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**Investing in Human Capital:
the Role of Higher Education in Economic
Development and in the Reduction of Skills Mismatch
The Finnish Model and the Case of Tampere University**

Supervisor:

Prof. Francesca Pancotto

Thesis of:

Chiara Favaro Ottonelli

Co-Supervisor:

Prof. Vincenzo Pacillo

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With sincere gratitude to



for the unforgettable Erasmus experience
and for inspiring the research developed in this thesis.

*«And finally, a special word on Erasmus.
This iconic programme is one of the great trademarks of the European Union.
Entire generations have been shaped by Erasmus - friendships, families, freedom.
With Erasmus,
young Europeans **fall in love with another language,**
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Ursula von der Leyen
European Commission, Brussels
29 May 2026

*«If you ever had the opportunity to do an Erasmus, you know exactly what kind of a life changing experience it can be. You arrive in a new city, you know absolutely nobody and a few months later you leave with friends for life, new **skills**, greater confidence and a completely different view of the world.*

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*And so that's why I have to ask: how do we put a cap on that? Because Erasmus just isn't a programme, it's one of the **greatest investments** that Europe has ever made. The Erasmus budget must be increased. Not protected, not maintained, but increased. So let's not leave our young people behind in the next budget.»*

Regina Doherty (MEP)

European Parliament, Strasbourg

22 June 2026

Abstract English version

The relationship between higher education and the labour market has become a central issue in contemporary knowledge-based economies, as the development of human capital increasingly influences economic growth, innovation, productivity, and international competitiveness. Within this context, skills mismatch has emerged as one of the main challenges affecting economies, generating significant consequences for individuals, businesses, and society as a whole.

This thesis adopts a multidisciplinary approach by examining, from both a legal and economic perspective, the concepts of human capital and skills mismatch together with the European legal and institutional framework and the main initiatives adopted by the European Union to strengthen the link between universities and the world of work.

Subsequently, the research analyses the strategic role of higher education in fostering territorial attractiveness, innovation, and international competitiveness.

In this regard, particular attention is dedicated to the Finnish higher education system and to Tampere University as a case study, which exemplifies many of its defining characteristics, including a strong emphasis on practical learning, university-industry collaboration, student-centred education, and student well-being. The qualitative analysis is finally complemented by a quantitative comparison between Finland and Italy, conducted using the European Skills Index (ESI), with particular reference to the dimensions of skills development, skills activation, and skills matching, as well as the overall performance of the two countries within the European region.

The findings suggest that Finland outperforms Italy in most indicators considered. However, these results should be interpreted in light of the broader educational, institutional, economic, geographical, demographic, and cultural contexts in which the two higher education systems operate, rather than on individual policies alone. Nevertheless, although the Finnish model cannot be transferred directly to different national contexts, it offers valuable insights for strengthening the relationship between higher education and the labour market and promoting a more practice-oriented approach to higher education, with the ultimate aim to reduce skills mismatch.

Abstract Spanish version

La relación entre la educación superior y el mercado laboral se ha convertido en una cuestión central en las economías contemporáneas, ya que el desarrollo del capital humano influye cada vez más en el crecimiento económico, la innovación, la productividad y la competitividad internacional. En este contexto, el desajuste de competencias se ha convertido en uno de los principales retos que afectan a las economías, lo que genera consecuencias significativas para las personas, las empresas y la sociedad en su conjunto.

Esta tesis adopta un enfoque multidisciplinar al examinar, tanto desde una perspectiva jurídica como económica, los conceptos de capital humano y desajuste de competencias, junto con el marco jurídico e institucional europeo y las principales iniciativas adoptadas por la Unión Europea para reforzar el vínculo entre las universidades y el mundo laboral. Posteriormente, la investigación analiza el papel estratégico de la educación superior en el fomento del atractivo territorial, de la innovación y de la competitividad internacional.

En este sentido, se presta especial atención al sistema de educación superior finlandés y a la Universidad de Tampere como caso de estudio, que ejemplifica muchas de sus características definitorias, entre ellas un fuerte énfasis en el aprendizaje práctico, la colaboración entre la universidad y la industria, la educación centrada en el estudiante y el bienestar de los estudiantes. El análisis cualitativo se complementa, por último, con una comparación cuantitativa entre Finlandia e Italia, realizada mediante el Índice Europeo de Competencias (ESI), con especial referencia a las dimensiones del desarrollo de competencias, la activación de competencias y la adecuación de competencias, así como al rendimiento general de ambos países dentro de la región europea.

Los resultados sugieren que Finlandia supera a Italia en la mayoría de los indicadores considerados. Sin embargo, estos resultados deben interpretarse a la luz de los contextos educativos, institucionales, económicos, geográficos, demográficos y culturales en los que operan los dos sistemas de educación superior, y no basándose únicamente en políticas individuales. No obstante, aunque el modelo finlandés no puede trasladarse directamente a contextos nacionales diferentes, ofrece valiosas perspectivas para reforzar la relación entre la educación superior y el mercado laboral, y promover un enfoque de la educación superior más orientado a la práctica, con el objetivo último de reducir el desajuste de competencias.

Abstract Italian version

Il rapporto tra istruzione superiore e mercato del lavoro rappresenta una questione centrale nelle economie moderne basate sulla conoscenza, poiché lo sviluppo del capitale umano influenza sempre più la crescita economica, l'innovazione, la produttività e la competitività internazionale. In questo contesto, il disallineamento delle competenze è emerso come una delle principali sfide che interessano le economie, generando conseguenze significative per gli individui, le imprese e la società nel suo complesso.

La presente tesi adotta un approccio multidisciplinare, esaminando, sia dal punto di vista giuridico che economico, i concetti di capitale umano e disallineamento delle competenze, insieme al quadro giuridico e istituzionale europeo e alle principali iniziative adottate dall'Unione Europea per rafforzare il legame tra le università e il mondo del lavoro. Successivamente, la ricerca analizza il ruolo strategico dell'istruzione superiore nel promuovere l'attrattività territoriale, l'innovazione e la competitività internazionale.

A questo proposito, viene dedicata particolare attenzione al sistema di istruzione superiore finlandese e all'Università di Tampere come caso di studio, che incarna molte delle sue caratteristiche distintive, tra cui una forte enfasi sull'apprendimento pratico, la profonda collaborazione tra università e industria, un'istruzione incentrata sugli studenti e il benessere degli studenti. L'analisi qualitativa è infine integrata da un confronto quantitativo tra Finlandia e Italia, condotto utilizzando l'Indice Europeo delle Competenze (ESI), con particolare riferimento alle dimensioni dello sviluppo delle competenze, dell'attivazione delle competenze e dell'adeguamento delle competenze, nonché alle prestazioni complessive dei due paesi nell'ambito della regione europea.

I risultati suggeriscono che la Finlandia superi l'Italia nella maggior parte degli indicatori considerati. Tuttavia, questi risultati dovrebbero essere interpretati alla luce dei più ampi contesti educativi, istituzionali, economici, geografici, demografici e culturali in cui operano i due sistemi di istruzione superiore, piuttosto che sulla base delle singole politiche. Ciononostante, sebbene il modello finlandese non possa essere trasferito direttamente a contesti nazionali diversi, esso offre spunti preziosi per rafforzare il rapporto tra università e mercato del lavoro e promuovere un approccio all'istruzione superiore più orientato alla pratica, con l'obiettivo finale di ridurre il divario tra domanda e offerta di competenze.

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Introduction

In contemporary knowledge-based economies, human capital has become one of the main determinants of economic growth, innovation, and international competitiveness. As technological progress, digitalisation, demographic changes, and globalisation are constantly reshaping the labour market, the ability of education systems to equip students with relevant skills needed to respond effectively to the evolving demands of the world of work increasingly influences not only individuals' employment opportunities, but also countries' long-term capacity to sustain productivity, attract talent, and foster economic development. In this context, higher education is no longer regarded only as a means of transmitting knowledge, but as a strategic investment capable of generating economic and social value.

The extent to which universities contribute to the economic performance depends on their effectiveness in preparing graduates for the realities of the job market. However, many countries continue to experience a persistent misalignment between the competences provided by higher education institutions and those demanded by employers. This phenomenon, commonly known as *skills mismatch*, represents one of the major challenges of modern economies. On the one hand, businesses often struggle to recruit adequately qualified workers; on the other, many graduates experience difficulties in finding employment consistent with their qualifications or fail to fully utilise the competences they possess. These imbalances have significant consequences at both the microeconomic and macroeconomic levels, affecting productivity, innovation, labour market efficiency, and overall economic competitiveness.

Recognising the strategic importance of human capital, the European Union has progressively strengthened its action in the fields of education, training, skills development, employability, and lifelong learning. Although education remains primarily a national competence, the European institutions promote cooperation among Member States through common policy frameworks, funding programmes, and strategic initiatives aimed at improving the relationship between higher education and the labour market. Nevertheless, the effectiveness of these measures ultimately depends on how they are implemented at the level of national education systems, which continue to exhibit significant structural differences.

Within this framework, Finland has increasingly attracted international attention for the strengths of its higher education system and for its ability to integrate universities,

businesses, and public institutions within a coherent innovation ecosystem. More specifically, the Finnish model places great emphasis on practical learning, collaboration between universities and industries, student well-being, and employability, creating conditions that facilitate a smoother transition from education to the world of work. Tampere University represents a particularly significant case study in this context, as it exemplifies many of the characteristics that have contributed to the international reputation of the Finnish higher education system.

The choice of this topic was also motivated by a personal academic experience. During my Erasmus mobility at Tampere University, I had the opportunity to observe and experience first-hand several aspects of the Finnish higher education model, including its strong student-centred philosophy, the importance attributed to students' overall well-being, and the strong practical-oriented approach to teaching and learning. This academic journey inspired the present research and provided valuable insights that complemented the theoretical analysis developed throughout the thesis.

The main objective of this study is therefore to analyse the role of higher education as an investment in human capital, while examining its contribution to the reduction of skills mismatch, and, consequently, to economic growth and development. More specifically, the thesis explores the extent to which different educational approaches may influence employability, competitiveness, and the alignment between graduates' competences and labour market needs, using Finland, and particularly Tampere University, as a case study, while drawing comparisons with the Italian context where relevant.

To achieve these objectives, the thesis is organised into four chapters. The first chapter provides the theoretical foundations of the study by introducing the concepts of human capital and, especially, skills mismatch, discussing its different forms, its possible causes, and the economic implications at both the macroeconomic and the microeconomic levels. Subsequently, the second chapter analyses the European legal and institutional framework along with the main initiatives, programmes, and policies supporting education, employability, and skills development, while investigating their implementation in Italy and in Finland. Lastly, it also examines their relationship with the United Nation 2030 Agenda. The third chapter explores the strategic role of higher education in strengthening territorial attractiveness, international competitiveness, and human capital development, with particular attention to national branding, student experience, and communication strategies.

Finally, the fourth chapter presents the Finnish higher education system, analyses its structure and its characteristics, with a special focus on the case of Tampere University, its collaboration with businesses and regional actors, and a quantitative comparison between Finland and Italy based on international skills indicators.

The study concludes by discussing the main findings and reflecting on the extent to which the Finnish model may offer useful insights for addressing the challenges currently faced by other higher education systems, for instance the Italian one, in strengthening the practical orientation of universities, promoting employability, and reducing skills mismatch.

1. Human capital, skills mismatch, and labour market dynamics

1.1. Human capital as a driver of economic growth

The concept of human capital plays an important role in understanding the connection between education, the labour market and the economic development and, consequently, in analysing the phenomenon of skills mismatch. In fact, human capital refers to the set of knowledge and competences that individuals acquire through education, training and experience, and which can be used for productive purposes within the economy. Unlike physical capital, such as machinery or infrastructures, human capital is, as the name suggests, embodied in people, and it directly determines their ability to work, innovate and contribute economically to contemporary society. (OECD, 2001)¹

More precisely, according to the European Centre for the Development of Vocational Training, human capital can be defined as the set of:

“intangible resources (knowledge, know-how, skills, competences, experience, education and training, health) accumulated by an individual or a group (team, organisation, company, community), [...] which contribute to the achievement of individual and collective objectives (production of goods and services, well-being).”

The emergence of the human capital theory as an economic concept took place in the second half of the 20th century, largely thanks to the economists Theodore Schultz (1971) and Gary Becker (1993). Prior to this period, the role of education was mainly considered from a cultural and social point of view, but this new approach offered a different perspective, suggesting that education was to be regarded as an economic investment. Indeed, individuals invest time and resources in learning to improve their future employment opportunities, to get higher wages and to reach a greater job stability, while governments invest, or should invest, in education to increase productivity, decrease unemployment rate, and promote social inclusion and development. (World Bank, 2018, p. xi)². In addition, education can also benefit society as a whole, as a better educated population generally leads to higher levels of civic participation, modernisation and overall well-being (OECD, 2012, p. 202)³.

¹ OECD (2001), *The Well-being of Nations: The Role of Human and Social Capital*. ²

World Bank. (2018). *World development report: Learning to realize education's promise* ³

OECD (2012), *Education at a Glance 2012*.

It is therefore logical that this approach has become increasingly important over the years, especially taking into account the nature of the contemporary economy, which focuses on knowledge, innovation and practical skills. Today it is widely recognised that growth is no longer only based on physical resources, but it also heavily depends on the quality of the workforce, given that better educated people with stronger skills tend to be more productive, more flexible and better equipped to deal with rapid changes, particularly those produced by technology and digitalisation.

In this regard, the OECD (2019, pp.11-12)² highlights that

“skills are crucial to thrive in a digital world of work and society. [...] Digitalisation is transforming the way many jobs are carried out. The pace at which new technologies are being developed is accelerating. [...] Reaping the full benefits of digitalisation will ultimately depend on the ability of each country to develop a set of policies that help workers adapt to these changes and develop relevant skills to thrive in the digital world”

Nevertheless, it must be noted that the link between education and economic development is not automatic. Indeed, it would be neither enough nor completely reasonable to simply increase the number of graduates or the duration of schooling. Rather, what really makes a difference is the quality, the adequacy, the usefulness of educational programmes and the relevance of the skills acquired. Indeed, as in contemporary labour markets the demand for skills is constantly evolving, education systems are expected to keep up with these changes. In practical terms, this would mean placing greater emphasis on hands-on abilities and transversal skills, such as problem-solving, adaptability and communication, rather than providing students with mere theoretical knowledge. (OECD, 2019, p.22).

This is specifically why, from a macroeconomic perspective, human capital is considered a key driver of the broader economic development: indeed, higher levels of education, or, better said, improved levels of education, lead to higher productivity, which, in turn, contributes to an increase in the Gross Domestic Product (OECD, 2019, pp. 182-184). Furthermore, a competent human capital also fosters innovation, since skilled individuals are more likely to come up with cutting-edge ideas, improve processes and aid in technological advancement. Hence, education proves itself to be of great value for the future economic development and this concretely explains why investing in academic systems and

² OECD (2019), *OECD Skills Outlook 2019: Thriving in a Digital World*.

institutions can have long-term benefits on the overall performance of the economy. Seen in this light, it becomes clear why education can really be seen as an investment, at the individual, economical and societal levels.

However, the effectiveness of education as an investment also depends on the degree to which the skills acquired are compatible with the ones needed by the labour market. In situations where this match is low, the anticipated outcomes will not be fully realised, and the potential benefits will be compromised. Indeed, despite having a relatively high level of education, a country may still face significant imbalances if individuals are not employed in positions that reflect their actual qualifications, capabilities and competences. For example, in some cases, workers may be overqualified for their job, whereas, in others, companies may struggle to find candidates who hold the required skills. This phenomenon is widely known as *skills mismatch*, a concept that describes the “situation of imbalance between the skills – and qualifications – possessed by the workforce (supply) and those needed by the labour market (demand).” (Cedefop; ILO, 2017)³.

Once again, thus, to effectively deal with this problem, the focus should lie on improving the quality of education: the ultimate aim should be to have a **better** educated population and not merely a **more** educated one.

1.2. Skills mismatch in modern economies: conceptual framework, definition and types

Having defined the role of human capital in economic development, it becomes necessary to examine in depth the phenomenon of the competency gap, as it is a key challenge that directly affects its optimality. The concept of *skills mismatch* refers to the inefficiencies encountered in the allocation of human capital within the labour market and, more in detail, it describes the situation of imbalance between the skills, and qualifications, possessed by the workforce, representing the supply, and those needed by the world of work, representing the demand. (Cedefop; ILO, 2017)⁴.

It is important to underline that *mismatch* does not always define a lack of skills, but rather situations in which the available competences are not used in the most productive way. This

³ Cedefop, & ILO. (2017). *Skill mismatch: Anticipating and matching skills*.

⁴ Cedefop, & ILO. (2017). *Skill mismatch: Anticipating and matching skills*

is why it can be designated as a complex, multifaceted and multidimensional concept that can manifest itself in different ways, depending on the specific features of both the educational system and the labour market.

A first classification can be drawn between vertical mismatch and horizontal mismatch. *Vertical mismatch* arises when the level of education of a worker does not correspond to the level required for a specific job, phenomenon which includes both the cases of *overqualification* and *underqualification*.

In the former scenario,

“an individual has a higher qualification – type or level, work experience – higher than his/her current job requires. [...] Overqualification can be temporary (e.g. when an overqualified young person accepts a low-level position until they find more appropriate employment) or can have a more permanent character.” (Cedefop, 2010)⁵

On the contrary, the second concept refers to the “situation where an individual does not have the level of qualification or skills required to perform a job.” Again, this condition can be temporary, for example when less-qualified workers are provisionally assigned to high-level positions until better-suited candidates are found, or more permanent (Cedefop, 2024)⁶.

These terms are close, but not synonymous with the notions of overskilling – underskilling and overeducation – undereducation. In fact, *overskilling* refers to the situation in which “an individual is not able to utilise fully his/her abilities in his/her current job” (Cedefop, 2010), while *underskilling* occurs when “an individual lacks the abilities or experience necessary to perform a job to acceptable standards” (Cedefop, 2024). On the contrary, *overeducation* and *undereducation* make reference to the condition of individuals who have a level of education or training (which is in this case measured in years, and not in terms of type or level of qualification) that is either superior or inferior to that required for a job, respectively (Cedefop, 2010).

On the other hand, *horizontal mismatch* is related to situations in which people work in fields that are not related to their area of study. Indeed, in this case, “the *level* of education, qualification or skills of an individual or population matches job requirements, but the *type* of education, qualification or skills is inappropriate for the position they occupy” (Cedefop,

⁵ Cedefop. (2010). *The skill matching challenge: Analysing skill mismatch and policy implications*.

⁶ Cedefop (2024). *Terminology of European education and training policy: a selection of 430 terms*.

2010). This imbalance often arises when education systems are not sufficiently aligned with the needs of the labour market or when students' choices and decisions are not guided by realistic employment prospects or appropriate career orientation.

Skills mismatch, being a multifaceted and multidimensional issue, can also take the form of skill shortage, skill surplus, skill gap and skill obsolescence.

Skill shortages occur when the number of workers with the required skills available in the labour market is not sufficient to meet employers' and companies' demand for those skills. This disproportion between skills supply and demand can be found at all levels of qualification and can be caused by multiple factors, including an inadequate education and/or training provision, a geographical imbalance in supply, changes and advances affecting the structure of the economy, low attractiveness of certain professions, due to, for instance, harsh or adverse working conditions, poor remuneration, lack of social prestige, etc. (Cedefop, 2010). This phenomenon is often observed in sectors that experience rapid technological developments, such as information technology, engineering or healthcare, where the demand for specialist know-how, hard and soft skills tend to grow faster than the supply. Indeed, these industries often face difficulties in recruiting skilled candidates, which can limit their productivity and growth potential.

