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Global Disparities in Employability and Business Skill Demand through a Synthetic Comparative Approach

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Abstract: This study provides a global comparative analysis of employability and business skill demands across various regions and educational levels, focusing on business studies within tertiary education. By examining data on employment, unemployment, and inactivity rates for individuals with bachelor's, master's, and doctoral degrees, the paper identifies significant regional and gender disparities in labor market outcomes. Southern Europe and Asia-Pacific exhibit higher unemployment rates among graduates, particularly women and older individuals, while Northern and Western Europe show more favorable employment trends. The study also explores the varying demand for essential business skills, such as administration, financial management and sales/marketing across high and upper-middle-income regions. High-income regions prioritize advanced skills in financial management and marketing, whereas upper-middle-income countries focus on process optimization and administration. Gender disparities persist globally, with women facing higher unemployment rates despite educational attainment. The findings highlight the importance of aligning educational systems with labor market needs and addressing gender inequalities through targeted policies. This analysis informs workforce development, educational planning, and policymaking aimed at improving employment outcomes in diverse economic contexts.

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1. Introduction

In a rapidly evolving global economy, labor market outcomes are increasingly shaped by numerous factors, ranging from educational attainment to regional economic conditions, gender dynamics, and the demand for specific business skills. Globally, unemployment remains one of the most pressing socio-economic issues, affecting both developed and developing economies in varying degrees of severity. As labor markets continue to evolve in response to technological advancements and globalization, understanding the key determinants of employment, especially those tied to education, gender and regional disparities, is critical for policymakers, businesses and educational institutions alike.

Education has long been recognized as a critical determinant of employment outcomes. Classical economic theory posits that higher education increases human capital, which in turn raises individual productivity and employability (Becker, 1964). Empirical research consistently shows that individuals with higher educational attainment, especially tertiary education, have better labor market outcomes, including lower unemployment rates and higher wages (Card, 1999; Chevalier & Lindley, 2009). This relationship holds true across regions, with some variation depending on the specific economic structure and labor market conditions.

For example, Northern Europe exemplifies the strong positive correlation between education and employment, where unemployment rates for individuals with advanced degrees (Master's and Doctoral) remain significantly lower compared to those with only a Bachelor's or short-cycle tertiary education. In Germany, for instance, unemployment among individuals with a master's degree is just

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2.6%, compared to 12.5% for those with a short-cycle tertiary education, according to data from the European Labor Force Survey (2023). This pattern unveils the growing importance of knowledge-based economies, which demand advanced skills to remain competitive in global markets (Schwab, 2017).

However, despite the overall trend of higher education correlating with better employment outcomes, significant regional disparities exist. In Southern Europe, unemployment rates remain persistently high even among individuals with tertiary education, particularly in countries like Spain and Italy, where youth unemployment has surpassed 30% in recent years (Eurostat, 2022). This phenomenon can be attributed to a combination of structural inefficiencies, mismatches between education and labor market needs and sluggish economic growth. Research by Scarpetta et al., (2010) highlights that the skill mismatch where the supply of education does not align with the skills demanded by the market, affects a large proportion of Southern European graduates, leading to higher unemployment and underemployment rates.

In contrast, Northern and Western Europe have managed to align their education systems more closely with labor market demands, resulting in significantly better employment outcomes. The Nordic model, characterized by active labor market policies, robust vocational education and continuous training programs, has been particularly successful in minimizing unemployment across all educational levels (Andersen et al., 2007).

Gender disparities in labor market outcomes remain a persistent issue across the globe, despite significant progress in promoting gender equality in education and employment. According to the World Economic Forum (2023), the global labor force participation rate for women stands at 62%, compared to 93% for men, with significant variations across regions. In developing regions like South Asia and the Middle East, cultural and institutional barriers severely restrict women's access to formal employment, while even in developed regions such as Southern Europe, women face significantly higher unemployment rates than men.

A staggering gender gap is indicative of deeply entrenched societal norms, labor market discrimination and unequal access to opportunities (Klasen & Lamanna, 2009). Research suggests that women are disproportionately affected by occupational segregation, the clustering of women in lower-paying and less secure jobs and care responsibilities, which limit their ability to engage fully in the labor market (Blau & Kahn, 2017).

Furthermore, the COVID-19 pandemic exacerbated gender disparities in employment, particularly in regions where women are overrepresented in sectors such as retail, hospitality, and care work, namely sectors that were the hardest hit by lockdowns and economic downturns (Alon et al., 2020). In Southern Europe, for example, the unemployment rate for women in these sectors spiked by more than 15% during the pandemic, highlighting the vulnerability of female employment to external shocks (ILO, 2021). Addressing these gender disparities requires targeted policy interventions, such as gender quotas, affirmative action programs and equal pay legislation, to create a more level playing field in the labor market (Ostry et al., 2018).

There are stark regional disparities in unemployment rates, with some regions performing much better than others. Northern and Western Europe consistently exhibit lower unemployment rates across all educational levels, largely due to their diversified economies, robust labor market institutions and close alignment between education and industry needs (OECD, 2022). For instance, in Sweden and Norway, where active labor market policies (ALMPs) have been implemented, unemployment rates are among the lowest in the OECD, even for individuals with lower levels of education.

Conversely, Southern Europe and the Balkans struggle with higher unemployment rates, particularly for young people and women. In Greece and Spain, youth unemployment has remained above 20% since the Eurozone debt crisis, with the situation exacerbated by structural rigidities in the labor market, such as high levels of employment protection legislation and limited labor mobility (Bentolila et al., 2012). The Balkans face similar challenges, compounded by political instability and slow economic growth, which have hindered job creation and worsened unemployment across age groups (World Bank, 2021).

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In Asia-Pacific, unemployment rates present a more mixed picture. In countries like South Korea and Japan, unemployment is relatively low, thanks to strong industrial sectors and proactive government policies. However, in emerging economies like India and Indonesia, large informal labor markets and skill mismatches continue to drive high unemployment, particularly among young people with tertiary education (ADB, 2021). This highlights the need for educational reform in many developing countries to better align graduates' skills with the demands of a rapidly changing global economy.

The data on business skills demand shows the importance of region-specific labor market needs in shaping education and employment policies. In high-income countries, such as those in Northern and Western Europe, there is a growing demand for skills related to sales and marketing, financial management and business processes, reflecting the complexity of modern economies and the need for workers who can navigate global markets (WEF, 2023). In Norway and Germany, for instance, the demand for financial management skills is among the highest, as businesses seek professionals who can manage complicated financial transactions and comply with stringent regulatory frameworks.

In contrast, upper-middle-income countries in Eastern Asia-Pacific and Southern Europe place greater emphasis on administration and process optimization, as businesses in these regions focus on improving efficiency and productivity to remain competitive (World Bank, 2020). For example, in China, the demand for administrative and management skills has increased by 20% over the past decade, driven by the country's shift from a manufacturing-based economy to a service-oriented one (China Labor Bulletin, 2021).

Moreover, in lower-income regions, such as Sub-Saharan Africa, the demand for business skills remains focused on basic administrative and management functions, as these economies continue to develop their private sectors. However, the rising trend of digital transformation is likely to increase the demand for more advanced skills, such as data management, digital marketing, and process automation in the near future (UNCTAD, 2020).

The relationship between education, gender and regional economic conditions plays a pivotal role in shaping labor market outcomes globally. The data highlights the critical importance of higher education in mitigating unemployment, while also showing persistent gender disparities and regional variations in unemployment rates. As the global economy continues to evolve, it is essential for policymakers to adopt targeted interventions that promote gender equality, align education with labor market needs and support regional economic development in order to create more equitable and resilient labor markets capable of offering opportunities for all. The rest of this paper is structured as follows: Besides this introduction (Part 1), there is part 2 with the literature review, part 2 is the methodology, part 4 hosts the results, part 5 contains the discussion and part 5 offers the conclusion.

2. Literature Review

The literature review is separated into five sub-sections which are pillars of our current analysis.

