).

Figure 4.11: Over-qualification rate across European countries - 2020



Source: Ministry for Finance and Employment, 2021b

Representing the industry, Xuereb (2023), explains that in Malta the incidence of underemployment exists due to particular shortcomings

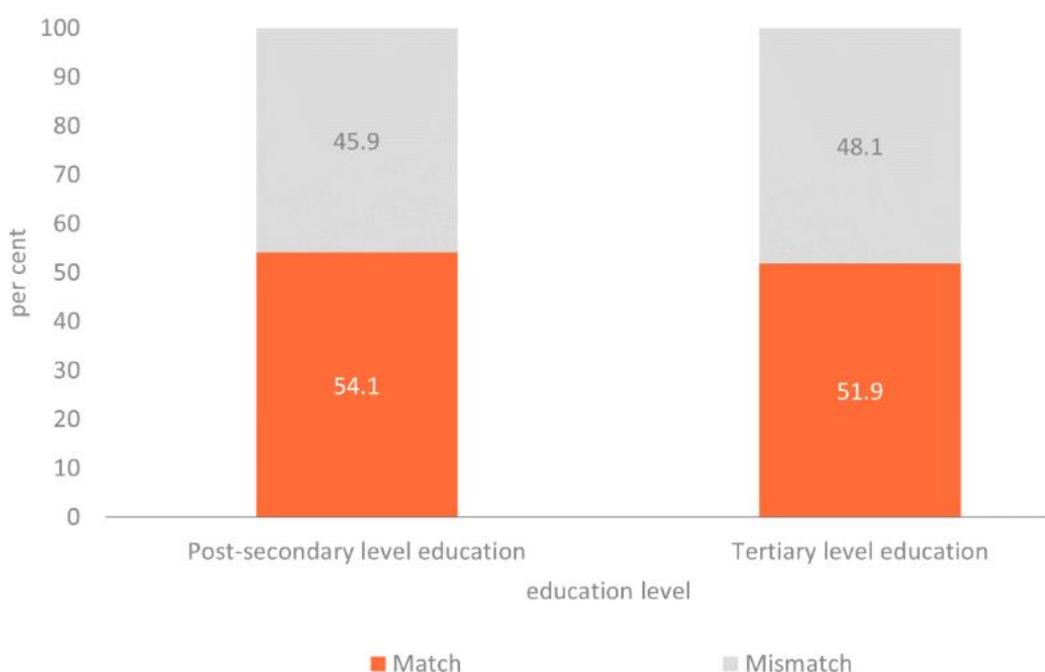
So to give you an example, you would have someone who has a Ph.D. in a particular subject matter doing this job, which can be done by someone who has a first degree, so in terms of the academics, is underemployed, but the social skills are so poor that he/she struggles to communicate even the result of the job that he/she is doing, which is way below his/her academic competence (Xuereb, 2023 pers. com., 25 February).

The interpreters of the Eurograduate survey link under-qualification to lack of experience since the younger cohort of graduates were the ones who reported a mismatch. This observation however was not shared with the participants who point at skills gap rather than lack of work experience.

Asked about the availability of talent, Farrugia noted how employers reported ‘weak soft skills and a poor work ethic, as the biggest hurdles for young Maltese graduates’ (Farrugia, 2023 pers.com. 7 March). He remarks that in this sense, there seem to be a gap between what the industry requires and what is being produced by educational institutions in terms of human resources.

According to the Labour Force Survey 2021 conducted by the National Statistics Office, almost one-half of tertiary educated employees experience horizontal education mismatch, and the percentage is slightly higher when compared to individuals who attained ISCED 4 level of education, as shown in Figure 4.12. The extent of horizontal mismatch is larger in some sectors. In particular, in 2021, 63.5% of those working in the services sector were recorded to be working in a horizontally mismatched job, followed by 51.2% working in the wholesale and retail trade, transportation and storage, accommodation and food service (NSO, 2021a).

Figure 4.12: Horizontal Mismatch by highest level of education (NSO, 2021a)



In tackling the question about the increasing rate of mismatch, the Deputy Director at the National Skills Council, Glorianne Camilleri suggests a possible explanation for the skills mismatches in Malta, pointing out that:

there has been the rise of the gaming industry, which is very recent and which, ... has been highly criticised because it wasn't as planned as one would have wished, because it has attracted a lot of Maltese nationals from their original jobs, so to speak, because of the [level] of the pay [on offer] most likely or there are other reasons and it has left a lot of niches with problems to fill in (Camilleri, 2023, pers. com., 19 May)

The 2022 HR Pulse Survey (2022) which is an annual survey to gain insight of human resources' challenges by local organisations sheds light on the struggles local employers face with regards to finding and retaining the right talent which can impede the growth of their organisation. This problem is leading organisations to adapt their recruitment procedure. They are giving more importance to skills, the learning mindset and future potential, rather than educational qualifications alone. In fact, less than half of graduates from the eight countries that participated in the Eurograduate survey, including Maltese graduates, report that higher education equipped them with skills in advanced literacy, numeracy and digital skills as well as social, entrepreneurial and managerial skills. The graduates who replied that they were well prepared enjoyed higher job satisfaction. The development of such skills depends very much on the type of institution attended and the learning environment it provided (EC, 2020b).