On the contrary, *skill surplus* refers to the situation in which there is an excess of workers with certain types of skills in the labour market, which can result in unemployment, intended as the total lack of work despite candidates actively seeking it, or underemployment, understood as occupying positions that do not match the worker's skills, experience or desired hours, nor provide an adequate income. This is why, when too many people hold similar skills (and qualifications) that are not highly demanded, their value may decrease, which can lead workers to be forced to accept jobs below their competence level.

Finally, closely related to the concept of skills mismatch are the notions of *skill gap* and *skills obsolescence*. The former occurs when workers do not possess the specific experience or competences, in terms of type or level, required to adequately carry out tasks associated with a job, even though they have the right level of education and are formally and officially qualified. This is precisely the issue that reflects the fundamental problem of the misalignment between educational outcomes and the actual needs of employers and the labour market. The latter, instead, takes place when previously acquired skills become out of date and no longer in demand due to many circumstances, including technological

progress, developments in the structure of the economy, organisational changes, atrophy of competences because of insufficient use, etc. (Cedefop, 2014⁷; De Grip, A., van Loo, J., 2007⁸; OECD, 2004⁹)

From this perspective, it is now clear that skills mismatch is not simply the result of individual choices, career paths and backgrounds, but rather the outcome of a complex interplay between several factors and actors. Indeed, it involves educational institutions and systems, the labour market, businesses, and workers, all of which play a role in determining the distribution of skills within the economy.

Finally, it is worth noting that measuring the gap between the supply and demand for skills represents a tough challenge. As a matter of fact, skills are not always directly observable or easily quantifiable. Various approaches can be used, such as comparing individuals' qualifications with job requirements, self-assessment, or relying on the analysis of hiring trends, but each method has its own limitations and may lead to different results. This makes it harder to capture the extent of the phenomenon and to compare data across countries, highlighting the importance of analysing empirical data and evidence carefully.

In conclusion, recognizing the various forms of skills mismatch provides a deeper understanding of the problem and is essential to develop effective policies and interventions to effectively address it.

1.3. Drivers of skills mismatch and contemporary economies dynamics

Once the various manifestations of skills mismatch have been outlined, it is important to identify and analyse the underlying causes of this phenomenon. In fact, the imbalance between skills supply and demand does not emerge randomly, but is the result of a combination of economic, educational, structural and institutional dynamics that interact with each other, and which have progressively reshaped the labour market over time.

⁷ Cedefop. (2014). *Terminology of European education and training policy: a selection of 130 key terms*.

⁸ De Grip, A.; van Loo, J. (2007). The economics of skills obsolescence: a review.

⁹ OECD (2004). *OECD Employment Outlook 2004*

1.3.1. Structural transformations in modern economies

One of the main drivers of skills mismatch is represented by the profound structural transformations that have characterised, and continue to characterise, modern economies, especially in the last decades. Among these, high-tech advancements and digitalisation play a central role. In particular, the pace of technological development has significantly accelerated, altering production processes, business models and the organisation of work, deeply influencing the demand for skills in the labour market.

Many traditional and manual jobs have been either modified or replaced, many routine and repetitive tasks have been automated, and new occupations and professional roles have emerged, often requiring more advanced or specialised competencies. As a result, as expected, there has been a growing need for digital skills, technical knowledge, and the ability to work with new technologies in almost all sectors. However, education and training systems often struggle to keep up with these rapid changes and to adapt to them. Consequently, individuals end up possessing skills that might not be entirely useful or relevant anymore, and, at the same time, employers find themselves unable to find candidates with the competences they need.

In this regard, it is worth mentioning the Future of Jobs Report, published by the World Economic Forum (2025)¹⁰, which states that “on average, workers can expect that two-fifths (39%) of their existing skill sets will be transformed or become outdated over the 2025-2030 period”. Consequently, the “time lag” between the skills that students have previously acquired and those required by companies at present contributes directly to the emergence of mismatch, especially in sectors characterised by fast advancements.

Closely linked to technological change is the broader impact of innovation and the structural transformation of the economy. Indeed, continuous development processes contribute to the creation of new products and services, resulting in new professions and working positions. As reported on the Digital Skills and Jobs Platform of the European Commission (2026)¹¹,

“between 2025 and 2030, foundational changes in global economy are expected to impact nearly a quarter of all jobs. In total, 22% of today's roles will either fully

¹⁰ World Economic Forum. (2025). *The Future of Jobs Report 2025*.

¹¹ Misheva, G. (2026). “*The Great Skills Reset*” in *WEF's Future of Jobs Report 2025: a Catch-22 for the future of work?* Digital Skills and Jobs Platform. European Commission.

disappear, or be revised completely. At the same time, 14% of employment is projected to come from entirely new occupations, equated to around 170 million new jobs popping up throughout the world, thereby offsetting the figures estimated above.”

Hence, it is not merely a matter of updating skills, but also of acknowledging the ongoing need to acquire new competencies in response to the demands of the ever-changing labour market, therefore adjusting educational and vocational programmes accordingly.

Another relevant factor is globalisation, which has further contributed to reshaping labour markets and the competencies and abilities required to be part of it. The increasing integration of national economies at the global level has intensified competition among countries and firms, pushing them to continuously increase productivity, efficiency, and innovation. Moreover, this global interconnection has increased the mobility of both capital and labour, making job markets more dynamic but also much more complex to manage. As a consequence, globalisation has led to a greater need for a highly competent workforce, possessing both hard and soft skills. Indeed, soft skills such as the ability to communicate effectively, especially in different languages and across cultures, to adapt to rapid changes, to implement functional solutions to solve problems, to think critically, and to work in teams, among others, are essential to achieve success in today’s business world.

1.3.2. Changing labour market dynamics

In addition to the structural transformations in the economy, skills mismatch is also influenced by the way the labour market is evolving. As a matter of fact, over time, the nature of work has changed significantly, with direct consequences on the type of competences required

One of the most evident and relevant changes concerns the transformation of the employment structure. Indeed, traditional, stable and long-term career paths are becoming less common, especially for younger generations, whereas, more flexible forms of work, including part-time jobs, project-based roles and temporary contracts, are increasingly widespread. For this reason, individuals are more likely to frequently change jobs, sector, or even professional paths and, as a result, they are expected to adapt to different roles and tasks, which requires possessing a broader and versatile set of skills.

At the same time, new working models have emerged, especially in recent years. In particular, the spread of technologies and the impact of the COVID-19 pandemic have accelerated, and in some cases actually initiated, the shift towards remote or hybrid work. Although these forms of employment offer greater flexibility, they require new organisational and interpersonal approaches, which alter and weaken the traditional operational methods and the relational dynamics in the workplace. Among these, as physical interactions among employees are reduced by the very nature of these new arrangements, opportunities to learn from peers are limited, making it more difficult for recent graduates or young people to acquire specific skills.

Additionally, the rise of the gig economy, defined as a labour market characterised by more flexible forms of work, including freelance, platform-based or self-employment jobs, has introduced new challenges. Individuals in these roles must manage their own careers and keep themselves up to date with technological developments and tools, which requires high degrees of flexibility, adaptability, independence, and continuous learning. Therefore, these opportunities may be appealing in terms of freedom and autonomy, but the lack of stability and the constant need for updated skills creates challenges in ensuring that workers remain competitive in this rapidly changing job market, especially in today's economies.

Technological progress is also driving the expanding reliance on automation and artificial intelligence, which are gradually replacing routine and repetitive tasks and, at the same time, fostering the demand for high-tech, digital, managerial and advanced cognitive skills. As a consequence, it is no longer enough to acquire a set of skills once and for all; instead, there is a constant call for rapid, large-scale retraining. However, education and training systems are not always able to quickly and effectively address the need for upskilling and reskilling, as they struggle to keep pace with the speed of technological change.

Demographic trends also have an impact on labour market dynamics. In many advanced economies, the ageing population is leading to a decline in the number of people available to work, which contributes to labour shortages in various sectors. However, this phenomenon should not be analysed solely in quantitative terms, given that, in many cases, the issue is not simply the lack of workers itself, but rather the lack of workers with more up-to-date or relevant skills. Indeed, in older populations, job opportunities for young people are often limited, as many positions are occupied by senior workers, who often possess competencies that may no longer fully match the current labour market needs. This makes the generational

turnover more difficult, as it hinders the entry of younger, newly trained workers. This matter is particularly relevant in the education sector, since

“the age of teachers represents a challenge as the older ones may lag behind the fast developments of new technology and of labour market need. The large share of relatively old teachers in Italy also discourages youth to enter this career path as progression is not ensured [...]” (OECD, 2017, p. 19)¹²

Consequently, what appears to be a labour shortage can be understood, more precisely, as a skills shortage.

At the same time, in other regions of the world, the rapid demographic growth is creating the opposite problem, with an increasing number of people entering the workforce but not enough good-quality job positions available. These imbalances make it even more complex to address the mismatch between the supply and the demand for skills at a global level.

Finally, it is also important to take into consideration the impact of the ongoing green transition. Indeed, it is giving rise to new sectors, new types of jobs, and, consequently, a new demand for skills related to sustainability and environmental requirements. This adds another layer of complexity, as education systems are expected to anticipate and respond to changes that are still evolving.

Overall, all these transformations show that the labour market is becoming increasingly dynamic and less predictable. This is why the abilities to learn, adapt, adjust to new situations and manage uncertainty are becoming just as important as, or even more important than, the knowledge acquired in school or in an academic setting. However, it is often difficult to develop these kinds of competences within traditional education systems, which still tend to focus more on theory than on practical experience and know-how. As a result, even highly educated people may struggle to meet employers’ needs and expectations, contributing to the skills mismatch problem.

In conclusion, all this proves that the problem is not solely related to the quantity of skills possessed and available, but mainly to their relevance and to the capacity of combining them effectively in different and rapidly changing contexts.

¹² OECD (2017), *Getting Skills Right: Italy*

1.3.3. Education and training-related factors

Alongside economic and labour market changes, systemic factors related to education and training systems play an essential role in the rise and development of skills mismatch.

One of the most evident issues is the education - labour market gap, which refers to the misalignments between what is taught in educational institutions and what is actually required by businesses and employers. As already mentioned, in many cases and in some countries in particular, academic programmes and curricula still privilege a theoretical approach, with little or no attention to practical and job-related competences. While this provides students with a solid knowledge base, it may not be sufficient to ensure a smooth transition into employment. Indeed, today's companies expect graduates to be able, amongst other things, to concretely apply what they have learnt in real contexts, to solve problems efficiently, to use technology proficiently, to think critically and analytically. As a consequence, when education systems fail to develop these competences, graduates may find themselves unprepared for the labour market, even if they hold a high-level formal qualification.

Precisely linked to this issue, the weak transition from education to employment represents a critical phase where mismatch can easily rise. As a matter of fact, in many contexts there is a lack of structured pathways that allow students to gain hands-on experience during their studies. In theory, tools like internships, apprenticeships and work-based training are valuable opportunities to come into contact with the world of work; in practice they are sometimes unrelated to the student's field of study, too short, not always well developed or effectively integrated into academic programmes, which limits students' exposure to real working environments and reduces their chances to acquire job-relevant skills. This happens also due to the fact that curricular work placements, which are often compulsory under university regulations, are frequently viewed by the students and the universities themselves as mere bureaucratic formalities, lacking any practical or educational value. As a result, an opportunity that could effectively introduce students to the professional world is reduced to a simple fulfilment, without fostering the development of skills that would be useful for their future careers.

Empirical evidence also reveals that a substantial share of internships takes place in sectors characterised by low-skilled and repetitive tasks, which limits their potential to contribute to a meaningful skills development and to improve students' future employment prospects

(Tzanakou et al., 2021)¹³. This situation is further reinforced by the fact that internships are often unpaid or only slightly compensated. As a consequence, rather than encouraging companies to invest in structured training, this may lead them to treat internships as low-cost arrangements, where more attention is dedicated to supporting daily operations than to improving students' skill set.

In conclusion, when this transition is not adequately supported, whether by academic institutions or by businesses, students may face difficulties in entering the labour market and in finding jobs that match their qualifications.

Another important critical point is linked to the rigidity of education and training systems. As a matter of fact, institutional constraints, bureaucratic procedures and the lack of coordination among different actors may slow down the process of updating programmes. Instead, a higher degree of interaction and communication between universities, businesses and policymakers could ease the transition towards more useful and updated curricula, leading to the introduction of new courses, the adoption of new teaching methods and the incorporation of modern knowledge and skills, thus concretely responding to all the changes of the world of work.

Nevertheless, given the slow pace at which study programmes are refreshed and the fact that these partnerships are often underestimated and overlooked, education systems risk lagging behind labour market developments, failing to equip students with up-to-date and relevant skills and leaving them not fully aligned with what is currently demanded.

At the same time, many degree programmes remain quite general, are not clearly oriented towards defined professions and do not provide specific skills, which increases the chances of working in a sector that is not related to the student's field of study.

Closely linked to this is the issue of information asymmetry. This concept refers to the insufficient career-related information that individuals receive about the world of work during their educational pathways. As a matter of fact, many students choose their degree without really having a clear understanding of labour market trends, without knowing what skills are in demand and what types of jobs they might realistically find after their studies.

¹³ Tzanakou, C., Cattani, L., Luchinskaya, D., & Pedrini, G. (2021). How do internships undertaken during higher education affect graduates' labour market outcomes in Italy and the United Kingdom? In A. Stewart, R. Owens, N. O'Higgins, & A. Hewitt (Eds.), *Internships, Employability and the Search for Decent Work Experience* (pp. 55-75).

This can lead to choices that do not match the actual demand. On the other hand, employers may find it difficult to accurately assess candidates' abilities and skills if they focus solely on formal qualification, such as degrees and certificates. Indeed, the information asymmetry also stems from the fact that qualifications may not always fully reflect what a person is concretely able to do. Consequently, employers may overlook candidates who actually possess the right skills, but lack specific diplomas, or, on the contrary, may overestimate the qualifications of candidates who actually do not have the practical experience required for the position.

In support of this, the Organisation for Economic Co-operation and Development (2017)¹⁴ states that

“qualifications can be very weak predictors of workers' true skills. This situation results in information asymmetries that pose severe challenges to the skills-matching process that eventually contribute to the emergence of skills imbalances. Noteworthy, the more qualifications diverge from the skills of workers and the more it will be difficult for an employer to identify the right candidate for the advertised job. In those cases where qualifications provide weak or incorrect/incomplete information about the skills of an individual, potential mistakes in the recruiting process tend to emerge. These, in turn, lead to the suboptimal matching of workers' skills to job requirements. [...] The weak signalling power of certain qualifications [...] and the imperfect recruiting decisions that can stem from it, can entail large costs for economies and individuals as they lead to lower productivity or to the need of providing additional training to workers who are lacking the skills required by their job.”

This creates a sort of “misunderstanding” between the two sides, making the matching process between labour supply and demand less efficient.

It should also be noted that skills mismatch is also associated with the rapid expansion of higher education over the past decades. Indeed, there has been an increase in the number of people who attend university, which is usually a positive trend, but not for this matter, given that the number of highly qualified jobs has not increased at the same pace. These phenomena of overeducation and overqualification force workers into jobs that require a lower level of

¹⁴ OECD (2017), *Getting Skills Right: Italy*, OECD Publishing, p. 97

education with respect to the one they possess, thereby wasting skilled talent and human potential.

In conclusion, all these education-related factors show quite clearly that skills mismatch arises as a result of how academic systems are structured and how they interact with the labour market, understood in the sense as the collective body of workers, employers, and businesses.

From a wider perspective, instead, skills mismatch is the consequence of a complex interaction of structural economic transformations, changes in labour market dynamics and limitations within education systems. As a consequence, tackling this issue requires a comprehensive, multi-dimensional approach that takes into consideration the broader economic, institutional and academic context.

1.4. Economic consequences and implications of skills mismatch at the macro and micro levels

Following the discussion on the main causes of skills mismatch, it is equally important to examine its consequences. As a matter of fact, the misalignment between the skills that individuals possess and those required by the job market affects the overall performance of the economy, the welfare of individuals and the functioning of firms. That is why skills mismatch should be considered as a source of economic inefficiency, rather than a simple labour market imperfection.

1.4.1. Broader macroeconomic impact

At the macroeconomic level, one of the major effects of skills mismatch is the decrease of the overall productivity, as people employed in positions that do not fully match their competences and qualifications represent resources that are not being used to their full potential.

This is closely related to the allocation of human resources, which, in the presence of mismatch, does not occur properly. As a consequence, some sectors may experience shortages of qualified labour, while others may face an oversupply of certain profiles. The end result is the same for both situations, as both lead to lower levels of average productivity, proficiency and profitability, as well as a slowdown in the overall GDP growth in regional

and international contexts. Indeed, as demonstrated by some simulations, addressing this imbalance would result in contributing to a measurable and notable increase in GDP.

According to Garibaldi et al. (2025)¹⁵,

“eliminating education (skill) mismatch completely would raise output by 2.9% (3.8%) on average, with large cross-country differences ranging from 0.4% to 7% of output (1% to 9%).”

Nevertheless, even just marginal improvements in skills matching can still positively affect economic performance at the regional level. For instance, it is estimated that a 1 percentage point increase in the skills matching indicator leads to measurable long-term growth in GDP in NUTS 2¹⁶ regions across the EU. In this scenario, the improvement in skills mismatch is expected to generate a permanent 1% increase in total factor productivity (TFP) in all regions. This would then trigger a chain of positive effects at the macroeconomic level, as a higher productivity is able to increase the value of both labour and capital, which, in turn, would encourage firms to invest more and expand production, enhancing the overall optimality of the labour market. Subsequently, the growing demand for labour would lead to higher wages and household income, which would boost consumption, thereby further stimulating economic activity.

What is also interesting to note is that the policies designed to enhance skills matching not only have brought direct economic benefits to the regions in which they are implemented, but they also have indirect spillover effects on non-targeted areas, as their GDP experiences a relevant growth as well. Indeed,

“the regions targeted by the intervention (those with macroeconomic skills mismatch indicators initially above the median) see an average long-term GDP increase of 1.96%, ranging from +1.38% to +3.55%. Regions not targeted by the intervention would also see increases in their GDP, as the additional economic activity in the target regions increases the demand for intermediate outputs and final products from their trade partners. The average GDP increase in non-targeted regions is about 0.16%,

¹⁵ Garibaldi, P., Gomes, P., & Sopraseuth, T. (2025). *Output costs of education and skill mismatch in OECD countries*.

¹⁶ NUTS (Nomenclature of Territorial Units for Statistics) is a standardized territorial classification defined by Eurostat and used for the collection and comparison of regional statistical data across the European Union. The NUTS 2 level corresponds to intermediate-sized regions.

with an overall increase in long-term EU GDP of 0.85%.” (European Commission, 2023)¹⁷

Overall, improving skills matching has positive economic effects in all cases. The main challenge is therefore not whether these improvements are concretely beneficial for the economy, as this has been already proved, but how to effectively design and implement policies that can make them happen.