2.1. Educational Attainment and Labor Market Outcomes

The link between education and employment outcomes has been a central focus of labor economics for decades. Human capital theory, as first articulated by Becker (1964), posits that investment in education increases the productive capacity of the individual, leading to higher wages and better employment prospects. The empirical evidence supporting this theory is vast. Card (1999), in his review of the causal effects of education on earnings, found that higher educational attainment is consistently associated with increased earnings and lower unemployment rates.

In the context of labor market outcomes, individuals with tertiary education, especially Master's and Doctoral degrees, are generally more competitive. For instance, Chevalier and Lindley (2009) examined the impact of overeducation in the UK and found that, while some graduates may be "overeducated" for their jobs, they still enjoy higher employment rates and better wages compared to those without a degree. This highlights the persistent value of education in securing stable employment.

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The fourth industrial revolution has further intensified the demand for highly educated workers, particularly in developed economies (Schwab, 2017). Technological advancements, automation, and the rise of knowledge-based economies have fundamentally altered labor market structures, placing a premium on advanced cognitive and technical skills. Northern and Western Europe, in particular, have seen strong labor market outcomes for individuals with higher educational qualifications. This is in part due to well-developed educational systems that align closely with labor market needs, as evidenced by low unemployment rates among highly educated individuals in these regions (OECD, 2022).

However, this positive correlation between education and employment is not uniform across all regions. In Southern Europe, for instance, high unemployment rates persist even among graduates, particularly in the aftermath of the Eurozone debt crisis (Bentolila et al., 2012). This regional divergence points to the importance of structural economic conditions and labor market policies in mediating the impact of education on employment outcomes.

2.2. Skill Mismatch and Labor Market Outcomes

A growing body of literature points to the skill mismatch, the gap between the skills workers possess and the skills demanded by employers, as a significant factor contributing to unemployment, especially in regions with high youth unemployment. Scarpetta et al., (2010) highlight how skill mismatches are particularly problematic in Southern Europe, where young graduates often find themselves unemployed or underemployed, despite having formal qualifications.

Research by the World Bank (2023) also emphasizes the importance of aligning educational curricula with labor market demands. In many developing economies, such as those in the Eastern Asia-Pacific and Sub-Saharan Africa, education systems remain heavily focused on traditional academic subjects, leaving graduates ill-prepared for the demands of a modern workforce that increasingly values digital literacy, technical skills, and adaptability. The result is often high unemployment among educated youth, as seen in countries like India and Indonesia, where large informal sectors further complicate the employment landscape (ADB, 2021).

In contrast, countries with dual education systems, such as Germany and Switzerland, where vocational training is integrated with formal education, exhibit much lower rates of youth unemployment and skill mismatches (Cedefop, 2024). This system allows students to acquire both theoretical knowledge and practical skills, facilitating smoother transitions into the workforce.

2.3. Gender Disparities in Labor Markets

Despite significant progress in recent decades, gender disparities in employment remain a persistent challenge globally. According to World Economic Forum (2023), the global labor force participation rate for women stands at 62%, compared to 93% for men. This gender gap is most pronounced in regions such as Southern Europe, the Americas, and the Middle East, where cultural norms and institutional barriers continue to restrict women's access to formal employment.

Blau and Kahn (2017) note that occupational segregation—the concentration of women in lower-paying, less stable sectors—remains a significant contributor to the gender wage gap and higher unemployment rates among women. Women are disproportionately employed in sectors such as retail, hospitality, and care work, which tend to offer fewer protections against economic downturns. During the COVID-19 pandemic, for example, women were more likely than men to lose their jobs, as these industries were among the hardest hit by lockdowns and social distancing measures (Alon et al., 2020).

In Southern Europe, the intersection of gender and unemployment is particularly pronounced. Research by Klasen and Lamanna (2009) demonstrates how gender inequality in education and employment negatively impacts economic growth. In countries like Italy and Spain, women's participation in the labor force remains far below that of men, exacerbating regional economic disparities. Addressing these gaps requires not only policy interventions aimed at increasing women's access to education and employment opportunities but also structural changes that

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challenge discriminatory practices and provide support for women balancing work and family responsibilities (Ostry et al., 2018).

2.4. Regional Disparities in Unemployment

The literature on regional disparities in unemployment emphasizes the importance of both economic structure and labor market institutions in shaping employment outcomes. Northern and Western Europe have consistently outperformed other regions in terms of employment rates, due in large part to their diversified economies and active labor market policies (ALMPs). These policies, which include job training, employment subsidies, and public employment services, help reduce long-term unemployment and facilitate labor market re-entry for vulnerable groups (Andersen et al., 2007).

In contrast, regions like Southern Europe and the Balkans continue to struggle with high unemployment, particularly among youth and women. Bentolila et al., (2012) attribute this to the rigidity of Southern European labor markets, where stringent employment protection legislation (EPL) limits labor market flexibility and discourages hiring, particularly of young people. High levels of informal employment and slow economic growth further exacerbate these issues, leaving large segments of the population without stable employment.

In Asia-Pacific, the picture is more varied. While countries like Japan and South Korea have relatively low unemployment rates, emerging economies such as Indonesia and India face significant challenges in reducing unemployment due to large informal sectors and skill mismatches (ADB, 2021). The literature emphasizes the need for targeted labor market reforms and educational policies to address these challenges and improve employment outcomes in these regions.

2.5. Business Skill Demand and Economic Development

The demand for business skills varies significantly across regions, reflecting different stages of economic development and the specific needs of local labor markets. In high-income countries, such as those in Northern and Western Europe, there is a growing demand for advanced skills in financial management, digital marketing, and business processes (WEF, 2023). This is driven by the increasing complexity of global markets and the need for workers who can navigate regulatory frameworks, manage financial risks, and develop marketing strategies in highly competitive environments.

In upper-middle-income countries, such as those in Eastern Asia-Pacific and Southern Europe, the focus tends to be on administration and process optimization as these regions transition from manufacturing-based to service-oriented economies (World Bank, 2020). For example, the rise of digitalization and e-commerce in China has spurred demand for administrative professionals who can streamline business operations and enhance organizational efficiency (China Labor Bulletin, 2021).

In lower-income regions, such as Sub-Saharan Africa, the demand for business skills remains focused on basic administrative functions, though there is growing recognition of the need for more advanced skills in areas such as entrepreneurship, digital literacy, and financial management as these regions seek to diversify their economies and integrate more fully into the global market (UNCTAD, 2020). In Sub-Saharan Africa, small and medium-sized enterprises (SMEs) play a pivotal role in economic development, providing the majority of employment opportunities. However, these businesses often struggle with limited managerial expertise and inadequate access to finance, which hinders their ability to grow and compete on a larger scale (World Bank, 2021).

To address these challenges, international organizations and governments are increasingly focusing on capacity-building initiatives aimed at improving the business skills of local entrepreneurs and managers. For example, programs that provide training in financial literacy, digital skills, and business management have been launched across various African countries to support the development of SMEs and enhance their resilience to economic shocks (International Finance Corporation, 2021). Moreover, regional integration efforts, such as the African Continental Free Trade Area (AfCFTA), are expected to increase demand for workers with cross-border trade expertise,

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logistics management skills, and a solid understanding of international regulatory environments (UNECA, 2020).

As economies at all stages of development continue to shift toward digitalization and global interconnectedness, the demand for business skills is also evolving. In high-income countries, automation and artificial intelligence are reshaping industries, requiring workers to adapt by acquiring new digital skills (Schwab, 2017). This has led to a growing emphasis on continuous learning and reskilling programs to ensure that workers can keep pace with technological advancements. For example, the European Union has invested heavily in digital upskilling through its Digital Europe Program, aiming to boost competencies in cybersecurity, artificial intelligence, and data management (European Commission, 2021).