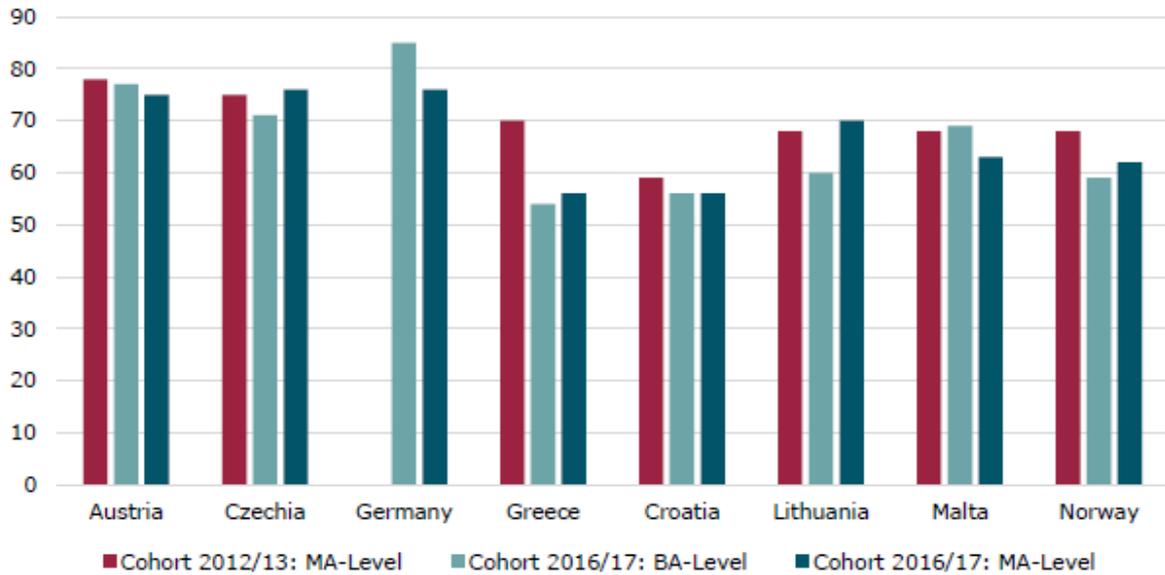
4.7 Work-based learning

According to the Eurograduate survey, study-related work and an activating learning experience reduces the likelihood of being mismatched by 50% (EC, 2020b).

Field specific skills are improved significantly if they are taught with a problem/project based method (EC, 2020b). Work-based learning ensures a seamless transition between education and employment. It is promoted by employers and also by the educational institutions whenever it can be implemented.

Moreover, as the Eurograduate survey manifests, graduates are most satisfied with higher education preparing them for entry into the labour market. An activating learning environment, for example a problem-based or project-based learning environment, were considered more favourably as against 'study alone' programmes. Graduates studying in work-related learning environment such as internships or when the curriculum included work experience also felt better prepared for the labour market. Figure 4.14 shows that graduates' satisfaction rate in such cases was 50% or higher (EC, 2020b, p.10).

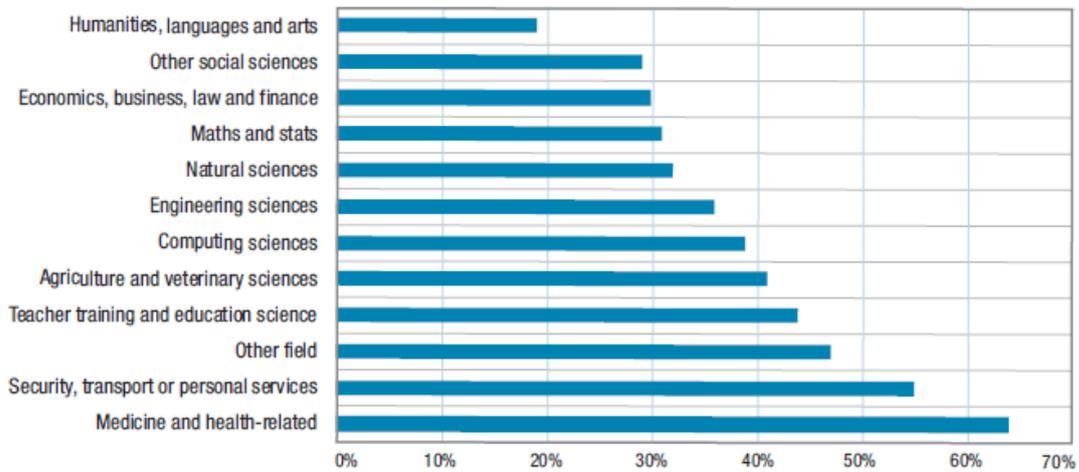
Figure 4.13: Job satisfaction from work-based learning



Source: Eurograduate, 2018

Around 40% of adult employees have completed education or training involving (work-based learning) but as Figure 4.14 demonstrates, this varies considerably across fields of study.

Figure 4.14: Incidence of WBL by field of study, EU-28, 2014



Source: Cedefop ESJ survey.

One of the stated targets of Malta's National Reform Programme (2020) is the reduction of the skills gap and the addressing of the Europe 2020 targets by building stronger linkages between academic programmes and apprenticeships. The subsequent plan refers to the MCAST Apprenticeship Recovery Plan launched in June 2021 through an allocation of EUR 2.75 million to encourage more companies to engage students in apprenticeship programs. Furthermore Malta's National Reform Programme 2022 refers to closing the gap between the world of education and employment (Ministry for Finance and Employment, 2023).

In its strategic plan for 2020-2025 under Strategic Theme 1 titled 'Learning and Teaching', the University of Malta highlights engagement in work-based learning locally and abroad and plans to increase practical learning units across other subject areas besides medicine, sciences and pharmacy and these programmes will entail mentoring, assessments and accreditation.

Like Lundvall (2008), who promotes problem-based learning, and Youngblood (2017), Theichler (1997), Profiroiu (2022) who underscore the importance of competence-based approach towards teaching and learning, Xuereb (2023) explains that teaching and learning need to be experiential and more active rather than passive. So, rather than sitting down and listening, learners should

have the opportunity to discover things for themselves. And once you've discovered something for yourself, you will never forget it. Because the level of engagement that you need to make the discovery would make sure that you don't forget it that sort of thing. What we need is a different approach to teaching and learning...(Xuereb, 2023, pers. com., 25 February).

She points at the curriculum which has been delivering a lot of knowledge but in fact today, a lot of jobs require interdisciplinary skills, especially in a small island state.

And people who are highly specialized in one area, but have very little appreciation of other areas will find it very difficult to work in a dynamic environment, in the real world today, especially in a small country like ours (Malta) where most businesses are very small and therefore you're bound to have jobs that are very broad in scope. Because in companies that employ thousands of people, you might focus on this little bit and do just that. But companies that employ 10

or 20 people you need to be more of an all rounder ... (Xuereb, 2023, pers. com., 25 February).

In this case Xuereb echoes Brodjonegoro (2008) in emphasising that experiential teaching and learning create the opportunity for the future employee to put into practice the subject content in context. This practice, it is argued, will help the individual acquire the necessary skills required at the place of work.