Another point that is worth mentioning is that the imbalance between skills supply and demand also affects competitiveness, both at the national and international level. Indeed, countries that are unable to develop and use effectively the competences of their workforce may struggle to compete in global markets. Companies operating in such contexts may face difficulties in innovating, increasing their product quality and range, or entering new markets. On the contrary, economies and societies that succeed in aligning education and labour market needs tend to be more dynamic, flexible and competitive.

Finally, it is important to acknowledge and analyse the significant implications that skills mismatch has on the companies’ capacity to innovate given that innovation itself heavily depends on the presence and availability of a skilled workforce. Indeed, when there is a shortage of specific skills, especially in high-tech and high-skilled sectors, the ability of firms to develop new technologies, improve existing processes, and generate new ideas can be severely hindered. Therefore, apart from concretely hampering the pace of innovation, skills mismatch can also slow down the overall long-term economic growth, as technological advancements and innovation-related productivity improvements become more and more difficult to achieve.

1.4.2. Microeconomic impact on individuals

The effects of skills mismatch can be quite significant even at the microeconomic level, as they directly influence people’s careers and their quality of life.

Among the most immediate consequences is the impact on wages. Indeed, overqualified employees tend to earn lower salaries compared to what would be expected, and to what they would be entitled, based on their educational background.

¹⁷ European Commission. (2023). *Employment and Social Developments in Europe 2023: Addressing labour shortages and skills gaps in the EU* (Chapter 3.3.1: Macroeconomic effects of improvements in skills matching at regional level).

This would thereby result in a wage penalty and contribute to income inequality, as demonstrated by Quintini (2011, as cited in Brunello & Wruuck, 2019)¹⁸ :

“over-qualified individuals earn about three percent less than individuals who have the same qualification but are well matched [...].”

Furthermore, skills mismatch, especially in the form of overqualification and underemployment, may lead to frustration, job dissatisfaction and lower motivation. As a matter of fact, employees who feel that their competencies and abilities are undervalued and underutilised tend to be less engaged in their jobs, which, in the long run, could influence their general well-being, their efficiency at work and their loyalty and commitment to the workplace. Furthermore, studies have shown that job dissatisfaction resulting from skills imbalance can also increase absenteeism and reduce productivity. Indeed, evidence demonstrates that workers whose competences are mismatched are more likely to be absent from work more often and to change job more frequently. Additionally, as they find themselves in positions that do not reflect their skillset, they tend to invest less in training, which could result in a decline in productivity, thereby undermining the overall economic performance of the company they work for.

Skills mismatch can also limit career progression. Indeed, the previously mentioned frequent job changes do not always lead to better opportunities. This is because constantly switching roles may hinder individuals from establishing a stable career path and achieve career advancement, making it more difficult to secure higher-level positions in the long term.

Another important aspect is the risk of skills depreciation, as competences which are not utilised on a regular basis may gradually weaken or become outdated. This represents a relevant issue in a context where professional requirements are constantly evolving, since it becomes more complicated for people to return to roles that match their original qualifications, with the result that the efforts and investments made during their training may lose their value and be nullified. Indeed, as the market changes, those whose skills have become obsolete may find it increasingly difficult to return to positions they were once qualified for or adapt to new ones, perhaps not meeting the new skills requirements. This

¹⁸ Brunello, G., & Wruuck, P. (2019). *Skill shortages and skill mismatch in Europe: A review of the literature*.

would therefore appear to confirm the assertion made by Dinerstein, Megalokonomou and Yannelis (2022), according to whom “human capital can depreciate if skills are unused”.

1.4.3. Microeconomic impact on firms

Skills mismatch also has significant implications at the firm level as it affects their organisation, their expenses and their overall performance.

One of the main problems for companies is the difficulty in finding adequately skilled workers. This is demonstrated by the fact that, in many sectors, especially those characterised by rapid technological change, firms report shortages of specific competences, which can delay production, limit expansion and reduce the ability to respond to the market demand. In this regard, Haskel and Martin (1993) found out that the growing skilled labour shortage faced by the UK economy in the 1980s had significant adverse effects on firms’ economic efficiency. In fact, based on their calculations, this factor caused a decrease in the level of productivity growth by roughly 0.7 percent per year. Thus, the study effectively shows the strong influence the shortage of skilled workers has on the ability of businesses to increase and improve efficiency and achieve optimal production rates.

Afterwards, these issues tend to translate into higher recruitment and training expenses for businesses. As a matter of fact, companies may need to spend more time and resources in searching for suitable candidates who fit the position or in training employees to compensate for the lack of competences. In some cases, firms are left with no choice but to recruit individuals who do not fully meet the requirements and do not match the skills demanded in the job, being therefore forced to provide additional training, which in the end increases the costs and reduces the efficiency in the short term.

Moreover, as mentioned, skills mismatch may also impact efficiency within companies. In fact, if employees lack the skills required to carry out their tasks, the time needed to complete them may increase, the number of mistakes may rise, and the overall performance may be significantly and adversely affected. On the other hand, if workers are overqualified for the job, they could be less motivated to perform at their best, as they are usually not fully engaged, which can also lead to lower levels of productivity. Furthermore, various research findings indicate that overqualification is associated with higher job mobility compared to well-matched workers with similar qualification. As a result, “by increasing job turnover,

mismatch is costly to firms, that have to incur additional hiring and training costs” (Brunello & Wruuck, 2019).

Another important implication is related to innovation and competitiveness. Indeed, businesses rely on skilled individuals to develop new ideas, upgrade their products and cope with changes. In cases where such competencies are unavailable, the innovation process could slow down and be hampered, which could result in firms struggling to remain competitive, especially in international markets. Therefore, in the end, skilled labour shortage may also act as a barrier to the adoption and implementation of new technologies.

All these issues usually have direct repercussions on the overall functioning of the firm, as they may generate a less efficient working environment and limit the company’s growth potential.

2. Legal framework and European policies in education and employment

2.1. Institutional framework of the European Union in the field of education

The role of the European Union in the field of education, including the distribution of the competences between the EU and the Member States, should be understood within its broader constitutional framework. In fact, unlike other policy areas in which the Union maintains strong legislative powers, education remains primarily under the competence of national governments. As a result, the intervention of the European Union in this field is limited and mainly consists of coordinating, supporting, and complementing the action of the Member States. Such institutional and organisational approach is in line with the principle of subsidiarity (Art. 5, Treaty on European Union, 2012) and reflects the respect for national diversity in educational systems.

The normative foundations of the European Union's action in the education sector can be found in several provisions of the Treaties and in the Charter of Fundamental Rights of the European Union. These measures, rather than establishing a centralized education policy for Europe, foster a framework in which the Union encourages cooperation, promotes mobility, and supports the development of human capital across the Member States.

A first important reference can be found in Articles 2 and 3 of the Treaty on European Union (TEU) (2012)¹⁹, which define the values and the objectives of the Union itself. More specifically, Article 2 establishes that the Union is founded on the values of respect for human dignity, freedom, democracy, equality, the rule of law and respect for human rights. Additionally, it states that these values are to be shared by all Member States within a society based on pluralism, non-discrimination, tolerance, justice, solidarity and equality between women and men. This principle constitutes the normative basis for European policies, including those related to education.

Article 3 provides further explication of the objectives of the Union, clarifying that the EU's aim is to promote peace, its values, and the well-being of its peoples. In this perspective, the European Union is committed to promoting social progress, combating social exclusion and discrimination, while fostering economic, social, and territorial cohesion. Moreover, the

¹⁹ European Union. (2012). *Consolidated version of the Treaty on European Union*.

provision also affirms that the Union shall ensure its citizens free movement of persons in an area of freedom, security and justice, without internal frontiers. This statement is particularly relevant in the context of (higher) education, as it facilitates the mobility of students, teachers, and researchers across the Member States. In this regard, education plays a central role in achieving these objectives, as it contributes to the development of the human capital, while also strengthening social integration, competitiveness and economic development within the Union.

Another fundamental pillar of the European legal framework is the recognition of the fundamental rights. According to Article 6 of the TEU, the European Union recognizes the rights, the freedoms, and the principles set out in the Charter of Fundamental Rights of the European Union, granting the Charter the same legal value as the Treaties and reinforcing its constitutional character.

With reference to the Charter of Fundamental Rights (2012)²⁰, Article 14 explicitly establishes that everyone has the right to education and to access vocational and continuing training. It also enshrines the right to receive free compulsory education and recognizes the freedom to found educational establishments in conformity with the democratic principles. Therefore, even though the organization of the educational systems remains primarily a national responsibility, the recognition of education as a fundamental right provides a normative reference for the European policies in this field.

The distribution of competences between the European Union and the Member States is clarified in the Treaty on the Functioning of the European Union (TFEU) (2012)²¹. In particular, Article 6 specifies the areas in which the Union has a supporting role, meaning that it may take measures to promote, coordinate, or supplement the actions of Member States without replacing them, and education is explicitly included.

More specifically, Articles 165 and 166 TFEU define the scope of the European action in the areas of education and vocational training. In particular, Article 165 concerns education, youth, and sport and states that the Union shall contribute to the development of quality education by encouraging cooperation among Member States and, if necessary, by supporting and supplementing their actions. Furthermore, the article highlights several key objectives, including the development of the European dimension in education, the

²⁰ European Union. (2012). *Charter of Fundamental Rights of the European Union*.

²¹ European Union. (2012). *Consolidated version of the Treaty on the Functioning of the European Union*

encouragement of student and teacher mobility, and the promotion of cooperation among educational institutions, among others. Nevertheless, at the same time it clearly specifies that the Union must fully respect the responsibility of Member States for the content of teaching and the organization of their educational systems.

Article 166 TFEU, instead, focuses on vocational training and establishes that the Union shall implement a vocational training policy that supports and complements the actions of the Member States. With this provision, the Union intends to facilitate the adaptation to industrial changes, improve the integration into the labour market, encourage the mobility of instructors and trainees and promote partnerships between educational or training establishments and firms.

Again, as in the case of education, the Union's action in this field does not imply harmonization of national legislations, but rather fostering cooperation and improving the exchange of best practices among Member States.

As already mentioned, the principle of subsidiarity, to which the interpretation of all these provisions must be referred, establishes that the European Union's intervention in education should be mainly indirect, aiming to promote common objectives, encourage policy convergence and support mobility programs and research initiatives, rather than imposing binding legislative measures. With this approach, the Union can concretely contribute to the development of human capital and to the strengthening of European competitiveness, facilitating the circulation of knowledge, students and researchers across Europe, while respecting the specificities of national educational traditions.

2.2. European instruments and policies for the development of human capital, the improvement of employability, and the strengthening of international competitiveness

The legal and institutional framework described in the previous section provides the basis for understanding how the European Union concretely operates in the field of education. As mentioned, the Treaties define the objectives and the limits of the Union's action, but they also establish the prerequisites and the conditions for the development of specific initiatives aimed at supporting education, research, and skills development across the Member States. These efforts have grown in importance over time, due to the increasing recognition of the role of knowledge, innovation, and technological development. This increasing attention to education and training reflects the evolution of contemporary societies and economies, in

which the availability of skilled, well-trained and well-educated workforce becomes a crucial factor for productivity, competitiveness, and long-term economic growth. For this reason, investing in education, research, and training is considered to be a central priority in many European strategies in terms of boosting economic and social development. This is specifically why, throughout the years, EU has implemented a variety of policies, programmes, and financial instruments designed to support the development of human capital, encourage academic mobility, and strengthen cooperation between universities, research institutions, businesses and the labour market.

Human capital is generally defined as the set of knowledge, competencies, skills and personal attributes possessed by individuals, which contribute to their productivity as well as to the broader economic development and social progress (OECD, 2001)²². Education systems, especially at the higher level, play a fundamental role in this process. In fact, universities are responsible not only for merely transmitting theoretical knowledge, but also for developing critical thinking, research abilities, and professional skills which can later be applied in the labour market.

In order to support these objectives, the European Union has launched several programmes and financial instruments aimed at encouraging cooperation between educational entities and facilitating the mobility of students and researchers. Among the most important, spread and well-known initiatives there is Erasmus+, a programme structured around several Key Actions, designed to foster cross-border collaboration, skill development and innovative practices in education and training.

Indeed, Erasmus+ is aimed at offering students the opportunity to spend a period of study or training in another European country. The programme is made possible through financial support and institutional agreements between universities, thanks to which students can attend courses abroad and gain valuable experience from a different academic and cultural environment. This opportunity usually allows them to improve language skills, develop independence, and acquire new perspectives on their studies, expanding their knowledge and giving them the chance to challenge themselves. Additionally, it might reveal to be of great help in discovering, redefining, or confirming their career aspirations and professional goals after university.

²² OECD (2001), *The Well-being of Nations: The Role of Human and Social Capital*

Mobility programmes such as Erasmus+ are also important because they enable students to develop skills that are increasingly valued in the labour market. For example, students who study abroad often improve their ability to adapt to new environments, communicate in different languages, and work in international environments. This is precisely how Erasmus+ addresses the needs of the labour market through Key Action 2, which, indeed, focuses on cooperation and innovation across education and training. Within this KA context, projects such as “Alliances for innovation” bring together universities, enterprises and other partners, aiming to

“encourage new skills and address skills mismatches by designing new curricula for higher education and vocational education and training, and supporting the development of a sense of initiative and entrepreneurial mind-sets in the EU”
(European Commission, 2025)²³

Moreover, in addition to student mobility, Erasmus+ also supports exchanges for professors, researchers, and university staff. These initiatives help strengthen cooperation among higher education institutions and contribute to the creation of academic networks across Europe, since universities are concretely encouraged to engage in joint projects, exchange teaching methods, and develop common study programmes.

In addition to the Erasmus+ programme, the Erasmus for Young Entrepreneurs provides a unique opportunity for new or aspiring entrepreneurs to gain hands-on experience by working alongside experienced professionals owning a small or medium-sized enterprise in other European countries. This programme aims to promote cross-border cooperation and exchange of ideas, allowing emerging entrepreneurs to acquire valuable knowledge and practical skills while contributing to the setup or the growth of their own businesses. By participating in this initiative, young entrepreneurs can expand their networks of contacts, learn best practices from mentors, and improve their business abilities, with the ultimate aim of significantly boosting their competitiveness in the labour market and fostering innovation within the EU's entrepreneurial system. This is also a meaningful opportunity for the host firm itself, as it can benefit from fresh perspectives on its own activities and has the chance to collaborate with international partners or explore new markets.

²³ European Commission. (2025). *Alliances for innovation*.

Another important instrument implemented by the European Union in the field of knowledge and innovation is Horizon Europe, which is the main funding programme for research and development. To understand its significance, it is enough to consider that, for the period 2021–2027, the estimated funds allocated by the Union amount to €93.5 billion. Its main purposes are to support scientific research, promote technological progress, and finance projects jointly involving universities, research centres, and private companies, through international and multidisciplinary collaboration.

This cooperation is particularly important in fields where scientific advancements concretely require large investments and international teamwork, such as digital technologies, environmental sustainability, health research, and economic dynamism. Indeed, Horizon Europe

“tackles climate change, helps to achieve the UN’s Sustainable Development Goals and boosts the EU’s competitiveness and growth.” (European Commission, 2021)²⁴

This programme also plays a very important role in the development of human capital, as it enables researchers from different countries to work together on common research projects and share their knowledge and expertise. Consequently, participation in international initiatives allows both researchers and young scholars to gain valuable experience and to work in multidisciplinary teams, thereby contributing significantly to their professional development and to the creation of highly qualified specialists in Europe.

Within the framework of Horizon Europe, particular attention is given to the Marie Skłodowska-Curie Actions (MSCA), which are specifically designed to support the training and the mobility of researchers at different stages of their careers. Indeed, the programme offers funds for doctoral programmes, postdoctoral research, and international collaborative projects. One of the main objectives of the Marie Skłodowska-Curie Actions is to encourage early-career scholars to gain experience in different countries, research environments, and disciplines. In fact, the opportunity to work in different institutions and sometimes even in different sectors enables them to develop a broader range of scientific and professional skills, which are highly valued in the labour market. Thereby, by investing substantial resources in these initiatives,

²⁴ European Commission (2021). *Horizon Europe*.

“the MSCA make a significant contribution to strengthening human capital in research and innovation by developing researchers’ skills, providing unique career development opportunities and prospects and encouraging innovation.” (European Commission, 2024)²⁵

As a result, this programme concretely supports Europe’s economic growth and reinforces the Union’s position in international competitiveness by fostering progress and nurturing highly skilled professionals.

In conclusion, the growing relevance of programmes such as Erasmus+, Horizon Europe, and the Marie Skłodowska-Curie Actions reflects the increasing attention that the European Union gives to knowledge, innovation, and skills development. In fact, in a world characterized by rapid technological change and strong international competition, the ability to “generate” knowledge and train highly skilled individuals becomes essential.

In this context, European policies often emphasize the need to strengthen the role of universities within innovation systems. Indeed, higher education institutions contribute tangibly to the economic development, as well as to education and research, through partnerships with businesses and public institutions. For this reason, it becomes a priority in today’s world that universities work closely with firms, in order to develop new technologies, support start-ups, and promote advancements.

In addition, cooperation between universities and businesses may help ensure that educational programmes meet more effectively the labour market needs. In fact, in many cases, companies require specific skills that are not always fully reflected in traditional academic curricula and, consequently, collaboration between the academic world and the productive sector can contribute to bridging this skills mismatch gap and improving the transition from education to employment.

2.3. European policies for the alignment between education and labour market needs

As discussed in the previous section, the European Union has already implemented a wide range of programmes and measures aimed at supporting the development of human capital,

²⁵ European Commission. (2024). *Marie Skłodowska-Curie Actions boost research talent and support Europe’s competitiveness despite insufficient budget, study shows.*

enhancing employability, and reinforcing competitiveness. However, achieving these objectives also requires addressing the significative gap between education and labour market, caused by the persistent mismatch between the skills acquired through education and those required by employers.

This discrepancy has become increasingly evident and relevant in recent years, especially due to the rapid evolution of the economies, driven by technological innovations, digitalisation, and widespread shifts in employment dynamics. Indeed, in today's world workers are expected to adapt to these challenges, and, to be ready for this, education systems should not only provide theoretical knowledge, but also concretely prepare individuals to keep up with the evolving nature of work, face uncertainty and respond effectively to changes.

In this context, EU is advancing a variety of policy initiatives specifically designed to enhance and strengthen the alignment between the education sector and the employment one. However, unlike other policy areas, these initiatives are often based on non-binding legal instruments, common referred to as *soft laws*, which may include recommendations, communications, guidelines, and strategic approaches. Indeed, they do not actually impose any formal and legal obligation on Member States, but still play an important role in shaping national policies. In particular, some European strategies are increasingly focused on the development of skills considered to be essential in contemporary labour market: they include, apart from the technical and job-specific competencies, also the so-called transversal skills, such as critical thinking, problem-solving, digital literacy, adaptability, time management and communication abilities.

However, addressing skills mismatch also requires a multi-level approach involving various actors, including education systems, public institutions and the working world.

First of all, a stronger cooperation between universities and business is essential in order to ensure that educational programmes better align with the labour market needs. This objective could be achieved through various “instruments”, such as internships and work-based learning opportunities. Experiences of this kind should be designed to provide practical, career-oriented and job-related training that matches what employers look for in graduate candidates, being, at the same time, oriented towards the acquisition of transversal competencies, increasingly valued in the workplace.

Secondly, a hand-to-hand collaboration between universities and firms could also contribute to improving the course catalogues and the academic curricula. Indeed, by promoting a direct involvement of employers and industry representatives in educational processes and systems, it could become easier to better identify which competences, skills and knowledge are actually needed and sought in the labour market and adapt study programmes accordingly.