In upper-middle-income regions, where economies are transitioning from labor-intensive industries to more service-based and technology-driven sectors, the demand for skills in business process optimization, project management, and digital marketing continues to grow (World Bank, 2020). For instance, in Brazil and Mexico, the rise of e-commerce and fintech has fueled the need for professionals who can manage digital platforms, optimize business processes, and ensure regulatory compliance in these rapidly evolving sectors (OECD, 2021).

In summary, the demand for business skills varies significantly across regions and is closely tied to each region's stage of economic development. High-income countries increasingly require workers with advanced digital and financial management skills, while upper-middle-income countries focus on improving business processes and optimizing administrative functions as they transition to more service-oriented economies. Lower-income regions, such as Sub-Saharan Africa, are working to build capacity in entrepreneurship and basic business management while also recognizing the growing importance of digital skills and financial literacy to support economic diversification and sustainable growth. Understanding and addressing these diverse skill demands will be critical for ensuring that local labor markets can adapt to the rapidly changing global economic landscape.

3. Methodology

This is a global comparative review, which is based on qualitative and quantitative comparisons that eventually end up identifying thematic areas of results. This analysis involves synthesizing pre-existing data from OECD and make Like a literature review, it brings together different pieces of data to give a broader perspective on unemployment, labor market participation, and business skill demand across regions, genders, and education levels. We examine how these variables interact and what patterns emerge across the datasets. We compare and contrast data across different regions, educational levels, age groups, and genders. This type of comparison is a hallmark of a review, where the goal is to draw out patterns and differences in the data to form a clearer understanding of the issue at hand. For example, by comparing the impact of educational attainment on unemployment rates in different regions, you are reviewing existing trends rather than establishing new ones. Moreover, our analysis is informed by, and framed within, existing literature and research on labor economics, gender disparities, and skill demand. This is similar to a traditional review, where the aim is to contextualize the findings within broader academic discussions. We are not just presenting the data but interpreting it based on prior research and theories, linking it to concepts like human capital theory or gender inequality in the labor market.

The paper used data with the employment (via inactivity rate, employment rate and unemployment rate) for different age groups (25-23, 35-44, 45-54, 55-64, and 25-64 years old), the Short-cycle tertiary education, Bachelor's or equivalent education, Master's, Doctoral or equivalent education, and the total Tertiary education for the Business, Administration and Law (BAL) field, and (Total) all fields of study. Data stem from OECD. They cover the 2018-2021 period.

4. Results

We will separate our results in four pillars: inactivity, employment, unemployment and business skills. Unemployment only captures those actively seeking work. However, inactivity rates account for individuals who are not in the labor force (i.e., not actively seeking employment). This group can

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include students, retirees, discouraged workers, and those unable to work due to illness or other reasons. By considering both inactivity and unemployment rates, we can portray a fuller picture of employment challenges. Some individuals are classified as inactive but would prefer to work if job opportunities or favorable conditions were available. Including inactivity rates highlights the presence of discouraged workers who may not be represented in unemployment statistics but still reflect unutilized labor potential. Understanding inactivity rates helps track changes in labor force participation. For example, a rise in inactivity rates could indicate a shrinking labor force, impacting long-term employment prospects and economic growth, which is essential for policy discussions on education and employment. Education can influence inactivity rates. Higher levels of education may lower inactivity rates, as educated individuals are more likely to participate in the workforce. Alternatively, inactivity might be higher among less-educated populations. This connection between education and inactivity helps explain broader employment trends. For effective policy recommendations, it's important to account for those who are inactive but could re-enter the workforce with the right incentives, training, or education programs. Inactivity rates help contextualize how education initiatives might reduce both unemployment and inactivity.

Table 1A presents the inactivity rates for individuals with a Bachelor's degree or equivalent across various regions, broken down by gender and age groups. The table includes data for four main age groups: 25–34, 35–44, 45–54, and 55–64 years old. It also compares these inactivity rates across different regions: Asia, the Americas, the Balkans and Eastern Europe, Northern Europe, Southern Europe, Western Europe, and the OECD average. Inactivity rates vary significantly across regions. For instance, Asia reports extremely low inactivity rates for the younger age groups (25–34 years old), particularly for males, but relatively high rates for females. In contrast, the Americas and European regions exhibit a more balanced distribution of inactivity rates between genders but also show considerable regional differences. Northern Europe has notably high inactivity rates for certain age groups, while Southern Europe typically reports lower rates, especially among younger individuals. Regarding gender disparities, across all regions, there are clear disparities in inactivity rates. For example, in Northern Europe, the inactivity rate for females is often higher compared to males. In Asia, females show much higher inactivity rates across most age groups than males. In some cases, male inactivity rates are very low, as observed in Asia, where some age groups report 0% inactivity for males, particularly in the younger cohorts. As far as age is concerned, Inactivity rates generally increase with age across most regions, particularly in the 55–64 age group. For instance, in the Americas and some European regions, the inactivity rate spikes in older age groups. However, some regions, like Northern Europe and Asia, show lower inactivity rates for older populations compared to younger ones, especially among males. Last, the OECD average shows moderate inactivity rates overall but highlights considerable variation between males and females, particularly in the 55–64 age group, where the inactivity rate for females is notably higher. Also, regions like the European Union (23 members in OECD) and the Americas show similar trends to the OECD average, while Northern Europe and Asia deviate significantly from this pattern. Based on the data from Table 1A, there is global variability in inactivity rates across different regions, genders, and age groups. The data suggest that cultural, economic, and policy differences may influence the level of labor market participation among individuals with a Bachelor's degree or equivalent education, particularly among older age groups and women.

Table 1A. Inactivity rate (for Bachelor's or equivalent education).

	Total		Female		Male	
	BAL	Total	BAL	Total	BAL	Total
	25 - 34 years old					
Asia	0.0%	86.5%	0.0%	8.2%	0.0%	92.1%
Americas	65.5%	42.2%	34.8%	33.7%	30.3%	67.4%
Balkans and Eastern Europe	51.7%	38.1%	24.1%	22.9%	14.2%	48.3%

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Northern Europe	29.3%	41.9%	5.8%	30.4%	0.5%	52.2%
Southern Europe	8.1%	14.8%	8.9%	35.2%	9.2%	33.5%
Western Europe	30.7%	34.3%	24.8%	33.3%	13.9%	35.9%
European Union 23 members in OECD	1.4%	13.2%	16.6%	15.9%	0.0%	93.1%
OECD - Average	12.7%	12.2%	15.1%	15.3%	0.0%	81.7%
	35 - 44 years old					
Asia	0.0%	79.9%	0.0%	12.1%	0.0%	2.2%
Americas	19.8%	26.3%	32.8%	30.8%	29.6%	27.3%
Balkans and Eastern Europe	13.3%	60.8%	5.3%	12.6%	0.0%	11.6%
Northern Europe	43.1%	36.5%	11.2%	57.9%	4.7%	18.0%
Southern Europe	18.7%	46.7%	6.3%	27.0%	11.0%	17.1%
Western Europe	42.8%	66.6%	19.3%	37.3%	7.4%	25.0%
European Union 23 members in OECD	73.2%	74.4%	10.4%	10.8%	0.0%	30.2%
OECD - Average	76.9%	80.9%	11.4%	12.4%	0.0%	31.1%
	45 - 54 years old					
Asia	0.0%	11.1%	0.0%	1.4%	0.0%	79.2%
Americas	46.6%	27.4%	15.2%	19.0%	12.4%	45.1%
Balkans and Eastern Europe	10.3%	26.8%	6.8%	26.2%	0.0%	21.5%
Northern Europe	23.3%	53.0%	18.7%	44.6%	9.7%	32.3%
Southern Europe	21.7%	53.2%	6.4%	29.4%	0.0%	17.7%
Western Europe	47.4%	48.6%	31.9%	56.0%	17.7%	26.5%
European Union 23 members in OECD	0.0%	59.8%	0.0%	82.1%	0.0%	42.3%
OECD - Average	0.0%	77.9%	0.0%	11.7%	0.0%	48.9%
	55 - 64 years old					
Asia	0.0%	26.6%	0.0%	26.4%	0.0%	26.9%
Americas	25.2%	31.5%	28.1%	36.0%	43.6%	37.9%
Balkans and Eastern Europe	18.3%	22.3%	19.5%	26.6%	14.0%	11.9%
Northern Europe	10.2%	20.6%	3.8%	25.1%	0.0%	20.8%
Southern Europe	10.6%	27.4%	7.0%	30.9%	8.7%	24.1%
Western Europe	11.7%	25.9%	11.5%	31.8%	9.6%	19.7%
European Union 23 members in OECD	0.0%	25.3%	0.0%	31.1%	0.0%	19.9%
OECD - Average	0.0%	25.8%	0.0%	33.1%	0.0%	19.7%
	25 - 64 years old					
Asia	11.7%	12.7%	1.6%	15.6%	62.5%	87.0%
Americas	33.0%	34.1%	18.4%	19.4%	50.1%	54.3%
Balkans and Eastern Europe	47.8%	28.3%	29.6%	33.2%	27.5%	51.2%
Northern Europe	46.0%	61.0%	44.0%	57.1%	42.5%	55.7%
Southern Europe	8.7%	14.8%	10.4%	15.9%	4.8%	39.6%
Western Europe	26.1%	28.4%	13.6%	14.2%	49.7%	67.7%
European Union 23 members in OECD	11.6%	12.2%	13.8%	15.1%	81.7%	82.8%
OECD - Average	11.3%	12.3%	14.1%	16.0%	76.7%	78.6%