MCAST Strategy Director Edel Cassar highlights that the MCAST Strategic Plans - both the one for 2019/21 and 2022/27 – place a lot of emphasis on work-based learning and on the practical development that the student is able or has the potential to gain through work-based learning. However, she insists that the onus to benefit from work placement is on the individual who should be encouraged to gain experience with different employers even on a part-time basis. Students who actively seek employment, in the long-run, do better than those who remain passive. At the same time, students in apprenticeship, paid at minimum wage rates to top up their stipends, tend to seek alternative part-time employment which, by its very nature, pays better. In such a situation, apprenticeship hours are not given the deserved importance. (Cassar, 2023)

The Rector of the University of Malta, like Youngblood et al. (2017), also acknowledges the importance of work placements but states that not all subjects taught at University render themselves practical for such an experience. And yet,

the biggest changes that have affected economies came from humanities-trained people and nobody was teaching them - you know - how to work in the financial markets. But when you give them a chance, they will use their thinking skills and manage (Vella, 2023, pers.com., 5 May).

The Rector recognises that the industry requires other transversal skills, like working in a team but also acknowledges that not all fields of study can include such competences in the course of studies and appeals to the industry to give the necessary time to the newly engaged graduates.

On its part, Cedefop, (2015b) concludes that work-based learning can help reduce the pervasiveness of skill mismatch as it states that there is certainly a strong case for expanding work-based learning to align education and training more closely to labour market needs. This corroborates statements made to this effect both by Rector Prof Alfred Vella and Strategy Director at MCAST Edel Cassar.

4.8 Lifelong learning

A first degree is an important milestone in one's learning journey but it is not the destination. Indeed, one must engage in continuous learning development to keep abreast with the dynamism of the world of work and technological innovations (EC, 2020b)

Just like the Eurograduate survey, participants in the semi-structured interviews also distinguished lifelong learning as another tool to counteract the inadequacy of skills and qualifications in meeting labour demands.

Asked about the synergy between the industry and educational institutions in designing courses, Borg, a University of Malta academic in the educational sector, speaks about:

the development of a Continuous Professional Development Programme to reflect these needs. I think it's unrealistic for work to expect a degree to prepare for a profession in the long term, so degrees prepare us, I say at best for the short term. So I think employers, professions should share the responsibility of preparing for and of course updating professions with the institutions such as MCAST and the University of Malta (Borg, 2023 pers.com., 28 March).

Table 4.6: Adult Participation in Learning - % of the Population aged 25 to 64 participating in formal and non-formal education and training - Eurostat

	Total			
	2019	2020	2021	2022
EU	10.8	9.1	10.8	11.9
Belgium	8.2	7.4	10.2	10.3
Bulgaria	2.0	1.6	1.8	1.7
Czechia	8.1	5.5	5.8	9.4
Denmark	25.3	20.0	22.3	27.9
Germany (*)	8.2	7.7	7.7	8.1
Estonia	19.6	16.6	18.4	21.1
Ireland	12.6	11.0	13.6	11.8
Greece	3.9	4.1	3.5	3.5
Spain	10.6	11.0	14.4	15.3
France	19.5	13.0	11.0	13.3
Croatia	3.5	3.2	5.1	4.4
Italy	8.1	7.2	9.9	9.6
Cyprus	5.9	4.7	9.7	10.5
Latvia	7.4	6.6	8.6	9.7
Lithuania	7.0	7.2	8.5	8.5
Luxembourg	19.1	16.3	17.9	18.1
Hungary	5.8	5.1	5.9	7.9
Malta	11.9	11.0	13.9	12.8
Netherlands	19.5	18.8	26.6	26.4
Austria	14.7	11.7	14.6	15.8
Poland	4.8	3.7	5.4	7.6
Portugal	10.5	10.0	12.9	13.8
Romania	1.3	1.0	4.9	5.4
Slovenia	11.2	8.4	18.9	21.6
Slovakia (*)	3.6	2.8	4.8	12.8
Finland	29.0	27.3	30.5	25.2
Sweden	34.3	28.6	34.7	36.2
Iceland (*)	22.2	20.3	23.9	27.1
Norway	19.3	16.4	19.5	21.1
Switzerland	32.3	27.6	22.8	22.0
Montenegro	2.5	2.7	:	:
North Macedonia	2.8	2.6	:	:
Serbia	4.3	3.7	4.8	5.2
Türkiye	5.7	5.8	:	:

Table 4.6 shows that Malta is close to EU average but there exists a wide range of ratings among member states, and Malta still fares considerably lower than high performing countries with rates of 20% or more.

Adult learning should improve employability, boost innovation, ensure social fairness and close the digital skills gap. In a Council Resolution on a strategic framework for European cooperation in education and training towards the European Education Area and beyond (2021-2030), member states agreed that by 2025 at least 47% of adults aged 25 to 64 should have participated in learning during the previous twelve months (Eurostat, 2022).

Camilleri during the interview shared a national target to emphasise the country's commitment in this regard. Under the European Pillar of Social Rights action plan, by 2030, Malta is committed to provide training to 57.6% of its adult population in the previous 12 months, while the EU target is 60%. In addition, by 2030, 80% of the population need to have basic digital skills (Camilleri, 2023 pers.com., 19 May).

As the trend of Continuous Professional Development for professionals will affect the profile of students at the educational institutions, Vella argues that this will be the new reality in Malta.

going to a place of work and then delaying, perhaps your education to later or even learning at the place of work through apprenticeship programmes, and CPDs that their employer is prepared to provide. You might sort of go around the need for a formal three or four year education that deprives you of working and the salary for those four, three years. That could well, you know, start to influence in a significant manner the enrolment at universities (Vella, 2023 pers. Com., 4 May).

This reality together with the dialogue between employment sectors and educational institutions has also led to the creation of microcredentials to accommodate labour market needs. Vella argues that

microcredentials will be a way of providing what is needed without the long-winded efforts of getting a degree. A degree takes 3 years. A micro credential can theoretically be obtained in perhaps a couple of months. So you give them this basic course. Then they go into the industry and they continue to learn (Vella, 2023 pers. com., 4 May).

The importance of life-long learning to cater for changes and updates in the labour market was affirmed by most participants during the interviews. Employers' representative Joe Farrugia acknowledges that education has another important role other than directly preparing the individual for employment.

I'm following a degree not necessarily because it's going to help my job, my current job, but for the sake of expanding my knowledge. But that would often result in a better employee, as well (Farrugia, 2023 pers.com, 7 March).

Also, Borg (2023) thinks that lifelong learning is a praiseworthy endeavour.

...institutions are responding to this call for lifelong learning by being more flexible, by outreaching and of course, by creating a situation where potential students, part-potential participants, are enabled rather than road-blocked from participating ... We've also introduced the concept of a recognition of prior learning. So experiential knowledge is considered as a possibility for entry into our courses (Borg, 2023 pers.com, 28th March 2023).