To address these challenges and make concrete progress in tackling skills mismatch, the European Union has introduced several targeted initiatives and funding programmes aimed at fostering these partnerships and improving the alignments between the educational programmes and the demands of the job market.

One of the EU's main financial instruments is the European Social Fund Plus (ESF+), specifically designed "to reduce unemployment, advance quality and equal opportunities in education and training and improve social inclusion and integration" (European Commission)²⁶. In particular, it funds project to improve academic and skill-building systems, through work-based learning, investing heavily in initiatives such as apprenticeships, vocational training, and adult education.

"The ESF (European Social Fund) is the main instrument with which Europe supports the creation of employment, helps people to get better jobs and ensures fairer job opportunities for all EU citizens. To that end, the ESF invests in human capital of Europe: workers, young people and all those seeking employment." (SEPE)²⁷

Another programme designed to help individuals acquire the competences required to succeed in the fast-changing job market is the New Skills Agenda for Europe, launched in 2016. It promotes the development of both technical skills, such as those for specific professions, and transversal skills, encouraging Member States to reform their educational systems and programmes, so that they concretely respond to the needs of the labour market. Moreover, it also includes specific measures to improve the quality of education, to facilitate lifelong learning and to develop career guidance.

²⁶ European Commission. *Main priorities*. European Social Fund Plus.

²⁷ Servicio Público de Empleo Estatal [SEPE]. *Financing the European Social Fund*

Based on the earlier New Skills Agenda, the European Skills Agenda was introduced in 2020 as its successor, with an even stronger commitment on tackling skill gap in relation to digitalization and sustainability. This updated five-year plan agenda sets new goals and introduces more collaborative approaches through initiatives such as the Pact for Skills, aimed at encouraging partnerships between governments, businesses, and educational institutions to promote upskilling and reskilling across Europe.

The European Alliance for Apprenticeships (EaFA) is another network that fosters cooperation between companies, education institutions, and public authorities with the objective to create high-quality apprenticeship opportunities across Europe, allowing students to learn on the job, gaining valuable industry insight. In fact, it seeks to provide young people with practical, hands-on experience that is essential to fulfil the specific needs of employers and companies.

In addition, as the world of work is becoming increasingly digital and technological, the European Union has developed the Digital Education Action Plan, focusing on integrating digital skills into all levels of educations. By promoting the development of the digital literacy and supporting the preparation of students for the demands of a technology driven economy, this initiative encourages Members States to incorporate digital skills in academic curricula and provide teachers with resources to help them integrate digital and technological tools into their teaching methods. Moreover, it strives for social inclusion and equal opportunities and aims to increase access to digital education across Europe, guaranteeing that every individual has the opportunity to acquire the necessary skills for today's workplace, regardless of their background.

At the same time, to address labour shortages in key sectors such as technology, healthcare or engineering, the European Union has developed the EU Blue Card, a work and residence permit designed to attract highly skilled non-EU professionals to work and live in the EU, by offering favourable conditions for both employers and workers. This project is part of a broader strategy to make Europe a more attractive destination for international talents and strengthen the Union's competitiveness at the worldwide level, concretely contributing to the economy of Member States. The promotion of mobility among the European Union, either stemming from this "global" initiative or a more internal one like Erasmus+, allows a more efficient allocation of skills and skilled workers, which can directly contribute to reducing imbalances between labour supply and demand within the Union.

In this perspective, it becomes clear that the issue of skills mismatch is not a mere economic problem, but also a social one. Indeed, difficulties and discrepancies in the transition from education to employment can affect young people's opportunity, increase unemployment, limit social mobility and impact their mental well-being, leading to stress and frustration, fostering a sense of disillusionment and distrust in educational, working and government bodies. On the contrary, a better alignment between the two worlds can improve employability, support economic growth, boost competitiveness and contribute to creating societies that are more inclusive and efficient overall.

For all these reasons, the relationship between education and employment represents a key area of intervention within European policies, as it constitutes an essential element to understanding the crucial role of human capital in all forms of economic development. It is therefore pivotal that, even not directly regulating national education systems, the Union insightfully strives to influence their evolution by sharing common objectives, encouraging cooperation, and supporting reforms, funding, and projects.

2.4. National implementation and differences across Member States: the cases of Italy and Finland

Although the European Union has introduced a wide range of policies, programmes and initiatives to tackle the problem of the skills mismatch and strengthen the relationship between education and the labour market, their actual impact largely depends on how they are implemented at the national level. Indeed, due to the principle of subsidiarity, governments have the flexibility and the autonomy to interpret, adapt and adopt the Union's guidelines according to their own institutional structures, economic priorities, and social context. This implies that, despite the common objective and the shared strategies, the outcomes of EU's measures may differ significantly from one country to another.

With specific reference to the main European programmes discussed in the previous sections, it is important to underline that, formally, all Member States participate in them. However, as these initiatives are usually implemented by national agencies and institutions, which are responsible for managing funds and coordinating projects, these authorities retain full decision-making power over the allocation of financial resources and the carrying out of such interventions. For this reason, the analysis of national implementation becomes

essential in order to understand the actual effectiveness of the European action, making it possible to point out both its potential and limitations.

Among the various possible comparisons, the cases of Italy and Finland appear especially relevant, as the two countries can be seen as representatives of quite different models in terms of educational approaches, public investments and alignment between universities and the labour market. Indeed, while Southern European systems often face structural challenges, particularly due to limited and often inconsistent public investment in education, a weaker integration of work-based learning opportunities, and difficulties in matching the educational outcomes with the needs of the job market, Northern European countries are generally characterised by more stable and substantial state funding in education and training, with stronger coordination among institutions and a more effective connection between the academic world and the employment sector.

With specific reference to Italy, it is important to underline that many European funds, such as those provided by the ESF+, are often used to finance training programmes, internships, and initiatives in support of employment, especially for young people. However, despite these efforts, such measures are frequently developed as separate and short-term projects, rather than being structurally embedded in a more coherent national strategy. This lack of continuity and coordination often tends to limit their overall effectiveness and lead to fragmented and uneven outcomes.

Similarly, programmes such as Erasmus+ are widely implemented and provide students with the opportunity to study abroad. Nevertheless, the competences acquired during these experiences are not always effectively recognised or translated into concrete advantages in the labour market. As a result, mobility often remains a valuable personal and cultural experience, but with a more limited impact on employability than expected. This is also partly linked to the way academic recognition is managed at institutional level. Indeed, the validation of credits and exams is frequently constrained by rigid criteria, with courses taken abroad not always considered fully equivalent or of comparable quality to those offered by the sending university. This can limit students' academic choices and reduce the potential benefits of international mobility, which should not lie in the strict correspondence of study programmes, but rather in the possibility to develop a broader perspective, skills, and experiences across different educational contexts.

A similar dynamic can be also observed in the field of work-based learning and, more specifically, of internships. In fact, at the European level there is a consistent recognition that learning through practical experience and training is a key factor that may facilitate the process of transition from education to employment and increase the alignment between skills supply and demand. For this reason, in theory, internships should represent a structured opportunity for students to acquire hands-on, hard and soft competencies, while directly engaging with professional environments. In practice, instead, this objective is not always fully achieved in the Italian context. In fact, as pointed out in the report by the Organization for Economic Cooperation and Development (OECD, 2017)²⁸ on skills mismatches, academic systems, and labour market outcomes in Italy, the connection between education providers and firms remains relatively weak and it is still a challenge for the country to incorporate work-based experience into learning processes. Internships, in particular, could represent a valuable first point of contact with the world of work and an opportunity for students to gain practical experience, but they often function as an end in themselves, rather than as a genuinely formative chance. Many internships, which are often compulsory, end up being wasted opportunities, as they do not foster meaningful learning, but are simply regarded as a formal requirement by both the students and the educational institutions. Aware of these dynamics, companies often consider internships in the same way, and for this very reason, in some cases, interns are involved in repetitive and low-skilled tasks that do not enhance their skill set. Furthermore, the lack of pay or the minimal remuneration for the student's work can turn internships into forms of cheap labour, where companies focus more on their operational needs than on the students' professional development. This reveals a broader structural issue at the core of the system, as the widespread use of unpaid or underpaid internships is actually legally permitted, with significant implications for both training quality and interns' working conditions (Kerti, 2020)²⁹.

Moreover, in some cases, internships are also not closely related to the students' fields of study, poorly structured or organised in ways that do not support the development of useful, coherent and progressive formative activities. Their quality often varies considerably, depending on the university, the degree programme, the business and the region, which reflects a structural problem linked to the lack of coordination within the system.

²⁸ OECD (2017), *Getting Skills Right: Italy*, OECD Publishing

²⁹ Kerti, K. (2020). *The Right to Fair Remuneration and Unpaid Internships*.

In general, these challenges are strongly linked to the weak relations between universities and enterprises in Italy. In fact, although European policies encourage the establishment of partnerships between the two parties, the reality is that such cooperation often depends on individual initiatives or local contexts, rather than being systematically embedded within the higher education system. This non-coordination between education providers and businesses leads to an inclination towards a more theoretical approach when designing academic curricula. Indeed, many programmes continue to privilege conceptual knowledge at the expense of practical and work-based training. For this reason, students often graduate with solid theoretical foundations, yet lack the practical skills required in the workplace by employers.

Finally, financial aspects also play a crucial role. Compared to other European countries, Italy traditionally allocates a lower share of public resources and funds to education and research activities. Such relatively low investments have significant implications both in terms of the quality of infrastructures and services that are provided to students and of the overall capacity of universities to innovate, attract and retain highly qualified academic staff members. This is confirmed by the OECD (2017), which highlights that the lack of adequate and structured funding could limit the effectiveness of education and training systems in coping with the changes in the labour market. Moreover, restricted financial resources can also prevent organisations from actively participating in European research and training networks, such as those supported by Horizon Europe, thus weakening and compromising their competitiveness in the international market.

In contrast, the Finnish case provides an example of a more coherent and structurally integrated approach in implementing the European guidelines. Although, just like Italy, Finland employs EU policy instruments, such as Erasmus+ and the European Social Fund Plus, these are typically incorporated into well-established domestic system which already pays considering attention to the alignment between education and the labour market needs, contributing to a more consistent and long-term strategy. This reflects a model in which national and European objectives are more closely aligned, enabling a more effective use of available resources and a greater ability to translate policies into tangible results.

A key difference between the two countries lies in the role of work-based learning. Indeed, in Finland, unlike in Italy, hands-on training is not considered nor treated as an additional or even optional component, but as an integral part of the educational pathways. Internships

and professionally oriented learning periods are usually well structured and highly correlated with students' fields of study, other than being directly developed in cooperation with employers and firms. This ensures that students are concretely introduced to working environments, allowing them to actively acquire job-relevant competences and facilitating a smoother transition into employment. Another important aspect to take into account concerns the legal regulation of internships: unlike in contexts where they may be defined in vague terms or governed in a less rigorous manner, as sometimes happens in Italy, in Finland they are more firmly embedded within a process of formal learning and subject to stricter and clearer standards regarding the quality of the educational content involved and the level of supervision required. This reduces the possibility of exploiting internships as a source of low-cost labour, reinforcing their function as proper formative work-related experiences.

It must be said, actually, that certain issues continue to pose a challenge for the Finnish higher education system, such as the difficulty of ensuring consistency across different regions and sectors and of maintaining a high level of active engagement by employers and firms in education and training in all fields of study. Nevertheless, these issues are relatively limited and do not appear to affect the overall functioning of the academic system compared to what can be observed in other national contexts.

Another strength of the Finnish model is the connection between educational institutions and companies, as it tends to be more structured and stable. In fact, the collaboration between universities, vocational institutions and employers is supported by established networks and coordination mechanisms, instead of relying on local or individual initiative. This consequently eases a more continuous exchange of information about the skills needed by the labour market, enabling education providers to adjust academic curricula accordingly.

The results above outlined have been made possible by relatively high and stable public investments in education and training, along with policies that concretely promote equal access to higher education, including the total absence of tuition fees for public universities for national, EEA and, consequently, EU students. (European Commission, 2026)³⁰

In conclusion, Finland represents a perfect example of how adequate funding enables institutions to maintain high-quality infrastructures and services, invest in innovation and strengthen cooperation with external partners, such as employers and businesses. In this

³⁰ European Commission. (2026). *Study in Finland – tuition, visas, scholarships, and student life*.

context, therefore, European programmes and initiatives are not used to compensate for structural inefficiency and shortcomings, but rather to enhance an already well-functioning system, further fostering the alignment between education and the labour market and concretely contributing to reinforce economic competitiveness at both national and European level.

2.5. Shaping the future: the alignment between EU policies and the UN 2030 Agenda

The analysis conducted in the previous sections has shown how the European Union tries to tackle the issue of the skills mismatch and to enhance the relationship between higher education and the labour market through a variety of programmes, funding instruments, policy initiatives and general guidelines. Nevertheless, EU interventions concerning education and employment should be seen as part of a broader international framework, as they are closely connected with the objectives established by the United Nations in the 2030 Agenda for Sustainable Development, which represents a comprehensive global strategy aimed to promote economic growth, social inclusion, and environmental sustainability across different policy areas for all countries.

The 2030 Agenda is structured around 17 Sustainable Development Goals (SDGs) which address key global challenges and 169 targets covering the economic, social, and environmental spheres. SDGs seek to address a wide range of social needs, including education, health care, social security, employment and job opportunities (United Nations, 2015)³¹.

Among the 17 goals, two of them are particularly relevant for the subject matter discussed in this thesis:

- Goal 4, **Quality Education**, which focuses on ensuring inclusive, equitable and, as the name suggests, quality education.
- Goal 8, **Decent Work and Economic Growth**, which aims at promoting sustained economic growth, productive employment and decent work.

³¹ United Nations. (2015) *Transforming our world: The 2030 Agenda for Sustainable Development*.



Fig. 1: Sustainable Development Goals. Source: United Nations.

All the objectives, and especially these two, are deeply interconnected and interdependent, and reflect many of the priorities that can also be observed in the EU's policies under consideration.

Concerning Goal 4, the European Union has consistently stressed the necessity of enhancing access to education, increasing its quality and fostering lifelong learning opportunities. The programmes discussed in the previous sections, such as Erasmus+, the European Social Fund Plus, Horizon Europe, clearly aim to achieve these objectives, although their effectiveness really depends on the willingness, capacity, and pragmatism of national institutions to develop coherent and long-term strategies. Once again, this aspect is crucial, especially in the light of one of the most basic human rights, the right to education and training (CFR, Art.14.), which ensures inclusion, equal access, and the possibility for all individuals to benefit from education, regardless of their socio-economic background. In this context, it becomes evident that significant differences among national systems, such as those observed between Italy and Finland, can directly impact the final achievement of this goal. For example, higher levels of public investment in education and the absence of tuition fees, as in the Finnish case, may create better opportunities, facilitate access, and reduce inequalities, while limited financial resources allocated to the education system can represent a barrier for individuals from economically or socially disadvantaged contexts. This is specifically why “to deliver on Goal 4, education financing must become a national investment priority”, in both policy and practice (United Nations, 2015).

Additionally, as every goal, Goal 4 is articulated through specific targets that define in a more concrete way its practical realization. Target 4.4 is particularly interesting as it calls for a significant increase of the number of young people and adults with relevant skills, including technical and vocational competencies for employment and entrepreneurship. Likewise, Target 4.7 is equally relevant, as it focuses on ensuring that all learners are provided with the knowledge and the skills necessary to promote sustainable development, including global citizenship, human rights, and cultural awareness.

Goal 8 focuses, instead, on making sure that individuals can access quality jobs, encouraging innovation and entrepreneurship, and stimulating economic development. In this context, the issue of skills mismatch becomes central, as it directly affects both the levels of employability and productivity. For this reason, once again, it is visible that the European initiatives developed to strengthen the link between universities and enterprises, and to support work-based learning and training, insert themselves into a broader, global framework. Indeed, the United Nations emphasize the importance of

“providing youth the best opportunity to transition to a decent job calls for investing in education and training of the highest possible quality, providing youth with skills that match labour market demands, giving them access to social protection and basic services regardless of their contract type, as well as leveling the playing field so that all aspiring youth can attain productive employment regardless of their gender, income level or socio-economic background.” (United Nations, 2015)

Here too, the specific targets help to translate the theoretical guidelines into concrete policy directions. More specifically, as the United Nations highlight, Target 8.3 encourages the implementation of development-focused strategies aimed at fostering productive activities, entrepreneurship, creativity, and innovation, while promoting the establishment and growth of micro, small and medium-sized enterprises. Target 8.5, instead, sets out the objective to achieve full and productive employment and decent work for everyone, man and women, including young people and persons with disabilities, ensuring, at the same time, equal pay for work of equal value.

In conclusion, the overall alignment between the European Union and the United Nations in terms of goals and priorities shows an agreement on the central role of education, skills, and quality employment in addressing the main challenges of the contemporary economy and

society. In particular, being education a key driver of economic growth, innovation, and social inclusion, improving access to quality learning and training processes directly contributes to a more competitive economy and long-term development.

However, despite the existence of European and international programmes, action plans and initiatives, it is essential to work intensely within each country's specific reality. All Member States must, therefore, firmly commit themselves to effectively implement and integrate EU tools and UN guidelines to make sure these goals are achieved promptly.

3. The strategic value of higher education: attractiveness, competitiveness and human capital development

3.1. Higher education as a tool of territorial marketing

During the last few decades, the role played by higher education has moved well beyond its conventional academic function. Universities are no longer seen only as institutions responsible for teaching and research, but are perceived as actors that can have a strong impact on economic development, international competitiveness, and even the global image and reputation of a country. In this regard, higher education has progressively become part of broader territorial marketing practices, through which countries seek to attract talent. This new “role” is tightly related to the changes of the global economy itself. Indeed, as already mentioned in the previous chapters, contemporary economies no longer depend exclusively on industrial production or natural resources, but also increasingly rely on innovation, technological development, and human capital. As a consequence, universities have become essential not only from an educational perspective, but also from an economic and strategic one.

In this scenario, attracting international students can no longer be considered merely an educational objective. On the contrary, it should be regarded as an integral part of a broader national policy aimed at strengthening competitiveness, enhancing the country’s global visibility, and supporting long-term economic development. Nowadays countries increasingly compete to attract students, researchers, and highly skilled workers, trying to present themselves as attractive destinations, not only academically, but also socially, culturally, and economically. For this reason, higher education can today be understood as a sort of “national product”. Consequently, high-quality and well-performing university systems become strategic assets for countries, contributing to the international visibility of cities and regions, and influencing how they are perceived in terms of innovation, opportunities, and quality of life, thus, reinforcing the appeal of the territory itself.

Higher education can therefore play a significant role within broader territorial marketing strategies, intended as the set of policies and communication schemes used to promote the attractiveness of a place. Indeed, universities contribute directly to the economic development of cities and regions by attracting students, researchers, academic staff, and investments, as they generate demand for housing, transport, local services, and commercial

activities. In addition, they often support innovation ecosystems through collaborations with companies, research centres, and start-ups.

This aspect is especially evident and applicable in countries that have heavily invested in higher education, socio-economic welfare, and internationalisation policies, thereby successfully connecting academic excellence with national and territorial branding strategies. Indeed, a university's attractiveness is strongly linked to external factors, such as quality of life, safety, sustainability, digitalisation, public services, transport systems, and employment opportunities. As a matter of fact, when students choose where to study, they are not merely opting for a specific educational programme: they are actually selecting a city, a social environment and, more generally, a model of life. In many cases, they are also determining the place where they will build their future lives and careers. Consequently, higher education becomes directly interlinked with territorial attractiveness.