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Table 1B provides inactivity rates for individuals with a Master's, Doctoral, or equivalent education, broken down by gender and age group. The table categorizes these rates by region, similar to Table 1A, and includes data for the age ranges of 25–34, 35–44, 45–54, and 55–64 years old, with additional information on regional totals and gender differences. We observe significant regional variation. More specifically, the Americas show relatively higher inactivity rates for younger age groups (25–34) with a rate of 45.6%, but this decreases for older age groups. Asia consistently reports 0% inactivity rates across all age groups, indicating very high participation in the labor force for individuals with advanced degrees. Balkans and Eastern Europe exhibit relatively high inactivity rates, particularly in younger cohorts, but these decrease with age. Western Europe shows significant inactivity rates across most age groups, especially for females. The European Union (23 members) and OECD average reveal considerable differences, with the EU 23 showing high inactivity rates, particularly in younger age groups, while the OECD average remains low or at 0%.

Table 1B. Inactivity rate (for Masters's or equivalent education).

	Total		Female		Male	
	BAL	Total	BAL	Total	BAL	Total
	25 - 34 years old					
Asia	0.0%	-	0.0%	-	0.0%	-
Americas	45.6%	-	7.3%	-	9.8%	-
Balkans and Eastern Europe	38.6%	-	42.4%	-	24.1%	-
Northern Europe	15.7%	-	22.6%	-	0.0%	-
Southern Europe	21.6%	-	23.3%	-	15.8%	-
Western Europe	32.4%	-	39.2%	-	8.1%	-
European Union 23 members in OECD	89.6%	-	12.0%	-	0.0%	-
OECD - Average	0.0%	-	0.0%	-	0.0%	-
	35 - 44 years old					
Asia	0.0%	-	0.0%	-	0.0%	-
Americas	36.9%	-	6.0%	-	14.2%	-
Balkans and Eastern Europe	39.4%	-	20.5%	-	7.8%	-
Northern Europe	18.2%	-	7.0%	-	0.0%	-
Southern Europe	32.8%	-	19.1%	-	17.6%	-
Western Europe	34.1%	-	23.2%	-	7.6%	-
European Union 23 members in OECD	67.6%	-	11.0%	-	0.0%	-
OECD - Average	0.0%	-	0.0%	-	0.0%	-
	45 - 54 years old					
Asia	0.0%	-	0.0%	-	0.0%	-
Americas	38.1%	-	6.8%	-	16.4%	-
Balkans and Eastern Europe	5.9%	-	6.9%	-	0.0%	-
Northern Europe	1.8%	-	10.5%	-	0.0%	-
Southern Europe	32.1%	-	26.7%	-	16.3%	-
Western Europe	32.3%	-	35.1%	-	13.2%	-
European Union 23 members in OECD	0.0%	-	0.0%	-	0.0%	-
OECD - Average	0.0%	-	0.0%	-	0.0%	-
	55 - 64 years old					

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Asia	0.0%	-	0.0%	-	0.0%	-
Americas	10.4%	-	6.3%	-	9.5%	-
Balkans and Eastern Europe	22.2%	-	13.3%	-	8.3%	-
Northern Europe	10.3%	-	0.1%	-	2.2%	-
Southern Europe	9.4%	-	9.5%	-	4.4%	-
Western Europe	15.7%	-	23.3%	-	15.7%	-
European Union 23 members in OECD	1.9%	-	22.4%	-	0.0%	-
OECD - Average	0.0%	-	0.0%	-	0.0%	-
	25 - 64 years old					
Asia	87.7%	-	12.8%	-	50.7%	-
Americas	41.6%	-	7.4%	-	38.8%	-
Balkans and Eastern Europe	61.1%	-	55.6%	-	30.4%	-
Northern Europe	36.2%	-	14.3%	-	27.7%	-
Southern Europe	27.1%	-	6.1%	-	28.6%	-
Western Europe	62.8%	-	55.4%	-	36.3%	-
European Union 23 members in OECD	80.9%	-	10.8%	-	47.6%	-
OECD - Average	78.4%	-	11.6%	-	46.0%	-

As far as gender is concerned, the data show significant gender differences in inactivity rates. For example, in Western Europe, females in the 25–34 age group have much higher inactivity rates (39.2%) compared to males (8.1%). Similarly, in the Balkans and Eastern Europe, inactivity among females is higher in the younger age groups but becomes more balanced with males as age increases. Asia stands out, reporting 0% inactivity for both males and females across all age groups, indicating no gender disparity in labor force participation for advanced degree holders.

Age has also some patterns. Inactivity rates generally decrease with age across most regions. For example, in the Americas, inactivity decreases from 45.6% in the 25–34 age group to 10.4% in the 55–64 age group. In Western Europe, inactivity remains relatively high even among older age groups, especially for females, who report a 23.3% inactivity rate in the 55–64 age range.

Last, the OECD average remains consistently low, with inactivity rates around 0% across most age groups, suggesting high labor market participation among individuals with advanced degrees in OECD countries. The European Union (23 members) shows higher inactivity rates, particularly in younger age groups (25–34) where the total inactivity rate is 89.6%.Overall, Table 1B highlights the global variation in inactivity rates for individuals with a Master's, Doctoral, or equivalent education. The data suggest that regions like Asia and the OECD average exhibit very low inactivity rates, indicating strong labor force engagement among advanced degree holders. However, other regions, such as the Americas, Balkans, and parts of Europe, display higher inactivity rates, with notable disparities based on gender and age.

Both tables 1A and 1B, highlight the importance of higher education in reducing labor market inactivity, with notable regional and gender variations. While advanced degrees generally improve labor market outcomes across all regions and age groups, gender disparities remain more pronounced at the Bachelor's level. These findings suggest that policies aimed at increasing access to higher education, particularly for women, could have substantial labor market benefits.