New ventures are also being developed due to lifelong education:

it is the future, 100%, so definitely. But we need to either upskill, reskill, change direction, we will all come to that crossroads at some point..... This is where I said that's a culture change for our employers. To slowly move in the direction of being also educators. With lifelong learning, employers need to be educators (Cassar, 2023 pers.com. 20th March 2023).

Responsible to prepare a national skills strategy at the National Skills Council, Glorianne Camilleri agrees that there is a lot of merit into investing in lifelong learning especially among tertiary level graduates.

Unfortunately, I would say only few professions are linked or have their warrants linked to CPD, to continued professional learning (Camilleri, 2023 pers. Com., 19 May).

Camilleri continues that the twin transition: green and digital, are the most important developments that are revolutionising the workplace. As a result, every profession will require

upskilling in technologies especially graduates, since they are the ones expected to lead the innovations.

The national industry faces particular challenges also due to its small size, making it more difficult to retain best talent.

....We need to change the mindset locally. We are too, too much tuned to this very, very micro business, the way the dynamics of the economy work today is very difficult to be profitable long-term (Xuereb, 2023 pers. com., 25 February).

She continues that to have a fully fledged training department in a company you have to be employing a few hundred people which is not feasible for most small companies in Malta.

Nonetheless, Jobsplus (2023) manages various EU Funding projects with the objective to upskill the workforce, promote lifelong learning and address the mismatches. Such initiatives include:

- **Training Pays Scheme:** forming part of the ESF scheme, it offers assistance in the form of a refund to aid participants with costs relating to training.
- **Investing in Skills:** to promote the training of persons actively participating in the Maltese labour market, with the aim to increase productivity and enhance adaptability.
- **Work Exposure:** providing jobseekers with initial hands-on training that will help individuals obtain the knowledge, skills and competences required to find and retain employment.
- **Youth Guarantee:** Based on preventive and assistive measures, each opportunity is designed to help young people continue their education or increase their chances of finding satisfaction and success in the world of work.

Moreover, Jobsplus organizes and delivers a number of short courses funded through national funds, to train both the workers and also unemployed persons.

4.9 Work ethic

The majority of the interviewees have highlighted the work ethic as another major issue affecting the fit between the employees' capabilities and the employers' demands in the Maltese labour market. This phenomenon, while referenced earlier in the literature review, was not reported by the Eurograduate survey.

Challenged with the fact that the work ethic of employees has changed along the years, employers are encouraged to ensure a satisfactory work-life balance and flexible working conditions to attract and retain best talent, increase productivity, boost motivation and efficiency at the workplace (PricewaterhouseCoopers, 2022). The EU work-life balance directive and the Right to disconnect are both initiatives to address today's workforce priorities.

On the availability of talent or otherwise, Xuereb (2023, pers.com., 25 February) highlights a perceived dip in the work ethic among Gen-Z youths as a major concern. She argues that the newer entrants into the labour market have a different approach and lower commitment to work. They give more importance to flexibility and work-life balance; they are less able to cope with stress and succumb to burn-out much quicker than their older counterparts who displayed better resilience and were prompted to face challenges.

While Xuereb's observations may be based on perception, as if the methods and characters of yesteryear were better than today's, there is a widely held belief among employers that people born from the 1980s onwards (those falling into the millennials' and later categories) have been raised surrounded by opportunities and luxuries that no previous generation has had access to (Xuereb, 2023, pers.com., 25 February). Farrugia believes that this imbued them with a sense of entitlement that weakened their soft skills and impinged on their work ethic.

Entitlement comes after productivity, it comes after contribution... This reflects on the whole attitude to work (Farrugia, 2023 pers.com., 7 March).

This mindset may be linked with the increasing rate of turnover among the younger generations. Table 4.7 shows that the turnover, that is engagements and terminations of those aged 25 to 34 in 2022 is much higher than the turnover of the older workforce even though the inflows of foreign workers contributed to these figures (Grech, 2023).

Table 4.7: Turnover rate by age – (Grech, 2023) using Jobsplus data - 2022

Age bracket	2005	2010	2015	2019	2022
20-24	107%	142%	180%	176%	181%
25-34	45%	67%	95%	102%	101%
35-44	32%	46%	60%	67%	66%
45-54	22%	36%	45%	49%	48%
55-59	14%	24%	33%	35%	33%
60-64	29%	39%	44%	41%	39%
65 & over	23%	22%	24%	24%	22%

Work ethic was also brought under the spotlight by the interviewees from the supply side of tertiary educated labour market, that is the higher educational institutions. Cassar thinks, that this is a collective attitude that leads us to go after what earns us most money rather than focusing on developing one’s potential.

...the curriculum is bursting at the seams. But our young people, seem to be at least, keen on what earns them most money. So yes, society is changing. We know society is changing. .. I blame, ..the rest, it's our collective. It's not just the education or the guidance services (Cassar, 2023, pers. com., 20 March).

The University rector argues,

this has to do with the hedonism which is ruling the day. Kids want it all and want it now and they are not happy to delay gratification till later (Vella, 2023 pers.com., 4 May).

4.10 Conclusion

This chapter has shown that widening the access to education has led to an increase in tertiary educational attainment both in the EU and in Malta. This has led to a more qualified employed population which stimulated growth, yet maximum potential is not being achieved due to ever-increasing horizontal and vertical mismatches. Employers continue to report a shortage in STEM graduates and skills shortages in particular which hampers their productivity. Some graduates accepted to take up jobs for which they were overqualified. Other graduates may be seeking better employment prospects abroad, while local employers started employing foreign workers from the EU and third country nationals to address skills shortages and retain same wages without investing more in training. The return on investment in education may thus be compromised.

Quantitative data shows that the field of study and social background highly impinge on mismatch but also that the economic cycle and work-based learning also leave their mark. Stakeholders agree that work-based learning can enhance an individual's performance at the place of work while life-long learning is key for people keen to invest in their career and for industry to keep abreast with the times. From the point of view of the representatives of the employees' organisations, the work ethic of the 21st century employees in general has deteriorated and society in general is not reaping the expected benefits of so many years and investment in education.

What is common among these various conclusions is that mismatch can be dealt with, even though educational institutions point at the time lag between the labour market and educational programmes. A long-term vision with the necessary policy intervention can help improve the current situation as will be discussed in the following chapter.