At the same time, the quality and attractiveness of university systems are also important from a domestic perspective. Specifically, universities do not only compete internationally to attract foreign students, but also nationally, to retain domestic talent and prevent the exodus of young people towards countries perceived as offering better educational opportunities, services, and employment prospects. For this reason, governments increasingly recognise that investing in higher education is not only a matter of education policy itself, but also a strategic choice connected to social cohesion, economic development, and the retention of qualified human capital within the country. In this sense, efficient university systems, accessible services, and supportive student environments can contribute to reducing educational and professional out-migration, especially among younger generations.

This is why nowadays many governments have started considering higher education as an economic investment rather than simply a public service. In fact, even though allocating public funds to universities is often rationalised on the social value of education itself, there is always an economic return associated with innovation, productivity, and competitiveness. Many cities have progressively built their international identity around universities and knowledge-based activities. Examples of towns such as Tampere, Eindhoven, Lund, Leuven, or Oulu clearly show how higher education institutions can contribute to transforming urban economies and improving international competitiveness.

In conclusion, it follows that investing in higher education means, of course, investing in education, academic programmes and curricula, but also in economic growth, technological development, social inclusion and international attractiveness. In other words, the overall quality of universities, student life and learning environments become crucial factors influencing the abilities of countries and cities to position themselves competitively at the international level.

As already briefly mentioned and as it will be further analysed in the following sections, the Finnish system represents an especially relevant case study in this respect, as it combines strong public investment in education with internationalisation strategies, student-centred policies and a strong connection between universities, innovation, and territorial development.

3.2. Determinants of attractiveness of higher education systems

Once higher education is recognised as a strategic resource for territorial development and international competition, it becomes pertinent to ask what defines the attractiveness of a university system for students. Indeed, while the intrinsic quality of the educational offer is, and will probably remain, one of the most significant determinants of a student's choice, it is no longer sufficient on its own to explain why some university systems are more successful than others in attracting and retaining both domestic and international students.

The growing diversification and internationalisation of higher education have considerably transformed the way students approach their educational decisions. Traditionally, the choice of a university was largely influenced by geographical proximity, national reputation, and the availability of specific degree programmes. Nowadays, students increasingly evaluate higher education opportunities within a broader context, taking also into account the characteristics of the country, the city, and the social environment in which they will live and study (Cubillo et al., 2006).³²

It is also worth pointing out that this phenomenon is closely connected to the large-scale transformations that have characterised contemporary societies and labour markets. As discussed in the previous chapters, the competitiveness of modern economies increasingly depends on the relevance, adaptability, and effective use of workers' skills, and not only on

³² Cubillo, J. M., Sánchez, J., & Cerviño, J. (2006). *International students' decision-making process*.

the “quantity” of human capital available. In this context, higher education institutions are expected to fulfil functions that go well beyond the mere transmission of knowledge. Specifically, they are increasingly required to support the development of employable skills, foster innovation, contribute to economic growth, and respond to the evolving needs of society and the labour market. This is therefore another reason why the attractiveness of a university system can no longer be explained solely by the academic quality of its programmes. As a matter of fact, factors such as opportunities for skills development, future career pathways, university-business cooperation, and prospects for personal and professional growth may all influence how a higher education environment is perceived (OECD, 2020)³³.

In addition, thanks to globalisation, technological developments, and the growing interconnectedness of educational systems, students have access to a wider range of opportunities and are therefore able to compare destinations more easily than ever before.

The increasing importance of higher education attractiveness can also be explained by the growing mobility of students, both across national borders and within countries themselves. Over the past decades, an increasing number of students have chosen to pursue higher education either abroad or in cities other than their place of origin, transforming it into a progressively global and competitive environment.

Several scholars, including Mazzarol and Soutar (2002)³⁴, have analysed these mobility patterns through the so-called push-pull framework. According to this approach, students’ decisions result from the interplay of various factors, which may encourage them to leave their home country or city (push factors) or attract them towards a specific destination (pull factors). Thus, limitations within the educational system, economic instability, or labour market constraints may act as push factors, while academic reputation, quality of life, safety, career opportunities, and student support services often operate as pull factors.

It is therefore evident that higher education systems are intertwined with society in the sense that their appeal cannot be fully understood in isolation from the broader framework in which universities operate. For instance, elements such as the efficiency of public services, the quality of the environment, the degree of innovation, the stability of society, and the overall

³³ OECD (2020), *Education Policy Outlook in Finland*.

³⁴ Mazzarol, T., & Soutar, G. N. (2002). *Push-Pull Factors Influencing International Student Destination Choice*.

reputation of a country or city contribute significantly to shaping perceptions and influencing mobility decisions (OECD, 2007)³⁵.

Some of the main determinants of higher education attractiveness will be discussed more in detail in the following sections, focusing, in particular, on the roles played by national branding, communication strategies, and the student experience. These dimensions help explain why certain countries or cities have been more successful than others in attracting talents and in positioning themselves as competitive educational destinations within the national or international higher education landscape.

The relevance of these determinants does not lie solely in students' educational choices. Rather, it is related to their broader economic and social implications, as they may indirectly affect the alignment between the supply and demand for competences, contributing either to the reduction or the persistence of the skills mismatch. From this perspective, analysing the drivers of higher education attractiveness provides valuable insights into the mechanisms through which countries can strengthen their human capital base and improve the link between education, employability, and economic development.

3.2.1. National branding for higher education and territorial attractiveness

One of the main determinants of higher education attractiveness is the overall image and reputation of the country (or the city) in which universities are located. This aspect can be understood through the concept of national branding, which refers to the way a nation is perceived in terms of values, quality of life, innovation, institutional reliability, and future opportunities (Anholt, 2007)³⁶.

Traditionally, national branding was mainly associated with tourism promotion, investment attraction, and economic competitiveness. More recently, however, its application has gradually expanded to the field of higher education as well, as academic institutions are increasingly recognised as strategic assets that can act as magnet for inward investment and talent (OECD, 2007).

³⁵ OECD (2007). *Higher Education and Regions: Globally Competitive, Locally Engaged*.

³⁶ Anholt, S. (2007). *Competitive Identity: The New Brand Management for Nations, Cities and Regions*.

Indeed, when prospective students decide where to pursue their university education, they no longer simply compare degree programmes. Nowadays, choices frequently hinge on factors such as quality of life, safety, environmental sustainability, technological development, public services, and future employment opportunities.

For this reason, countries that manage to create a positive and coherent image often enjoy a significant advantage in attracting, retaining, and developing talent. This is because a strong national or territorial reputation can increase visibility, build trust, and reduce uncertainty among students. On the other hand, countries or regions perceived as politically unstable, economically weak, or characterised by low-quality public services may face greater difficulties in attracting highly skilled individuals.

Among the various dimensions contributing to national appeal, quality of life is emerging as an increasingly important factor. Whereas previous generations of students prioritized academic opportunities, contemporary ones also place great emphasis on their overall living experience outside the classroom. As a matter of fact, educational choices are also progressively being made based on health care services, public transportation, digital infrastructures, social inclusion, and a healthy work-life balance. Consequently, the overall well-being can really offer a competitive advantage for both countries (or cities) and higher education institutions.

Closely connected to this aspect is the issue of safety. Students often move away from their families and familiar environments in order to pursue higher education, which makes personal security a particularly relevant factor in their decision-making process. Countries characterised by stable political, economic, and social conditions, low crime rates, and high levels of social trust are perceived as more attractive places to study and build a future career. This is why safety should not be considered only as a social policy goal, but also as an important component of territorial attractiveness and competitiveness.

Another determinant that has gained considerable relevance in recent years is sustainability, as environmental concerns have become increasingly central, especially among younger generations. Universities, cities, and countries that actively promote sustainable development are often perceived more positively by prospective students, for whom green innovation has become an important criterion in the choice of the academic institution. Therefore, sustainability ceases to be a purely environmental issue and becomes one of the

elements that contributes to shaping national and institutional reputation (QS Quacquarelli Symonds, 2024; European Commission, 2022)³⁷.

Innovation also plays a crucial role. As discussed in the previous chapters, modern economies have become increasingly dependent on research and technological development and, for this reason, students tend to be attracted by environments that offer opportunities to engage with innovation, emerging technologies, and entrepreneurship, and pursue professional growth. Indeed, the presence of dynamic research ecosystems, collaborations between universities and businesses, start-up networks, and technologically advanced infrastructures may add considerable value to a higher education institution.

Therefore, national branding also becomes closely linked to a country's ability to communicate all these values such as efficiency, sustainability, and social well-being. Indeed, the most successful higher education systems are often those capable of combining these elements into a consistent and attractive image.

It should also be emphasised that these dynamics do not solely concern international students; on the contrary, many of the same considerations often influence the decisions of domestic students, who may choose to move to a different city or region within the same country in search of better educational opportunities, living conditions, and future prospects. For this reason, the determinants discussed in this section should not be understood exclusively at the national level, but also at the regional and local levels, given that the attractiveness of specific cities, regions, and territories can play an equally important role in shaping students' choices.

As a consequence, if students perceive the higher education system of their home country as efficient, innovative, and capable of offering meaningful opportunities for self-realisation and professional development, the chances that they will move elsewhere for study or work decrease considerably. From this perspective, in fact, the concept of national branding is related to both talent attraction and, especially, to talent retention, which is particularly relevant in countries affected by the brain drain and the outflow of highly skilled human capital.

³⁷ QS Quacquarelli Symonds. (2024). *What makes a great student city?*

European Commission. (2022). *Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions on a European strategy for universities.*

In this regard, Finland represents a particularly interesting benchmark. Over the past decades, the country has managed to build a strong reputation for educational quality, technological development, sustainability, and high living standards owing to its strong welfare system, its high levels of institutional trust, its commitment to eco-friendly practices, and its capacity for innovation (OECD, 2020). Moreover, rather than promoting higher education as an isolated sector, Finland has progressively integrated universities into broader national development strategies, making them part of a wider narrative centred on innovation, well-being, and future-oriented growth. As a result, Finnish universities benefit from an environment that is already perceived positively by many prospective students before they even begin evaluating specific academic programmes.

For all these reasons, Finland can be considered a very good example of how national branding and higher education attractiveness may reinforce one another. In fact, while universities contribute to strengthening the reputation of the country, the region, or the city, that reputation simultaneously increases the attractiveness of its universities. This mutually reinforcing relationship helps explain why certain higher education systems are more successful in attracting, developing, and retaining human capital, while also reinforcing the alignment between education, labour market needs, and long-term economic development.

3.2.2. Communication strategies, global visibility, and students' decision-making process

The attractiveness of a higher education system is a multidimensional phenomenon which depends not only on the objective characteristics of the university itself, but also on the ability of institutions to communicate them effectively. As a matter of fact, high-quality educational environments may fail to attract students if information is fragmented, difficult to access, or poorly presented. For this reason, communication strategies should not be considered merely as marketing instruments, but rather as mechanisms that concretely contribute to reducing informational asymmetries between academic institutions and prospective students. In fact, as discussed in the previous chapters, imperfect information may lead to inefficient decisions and, consequently, indirectly contribute to skills mismatch. In fact, students who lack adequate knowledge and awareness about educational opportunities, employment outcomes, or university characteristics may select programmes or institutions that do not correspond either to their aspirations or to labour market needs. Providing clear, accessible, and transparent information can therefore facilitate a better

alignment between students' expectations, universities' educational offer, and future job opportunities. This is why communication should be understood as an instrument capable of improving the allocation of human capital, rather than just as a promotional activity (Hemsley-Brown & Oplatka, 2006)³⁸.

In recent years, digitalisation and global interconnectivity have profoundly transformed the way students gather information and compare educational opportunities. Before making enrolment decisions, students typically analyse degree programmes, admission requirements, tuition fees, scholarships, accommodation options, student support services, the possibility to take part in study-abroad and internship experiences, and career prospects. Therefore, the ease with which students can access these resources has become a key factor of higher education attractiveness in itself.

From this perspective, the use of English represents a strategic tool rather than merely a linguistic choice. Indeed, English has progressively established itself as the common language of the international academic communication, enabling universities to reach a much broader audience (Coleman, 2006)³⁹. More importantly, it helps reduce barriers, lower information costs, and enlarge the pool of potential talent that institutions are able to attract. Websites, application procedures, administrative guidance, and any other student service made available in English make it easier for prospective students to navigate the admission process and compare educational opportunities in different contexts.

Nevertheless, language alone is not sufficient. Universities must also ensure that content is organised and presented in a clear, transparent, accessible, and user-friendly manner. This is essential as institutional websites often constitute the first point of contact between prospective students and the university itself, making them essential tools for reducing uncertainty. In this respect, websites should be designed to communicate, in the most efficient way possible, everything related to university life. This means that, apart from outlining their academic programmes, they should also, and with equal importance, provide comprehensive details on all aspects related to scholarship opportunities, exchange programmes, student housing options, administrative procedures, support services, clear

³⁸ Hemsley-Brown J.V. and Oplatka, I. (2006). *'Universities in a competitive global marketplace: a systematic review of the literature on higher education marketing'*.

³⁹ Coleman, J.A. (2006). *English-medium teaching in European Higher Education*.

contact details, extracurricular activities offered or promoted by the university, and the general atmosphere within the university, among many other aspects.

Special importance should also be given to information concerning employability and the link between universities and the labour market. Data regarding graduate employment rates, internships, career services, entrepreneurship initiatives, employer partnerships, and contacts with firms is a crucial source of information in evaluating the practical value of a degree programme. Universities that highlight these aspects in a structured and comprehensive way are often perceived as being better equipped to prepare students for their future careers and to facilitate their transition into the world of work.

This point is also closely related to the promotion of collaborations between academic institutions and companies. Partnerships with businesses, applied research projects, innovation hubs, and start-up ecosystems represent essential mechanisms through which higher education can strengthen its connection with the productive system. In fact, such forms of cooperation provide students with the opportunity to acquire practical competences, participate in real-world activities, and develop skills that are aligned with employers' demands. Consequently, communicating such activities directly contributes to increasing the institutional attractiveness and, at the same time, also serves to bridge the gap between higher education and the labour market.

International rankings also play an important role within this framework. Although they have been frequently criticised because of their methodological limitations, they offer students simplified tools to compare educational institutions, thereby helping to minimise uncertainty when it comes to evaluating different higher education systems. This is why, for many prospective students, rankings constitute an essential source of information that facilitates decision-making when considering whether to study in another city, region, or country. As a consequence, nowadays universities increasingly compete not only on academic quality, but also on their international reputation, visibility, and position in global rankings.

(Hazelkorn, 2011)⁴⁰.

⁴⁰ Hazelkorn, E. (2011). *Globalization and the Reputation Race in Rankings and the Reshaping of Higher Education: the Battle for World Class Excellence*.

Besides official websites, social media platforms have become complementary channels through which universities communicate and convey their identity and their everyday academic life. However, their role should not be interpreted exclusively in marketing terms. Testimonials from other students, examples of collaborative projects, campus activities, and the interaction with academic staff allow potential future students to gain concrete insights about the educational environment, while helping them form more realistic expectations about university life and, again, reducing uncertainty before enrolment (Constantinides & Zinck Stagno, 2011)⁴¹.

Finland provides a useful illustration of how communication strategies may contribute to the attractiveness of a higher education system. In fact, the digital platforms provided by Finnish universities are usually highly accessible, with extensive information in English and transparent guidance regarding admission procedures, scholarships, student housing, welfare services, career opportunities. The application processes themselves are usually well-structured and digitalised, while practical information concerning accommodation, student support, and everyday life is presented in a simple yet comprehensive way. Career services, internships, and collaboration with businesses are also effectively highlighted, which allows students to understand from the very beginning the opportunities available to them both during and after their studies.

In Finland, rather than promoting only academic excellence, institutions seek to portray a complete educational ecosystem in which innovation, sustainability, student well-being, and strong links with the labour market are presented as integral components of higher education paths. In this sense, communication becomes the channel through which institutional quality and organisational efficiency are reflected.

3.2.3. Student experience, well-being, and sense of belonging

The competitiveness of universities does not only depend on educational programmes, research performance, or international rankings. In recent years, the student experience has become a key factor influencing both students' choices and the overall attractiveness of academic institutions. Indeed, future students often evaluate universities not only in terms of

⁴¹ Constantinides, E., & Zinck Stagno, M. C. (2011). *Potential of the social media as instruments of higher education marketing: a segmentation study*.

academic quality, but also of the overall quality of life offered by the host city and by the surrounding environment.

There are several factors which define and shape the student experience, including the availability of support services, affordable housing opportunities, reliable public transport, healthcare facilities, psychological support, sports and leisure activities, extracurricular initiatives, campus infrastructure and, more generally, the atmosphere within the academic community. Even though some of these aspects may seem secondary compared to learning and research activities, they actually play a crucial role in determining students' satisfaction and well-being.

This is why recent literature increasingly emphasises the importance of embracing and adopting a more holistic approach to higher education. Universities are nowadays considered social environments in which students develop personal, relational, and professional competences, rather than merely being places for the transmission of knowledge. Consequently, higher education should be understood as a broader experience that extends beyond classrooms, lectures, and exams (Thomas, 2012)⁴².

Student engagement represents a relevant dimension of this process. In fact, a supportive academic setting may motivate students to participate more actively in university life, interact with peers and the professors, join extracurricular activities, and develop stronger connections with the institution itself. As Goodenow (1993)⁴³ affirms,

“students’ sense of being accepted, valued, included, and encouraged by others (teacher and peers) in the academic classroom setting and of feeling oneself to be an important part of the life and activity of the class. More than simple perceived liking or warmth, it also involves support and respect for personal autonomy and for the student as an individual”

All these aspects can concretely contribute to create a greater sense of belonging and integration, which may have a positive influence on the overall satisfaction. Moreover, from an educational point of view, student well-being and support are often indirectly also related

⁴² Thomas, L. (2012). *Building student engagement and belonging in higher education at a time of change: Final report from the What Works? Student Retention & Success programme*.

⁴³ Goodenow, C. (1993). *Classroom belonging among early adolescent students: Relationships to motivation and achievement*.

to better learning outcomes (Kuh, 2009)⁴⁴. Indeed, students who feel supported and included are more likely to complete their studies successfully, maintain higher levels of motivation, and take part in academic activities. On the contrary, environments characterised by isolation, limited support services, or poor integration may negatively affect engagement and increase the risk of dissatisfaction and early withdrawal from studies.

Nevertheless, the implications of student experience go far beyond the academic sphere. Economically speaking, student well-being may have significant indirect effect on productivity, retention rates, and future employability. As a matter of fact, individuals who have the chance to benefit from positive educational environments are generally better equipped to develop transversal competences such as communication, teamwork, creativity, adaptability, and problem-solving abilities, all highly valued in the contemporary world of work. Consequently, graduates who possess both solid technical knowledge and well-developed soft skills are better prepared to meet labour market requirements, thus reducing potential mismatches between educational outcomes and employers' needs. Beyond the individual level, this may also generate broader economic benefits. For instance, it may contribute to the formation of a more productive, resilient, and adaptable workforce, which represents a key driver of innovation and economic development. Moreover, in the long term, it can also support both national and international competitiveness, facilitate the efficient allocation of human capital, and contribute to reducing structural imbalances between education systems and the job market (OECD, 2007).