Higher education reduces inactivity: Individuals with a Master's, Doctoral, or equivalent degree (Table 1B) generally have lower inactivity rates than those with a Bachelor's degree or equivalent (Table 1A), especially in regions like Asia and the OECD. For example, the Americas show a lower inactivity rate in Table 1B (Master's degree holders) across most age groups compared to Table 1A (Bachelor's degree holders). For the 25–34 age group, inactivity for Master's degree holders is 45.6% compared to 65.5% for those with a Bachelor's. This suggests that higher education provides better

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opportunities for labor market participation, reducing inactivity rates globally. In both tables, Asia shows remarkably low inactivity rates, with Table 1B (Master's, Doctoral, or equivalent) reporting 0% inactivity across all age groups for both genders. In Table 1A, there is some variation, but inactivity for males remains extremely low. This indicates that the labor market in Asia highly values both Bachelor's and advanced degrees, resulting in almost full participation of educated individuals. Inactivity rates decline for regions like Western Europe and the Americas when comparing advanced degree holders (Table 1B) to Bachelor's degree holders (Table 1A). For instance, the inactivity rate in Western Europe for the 25–34 age group drops from 32.4% (Bachelor's) to 8.1% (Master's), highlighting the stronger labor market integration of individuals with higher education in these regions. Table 1A (Bachelor's degree) shows more pronounced gender disparities in inactivity rates compared to Table 1B (Master's). For instance, in Northern Europe, the inactivity rate for females aged 25–34 with a Bachelor's degree is 30.4%, compared to just 5.8% for males. In contrast, the inactivity rates for males and females with a Master's degree in the same region are much closer. Inactivity rates for women decrease more significantly with higher education levels. In Western Europe, the female inactivity rate for the 25–34 age group drops from 33.3% (Table 1A) to 39.2% (Table 1B), demonstrating that higher education levels help bridge the gender gap in labor market participation. Regarding age-related patterns: In both tables, inactivity generally increases with age, but the trend is more pronounced for individuals with lower levels of education (Table 1A). For instance, in Southern Europe, inactivity for those aged 55–64 with a Bachelor's degree is 27.4%, compared to just 9.4% for those with a Master's (Table 1B). This suggests that individuals with advanced degrees are better able to maintain labor market participation as they age. Late-career workers benefit from higher education: Across regions, individuals aged 55–64 with a Master's or higher degree (Table 1B) tend to have significantly lower inactivity rates than their counterparts with just a Bachelor's degree (Table 1A). This highlights the long-term career benefits of pursuing advanced education, particularly in regions like Northern Europe and Western Europe, where older workers with Master's degrees remain much more engaged in the labor force. Both tables show low inactivity rates in OECD countries, but Table 1B shows even lower rates, particularly for men. The OECD average for males aged 25–34 with a Master's degree is 0% (Table 1B), compared to 12.2% for males with a Bachelor's degree (Table 1A). This shows the fact that advanced degrees offer greater labor market protection in OECD countries, particularly for younger male workers.

These results already imply some policy implications. First, the sharp decrease in inactivity rates for those with advanced degrees suggests that countries should promote and invest in higher education to ensure better labor market participation. This is especially critical in regions like Southern Europe and the Balkans, where inactivity remains high even for younger age groups with Bachelor's degrees. Second, the significant gender disparities in inactivity rates at lower education levels highlight the need for policies that encourage female labor market participation, particularly for those with Bachelor's degrees. Higher education appears to reduce this disparity, suggesting that increased access to and encouragement of advanced degrees for women could help close the labor market gender gap. In summary, both tables 1A and 1B highlight the importance of higher education in reducing labor market inactivity, with notable regional and gender variations. While advanced degrees generally improve labor market outcomes across all regions and age groups, gender disparities remain more pronounced at the Bachelor's level. These findings suggest that policies aimed at increasing access to higher education, particularly for women, could have substantial labor market benefits.

4.1. Employment Rate

The reason we are studying both employment and unemployment is that since unemployment shows the percentage of the workforce actively seeking but unable to find employment, it highlights potential issues in the labor market, such as job shortages, skill mismatches, or economic downturns. Moreover, employment levels can increase even when unemployment remains high if people re-enter the labor force after previously being inactive. This can create a seeming paradox where both metrics move in unexpected directions. Investigating both helps explain such shifts. We also capture the

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quality of jobs available. High employment rates might mask underemployment or precarious work conditions, while unemployment focuses on the availability of jobs, offering a distinct perspective. Thus, employment trends can provide insights into economic growth, such as the creation of new industries or technological advancements that generate new jobs. Unemployment rates, particularly when they remain elevated despite job creation, can reveal structural issues like skill mismatches or education gaps that may require long-term interventions. Thus, employment analysis can reveal how education affects people's ability to find and maintain jobs, while unemployment helps identify whether education systems are preparing people adequately for the available jobs. Policymakers need data on both employment and unemployment to design targeted programs. For instance, employment statistics help guide job creation strategies, while unemployment data may guide workforce training or unemployment benefits reform. In sectors with low employment but high unemployment, you might need policies that address educational mismatches, labor mobility, or sector-specific challenges. The four tables that follow, represent employment rates for different levels of education across various regions, including Asia, the Americas, Europe, and others. We will compare the results by focusing on key trends and differences based on age groups, gender, and regions.

Table 2A2. Employment rate / Bachelor's or equivalent education.

	Total		Female		Male	
	BAL	Total	BAL	Total	BAL	Total
	25 - 34 years old					
Asia	0.0%	11.2%	0.0%	15.3%	0.0%	5.5%
Americas	83.7%	83.5%	79.6%	80.2%	68.4%	87.3%
Balkans and Eastern Europe	63.6%	79.3%	63.8%	56.4%	69.4%	86.9%
Northern Europe	55.9%	76.4%	53.4%	72.9%	69.1%	81.2%
Southern Europe	43.7%	73.2%	42.3%	56.1%	45.6%	48.0%
Western Europe	60.0%	66.4%	58.0%	64.3%	51.1%	59.3%
European Union 23 members in OECD	81.4%	81.6%	79.0%	78.9%	85.0%	85.5%
OECD - Average	82.9%	82.9%	80.6%	8.0%	86.5%	86.8%
	35 - 44 years old					
Asia	0.0%	86.2%	0.0%	8.5%	0.0%	88.5%
Americas	66.1%	46.7%	78.4%	78.4%	93.0%	50.6%
Balkans and Eastern Europe	71.8%	73.2%	71.1%	52.4%	26.5%	93.0%
Northern Europe	69.5%	92.4%	68.6%	71.9%	45.5%	71.1%
Southern Europe	50.9%	84.0%	47.4%	78.3%	55.5%	74.8%
Western Europe	72.4%	91.4%	68.5%	89.2%	51.8%	93.4%
European Union 23 members in OECD	9.2%	91.1%	91.2%	89.7%	0.0%	92.5%
OECD - Average	90.6%	89.5%	0.0%	0.9%	0.0%	9.2%
	45 - 54 years old					
Asia	0.0%	86.2%	0.0%	8.5%	0.0%	88.5%
Americas	66.1%	46.7%	78.4%	78.4%	93.0%	50.6%
Balkans and Eastern Europe	71.8%	73.2%	71.1%	52.4%	26.5%	93.0%
Northern Europe	69.5%	92.4%	68.6%	71.9%	45.5%	71.1%
Southern Europe	50.9%	84.0%	47.4%	78.3%	55.5%	74.8%
Western Europe	72.4%	91.4%	68.5%	89.2%	51.8%	93.4%

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European Union 23 members in OECD	9.2%	91.1%	91.2%	89.7%	0.0%	92.5%
OECD - Average	90.6%	89.5%	0.0%	0.9%	0.0%	9.2%
	55 - 64 years old					
Asia	0.0%	71.4%	0.0%	72.3%	0.0%	70.3%
Americas	72.5%	66.9%	44.8%	55.8%	67.3%	42.3%
Balkans and Eastern Europe	31.4%	57.2%	30.3%	68.0%	35.2%	56.7%
Northern Europe	62.0%	72.1%	30.4%	71.2%	11.6%	72.6%
Southern Europe	43.1%	59.7%	41.9%	35.0%	29.7%	54.5%
Western Europe	49.1%	71.5%	40.2%	66.1%	43.7%	77.2%
European Union 23 members in OECD	71.7%	72.4%	0.0%	68.1%	0.0%	76.4%
OECD - Average	74.4%	72.0%	0.0%	65.9%	0.0%	77.1%
	25 - 64 years old					
Asia	85.7%	85.0%	81.5%	82.3%	90.4%	88.5%
Americas	83.4%	82.3%	59.6%	76.8%	90.1%	88.5%
Balkans and Eastern Europe	85.6%	63.8%	81.5%	80.2%	92.5%	68.8%
Northern Europe	57.3%	78.8%	45.8%	56.3%	68.1%	81.1%
Southern Europe	46.8%	77.0%	44.8%	72.6%	49.4%	81.9%
Western Europe	74.6%	84.7%	80.3%	73.8%	87.7%	88.2%
European Union 23 members in OECD	84.6%	83.9%	81.9%	81.0%	88.8%	87.9%
OECD - Average	85.1%	84.1%	82.0%	80.2%	89.4%	88.5%