Chapter 5. CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The prioritisation of investment in tertiary education in Malta has considerably improved educational attainment levels and has significantly reduced or even eliminated the gap with the EU average. While graduates in Malta seem to enjoy full employment, a steady increase of mismatches prevalent in certain fields of study has been recorded. The research carried out for this dissertation has identified one major reason for such skills mismatches: the absence of an integrated approach by government bodies including the employment and educational institutions. It is therefore recommended that all stakeholders are taken on board to help steer the process of policy shaping. Moreover, policy makers should avoid ad hoc policy initiatives.

Some shortcomings require deep policy intervention like reforms in the education systems while others demand the industry to change its practices. In either case, data collection is paramount if institutions are to be guided in providing suitable and tailor-made training and to make better use of existing resources. Other recommendations like lifelong learning, a stronger work ethic and a strategic long-term vision, call for a different mindset altogether. There is arguably no blueprint for an education-employment policy mix; each country has its specific characteristics as there is no one size fits all formula. Nonetheless, this study also shows some positive aspects which can provide the necessary foundation for the situation to improve and for shortcomings to be addressed.

This chapter will elicit multiple recommendations borne out of the analysis of the data collected in tackling the research questions.

5.2 What is the labour status of tertiary qualified persons in Malta, when compared to the status of EU graduates?

Tertiary education expansion led to a more qualified labour force. Stipends and maintenance grants are contributing factors which opened access to individuals whose social background would not have enabled them to finance studies at a higher level. Graduates in Malta enjoy

higher rates of employment than EU counterparts. However high rates of employment do not translate into higher earnings. The wages of tertiary qualified employees in Malta are lower than those of economically advanced countries and resemble those of Lithuania and Czech Republic. Earnings are also dependent on the demand by the labour market. Likewise, fields of study which are highly requested also ensure a greater return to investment in education. Graduates who are unsatisfied with the earnings they manage to secure at their home country, try to better their prospects by moving to another country, although mobility to another country among Maltese graduates is not as popular as it is in other EU member states.

Despite these overall positive trends, the increasing pool of graduates in Malta has also led to an increasing number of horizontal and vertical mismatches. Graduates in STEM subjects are mostly in demand and as a matter of fact stand less chance of being employed in a mismatched occupation in relation to other graduates from different fields of study. Compared to the EU 27 Malta places in the middle of the range of the ESI which measures the performance of the skills system in terms of skills development, skills activation and skills match.

5.3 How are tertiary educational institutions and other stakeholders responding to address skills mismatches among tertiary educated people in Malta's labour market?

Employers are looking at interpersonal, transversal skills and experience apart from qualifications. Effective industry – academia collaboration is one approach to ensure that education supply is in sync with employment demands. An activating work experience and life-long learning are two approaches widely agreed upon to address and curtail the pervasiveness of skills mismatches. Moreover, the gap between the demand and supply can also be addressed by an improved guidance network which could ensure that students' choices are guided. A better work package can also help the attraction and retention of the best talent. The introduction of a uniform framework regarding data collection on skills mismatches is needed to guide policymakers in optimizing human capital and other stakeholders to make informed choices.

5.4 Policy Recommendations

From the findings addressing the two research questions, policy recommendations covering various aspects related to tertiary education and employment have been derived.

5.4.1 The role of tertiary education vis-a-vis the economy

Employers expect the education system to prepare specialised individuals but with a wide range of interests and inter-disciplinary skills to fill their occupational slots. On the other hand, educational institutions acknowledge that there exists a strong correlation between the education system and the economy but attribute value to an education process that aids human personal fulfilment, the ability to wield and hold a network of social relations, and the upholding of the rule of law in a democratic context. They therefore resist equating education, including higher education exclusively, with employability.

Based on the findings from this research, it is thus being suggested that academia keep abreast with developments in the industry, to maintain the dynamism between academics and the industry. Thus the scope of academia is upgraded and widened.

Participants representing the educational institutions believe that to increase efficiency results in terms of investment in education, the state needs to look at the socio-economic gaps and address them at the compulsory level of education. It is thus also recommended that the secondary school system should be consolidated to ensure that more students reach the tertiary level.

5.4.2 Skills' relevance and work-based learning

If labour market opportunities are the main reason why young people pursue tertiary education, it is sensible to develop courses at tertiary level which truly prepare youngsters for the world of work. In other words, the relevance of higher education to the individual and to the labour market needs to improve.

This implies that apart from an effort to increase the numbers at tertiary level, an attempt at refocussing on the provision of a holistic education with more efficient results is highly solicited.

During the recruitment process, employers and industry representatives are attributing a greater value and are giving more credit to transversal, cognitive and interdisciplinary skills. This means that they are nowadays looking for specific skills, networks and contacts not just qualifications. It also implies that the role of educational institutions has been modified in a way that they need to ensure that relevant skills to the field of study are embedded in the course of studies. Furthermore, added responsibility has been put on the individual graduates to try and expand their curriculum vitae in a way that it incorporates job experience and social background to demonstrate their aptitudes, skills and network besides the academic achievement represented by qualifications.

The discussion in Chapter 4 shows that the probability of mismatches is higher for tertiary level courses which do not incorporate an activating learning environment such as project-based learning where students experience their future job environment and put their skills to test. This means that there is scope of integrating work-based learning into the curriculum of all fields of study even in those fields which traditionally do not offer work placements.

Work-based learning helps students from diverse backgrounds to adapt especially since the number of parents of graduates with no academic background is quite high in Malta. In addition, the findings revealed that study related work experience ensures an 8% wage premium.

5.4.3 Students' choices and a guidance network

The findings from the qualitative research carried out for this study also suggests that prospective graduates should be directed to fields of study where the demand is greater than the supply and in sectors which are crucial for growth.

In principle, pupils should be allowed to choose their programmes of study freely. However, considering the low rates of enrolments and graduates in STEM subjects compared to other areas, and the importance of these subjects to the economy, the State can help steer more students towards them by introducing concrete incentives.

Moreover, the current system expecting students to choose career subjects at the age of thirteen may be reconsidered. It is recommended that instead the education system should give pupils the basics in a wider range of subjects (humanities, sciences, languages etc.) to nurture all rounded individuals, but then give them the skills and the empowerment to explore what they want to specialise in eventually.

Literature confirms that the labour market can influence which fields of study students opt for at tertiary level (Profiroiu et al., 2022) and this further supports the idea that study choices should be governed and students should be genuinely guided to make career choices in line with their capabilities, calculated aspirations and labour market demands. If students' choices are guided accordingly, the waiting time until the skills and aptitudes of the student are matched with that of the employer is reduced. In this manner, graduates can fulfill their expectations, can move on with their career and the employer can start reaping the dividends from that investment.