In addition, the quality of the student experience has an impact on the international reputation and attractiveness of universities themselves. In today's context, characterised by a growing competition among higher education institutions, positive student journeys often contribute to strengthening the institutional prestige through word-of-mouth mechanisms, alumni networks, and online reviews (Cubillo et al., 2006). Thus, student satisfaction may become a competitive advantage capable of attracting and retaining talent.

As a result, the growing recognition of the educational, social, and economic implications of enriching learning experiences has led many higher education systems to invest heavily in services, infrastructures, and initiatives aimed at enhancing engagement and overall wellbeing. Such investments are intended to improve the quality of students' academic and

⁴⁴ Kuh, G.D. (2009). *The national survey of student engagement: Conceptual and empirical foundations*.

social life, but they are also meant to contribute to the formation of a highly educated and qualified population, thereby supporting the development of highly skilled human capital. In this regard, the higher education system of Finland represents an interesting example, as student well-being, engagement, and support services have progressively become core components of the broader academic policies. For this reason, the Finnish model and the case of Tampere University will be analysed in greater detail in the following section.

4. Case study: the Finnish higher education system and Tampere University

The above sections have examined the main factors that contribute to the attractiveness of universities, pointing out the importance of national branding, communication strategies, and student experience. These elements acquire even greater significance when observed in a concrete context. For this reason, the Finnish higher education system represents a particularly relevant case study, as it has gained international recognition for the quality of its education system, but also for its capacity to combine academic excellence, student-centred policies, strong social welfare provisions, internationalisation strategies, economic competitiveness, and for its strong links with innovation and the labour market.

Indeed, unlike many other countries where higher education is primarily perceived as a vehicle for knowledge transmission, the Finnish approach conceives universities as institutions that contribute to societal development, innovation, and human capital formation in a broader sense (OECD, 2022)⁴⁵. This is why this model is of particular interest in light of the issues discussed throughout this thesis. As highlighted in the previous chapters, contemporary labour markets are increasingly affected by skills shortages, rapid technological change, and growing difficulties in matching educational outcomes with employers' needs. To address these challenges, Finland has developed a higher education system that puts great emphasis on employability, innovation, a practical approach to teaching, collaboration with businesses, and the general well-being of students (University of Turku)⁴⁶.

Moreover, this Northern country consistently excels in various rankings measuring innovation, quality of life, trust in institutions, sustainability, and educational performance. (OECD, 2021)⁴⁹ Such features not only enhance the effectiveness of its academic system but also make it attractive for both domestic and foreign students.

Within the Finnish context, Tampere represents an interesting case study, from both an urban and an academic perspective. The city, in fact, has progressively become one of the country's leading centres for higher education, technological progress, sustainability and innovation. Tampere contributes simultaneously to territorial development, talent attraction, and human

⁴⁵ OECD (2022). *Expanding and steering capacity in Finnish higher education: Thematic policy brief*.

⁴⁶ University of Turku, Finland. *A superpower of education and innovations*.⁴⁹
OECD (2021). *Drivers of Trust in Public Institutions in Finland*.

capital formation, largely thanks to the active presence of Tampere University (TAU) and Tampere University of Applied Sciences (TAMK), which

“provide a multidisciplinary environment for high-quality education, research and collaboration with industry” (Tampere University)

In line with this vision and as explicitly stated and illustrated on its official website, Tampere University has identified **technology**, **health**, and **society** as its main strategic priorities, reflecting an approach that combines scientific and technological progress, societal impact, and regional development, all within a single institutional framework.

Our higher education community’s three priority areas are:



Fig. 2: Tampere University priority areas. Source: Tampere University.

4.1. Historical development and structure of the Finnish higher education system

In order to properly understand the Finnish higher education system, it is necessary to take into account the broader economic and social transformation which took place in the country during the last decades, as well as the many changes that have reshaped its university sector.

Finland has traditionally placed great emphasis on learning and skills development, but the current structure of its higher education system largely stems from a series of reforms implemented during the 1990s and the early 2000s. One of the most important milestones, which can be considered a major turning point, occurred in the 1990s, when the country faced a severe economic recession. After the collapse of trade relations with the Soviet Union and a serious banking crisis, Finland plunged into one of the deepest crises in its modern history, during which unemployment rose dramatically, the fiscal condition of the

government worsened, and policymakers were forced to reconsider the long-term development strategies of the country (Ahtiala & Junttila, 2020)⁴⁷.

In response, instead of focusing exclusively on traditional industries, Finland chose to invest in knowledge, research, innovation, and education. Therefore, human capital became a key pillar of national development policies, based on the idea that a long-term competitive advantage could be achieved through a highly educated workforce capable of coping with technological change and fostering economic growth (OECD, 2017)⁴⁸. During this period, Finland undertook significant reforms of its higher education system. In particular, the 1990s witnessed the establishment of the polytechnic sector, which laid the foundations for the current dual model based on universities and universities of applied sciences. Subsequent reforms aimed at increasing their institutional autonomy, strengthening quality assurance mechanisms, and reinforcing the contribution of higher education to innovation, regional development, and economic competitiveness. As a result, universities acquired a strategic role and, consequently, public investment in higher education and research intensified, accompanied by a stronger integration between academic institutions, industry, and innovation systems. (OECD, 2017 & European Commission, 2016⁴⁹).

As Aarrevaara (2012)⁵³ observes:

“the innovation system is the essential starting point of the Finnish university reform. Universities are part of the innovation system, in which case they are dependent on diverse funding, research networks, co-operation with other higher education institutions as well as industry and public research organisations. They share research infrastructure with all key players of the innovation system.”

This means that education was no longer considered solely as a social goal, but also as an economic investment capable of generating returns in terms of productivity, innovation, and competitiveness in the long run.

The dual nature of the Finnish university system is one of its defining characteristics. Higher education is organised around two complementary types of institutions: traditional

⁴⁷ Ahtiala, P., & Junttila, J. (2020). *Finland's great depression of the 1990s: Lessons about financial reform based on econometric macro evidence*.

⁴⁸ OECD (2017). *OECD Reviews of Innovation Policy: Finland 2017*.

⁴⁹ European Commission. (2016). *Finland – University mergers and institutional profiling*.⁵³
Aarrevaara, T. (2012). *Oh Happy Days!: University Reforms in Finland*.

universities and universities of applied sciences (UAS), known in Finnish as *ammattikorkeakoulut* (AMK). The former specialise in the knowledge creation, advancing research, and the provision of a more theoretical form of education. Degrees offered by universities tend to place greater emphasis on analytical, scientific, research-based competences, and the academic staff are usually actively involved in national and international academic projects.

Nevertheless, theoretical learning is frequently complemented by practical experiences, including collaborative projects, industry partnerships, and various forms of cooperation with companies and external organisations, allowing students to apply academic knowledge in real-world contexts.

Universities of Applied Sciences, by contrast, were specifically created to strengthen the link between education and the job market. Their curricula are generally more practice-oriented, being designed in collaboration with employers, local administrations, and representatives of the industry sectors (Böckerman, 2009)⁵⁰. This is why students are frequently exposed to project-based learning, internships, and other types of hands-on assignments that aim to ease the transition from education into the world of work.

Given the central role that skills mismatch plays for this thesis, the Finnish dual model represents a particularly suitable case study, as it concretely attempts to overcome this issue by providing two differentiated educational pathways tailored to diverse economic and professional demands. In this respect, the Finnish approach goes beyond the simple coexistence of universities and universities of applied sciences, fostering the development of complementary institutional profiles.

Furthermore, perhaps the most widely recognised strength of the Finnish higher education system concerns its strong commitment to ensuring equal access to university. In fact, public academic institutions do not impose any tuition fees on Finnish citizens, students from the European Union and the European Economic Area. Through this policy, Finland concretely seeks to ensure that access to higher education depends on students' performance and not on their financial resources. However, these fees are generally required only for non-EU/EEA students enrolled in English-taught bachelor's and master's degree programmes, but it is

⁵⁰ Böckerman, Petri; Hämäläinen, Ulla; Uusitalo, Roope (2009). *Labour market effects of the polytechnic education reform: the Finnish experience*.

worth mentioning that scholarship opportunities are widely available, making them the norm, rather than the exception (Finnish National Agency for Education, 2026)⁵¹.

Financial accessibility is further supported by the Finnish welfare system. In fact, students who meet the eligibility requirements can receive financial aid through Kela, the national social insurance institution, which include study grants, student loans managed by the government, and housing supplements. Understandably, these benefits are not automatically granted to all international students, but their availability already reflects Finland's commendable approach of minimising economic barriers as much as possible in order to encourage full-time study (Kela, 2026)⁵².

Another relevant characteristic of the Finnish system concerns its governance. Higher education institutions receive substantial public funding, while enjoying a considerable degree of autonomy. In fact, universities are responsible for their internal administration, for the strategic planning, and for the academic activities, while national authorities mainly set broader policy objectives. Furthermore, with the University Act reform of 2009, Finnish universities were granted even greater institutional independence, enabling them to operate with increased flexibility, while remaining responsible for their performance and efficiency (Aarveaara, 2012). In the end, what stimulates universities to perform effectively and pursue continuous improvement is the fact that funding mechanisms take into account indicators related to graduation rates, research output, internationalisation, and societal impact. This creates a system of incentives that encourages institutions to continuously enhance the numbers, the quality and the relevance of their programmes, generating benefits for every stakeholder, including the universities themselves, students, employers, and society as a whole, thereby contributing to the improvement of both individual and collective capacity to adapt to technological change and the strengthening of long-term economic competitiveness (Kettunen, 2016)⁵³.

This governance model thereby reflects the successful philosophy that combines public responsibility with institutional autonomy. In fact, if on the one hand, higher education remains strongly supported by the State through public investments and is considered a public good, on the other hand, universities are expected to create strategic partnerships,

⁵¹ Finnish National Agency for Education (2026). *Study in Finland*.

⁵² Kela. (2026). *Benefits for students in higher education*.

⁵³ Kettunen, J. (2016). *The Performance-Based Funding Scheme of Universities*.

engage with external stakeholders and be actively involved in regional and national development (Aarrevaara, 2012).

In conclusion, the Finnish higher education system demonstrates how education can be integrated into broader economic and innovation strategies. Its evolution reflects a long-term commitment to the development of human capital, the generation of knowledge, and the ability to respond to the needs of the labour market, all of which explain its domestic effectiveness and its growing international attractiveness.

4.2. Student-centred approach and university culture

One of the most distinctive features of the Finnish higher education system is its strong student-centred nature. While other universities in many countries continue to focus mostly on the transmission of knowledge and the fulfilment of academic requirements, institutions in Finland prefer paying more emphasis to the overall student experience, considering them not merely as passive recipients of education, but as active members of the academic community.

This approach reflects a broader conception of learning as a collaborative process rather than as a hierarchical relationship between professors and students. In other words, students are encouraged to participate actively in university life, contribute to discussions, and engage in group projects. The ultimate objective is to foster independence, critical thinking, problem-solving abilities, and interpersonal skills, which are highly valued in today's labour market.

Another relevant aspect concerns the relationship between students and academic staff. As opposed to more traditional and authority-based educational systems, interactions between professors and students in Finland are often characterised by a greater degree of informality and accessibility. Students generally feel more at ease when they need to approach lecturers, ask questions, request feedback, or discuss academic issues (Tampere University Student Ambassadors, 2024; University of Helsinki; University of Turku)⁵⁴. In turn, professors tend to be perceived as less distant authority figures and more as mentors, guides, or “facilitators” of the learning process. Even if this aspect may appear merely cultural at first glance, it can have important implications from an educational perspective. As a matter of fact, a more

⁵⁴ Tampere University Student Ambassadors. (2024). *Studying in Finland: Academic system and the culture*. University of Helsinki. *Studying in Finland*. University of Turku. *6 reasons why you'll feel welcome at the University of Turku*.

accessible relationship with academic staff may foster participation, reduce communication barriers, and contribute to creating a more supportive learning environment. Students who feel comfortable asking for help are more likely to engage actively with their studies and address difficulties before they become serious obstacles (English et al., 2022)⁵⁵.

Students usually also play an active role in university life and are generally regarded as stakeholders within the academic community, representing their interests within university governing bodies, through which they can participate in institutional decision-making processes. Here, their opinions, concerns, and suggestions are collected through formal feedback mechanisms and student representation, which are often given careful attention and addressed through dialogue and collaboration to improve the functioning of the institution. (Universities Act 558/2009, 2017; Finnish Education Evaluation Centre, 2023; Tampere University, 2026)⁵⁶.

A distinctive feature of universities in Finland is the importance attributed to collaboration over competition. Of course, academic achievement remains important, but the learning environment tends to favour peer support and teamwork. Indeed, group assignments, project based learning, and collaborative activities are common features of many programmes in both universities and universities of applied sciences. Such practices, besides contributing to the individual academic development, equip students with those transversal skills, which prove to be very useful in professional contexts.

From a broader perspective, the centrality of the learner within this approach reflects an understanding of higher education which is really committed to support students' personal and professional development, their social integration, and their overall well-being. In this sense, in Finland learning can be conceived as a multidimensional experience, able to encompass academic, social, and personal dimensions, simultaneously.

Moreover, a supportive and inclusive university environment may also influence student retention, academic performance, and success. Research confirms that students who feel integrated within the academic community are more prone to complete their degree

⁵⁵ English, J. L., Keinonen, T., Havu-Nuutinen, S., & Sormunen, K. (2022). *A study of Finnish teaching practices: How to optimise student learning and how to teach problem solving*.

⁵⁶ Universities Act (558/2009) (Finland) (2017).

Finnish Education Evaluation Centre. (2023). *The systematic and participatory feedback and development processes of Tampere University provide an excellent basis for quality work in teaching – the HEI passed FINEEC's audit*.

Tampere University. (2026). *Feedback on education*.

programme and achieve positive educational outcomes. On the contrary, isolation, disengagement, or lack of institutional support may increase the risk of academic difficulties and dropout (Thomas, 2012)⁵⁷.

All things considered, this student-centred approach may be seen as a strategic investment in human capital. Indeed, by promoting student satisfaction, engagement, and a sense of belonging, universities create favourable conditions that facilitate learning, skills acquisition, and employability. Hence, student support becomes closely tied to wider economic objectives, such as the formation of a highly skilled workforce and the reduction of inefficiencies arising from educational failure and waste of potential.

The practical application and manifestation of this framework can be observed in action throughout Finnish universities. Student organisations, welfare services, extracurricular activities, and community-building initiatives all contribute to creating an environment in which students are motivated to explore their interests, develop new competences, and prepare for future professional challenges.

4.3. Student welfare and quality of university life

One of the factors that distinguishes the Finnish higher education system is the extensive network of services and support structures designed to meet students' needs throughout their university experience. Indeed, their well-being is generally considered an essential part of their educational success, as it has been demonstrated that students are more likely to achieve good academic results when they have access to adequate accommodation, healthcare, affordable food, social support, and opportunities for physical and leisure activities. In other words, welfare policies and education in Finland are not seen as separate policy areas, but rather as mutually reinforcing dimensions (Thomas, 2012).

Among the most common difficulties faced by students during their university experience concerns housing. In fact, having access to affordable accommodation may constitute a significant barrier to higher education. In Finland, however, a large share of student housing is managed by specialised non-profit organisations operating in close cooperation with municipalities, universities, and student unions. Some examples may include, among others:

⁵⁷ Thomas, L. (2012). *Building student engagement and belonging in higher education at a time of change: Final report from the What Works? Student Retention & Success programme.*

- the Tampere Student Housing Foundation (TOAS);
- the Foundation for Student Housing in the Helsinki Region (HOAS), in the cities of Helsinki, Espoo, Vantaa, and Kauniainen;
- the Student Housing Foundation of Northern Finland (PSOAS) in the city of Oulu;
- the Central Finland Student Housing Foundation (KOAS), in the city of Jyväskylä;
- the Student Housing Foundation of Eastern Finland (Joensuu Elli), in the city of Joensuu.

As can be observed, these organisations are widespread all over Finland, which ensures the availability of affordable student housing in almost every university town of the country. Although each foundation operates independently, they share the common objective of reducing financial constraints and pressures faced by students, thus facilitating access to higher education, by offering accommodations that meet their needs and preferences, regardless of their socio-economic background. In fact, they provide flats at prices that are generally much lower than those available on the private housing market. Many of them also extend their services to young adults at the beginning of their professional careers, recognising that the transition from university to the working life may require additional support during its initial stages. Furthermore, these student housing foundations often promote community building by creating environments where students can easily interact, socialise, and develop support networks. In this sense, their accommodations do not just perform an economic function, but also a very important social one.

Sustainability is another common priority of many of these organisations, which actively promote an environmentally responsible lifestyle through energy-efficient buildings, recycling systems, and sustainable housing practices.

The scale of their activity demonstrates their strategic importance. Indeed, these foundations manage tens of thousands of apartments and rooms, and accommodate a very high proportion of the country's student population, making them an essential part of the higher education model in Finland (The Finnish Associations of Student Housing Organisations; Tampere Student Housing Foundation)⁵⁸.

Another important component of the Finnish welfare system supporting the academic journey is healthcare. All degree students have access to services provided by the Finnish

⁵⁸ Finnish Student Housing Association [Suomen opiskelija-asunnot ry]. SOA ry.
Tampere Student Housing Foundation [Tampereen opiskelija-asuntosäätiö sr]. TOAS.

Student Health Service, known in Finnish as Ylioppilaiden terveydenhoitosäätiö (YTHS). Rather than paying for each individual consultation, these services are heavily subsidised through a low, fixed healthcare fee, which, for the year 2026, amounts to €35.35 per term (€70,70 per year). With this system, students are entitled to a comprehensive range of healthcare services, including general medical care, nursing services, dental care, mental health support, and preventive health programmes (Kela, 2026)⁵⁹.

The inclusion of mental health services is of particular significance. As a matter of fact, in recent years, growing attention has been paid worldwide to the connection between psychological well-being and academic performance. Indeed, stress, anxiety, and other mental health disorders can negatively affect how students learn, participate in university life, and complete their studies. By providing accessible support services, the Finnish system seeks to prevent or tackle these issues proactively, thereby reducing the risk of academic difficulties and burnout associated with psychological distress.

The availability of food at affordable prices can also be considered a crucial aspect for academic well-being. Fully aware of this, Finnish universities provide a subsidised meal system supported by the Social Insurance Institution of Finland (Kela), under which eligible bachelor's and master's students, including exchange students, benefit from a €2.80 discount that is deducted directly from the price of each meal purchased at participating campus restaurants. As a result, the maximum price of a standard hot meal is currently €3.10, while meals prepared with more expensive ingredients cost between €4.50 and €5.90. This system, available in more than 275 student restaurants throughout Finland, ensures that students have daily access to affordable, nutritionally balanced meals regardless of their university, their city of residence, and their socio-economic background.

Besides their affordability, Finnish campus restaurants are notable for giving priority to the quality and the variety of the food offered, in accordance with national dietary guidelines. Menus change daily and, on certain days, restaurants also offer traditional Finnish specialties, giving everyone the opportunity to experience or enjoy the local food culture. Students can choose from a different range of dishes every day, with several alternatives, such as meat, fish, vegetarian and vegan options, ensuring that special dietary requirements can be accommodated. Many universities also promote the use of seasonal and local products, together with environmentally sustainable practices aimed at reducing food waste

⁵⁹ Kela. (2026). *Healthcare fee for students in higher education*.

and encouraging recycling. In addition, campus restaurants often become important social spaces where students meet, interact, and strengthen their sense of belonging to the academic community. Consequently, beyond functioning as dining facilities, these restaurants also serve the purpose of promoting healthy eating habits, sustainability, and social interaction, contributing positively to the students' overall university experience. For this reason, even if this measure may seem secondary and of little relevance, its impact should not be underestimated (Kela, 2026; National Nutrition Council et al., 2021)⁶⁰.