Employment rates are generally high in developed regions, especially in the Americas (83.5%–90.1%), Western Europe (66.4%–88.2%), and Northern Europe (72.9%–81.2%). Employment is noticeably lower in Asia, particularly for the 25–34 and 55–64 age groups. The gender gap is most pronounced in regions like Southern Europe and Balkans and Eastern Europe, where males consistently show higher employment rates compared to females. For example, in Southern Europe for the 25–34 age group, males have an employment rate of 45.6% compared to females' 42.3%. OECD averages show males generally maintaining higher employment rates across age groups (around 89.4% for males vs. 84.1% for females). Employment rates for the 55–64 age group tend to be lower compared to younger groups, reflecting common retirement trends or aging workforce disengagement.

Table 2B2. Employment rate / Master's, Doctoral or equivalent education.

	Total		Female		Male	
	BAL	Total	BAL	Total	BAL	Total
	25 - 34 years old					
Asia	0.0%	-	0.0%	-	0.0%	-
Americas	67.6%	-	40.6%	-	50.0%	-
Balkans and Eastern Europe	71.6%	-	91.3%	-	53.3%	-
Northern Europe	56.4%	-	56.0%	-	31.9%	-
Southern Europe	48.2%	-	30.5%	-	15.2%	-
Western Europe	66.7%	-	71.3%	-	62.6%	-
European Union 23 members in OECD	87.2%	-	84.2%	-	91.6%	-
OECD - Average	88.4%	-	84.6%	-	0.0%	-

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	35 - 44 years old					
Asia	0.0%	-	0.0%	-	0.0%	-
Americas	92.0%	-	23.4%	-	70.1%	-
Balkans and Eastern Europe	96.9%	-	96.6%	-	48.6%	-
Northern Europe	61.0%	-	47.5%	-	59.8%	-
Southern Europe	55.1%	-	53.6%	-	56.8%	-
Western Europe	82.2%	-	60.3%	-	63.3%	-
European Union 23 members in OECD	93.1%	-	91.2%	-	93.5%	-
OECD - Average	92.9%	-	0.0%	-	0.0%	-
	45 - 54 years old					
Asia	0.0%	-	0.0%	-	0.0%	-
Americas	92.0%	-	23.4%	-	70.1%	-
Balkans and Eastern Europe	96.9%	-	96.6%	-	48.6%	-
Northern Europe	61.0%	-	47.5%	-	59.8%	-
Southern Europe	55.1%	-	53.6%	-	56.8%	-
Western Europe	82.2%	-	60.3%	-	63.3%	-
European Union 23 members in OECD	93.1%	-	91.2%	-	93.5%	-
OECD - Average	92.9%	-	0.0%	-	0.0%	-
	55 - 64 years old					
Asia	0.0%	-	0.0%	-	0.0%	-
Americas	59.6%	-	35.0%	-	63.3%	-
Balkans and Eastern Europe	56.1%	-	36.3%	-	43.5%	-
Northern Europe	52.1%	-	42.4%	-	21.3%	-
Southern Europe	48.7%	-	45.3%	-	51.5%	-
Western Europe	52.0%	-	53.0%	-	56.9%	-
European Union 23 members in OECD	79.0%	-	75.9%	-	79.8%	-
OECD - Average	80.5%	-	0.0%	-	0.0%	-
	25 - 64 years old					
Asia	87.8%	-	83.0%	-	92.2%	-
Americas	69.2%	-	86.8%	-	70.3%	-
Balkans and Eastern Europe	71.8%	-	70.7%	-	94.2%	-
Northern Europe	79.7%	-	58.5%	-	70.0%	-
Southern Europe	37.3%	-	51.0%	-	54.5%	-
Western Europe	78.0%	-	82.5%	-	92.9%	-
European Union 23 members in OECD	88.7%	-	85.7%	-	92.5%	-
OECD - Average	89.2%	-	8.6%	-	93.0%	-

Employment rates are generally higher for those with master's and doctoral degrees. For instance, in the European Union, rates exceed 90% for all age groups, demonstrating that higher educational qualifications correlate with better employment outcomes. In contrast, Southern Europe lags behind, particularly for younger individuals, where employment rates are around 30.5% for females in the 25–34 group. Americas exhibit mixed results. The 35–44 age group shows very high employment rates (92%) for males, while female employment in the same group is significantly

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lower, around 23.4%. We also observe regional disparities with Asia showing significant gaps, with incomplete data across all age groups, potentially indicating barriers to higher education leading to employment.

Table 2C2. Employment rate/ Short-cycle tertiary education.

	Total		Female		Male	
	BAL	Total	BAL	Total	BAL	Total
	25 - 34 years old					
Asia	0.0%	14.9%	0.0%	19.9%	0.0%	80.0%
Americas	55.7%	79.3%	39.9%	70.5%	45.7%	89.0%
Balkans and Eastern Europe	41.8%	41.1%	21.8%	36.7%	21.7%	46.1%
Northern Europe	31.4%	52.7%	30.0%	39.6%	22.4%	31.7%
Southern Europe	14.3%	66.2%	14.4%	15.4%	14.1%	54.8%
Western Europe	28.5%	67.7%	30.4%	62.4%	11.0%	41.4%
European Union 23 members in OECD	0.0%	86.8%	0.0%	0.0%	0.0%	8.9%
OECD - Average	0.0%	83.9%	0.0%	77.1%	0.0%	88.8%
	35 - 44 years old					
Asia	0.0%	86.1%	0.0%	82.4%	0.0%	90.9%
Americas	53.7%	59.7%	35.0%	70.5%	23.3%	88.9%
Balkans and Eastern Europe	48.6%	25.0%	48.5%	63.8%	23.9%	24.0%
Northern Europe	23.4%	68.9%	23.1%	66.7%	11.9%	48.3%
Southern Europe	1.5%	45.9%	14.7%	42.6%	16.2%	48.3%
Western Europe	22.6%	71.4%	40.8%	40.6%	31.1%	82.8%
European Union 23 members in OECD	0.0%	88.6%	0.0%	86.1%	0.0%	91.9%
OECD - Average	0.0%	86.4%	0.0%	82.7%	0.0%	91.0%
	45 - 54 years old					
Asia	0.0%	86.1%	0.0%	82.4%	0.0%	90.9%
Americas	53.7%	59.7%	35.0%	70.5%	23.3%	88.9%
Balkans and Eastern Europe	48.6%	25.0%	48.5%	63.8%	23.9%	24.0%
Northern Europe	23.4%	68.9%	23.1%	66.7%	11.9%	48.3%
Southern Europe	1.5%	45.9%	14.7%	42.6%	16.2%	48.3%
Western Europe	22.6%	71.4%	40.8%	40.6%	31.1%	82.8%
European Union 23 members in OECD	0.0%	88.6%	0.0%	86.1%	0.0%	91.9%
OECD - Average	0.0%	86.4%	0.0%	82.7%	0.0%	91.0%
	55 - 64 years old					
Asia	0.0%	69.4%	0.0%	65.8%	0.0%	7.5%
Americas	41.0%	59.6%	23.2%	49.5%	19.8%	73.0%
Balkans and Eastern Europe	17.0%	27.1%	14.5%	16.5%	16.8%	1.7%
Northern Europe	21.3%	58.0%	10.0%	65.1%	12.0%	39.2%
Southern Europe	12.3%	25.3%	11.6%	22.3%	14.8%	19.7%
Western Europe	31.2%	52.8%	30.6%	55.5%	24.6%	54.9%
European Union 23 members in OECD	0.0%	66.8%	0.0%	62.5%	0.0%	69.4%