To counteract mismatch between demand and supply, an improved guidance network on a national level is being proposed. Guidance staff can do industry visits to be able to assist individuals of different ages in their career decision making, expose the different career options and offer reskilling and upskilling options.

5.4.4 Work package

The industry looks at Educators as producers of holistic individuals to fill their occupational slots and if they are faced with shortages, they look overseas and import labour from abroad. This situation is solving the immediate demands of the industry but has adverse implications on the earnings of tertiary qualified employees as it is stalling wage growth.

The employment sector (public and private) needs to ensure that graduates potentially receive a salary commensurate to the years of education they have invested in their lives. Otherwise, the risk of graduates leaving the country in search for better salaries and better working conditions will ensue, with negative repercussions not only for the economy but also for government's tax revenue.

This scenario can also be explained in terms of 'brain drain'. The country would have invested in the education of such individuals only for them to be 'pushed' to emigrate to other countries for want of better jobs and remuneration. While mobility could be seen as an opportunity for the individual and the EU, from the perspective of the country of origin it is most definitely a loss.

It is evident from the findings that besides wage growth, the whole work package including incentives to enhance working conditions and ensure work-life balance is important to attract and retain best talent, increase productivity, boost motivation and efficiency at the workplace.

5.4.5 Harmonized European data collection systems

Chapter 3 of this work has highlighted the fact that available data on mismatches and labour status is limited. Labour markets around the world regularly issue figures on unemployment, that is data on the number of jobseekers, and statistics on vacancies, that is employment opportunities. There are agreed international standards on such data, however a uniform framework regarding skills mismatch is lacking (ILO, 2014).

Employers and educators alike are adamant that no institution or agency is in possession of the real picture. Employers can be aware of any occupations and positions that they remain unable to fill. On their part individuals report of being under or overemployed, while state entities can record lost investment due to lack of qualifications or skills shortages, whereas employment agencies can inform or publicise vacancies and the sectors in which they occur.

Investment to ensure the availability of the relevant data can be beneficial for youngsters on choosing the right career path. It can also aid guidance services to focus their advice, educational institutions and industry to collaborate on specific areas, to pre-empt the needs of the market and for government entities to base their policies on scientific data.

Regarding mismatches in the labour market, a principal limitation faced during this study was also the lack of more recent data. National statistics offices in most countries do not measure skills and competencies with regularity and therefore proxies such as qualifications, years of education and occupations are used instead. ILO reports that skills mismatch patterns strongly depend on measures of mismatch adopted; it also shows that overeducation is increasing while undereducation is decreasing. Discrepancies by age group and sex are noticeable. Hence it adopts the normative (mapping between the job and the required education level), the statistical (education and occupation are measured according to an ad hoc value), the self-assessment (according to the respondent's perception) and income-ratio (comparing actual and potential income) methods. For instance, the Eurograduate survey based its findings on the self-assessment method. However more detailed and ongoing investigations will indicate whether the mismatch is temporal or structural and will guide policy more effectively. This exercise clearly demonstrates the need for investment in skills mismatch data studies. European and national education authorities should take heed of the suggestions made by the European Group of Expert on Graduate Tracking referred to in Chapter 3 and create a harmonized European system.

Another recommendation in this area, backed up by the participant representing the Skills Council and The Malta Employers Association Director is the Employability Index (referred to in the Methodology chapter) which was conducted by ETC in 2015 (currently Jobsplus). This Skills Intelligence tool could act like a guide to students on making better informed career choices.

5.4.6 Embedding lifelong learning

Lifelong learning is considered key to enhance competitiveness and employability. Graduates need to invest in continuous professional development to ensure that they remain competent in an ever-evolving job market. Likewise, employers need to look at training as an investment in their human resources and not as a financial and time expense.

Academic institutions can work with the bigger firms, those hiring the largest number of employees in a particular sector and be a little bit ahead of the curve. All this requires a long-term vision which, as some interviewees pinpointed, is lacking in Malta. There should be a more structured and strategic approach in planning the country's economic and social development.

Representatives of the University of Malta and MCAST promoted the normalisation of lifelong learning and their readiness to make micro-learning readily available in order to meet labour market demands. This also necessitates that educators remain continuously up to date with the latest developments in their profession.

The European Commission dedicated 2023 to the European Year of Skills in order to instigate more people to embrace the idea that skills can be continuously acquired throughout one's life. It is evident that Malta should aim for lifelong learning to become a mindset.

5.4.7 Build solid bridges between educational institutions and industry

Lundvall (2008) argues that in trying to introduce change, the civil society needs to participate in the process. Change agents from among the academics need also to be on board. At the 'Skills Rush Conference' organised by The Malta Chamber in 2023, the results of a linked research point to the need of maintaining a high standard of education among the workforce to enable them to meet future work challenges. The contributors at the conference appealed for all stakeholders to participate in this mission.

Educational institutions confirm that consultation with industry is ongoing and MCAST Director is willing to increase this dialogue with the industry particularly because of specific needs that the industry in Malta might have due to its small size. Awareness that the time lag between education and employment is a challenge in itself makes engagement between educators and employers even more vital.

The ESI which measures the performance of the skills system of each EU country, suggests that in order for Malta to improve its current positioning; in the “middle-achieving group for 2022” – Figure 1.8, skills formation need to be accompanied by demand side policies, that is from the industry to stimulate skill-rich job creation, measures to improve skills intelligence and careers guidance for youth and adults who need to make a career transition (Cedefop, 2022a).

Learning from experience elsewhere to improve scores on the ESI presented in Chapter 1 is recommended. The EU is providing substantial sources such as funds, schemes and projects which the countries can utilise to their advantage. Sometimes these sources are untapped by the member states.

5.5 Areas for further research

The research carried out for the purpose of this study can be further extended by involving more stakeholders such as trade unions and other tertiary level educational providers in the private sector considering that the number of these institutions is increasing. This would provide a broader perspective on the topic of tertiary education and employment.

Furthermore, it would be beneficial if tracer studies among alumni who graduated from courses with high rates of mismatch are conducted. The alumnis’ perspective, collected after a number of years from graduation, can help identify issues that can be addressed earlier in the career path of students.

Thus, whilst this qualitative research has focused on the perspective of stakeholders, such as education institutions, employers and government entities, the perspective of students and employees themselves would also be taken into account.