Physical well-being is also supported through a wide range of sports and leisure services. Many universities collaborate with local organisations in order to provide affordable access to gyms, fitness classes, team sports, and recreational activities. At Tampere University, for instance, students have access to a wide variety of sport facilities at costs that are generally much lower than those on the private market. Through the association SportUni, students can use indoor and outdoor gyms, playing fields, climbing facilities, sports equipment, saunas, and shower areas across multiple university campuses by paying a single annual fee of €91, with shorter-term and pay-per-visit options also available. The service is supported by an integrated digital booking and access system, which allows students to reserve activities online and gain entry using their student card, making the service accessible, controlled, secure, and convenient (SportUni)⁶¹.

Once again, these opportunities contribute to physical health, but also to social integration and to the general quality of life. Engaging in sports and other leisure activities enables students to expand their social networks, manage and relieve stress, and find a healthy balance between academic responsibilities and personal life.

In addition to housing, healthcare, subsidised meals, and sports services, Finnish universities also tend to provide well-developed support structures designed to facilitate students' academic and professional success. These may encompass academic guidance, study counselling, career services, support for international students, and various forms of mentoring, including peer mentoring. Such initiatives help students navigate university life more effectively, reducing potential administrative, academic, and mental barriers that could hinder their educational progress.

⁶⁰ Kela. (2026). *Meal subsidy for students in higher education*.

National Nutrition Council, & Kela. (2021). *Well-being and ability to study from food: Meal recommendations for higher education students*.

⁶¹ SportUni. *Sports services for Tampere Universities*.

From a broader economic point of view, these welfare mechanisms are pure investments in human capital. By reducing financial, social, and psychological obstacles, universities create favourable conditions that enable students to learn and acquire new skills in a more effective way, thereby contribute to lower dropout rates, enhanced academic performance, and better labour market outcomes after graduation (CCE Finland, 2026)⁶². Moreover, the existence of these comprehensive welfare measures may increase, and probably has already increased, the appeal of the Finnish higher education system itself and the competitive advantage capable of strengthening both domestic student retention and international attraction. This is because, as discussed in the previous chapters, prospective students increasingly evaluate the extent to which cities and universities are able to promote students' physical, psychological, and social well-being.

For all these reasons, student welfare is not a mere collection of support measures, but reflects a wider understanding in which academic life, personal health, and everyday student support are conceived as mutually reinforcing dimensions of the same educational model.

4.4. Student organisations, traditions and community building

A distinctive characteristic of the Finnish higher education system is the strong sense of community that prevails in it. Here, beyond attending lectures and fulfilling academic requirements, students are encouraged to engage in a wide range of social, cultural, and extracurricular activities that contribute to making universities vibrant communities rather than institutions dedicated exclusively to teaching and research. This active participation takes the form of student unions, faculty associations, guilds, and other organisations. Almost all students become involved, to varying degrees, in one or more of these organisations, which coordinate academic events, social activities, cultural initiatives, sports competitions, and networking opportunities. Together, they are meant to facilitate integration, strengthen peer relationships, and contribute to creating a strong sense of community within the university (TREY, University of Turku). At Tampere University, for instance, student organisations constitute one of the most defining features of campus life, forming an extensive, vibrant, and highly active network that brings together thousands of students across a wide variety of academic, social, cultural, and recreational fields.

⁶² Council For Creative Education (CCE) Finland (2026). *Exploring the benefits of student support services*.

An illustrative example is Boomi ry, the association representing Business students at Tampere University, founded in 1965. It actively functions as an advocacy, service, and cooperation organisation, promoting students' interests while offering networking opportunities, company visits, professional development activities, and close interaction with employers (Boomi ry)⁶³. In doing so, it reinforces the connection between higher education and the labour market, exposing students to the professional environment well before graduation and facilitating their transition into working life, thereby potentially contributing to the reduction of skills mismatch.

Long-standing traditions also play a central role in the student culture in Finland. Among the most famous and, especially, the most visible is the use of the cherished and colourful overalls, *opiskelijahaalarit* in Finnish, commonly worn at university events and celebrations. They are available in a wide variety of colours and are often styled in different ways or combined with distinctive accessories depending on local traditions and on the different student organisations, all of which make them the most recognisable symbol of the Finnish student life. Different colours typically identify different fields of study, enabling students to recognise the members of their academic community, while simultaneously reinforcing a broader sense of belonging to the university community itself. Throughout their academic journey, the overalls gradually become highly personalised through the addition of handsewn patches, accessories hung with cords and ribbons, belts, and other items collected during each of the many events students attend, ultimately reflecting each one's unique university experience (Linköping University)⁶⁴.

From the outside, these traditions may initially appear symbolic, chaotic, and purely recreational. Nevertheless, they perform some very important social functions, encouraging active participation in university life and making a tangible contribution to the creation of a shared identity, the development of a cohesive and inclusive community, the strengthening of interpersonal relations, and the facilitation of interactions among students from different backgrounds, cities, or countries, as in the case of exchange students (This is Finland, 2023)⁶⁵.

⁶³ Boomi ry. *Organization*.

⁶⁴ Linköping University. *The overall – A cherished and colourful garment*.

⁶⁵ This is Finland. (2023). *What's the deal with the overalls you see university students wearing in Finland?*



Fig. 3 and 4: Finnish university culture: overalls and events. Source: The City of Tampere; This is Finland

University events represent another significant aspect of student life. During the academic year, universities in Finland host a wide variety of activities, ranging from orientation weeks, job and thesis fairs, networking events, cultural initiatives, sport competitions, student celebrations, among others. One of the best known and most important events in the Finnish student culture is *Wappu*, the traditional May Day celebration, during which students participate in numerous activities that, once again, strengthen social ties and establish even more lasting roots within the university community. Another widespread tradition is the *Appro*, a themed student event involving a tour of local venues, designed to promote social interaction, active participation, and a stronger connection with both the local community and the surrounding city (LAB University of Applied Sciences, 2024)⁶⁶.

In conclusion, beyond the cultural and recreational value of such organisations, traditions, and activities, there is a very relevant complementary advantage that these initiatives may offer to formal learning. From a purely educational perspective, in fact, active participation provides students with valuable opportunities to organise events, manage projects, coordinate teams, and interact with external stakeholders. In doing so, they develop a wide set of transversal competences, such as leadership, communication, teamwork, problem-solving, adaptability, organisational skills, all of which are increasingly valued in the world of work. (Thomas, 2012). By creating environments in which academic study is continuously combined with practical experience, collaboration, and personal initiative, Finnish universities help prepare their students for the challenges and the complex demands of the contemporary labour markets. This approach is based on a wider understanding of higher

⁶⁶ LAB University of Applied Sciences. (2024). *A peek into student life – The ABCs of student events*.

education, where learning extends beyond the classroom and encompasses a wide variety of experiences able to support both personal and professional development.

At the same time, these measures also strengthen the international dimension of the universities. Indeed, they provide international students, on an equal footing with domestic ones, with accessible opportunities to become familiar with the academic environment, build personal and professional networks, and gain a deeper understanding of the local culture and the university life (Nordblad & Huusko, 2023)⁶⁷. As a result, they also contribute to the development of social and human capital, while enhancing the attractiveness, the reputation, and the long-term competitiveness of the Finnish higher education system

4.5. University – business collaboration, practical learning, and labour market integration

A close and constant collaboration between universities and the labour market can be mentioned among the features that distinguish the Finnish higher education system. As discussed throughout this thesis, nowadays one of the main challenges for universities is to reduce the distance between what graduates acquire during their studies and what employers expect from them. Unlike many other systems where this issue is addressed only afterwards, the Finnish model seeks to establish strong links and continuous dialogue between higher education and the working world from the beginning of students' academic pathways. Indeed, partnerships with companies, public institutions, and other external organisations are regarded as an integral part of the educational process itself (Nordblad & Huusko, 2023).

This collaborative approach is visible at multiple levels: employers and professionals are frequently involved in curriculum planning, guest lectures, applied research projects, thesis supervision, and many other educational activities. Such regular interactions enable universities to keep their programmes updated and responsive to technological developments, economic transformations, and emerging professional profiles, whilst allowing students to gradually familiarise themselves with real-world organisational contexts long before entering the labour market (VisitEDUfinn, 2025)⁶⁸.

⁶⁷ Nordblad, M., & Huusko, M. (2023). *International student study experience and engagement in Finnish higher education institutions*.

⁶⁸ VisitEduFinn. (2025). *How does Finland's education system address workforce preparation?*

The practical implementation of this philosophy differs slightly according to the nature of the higher education institution. Within Universities of Applied Sciences, cooperation with businesses represents one of the fundamental pillars of the teaching model: degree programmes are devised in consultation with companies and regional stakeholders, and usually include compulsory project works, and practical training periods. On the contrary, “traditional” universities tend to maintain a stronger academic orientation, even though they have progressively started adopting many similar practices. In fact, nowadays collaboration with external organisations has become increasingly common through multidisciplinary projects, industry partnerships, and innovation initiatives.

This has blurred the line between theoretical and practical learning, making it possible for students to complement their discipline-specific knowledge with direct exposure to professional environments (Tampere University; Tampere University of Applied Sciences, Ranga et al., 2016⁶⁹)

A particularly interesting methodology is project-based learning. Rather than confining learning to lectures and exams, many courses require students to work individually or in teams on challenges which may be proposed by companies, public authorities, or non-profit organisations, or developed through simulated professional scenarios. Here, students are expected to analyse real-world situations, identify potential solutions, and present their findings directly to external partners. In this way, theoretical concepts are continuously applied to concrete contexts, and, at the same time, communication, teamwork, critical thinking, and problem-solving abilities are strengthened (Aksela & Haatainen, 2019)⁷⁰.

Likewise, internships and traineeships constitute a regular component of many Finnish degree programmes. Work placements constitute an important learning opportunity, as they form part of a gradual process through which students can experience organisational dynamics first-hand, understand professional expectations, and acquire practical competences that cannot always be developed within the classroom alone (Talent Hub Eastern Finland, 2026)⁷¹.

⁶⁹ Ranga, M., Perälampi, J., & Kansikas, J. (2016). *The new face of university - business cooperation in Finland*.

⁷⁰ Aksela, M. & Haatainen, O. (2019). *Project-Based Learning (PBL) in Practise: Active Teachers' Views of Its' Advantages And Challenges*.

⁷¹ Talent Hub Eastern Finland. (2026). *Future talents are found through internships*.

4.5.1. Career services, regional partnerships, and the Tampere innovation ecosystem

Integration between higher education and working life is further reinforced through the extensive career support offered by Finnish universities. Instead of intervening only on the final stages of students' academic journey, professional development is generally regarded as an ongoing process that runs throughout the entire university experience. In fact, universities offer structured career guidance programmes designed to prepare students to understand labour market dynamics, explore job opportunities, and establish contacts with potential employers before graduation. Career services may include individual counselling, CV and interviews workshops, recruitment events, networking sessions, company presentations and job fairs organised directly on campus. Moreover, many Finnish universities also support students in identifying internship opportunities and finding thesis collaboration partners. Such initiatives enable students to gradually become acquainted with selection and hiring processes and with professional expectations while still completing their degrees (Tampere University, 2026)⁷².

The Tampere region provides an illustrative example of this collaborative approach. Indeed, thanks to its industrial past and its subsequent transformation into one of Finland's leading centres for technology, research, and innovation, it has developed a highly interconnected ecosystem in which universities, companies, research institutes, and even public authorities work in close partnership. Therefore, within this environment, academic institutions are not stand-alone educational providers, but active participants in the region's economic and technological development.

Tampere University is one of the key actors within this network. Indeed, it maintains longstanding partnerships with companies that work in sectors such as information technology, telecommunications, engineering, manufacturing, healthcare, automation, and digital technologies. This broad industrial landscape reflects the university's ability to establish links across strategically important industries for the region. In fact, the historical development of this area has played a decisive role in shaping this model. (Kostiainen and Sotarauta, 2002)⁷³.

⁷² Tampere University. (2026). *Internship and work life*.

⁷³ Kostiainen, J., & Sotarauta, M. (2002). *Finnish city reinvented: Tampere's path from industrial to knowledge economy*.

The presence of international companies such as Nokia, together with the emergence of many other technology firms, research centres, and start-ups, has contributed to the creation of an environment in which innovation is deeply integrated within daily university activities. In particular, the Hervanta campus, home to Tampere University's main engineering and technology faculties, is located in close proximity to research institutions and high-tech companies, creating an ecosystem that facilitates interaction between students, researchers, industry, and employers. As a matter of fact, this geographical proximity offers opportunities for collaboration and for the practical application of academic knowledge to real-world challenges, particularly through multidisciplinary innovation projects, entrepreneurship initiatives, business competitions, and other joint activities with external organisations (Tampere University)⁷⁴.

In summary, the relationship between universities and businesses is based on a reciprocal process of exchange, and not on a one-directional transfer of knowledge: universities benefit from a continuous dialogue with industry regarding emerging technological advancements, innovation needs, research priorities, and changing occupational trends; at the same time, companies gain access to highly qualified graduates, cutting-edge academic expertise, and opportunities for collaborative innovation. In this context, public institutions also play an active role by encouraging cooperation, implementing regional development strategies, and promoting knowledge transfer between higher education institutions and firms. This collaborative approach can be interpreted through the Triple Helix Model developed by sociologists Henry Etzkowitz and Loet Leydesdorff in 1995⁷⁵, according to which innovation increasingly stems from a dynamic interaction between universities, industry, and government, rather than from the isolated action of each institutional sphere. As Etzkowitz et al. (2000)⁷⁶ argue:

“[...] the university becomes a key element of the innovation system both as human capital provider and seed-bed of new firms.”

⁷⁴ Tampere University. Hervanta Campus – *A hub for science, technology and collaboration*.

⁷⁵ Etzkowitz, H., & Leydesdorff, L. (1995). *The Triple Helix—University–Industry–Government Relations: A Laboratory for Knowledge-Based Economic Development*.

⁷⁶ Etzkowitz, H., Webster, A., Gebhardt, C., & Terra, B. R. C. (2000). *The future of the university and the university of the future: Evolution of ivory tower to entrepreneurial paradigm*.

From this perspective, academic institutions are no longer considered solely as organisations whose role is limited to teaching and research, but they also assume a “third mission” of economic development.

At this stage, it can be said that the Finnish higher education system fully reflects the principles of the Triple Helix Model, as universities, businesses, and public authorities cooperate constantly to foster innovation, strengthen regional competitiveness, and facilitate the transfer of knowledge into economic and social value.

In light of all the above, the Tampere case perfectly illustrates and demonstrates that effective university – business interaction depends not only on individual initiatives, but also on the existence of a broader regional innovation ecosystem capable of connecting education, research, entrepreneurship, and economic development. The direct result is that these stakeholders form an interconnected networks in which knowledge, innovation, and human capital circulate continuously, generating benefits that extend far beyond the university itself.

4.6. Tampere as a hub for innovation, entrepreneurship and talent attraction

Among the various Finnish university cities, Tampere represents an interesting example of a fruitful relationship between higher education, innovation, and regional development. With approximately 260,000 inhabitants and a metropolitan population of more than 400,000 people, Tampere is today the largest inland city in Northern Europe and one of Finland’s leading centres for knowledge-intensive industries. Its historical identity was strongly linked to manufacturing, but the region’s economy has progressively diversified towards highly innovative, digitalized, and research-oriented sectors.

In fact, over the last decades, the city has undergone a significant transformation, evolving from a traditional industrial centre into one of Finland's leading hubs for technology, research, and entrepreneurship. This transition has been accompanied by the development of its higher education institutions, which have become an important part of the city's economic and social evolution (Kostiainen and Sotarauta, 2002).

A significant step in this process was the establishment of Tampere University in its current form in 2019, through the merger of the former University of Tampere and Tampere University of Technology. The new institution combines expertise in engineering,

technology, health sciences, social sciences, and business, thus fostering interdisciplinary collaboration while enhancing the international profile and reputation of the academic institution. For this reason too, Tampere has become an increasingly attractive destination for both domestic and foreign students. Alongside the high-quality educational opportunities, the city is renowned for its youthful, international, and university-oriented atmosphere, characterised by efficient public services and transport, extensive green spaces, a good quality of life, and strong employment prospects in the many high-tech and knowledge-intensive industries located across the region. All these factors make Tampere an appealing choice for studying, living, and starting a professional career (City of Tampere 2025)⁷⁷.

Furthermore, its relevance can also be analysed in terms of human capital development. Indeed, by attracting students, researchers, and highly skilled professionals, the city contributes to the concentration of knowledge and competences within the region (Business Tampere)⁸². At the same time, the strong links between universities and employers facilitate the transition from education to employment, helping retain talent and reduce the risk of human capital outflows.

The ongoing process of internationalisation is further reinforcing its attractiveness. Degree programmes taught entirely in English, dedicated services and support structures for foreign students, and extensive international research collaborations have increased the visibility of Tampere University and boosted the city's global recognition.

Moreover, as nowadays students increasingly evaluate the overall living environment rather than just the university on its own, it is worth mentioning that Tampere combines its positive reputation and the image typically associated with Finland as the happiest country in the world, with the advantages of being a very dynamic, safe, and vibrant city.

In other words, it is more than simply a successful university town: it is a concrete demonstration of how the integration of the higher education system into a broader territorial development strategy based on innovation and human capital formation can generate long-term economic and social benefits (Tampere University⁷⁸; VisitTampere⁸⁴).

⁷⁷ City of Tampere. (2025). *Tampere is again the most prestigious city for students in Finland.* ⁸² Business Tampere. *Why Tampere? Invest in Tampere.*

⁷⁸ Tampere University. Tampere University's Strategy and Values. ⁸⁴ Visit Tampere. *Home of happiness.*

Beyond its internationalisation scheme, Tampere University has also integrated a plan for sustainable development into its long-term institutional vision. The Strategy of Tampere University 2030 highlights the university's commitment to combining education, research, innovation, societal engagement, international networks, digitalisation, and sustainable development through close cooperation with external partners (Tampere University)⁷⁹

Although these objectives have been defined at the institutional level of the university, they are closely aligned with the broader priorities of the United Nations 2030 Agenda, particularly those concerning the:

- sustainable development goal 4 (Quality Education),
- sustainable development goal 8 (Decent Work and Economic Growth),
- sustainable development goal 9 (Industry, Innovation and Infrastructure),
- sustainable development goal 11 (Sustainable Cities and Communities),
- sustainable development goal 17 (Partnerships for the Goals).

The figure below summarises the main strategic goals and development themes that will guide the University's activities towards 2030.