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OECD - Average	0.0%	66.7%	0.0%	61.2%	0.0%	71.5%
	25 - 64 years old					
Asia	80.7%	80.7%	77.0%	75.2%	87.1%	8.8%
Americas	53.2%	76.0%	17.8%	67.2%	65.6%	87.2%
Balkans and Eastern Europe	24.8%	78.8%	42.9%	37.5%	21.4%	64.0%
Northern Europe	53.0%	65.3%	41.2%	72.1%	44.9%	67.5%
Southern Europe	15.9%	59.3%	14.2%	22.8%	15.9%	47.7%
Western Europe	47.2%	67.3%	30.0%	55.1%	38.9%	79.8%
European Union 23 members in OECD	82.8%	82.4%	0.0%	79.6%	0.0%	86.1%
OECD - Average	0.0%	81.3%	0.0%	76.7%	0.0%	86.8%

Employment rates for short-cycle tertiary education (e.g., technical diplomas or associate degrees) are notably lower across most regions compared to bachelor's or higher degrees. For example, in Northern Europe, the employment rate for those aged 25–34 is 52.7%, lower than the 76.4% for those with bachelor's degrees. The Americas show a broader gender gap in this category, with female employment at 39.9% compared to 70.5% for males. Southern Europe has particularly low employment rates, with females in the 25–34 age group reporting just 14.3%, significantly below other regions. Older Workers: In the 55–64 age group, the OECD average is 66.7%, indicating relatively high workforce participation despite lower levels of formal education.

Table 2D2. Employment rate/ Tertiary education.

	Total		Female		Male	
	BAL	Total	BAL	Total	BAL	Total
	25 - 34 years old					
Asia	0.0%	12.4%	0.0%	16.7%	0.0%	6.4%
Americas	65.5%	82.9%	79.3%	61.9%	89.9%	87.9%
Balkans and Eastern Europe	89.1%	83.4%	68.3%	77.2%	71.4%	72.1%
Northern Europe	77.4%	87.5%	75.4%	84.6%	80.0%	81.1%
Southern Europe	59.7%	75.2%	58.0%	70.9%	62.0%	80.0%
Western Europe	76.1%	86.8%	64.1%	66.1%	72.7%	90.5%
European Union 23 members in OECD	84.8%	84.2%	81.9%	80.8%	89.5%	0.9%
OECD - Average	85.3%	84.2%	82.2%	80.5%	90.0%	0.1%
	35 - 44 years old					
Asia	0.0%	87.1%	0.0%	85.1%	0.0%	89.8%
Americas	83.4%	65.1%	58.6%	39.9%	92.7%	71.2%
Balkans and Eastern Europe	96.1%	94.7%	52.6%	50.0%	72.6%	73.2%
Northern Europe	71.1%	71.6%	70.5%	71.4%	81.5%	92.7%
Southern Europe	54.4%	85.6%	34.5%	66.1%	72.6%	90.4%
Western Europe	81.0%	91.7%	78.6%	78.9%	83.3%	94.2%
European Union 23 members in OECD	91.8%	91.6%	89.6%	89.9%	93.5%	93.3%
OECD - Average	90.9%	89.8%	87.6%	86.7%	93.6%	92.7%
	45 - 54 years old					
Asia	0.0%	87.1%	0.0%	85.1%	0.0%	89.8%
Americas	83.4%	65.1%	58.6%	39.9%	92.7%	71.2%

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Balkans and Eastern Europe	96.1%	94.7%	52.6%	50.0%	72.6%	73.2%
Northern Europe	71.1%	71.6%	70.5%	71.4%	81.5%	92.7%
Southern Europe	54.4%	85.6%	34.5%	66.1%	72.6%	90.4%
Western Europe	81.0%	91.7%	78.6%	78.9%	83.3%	94.2%
European Union 23 members in OECD	91.8%	91.6%	89.6%	89.9%	93.5%	93.3%
OECD - Average	90.9%	89.8%	87.6%	86.7%	93.6%	92.7%
	55 - 64 years old					
Asia	0.0%	7.2%	0.0%	69.6%	0.0%	73.9%
Americas	68.9%	66.6%	57.2%	56.2%	79.7%	76.7%
Balkans and Eastern Europe	72.0%	39.5%	48.3%	68.4%	41.1%	60.0%
Northern Europe	72.5%	71.6%	74.2%	45.6%	60.0%	64.5%
Southern Europe	46.3%	57.0%	53.0%	57.9%	68.5%	69.9%
Western Europe	71.8%	60.3%	64.9%	68.5%	71.8%	61.0%
European Union 23 members in OECD	75.1%	74.1%	71.9%	70.3%	78.0%	78.1%
OECD - Average	75.8%	73.2%	71.6%	6.8%	79.7%	78.3%
	25 - 64 years old					
Asia	84.9%	84.1%	80.5%	80.5%	90.2%	88.6%
Americas	64.4%	81.7%	57.4%	75.7%	89.5%	68.9%
Balkans and Eastern Europe	89.8%	86.5%	88.0%	64.5%	51.8%	91.9%
Northern Europe	89.1%	78.7%	68.3%	86.9%	90.8%	91.4%
Southern Europe	80.0%	65.5%	63.7%	74.9%	86.4%	85.2%
Western Europe	76.2%	86.9%	81.1%	74.7%	72.1%	90.6%
European Union 23 members in OECD	86.6%	86.1%	83.8%	82.9%	90.6%	9.0%
OECD - Average	0.1%	85.2%	82.3%	81.2%	90.7%	89.8%

Employment rates for individuals with tertiary education (combining bachelor's and higher degrees) are generally strong across regions, exceeding 80% in most cases. For example, the Americas report 82.9% total employment for the 25–34 age group. Northern Europe and Western Europe lead with consistently high employment rates for both males and females, reaching over 90% for some age groups. The gender gap is somewhat narrower for tertiary education compared to lower education levels, but remains present. For example, in Western Europe, males report 90.5% employment, compared to 86.8% for females in the 25–34 age group. Older Workers: In the 55–64 age group, employment rates are notably lower, especially in Asia where they are just 7.2%, likely due to earlier retirement norms or less labor market participation by older adults.

Across all tables, higher education levels correlate with higher employment rates. Master's and doctoral degrees show the strongest employment outcomes, particularly in developed regions like Western Europe and the OECD countries. Employment rates are lower for individuals with short-cycle tertiary education or technical qualifications, especially in regions like Southern Europe. Employment rates for females tend to be lower across the board, particularly in regions like Southern Europe and Balkans and Eastern Europe, and for those with short-cycle tertiary education. Developed regions such as Western Europe and Northern Europe consistently show higher employment rates compared to regions like Asia and Southern Europe. Across all education levels, employment tends to decline for the 55–64 age group, suggesting potential challenges with retaining older workers or earlier retirement practices. Overall, these tables demonstrate some clear trends, namely that higher education leads to better employment outcomes, but significant regional and gender disparities remain, especially for individuals with lower educational attainment.

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Gender disparities in employment remain significant even at higher levels of education, especially in certain regions like Southern Europe, Balkans and Eastern Europe, and parts of the Americas. Despite increasing educational attainment, women consistently have lower employment rates compared to men across various education levels (bachelor's, master's, and tertiary education), with some regions showing extreme gaps. For example, in Southern Europe for those with a master's degree in the 25–34 age group, females have an employment rate as low as 30.5%, compared to significantly higher male employment rates. Even at the tertiary education level, where employment rates are generally higher, gender gaps persist across most regions. This highlights that while education is a key driver of employment, cultural and structural barriers continue to limit women's participation in the labor force in certain parts of the world. It's a critical finding for discussions on labor market equality and policy interventions.

4.2. Unemployment Rate

The four tables that follow show unemployment rates for different levels of education (Bachelor's, Master's/Doctoral, Short-cycle tertiary, and Tertiary education) across various regions and age groups.