The possibility of comparative case studies with other EU member states, especially those with similar characteristics, for example small island states such as Cyprus is also suggestable.

5.6 Conclusion

It is evident that there exist different but not divergent recommendations based on the findings and their analysis. Organisations representing employers expect the educational process to serve the economic needs of a society; while some educators oppose this idea and insist that education is meant to help individuals grow holistically with as wide spectrum of interests as possible.

Significant policy learning opportunities were manifested in this study by twinning data from surveys and statistics to recommendations from research participants. These findings have shown that there is room to better connect education and employment policies. Faced with the heightening of skills mismatches and skills shortages, educational systems need to evolve and adapt to produce a holistic education able to meet 21st century labour market needs. Curricula decisions need to be made quickly. Even the age at which students are placed at designated areas of study; arts or sciences needs to change to enable the young to develop other skills and study specialisations later in life.

Better guidance to direct individuals and provide sound advice regarding upskilling and reskilling is the way forward. Graduates deserve to be employed in a job that is commensurate with their qualifications but they need to engage in continuous professional development as the higher the education level, the better the match between their education and their employment.

All these recommendations require the commitment and determination of all stakeholders, a long-term vision and a mindset to embrace life-long learning in one's career.

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Appendix 1 INFORMATION AND CONSENT FORM

Date

My name is Piera Xuereb and I am a student at the University of Malta, reading for a Masters of Arts in European Politics, Economics and Law, with the Institute for European Studies. I am presently conducting research as part of my dissertation titled *Tertiary Education and Employment in the European Union – a Case Study on Malta*; this is being supervised by Dr Moira Catania email address: moira.catania@um.edu.mt.

The aim of my study is to analyse how the Maltese Educational and Employment authorities between 2010-2020 have managed to reach the Europe 2020 target and whether the progress in tertiary education is meeting the needs of Malta's labour market.

In view of your key role in tertiary education/ employment/ policy shaping , I would like to kindly invite you for an interview to discuss developments in Malta, the employment of graduates in Malta as well as the labour market challenges being faced.

If you agree to participate, you will be asked to hold a meeting of approximately one hour with me in person or online, whichever you prefer, at an agreed date and time, which is convenient to you. Before starting the interview, you will be asked whether you would like to keep the interview confidential and whether you agree that I record your answers for ease of reference. The interview questions are all related to your field of work. Any data collected from this research will be used solely for purposes of this study. Participation in this study is entirely voluntary; in other words, you are free to accept or refuse to participate, without needing to give a reason. You are also free to withdraw from the study at any time, without needing to provide any explanation. Should you choose to withdraw from the research, any data collected from you will be deleted.

Unless you consent that your identity is revealed, the data collected will be treated confidentially. Please also note that, as a participant, you have the right under the General Data Protection Regulation (GDPR) and national legislation to access, rectify and where applicable ask for the data concerning you to be erased. The data generated from the interviews as well

as details of the participants will be stored securely and will be destroyed once the research is fully completed.

Finally, I would appreciate if you could accept this invitation to participate in my study, as your contribution will surely be very useful to generate knowledge on this topic.

If you have any queries or require further information, please do not hesitate to contact me.

Thanks and regards

Piera Xuereb

Participant's consent

- I hereby declare to have read the information about the nature of the study, my involvement and data management.
- I have had the opportunity to ask questions about the study and my questions have been satisfactorily answered.
- I declare that I am 18 years or older.
- I understand that should I have any further queries; I can contact the researcher: Ms Piera Xuereb email: piera.xuereb.99@um.edu.mt and the supervisor: Dr Moira Catania email address: moira.catania@um.edu.mt
- I agree to participate in this research study.

MARK ONLY IF APPLICABLE

- I agree to be identified in the research records.
- I agree to be identified in the research publications.

Participant's name (in block)

Researcher's name (in block)

Participant's signature

Researcher's signature

Date

Appendix 2 INTERVIEW QUESTIONS

The SUPPLIERS being the Ministry for Education and the Institutions

1. Prof Alfred Vella - Rector at the UM
2. Prof Carmel Borg - The Head of Department for Arts, Open Communities and Adult Education with research interest in Higher Education at the University of Malta
3. Ms Edel Cassar - MCAST Director – Strategy Implementation Office

1. The case in Malta shows that although graduates are in employment, their occupation may not be in the same level or area of study that they pursued, it seems that there has not been much emphasis on the issue of labour market mismatch or that the efforts made (preferential stipends, guidance) have not reached the required levels. What are your views about this? Do you think that students are graduating in areas with low employment probabilities? What can be done to enhance employment prospects?
2. Undergraduate courses are offered for free (no tuition fees are charged) to Maltese and EU/EEA students. This is meant to encourage more students to enrol for tertiary courses. How important do you think that the stipend is to attract students to tertiary education?
3. Students who enrol in prescribed courses receive a higher stipend as an incentive to encourage students to choose subjects for which there is high demand in the labour market. Has this measure helped increase enrolments in these areas?
4. How should students be guided to opt for courses where there is demand in the labour market?
5. The choice of study programme affects the quality, the employability and the mobility of graduates to attain employment. Is there a strategy at the UM /

MCAST to help students develop work-related competencies, to equip the students with the right/necessary skills at the place of work?

6. Despite the increasing number of graduates, the industry still complains of skills mismatch, skill gaps and skills shortages affecting the labour market. What are your views on this? Are you taking measures to address the gaps identified by the industry?
7. According to the EC Country Report 2022, Malta ranks 26th among member states in the number of new graduates in science and engineering, the share of ICT graduates has also been steadily declining from 10% in 2014 to 6% in 2019. What are your reactions to these findings and recommendations? What is being done to attract individuals into scientific and technological careers?
8. Should more courses at tertiary level offer placements to improve employability?
9. OECD - Employment opportunities and flourishing economies have prompted students in some countries to postpone education in favour of learning in the workplace, particularly when financial support for further study is limited. Lifelong learning is slowly emerging as the new vision for education, enabling individuals to continually update their skills to meet the fast-changing labour market demand. Is this the case in Malta as well? How will this trend affect the profile of students at the UM / MCAST? How will the country be affected by this trend?
10. The EU sets standards to be achieved by tertiary education, it also has allocated funds such as the ESF [funding to enhance the quality of human capital] and the ERDF to better pre-empt to the needs of the labour market, how is the UM / MCAST tapping these resources to improve facilities on the ground and better equip the students for their future careers?
11. The ILO refers to a growing skills gap in some countries including Malta and finds that “weak quality assurance, too few or poorly qualified trainers, poor working conditions for trainers and outdated qualifications, curricula, training

materials and methods all inhibit the quality of training? How are the lecturing staff at the UM / MCAST encouraged to improve their delivery of lectures?