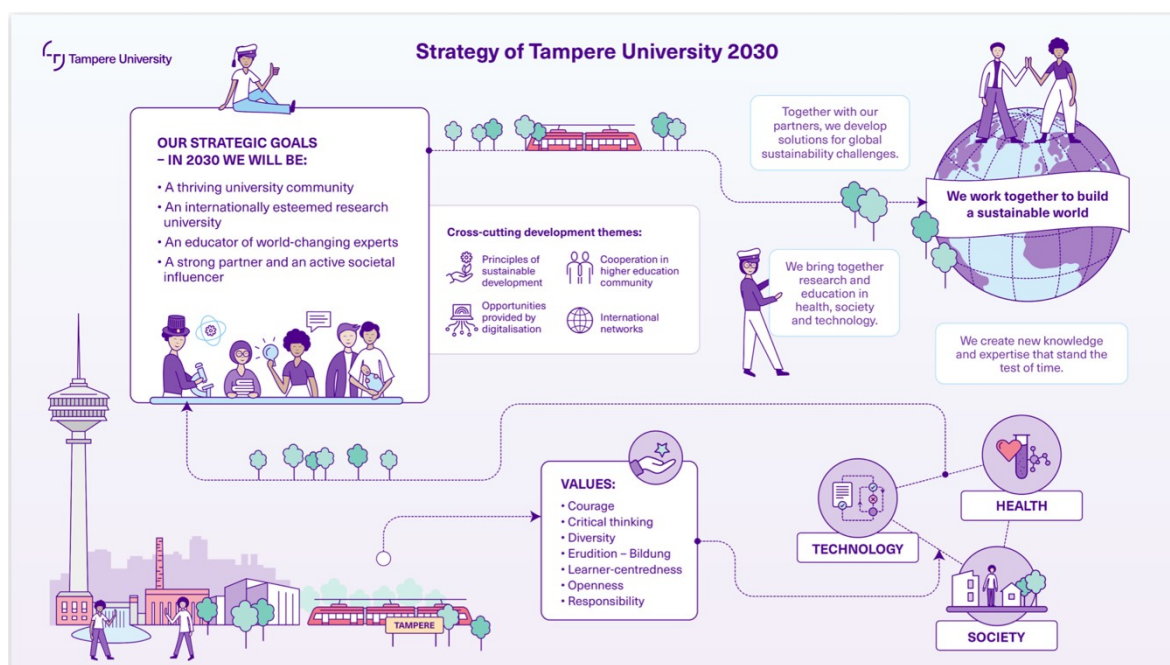


Fig. 5: Strategy of Tampere University 2030. Source: Tampere University.

⁷⁹ Tampere University. *Tampere University's International Strategy 2030*.

For all these reasons, Tampere, and Finland in general, represent a suitable case study for analysing how higher education can lead to tangible results in terms of regional attractiveness, innovation, and talent retention.

4.7. Skills system performance: a quantitative analysis of Finland and Italy

Having examined the key features of the Finnish higher education model, it is relevant to compare them with the performance of the Italian university system through a quantitative analysis based on the European Skills Index (ESI), developed by Cedefop⁸⁰ as one of the most comprehensive European tools for assessing the overall results of national skills ecosystems.

Unlike traditional university rankings, the ESI does not evaluate the quality of individual higher education institutions; rather, it measures how effectively a country's skills system develops, activates, and matches people's competences with labour market needs.

This index is based on 15 individual indicators, grouped into three main pillars: Skills Development, Skills Activation, and Skills Matching, which are further divided into several sub-pillars. It adopts a "distance to the ideal" methodology: the best performance achieved by any European country during the previous seven years is set as the benchmark, with a score of 100, while all other countries are assessed according to their proximity to this reference value. Consequently, an overall score of 65 indicates that a country has achieved approximately 65% of the ideal performance, leaving a remaining improvement potential of 35%, while a score of 0 represents the lowest observed performance.

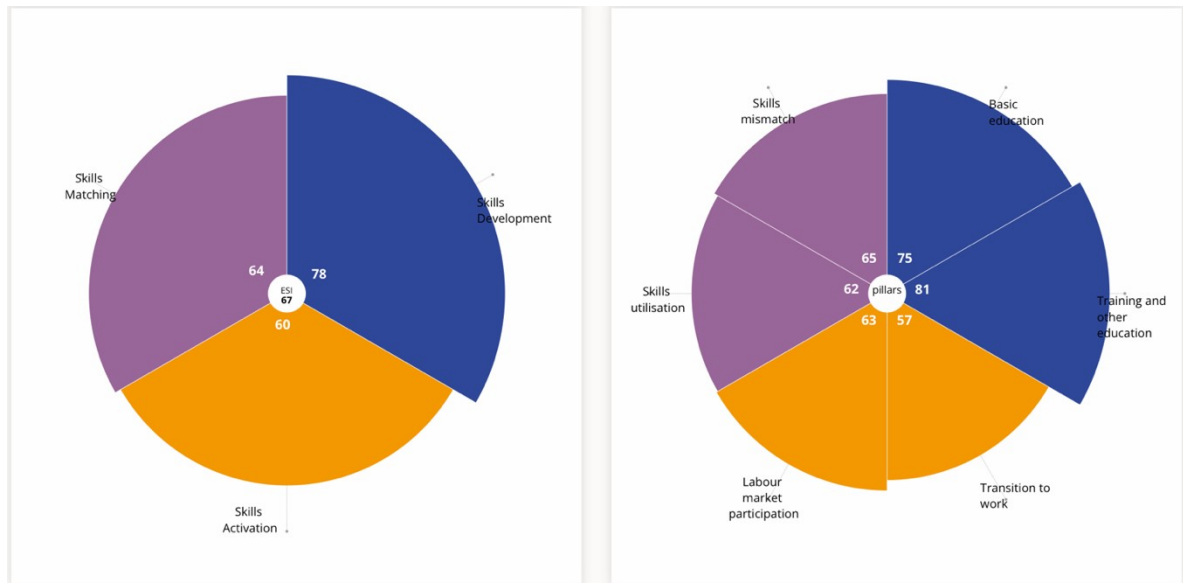
This approach makes it possible to compare countries with different institutional setups using a common and easily interpretable scale.

4.7.1. Overall performance

The comparison between Finland and Italy visually reveals significant differences in the performance of their respective skills systems.

⁸⁰ European Centre for the Development of Vocational Training (Cedefop). *European Skills Index*.

In Finland



In Italy



Fig. 6: European Skills Index: comparison between Finland and Italy across the three skills dimensions and with the overall score. Source: Cedefop (2024)

These graphs provide an immediate overview of the general performance of the two countries. In the 2024 European Skills Index, Finland ranks 4th out of the 31 European countries, achieving an overall score of 66.6, (approximately 67), corresponding to approximately two-thirds of the ideal benchmark set by Cedefop, whereas Italy occupies the

30th place, with an overall score of 26, indicating that there is still a considerably wider performance gap.

The comparison also shows that Finland outperforms Italy across all three pillars, with the most marked difference emerging in the area of Skills Activation. In particular, Finland ranks 1st in Skills Development (77.7), 18th in Skills Activation (60.0), and 11th in Skills Matching (63.9). By contrast, Italy comes 25th in Skills Development (40.8), 30th in Skills Activation (10.6), and 27th in Skills Matching (33.4). Thus, while Finland performs consistently well across all three dimensions, Italy records results well below the European average, ranking among the lowest performing countries included in the index.

4.7.2. Analysis of the three pillars

A more in-depth examination of the three pillars offers further insights into the structural differences between the two systems.

- Skills development



Fig. 7: European Skills Index: comparison between Finland and Italy in the Skills development dimension.

Source: Cedefop (2024)

The most striking gap emerges in Skills Development, where Finland achieves the highest score in Europe. Notable strong performances are recorded in indicators such as “upper secondary attainment (and above)”, which measures the share of population that has completed at least upper secondary education, “vocational education and training (VET)”, “recent training”, and “high digital skills”, confirming the country's longstanding commitment and investment in education and lifelong learning.

On the contrary, Italy records less positive results in most of the areas, especially regarding upper secondary attainment, participation in continuing training, and digital competences, all of which are closely associated with the development of human capital, the adaptation to labour market needs, the reduction of skills mismatch, and constitute key dimensions in the analysis developed throughout this thesis.

- **Skills activation**

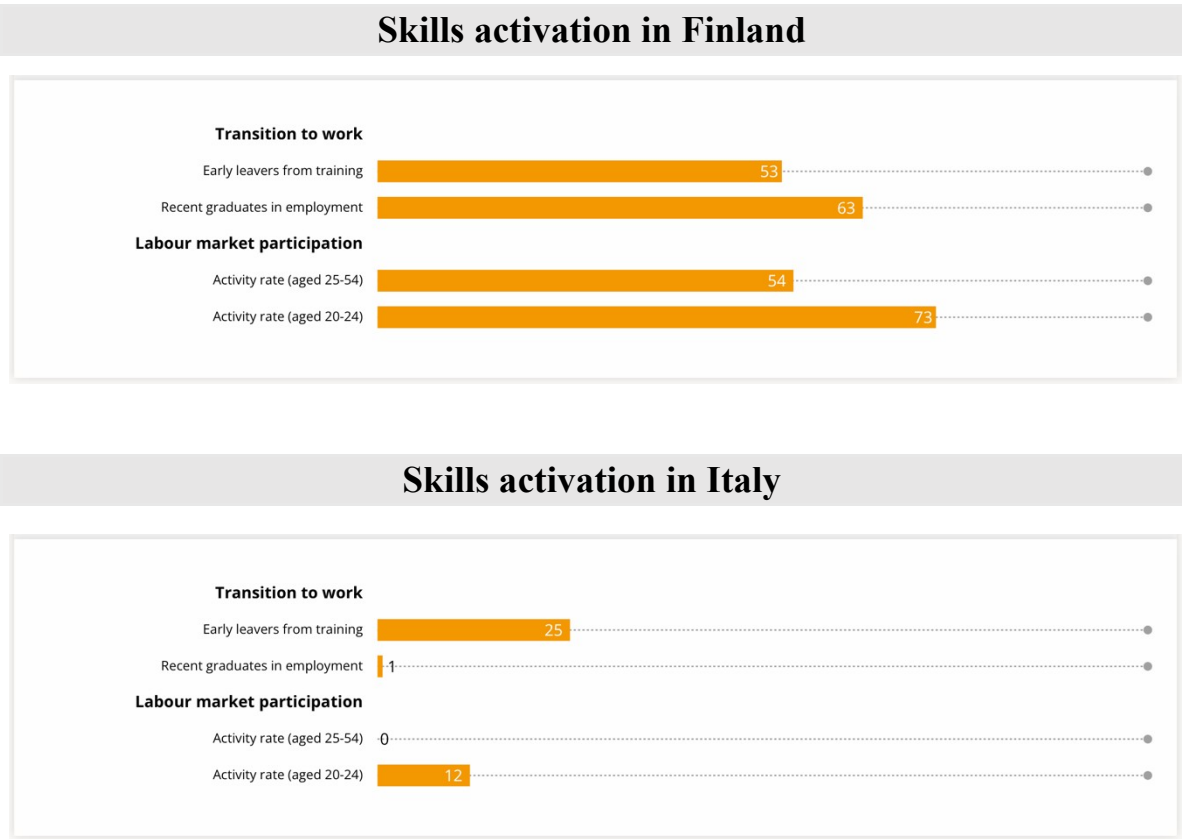


Fig. 8: European Skills Index: comparison between Finland and Italy in the Skills activation dimension.
Source: Cedefop (2024)

The difference between the two countries becomes even more pronounced in the Skills Activation area, which represents Italy's weakest pillar. As illustrated in the graphs above, Finland achieves stronger results in indicators related to recent graduates' employment and labour market participation, which suggests a smoother transition from education to employment. By contrast, Italy's extremely low score in recent graduates' employment highlights one of the major issues examined in this thesis: although here students generally acquire solid academic knowledge, their access to the world of work often remains slower and less structured. These findings confirm that the main challenge does not necessarily lie in the quality of higher education itself, but rather in how effectively academic knowledge and acquired skills translate into successful labour market outcomes.

- **Skills matching**



Fig. 9: European Skills Index: comparison between Finland and Italy in the Skills matching dimension.
Source: Cedefop (2024)

Although the graph shows a slightly narrower gap for what concerns the Skills Matching pillar, Finland still outperforms Italy in most indicators. For the former country, particularly noteworthy are the low proportion of university graduates on low wages, the relatively

limited qualification mismatch, and the lower rate of long-term unemployment. In these areas, Italy performs comparatively better in terms of underemployed part-time workers, but records significantly lower scores for qualification mismatch, suggesting greater difficulties in ensuring that graduates find occupations corresponding to their level of education. Overall, these results reinforce the argument put forward in this thesis, namely that high levels of education alone are not sufficient to bridge the gap between the supply of and the demand for skills. Indeed, in order to align graduates' skills with the needs of the labour market, it is necessary to develop effective mechanisms that facilitate the integration into the job market after graduation and promote ongoing dialogue between higher education institutions and employers.

4.8. Discussion of the findings

The quantitative findings presented above are largely consistent with the qualitative analysis presented throughout this chapter and in thesis. The Finnish model is characterised by a continuous interaction between universities, businesses, and public entities, the prevalence of practical learning opportunities, structured career guidance, and a gradual transition into employment. Together, all these components appear to contribute to the development of competences, but especially to their effective activation and utilisation within the labour market.

Nevertheless, these results should be interpreted in light of the broader historical, social, cultural, and demographic context of the two countries. In fact, such differences help explain why the two systems have evolved according to different priorities and, therefore, display different strengths. The Italian university system, for example, has a long-standing academic tradition in rigorous disciplinary preparation and places a strong emphasis on theoretical education. Despite operating with comparatively lower levels of public investment compared to several other OECD countries, universities in Italy continue to produce internationally recognised research and to maintain high standards in many scientific fields (OECD, 2017; Colombo, 2022)⁸¹.

⁸¹ OECD. (2017). *Education Policy Outlook: Italy*

Colombo, M., & Salmieri, L. (2022). *Higher Education in Italy: Between New Public Management and Autonomy*.

The Finnish model, on the other hand, derives part of its effectiveness from structural conditions that are not so easily transferable to other realities, including constant public investment, strong institutional coordination, and a well-established culture of cooperation among different stakeholders. These characteristics have been developed over several decades and reflect Finland's specific geography, economy, and institutional background.

It is also worth noting that both countries have shown signs of improvement over the past seven years. In fact, Finland has enhanced its overall ESI score from 61.1 to 66.6, mainly due to a decrease in long-term unemployment rates and a higher employment level among recent graduates, despite some slight declines in reading performance and participation in vocational education. Italy has also improved its overall score, which has increased from 16.6 to 26, although its overall ranking has remained unchanged. This remarkable progress has been achieved thanks to a reduction in Early leavers from training rates and improvements in early childhood education, even though the negative trend in vocational education participation continues to represent an important challenge (Cedefop, 2017)⁸².

Ultimately, the comparison suggests that the two countries reflect different educational traditions rather than just two completely opposing models. Indeed, whereas Italy has historically prioritised rigorous academic preparation and scientific excellence, Finland has progressively developed a more integrated and coordinated system, in which higher education institutions, labour market actors, and public authorities cooperate closely to foster the development of skills, facilitate their activation, and improve the matching between graduates' competences and employers' needs.

⁸² European Centre for the Development of Vocational Training (Cedefop). (2017). *Country pillars: Finland*. European Skills Index.

European Centre for the Development of Vocational Training (Cedefop). (2017). *Country pillars: Italy*. European Skills Index.

Conclusions

One of the main questions emerging from this research concerns the extent to which the Finnish model of higher education can realistically be transferred to the Italian context. The findings suggest that the answer is only partially affirmative since, although several features of the Finnish academic system may represent valuable sources of inspiration, its overall effectiveness cannot be understood independently of the broader historical, geographical, demographic, economic, and cultural context in which it has developed. Consequently, attempting to replicate individual policies or institutional practices without taking into consideration these structural conditions would likely produce different outcomes.

Indeed, many of the characteristics that distinguish the Finnish system are themselves the result of decades of consistent political choices and long-term public investment. High levels of trust in public authorities, relatively low levels of corruption, widespread tax compliance, and a comprehensive welfare system did not emerge spontaneously. Rather, they are the outcome of gradual processes of institutional development, political stability, and sustained investment in public services. This commitment is reflected in Finland's position as the second least corrupt country out of 182 nations in Transparency International's 2025 Corruption Perceptions Index (CPI), a result that reflects Finland's strong institutional integrity, its accountable leaders, and the transparency of its governance.

The same applies to higher education. As a matter of fact, Finnish universities are not successful simply because they happen to be fortunate enough to operate within a favourable environment; rather, such an environment is itself the result of deliberate and coherent public policies, long-term institutional efforts, and sustained funding for education and innovation.

Nevertheless, the Finnish experience should not be idealised, as Finland too faces significant structural challenges, including demographic ageing, a declining population in several regions, geographical dispersion, and the economic consequences resulting from the interruption of the long-standing commercial relations with Russia following the war in Ukraine, a situation that has often been compared to the severe economic crisis experienced after the collapse of the Soviet Union in the early 1990s. Nevertheless, despite these constraints and the economic uncertainty, Finland has once again chosen to maintain and preserve the investments in higher education, reaffirming its commitment to education as a strategic driver of recovery, innovation, and competitiveness.

This perspective also helps explain why the positive results observed in Finland cannot be attributed solely to the universities themselves. Whilst higher education institutions undoubtedly play a key role in developing skills and facilitating graduates' transition into the world of work, they operate within a broader policy framework shaped by governments and public institutions. Decisions related to funding, labour market regulation, welfare policies, innovation strategies, and university governance all contribute to determining the conditions under which universities function. In this respect, the Finnish performance-based funding system, introduced in 2013, is a particularly meaningful example: by linking a significant proportion of university funding to measurable outcomes, the Finnish government has explicitly recognised higher education as a tool for improving quality, its graduation rates, employability, and economic growth. Although previous studies have questioned the effectiveness of this performance-based funding in cases where public resources represent only a limited share of universities' total income, as occurs in Italy, Finland represents a distinctive model: since Finnish universities do not charge tuition fees for degree programmes and rely predominantly on public financing, governmental funding policies retain a particularly strong steering effect, encouraging institutions to improve both efficiency and educational outcomes.

These considerations are of particular relevance when compared with the Italian context. Throughout the thesis, it has emerged that the Italian higher education system continues to represent an important centre of academic excellence and scientific research, producing graduates with solid theoretical preparation despite operating with relatively lower levels of public investment than many other OECD countries. At the same time, greater efforts appear to be needed to strengthen the relationship between universities and the labour market, expand opportunities for high-quality practical learning, reinforce career guidance services, and promote more structured forms of collaboration between higher education institutions, businesses, and public authorities. However, these measures alone would not be sufficient unless accompanied by broader reforms capable of ensuring the continuity of public investment, more effective governance, stronger cooperation between public and private actors, and long-term policy coherence. Additional challenges include the limited resources available for structured university-industry collaboration, the persistent phenomenon of graduate emigration, commonly referred to as *brain drain*, and the discontinuity of reforms in the field of higher education in recent decades. Together, all these factors make the

development of relationships between academic institutions and the labour market much more complex if compared to the Finnish case.

For this reason, the most realistic lesson that Italy can draw from the Finnish experience is not to replicate its higher education model directly, but rather to adapt those practices that are compatible with its own institutional and socio-economic context. A greater integration of practical learning in university curricula, a stronger cooperation between universities and industry, and more effective career guidance services undoubtedly represent valuable guidelines for future development.

Ultimately, however, reducing skills mismatch cannot be regarded as a sole responsibility of universities. Rather, it requires coherent public policies capable of creating an ecosystem in which higher education institutions, businesses, governments, and society as a whole pursue shared long-term objectives.

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