12. Are courses updated as often as to meet the fast-changing needs of the labour market? Do you liaise with employers to understand what is required by Malta's labour market to shape the courses accordingly?
13. How can educational institutions policy makers and employers collaborate further to meet the dynamic and fast changing world of work needs?
14. Do tracer studies of alumni exist and if so, how are they used to inform policy?
15. Very few forecasting mechanisms of labour market or skills needs exist in Malta (Central Bank's quarterly reviews, EY Attractiveness survey, Jobsplus Barometer, Skills Council). In your opinion, are there specific difficulties for Malta to carry out such studies? Do you use these studies in developing new courses etc?
16. Do you have any relevant issues not covered by the questions above?

2. The Director MCAST Strategy Implementation Office;

Specific questions to MCAST

- How is the work-based learning included in the students' profile of MCAST graduates to help their future employer best match the graduates' capabilities?
- Why is the Apprenticeship scheme only offered for MQF Levels 3 and 4 and not for courses leading to degrees? What kind of work-based learning is offered to HE (higher education) courses, Level 5 or higher?

The DEMAND side represented by the Industry and Employers

4. Ms Marisa Xuereb – President of The Malta Chamber

5. Mr Joe Farrugia - Director General of the Malta Employers' Association

1. According to the European Skills Index 2022, availability of talent is now a main concern for employers. How is this the case when the number of graduates from the UM and from MCAST is on the increase, year in year out?
2. OECD – High entry rates in tertiary education imply that a highly educated labour force is being developed and maintained. Is the industry in Malta satisfied with the level of skills, specialised knowledge of the upcoming workforce? Are you satisfied with the quality of graduates from the UM / MCAST ?
3. Does the labour market have the capacity to absorb large numbers of graduates especially in a small island state like Malta? Are there shortages in specific sectors and ‘over-supply’ in others?
4. In which sectors are shortages of tertiary graduates more ‘acute’? Is this because of lack of tertiary graduates in these sectors or because of an increase in demand or both?
5. Is the influx of graduates in the labour market justified by the nature of employment (requiring specialist knowledge, high levels of communication, analytical and other generic skills associated with possession of a degree) or is it the result of sufficient supply of graduates and therefore employers preferred to recruit graduates for traditionally non-graduate jobs? How is this being reflected in the pay offered? Can this lead to higher turnover of staff, as graduates move on to better jobs?
6. It is being suggested that more synergy is required between the employment sector and the educational institutions to match the demand and supply of graduates. What are your views on curriculum relevance to the job market?

7. Qualifications and Certification justify that the hard skills make the individual competent for the job, yet are employers in search of soft skills when they recruit graduates?
8. Is there a working relationship between the stakeholders (education and industry)?
9. Do you have any relevant issues not covered by the questions above?

THE POLICY SHAPERS

6. Ms Glorianne Camilleri – Deputy Director-Research and International Relations at the National Skills Council

1. The case in Malta shows that although graduates are in employment, their occupation may not be in the same level or area of study that they pursued, it seems that there has not been much emphasis on the issue of labour market mismatch. What are your views about this? Do you think that students are graduating in areas with low employment probabilities? What can be done to enhance employment prospects?
2. Is there any data that helps track trends of skills mismatch? Are these (Maltese) trends common to other EU countries?
3. ILO identifies four types of skills mismatches: skill gaps (the level of skills of the currently employed is less than that required to perform the job adequately), skills obsolescence (skills previously utilised in a job are no longer required), skills shortages (the demand for a particular type of skill exceeds the supply of available people with that skill) and over/under skilling (an individual is not able to fully utilise his or her skills and abilities in the current job/ an individual lacks the skills and abilities necessary to perform on the current job to acceptable standard). Which type is more prevalent among graduates in Malta? What are your views on this? Are you taking measures to address the gaps identified by the industry?
4. Several studies cite a local skills mismatch, both on a vertical level, whereby employees are over or under qualified for the job or on a horizontal level whereby the level or type of skills available does not meet the requirements of the labour market. Has this trend of skills mismatch long been identified or has it emerged because of new sectors being developed?

5. The over-qualification rate in Malta increased from 12% in 2012 to 20% in 2021. According to NSO the highest share of the over-educated are employed in public administration, defence, education, health and social work, whereas those under-educated are in the information and communication sector. What are your views in this regard?
6. In which fields / sector of employment is skills mismatch mostly common? Can you quantify?
7. How should students be guided to opt for courses where there is demand in the labour market?
8. Does the Maltese labour market have the capacity to absorb large numbers of graduates?
9. Are students graduating in certain areas (generic academic programmes) finding it more difficult to find a job in the area they specialised in, than others who have read degrees with occupational skills?
10. Few forecasting mechanisms of labour market or skills needs exist in Malta (Central Bank's quarterly reviews, EY Attractiveness survey, Jobsplus Barometer, Skills Council). In your opinion, are there specific difficulties for Malta to carry out such studies? Do you use these studies in developing policies?
11. Do you think that there is a problem with over-qualified graduates settling for jobs that do not require a degree. If this is the case, what role can different stakeholders play in addressing or re-adjusting this problem?
12. Do tracer studies of alumni exist and if so, how are they used to inform policy?
13. What should educational institutions teach besides the academic content? What type of skills are lacking? Can these skills be attained on the job, or do

they require long-term training which could be taught during a course of studies; during placements for example?

14. Lifelong learning is slowly emerging as the new vision for education, enabling individuals to continually update their skills to meet the fast-changing labour market demand. Is this the case in Malta as well? How will the country be affected by this trend?
15. It is being suggested that more synergy is required between the employment sector and the educational institutions to match the demand and supply of graduates. What are your views on curriculum relevance to the job market? How can educational institutions policy makers and employers collaborate further to meet the dynamic and fast changing world of work needs?
16. Qualifications and Certification justify that the (knowledge) hard skills make the individual competent for the job, yet are employers in search of (transversal) soft skills when they recruit graduates?
17. Is the National Skills Council tapping EU funds and resources to help address these mismatches?
18. Do you have any relevant issues not covered by the questions above?