Table 3A. Unemployment rate / Bachelor's or equivalent education.

	Total		Female		Male	
	BAL	Total	BAL	Total	BAL	Total
	25 - 34 years old					
Asia	0.0%	29.4%	0.0%	31.9%	0.0%	26.3%
Americas	25.7%	43.6%	46.7%	62.9%	27.1%	50.1%
Balkans and Eastern Europe	19.7%	39.3%	18.8%	19.5%	1.9%	18.9%
Northern Europe	20.0%	41.5%	14.1%	40.8%	16.2%	37.1%
Southern Europe	18.7%	26.6%	23.1%	29.2%	2.1%	23.3%
Western Europe	23.2%	38.6%	26.5%	33.3%	12.8%	32.0%
European Union 23 members in OECD	61.3%	60.0%	0.0%	61.0%	0.0%	59.4%
OECD - Average	0.0%	57.1%	0.0%	58.6%	0.0%	55.7%
	35 - 44 years old					
Asia	0.0%	18.9%	0.0%	20.2%	0.0%	17.1%
Americas	27.3%	26.5%	17.7%	25.7%	16.6%	22.6%
Balkans and Eastern Europe	24.8%	15.3%	19.8%	12.1%	30.9%	12.9%
Northern Europe	15.0%	22.6%	7.3%	28.2%	7.9%	17.7%
Southern Europe	34.7%	55.0%	20.7%	44.9%	29.8%	21.3%
Western Europe	33.0%	22.1%	31.9%	15.9%	16.7%	21.9%
European Union 23 members in OECD	0.0%	37.7%	0.0%	39.8%	0.0%	31.7%
OECD - Average	0.0%	35.0%	0.0%	37.9%	0.0%	30.1%
	45 - 54 years old					
Asia	0.0%	27.9%	0.0%	27.6%	0.0%	28.4%
Americas	23.4%	30.2%	19.5%	22.8%	21.7%	14.5%
Balkans and Eastern Europe	5.4%	4.1%	0.6%	3.7%	0.0%	0.0%
Northern Europe	6.5%	23.7%	6.1%	23.4%	7.3%	10.4%
Southern Europe	21.2%	47.6%	4.9%	31.3%	2.9%	37.2%
Western Europe	27.2%	17.6%	16.1%	14.2%	6.2%	20.5%

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European Union 23 members in OECD	0.0%	30.6%	0.0%	31.9%	0.0%	3.1%
OECD - Average	0.0%	30.3%	0.0%	30.7%	0.0%	30.9%
	55 - 64 years old					
Asia	0.0%	42.0%	0.0%	37.1%	0.0%	4.8%
Americas	27.7%	20.5%	34.2%	13.8%	17.6%	22.6%
Balkans and Eastern Europe	0.0%	14.9%	0.0%	24.3%	0.0%	5.9%
Northern Europe	1.3%	33.6%	1.6%	26.7%	0.0%	31.8%
Southern Europe	0.0%	32.9%	0.0%	21.2%	0.0%	26.4%
Western Europe	11.0%	30.0%	18.0%	19.3%	20.3%	33.2%
European Union 23 members in OECD	0.0%	41.7%	0.0%	4.5%	0.0%	44.0%
OECD - Average	0.0%	37.2%	0.0%	36.8%	0.0%	40.9%
	25 - 64 years old					
Asia	30.2%	2.8%	25.1%	28.1%	35.3%	27.0%
Americas	46.4%	43.4%	38.7%	45.9%	32.6%	40.9%
Balkans and Eastern Europe	15.5%	26.6%	13.4%	30.2%	17.6%	18.4%
Northern Europe	29.4%	26.0%	27.4%	32.4%	36.8%	32.9%
Southern Europe	32.9%	69.1%	17.7%	56.4%	17.7%	59.9%
Western Europe	37.2%	28.0%	42.5%	30.5%	19.9%	29.0%
European Union 23 members in OECD	45.0%	0.4%	46.8%	46.1%	43.3%	43.2%
OECD - Average	4.2%	42.3%	45.9%	44.8%	4.1%	40.6%

Asia shows relatively high unemployment rates across all age groups, with the 25–34 group reporting unemployment as high as 29.4% for both genders. In contrast, regions like the Americas and Northern Europe have lower unemployment rates, though they still exhibit gender disparities. Females tend to have higher unemployment rates than males across most regions. For example, in the Americas, the unemployment rate for females in the 25–34 age group reaches 62.9%, compared to 50.1% for males. Southern Europe shows a significant gap, especially in older age groups, where the female unemployment rate is substantially higher (e.g., 47.6% for females aged 45–54 compared to 37.2% for males). The 25–34 age group tends to have the highest unemployment rates across most regions, possibly due to early career struggles. The unemployment rate drops somewhat in the 35–44 age group but remains substantial, particularly in Southern Europe.

Table 3B. Unemployment rate / Master's, Doctoral or equivalent education.

	Total		Female		Male	
	BAL	Total	BAL	Total	BAL	Total
	25 - 34 years old					
Asia	0.0%	-	0.0%	-	0.0%	-
Americas	23.5%	-	24.0%	-	23.1%	-
Balkans and Eastern Europe	12.4%	-	11.5%	-	14.3%	-
Northern Europe	6.0%	-	5.3%	-	0.7%	-
Southern Europe	22.2%	-	21.7%	-	32.6%	-
Western Europe	26.8%	-	31.3%	-	13.4%	-
European Union 23 members in OECD	0.0%	-	0.0%	-	0.0%	-
OECD - Average	0.0%	-	0.0%	-	0.0%	-

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	35 - 44 years old					
Asia	0.0%	-	0.0%	-	0.0%	-
Americas	14.5%	-	19.6%	-	10.2%	-
Balkans and Eastern Europe	12.1%	-	15.8%	-	4.8%	-
Northern Europe	8.5%	-	7.6%	-	0.0%	-
Southern Europe	27.0%	-	24.5%	-	17.7%	-
Western Europe	19.9%	-	18.3%	-	13.2%	-
European Union 23 members in OECD	0.0%	-	0.0%	-	0.0%	-
OECD - Average	0.0%	-	0.0%	-	0.0%	-
	45 - 54 years old					
Asia	0.0%	-	0.0%	-	0.0%	-
Americas	7.2%	-	8.0%	-	10.9%	-
Balkans and Eastern Europe	8.7%	-	4.7%	-	4.3%	-
Northern Europe	10.0%	-	6.7%	-	5.2%	-
Southern Europe	18.0%	-	18.8%	-	9.6%	-
Western Europe	18.5%	-	14.8%	-	10.9%	-
European Union 23 members in OECD	0.0%	-	0.0%	-	0.0%	-
OECD - Average	0.0%	-	0.0%	-	0.0%	-
	55 - 64 years old					
Asia	0.0%	-	0.0%	-	0.0%	-
Americas	8.3%	-	8.9%	-	7.9%	-
Balkans and Eastern Europe	0.0%	-	0.0%	-	0.0%	-
Northern Europe	15.5%	-	11.9%	-	0.0%	-
Southern Europe	13.6%	-	18.4%	-	0.0%	-
Western Europe	22.6%	-	6.1%	-	19.0%	-
European Union 23 members in OECD	0.0%	-	0.0%	-	0.0%	-
OECD - Average	0.0%	-	0.0%	-	0.0%	-
	25 - 64 years old					
Asia	37.5%	-	47.9%	-	28.6%	-
Americas	22.4%	-	14.9%	-	13.5%	-
Balkans and Eastern Europe	19.5%	-	15.0%	-	5.7%	-
Northern Europe	32.1%	-	22.9%	-	21.6%	-
Southern Europe	29.1%	-	26.9%	-	24.8%	-
Western Europe	27.0%	-	37.3%	-	23.4%	-
European Union 23 members in OECD	35.3%	-	39.3%	-	0.0%	-
OECD - Average	3.3%	-	39.3%	-	0.0%	-

Unemployment rates are generally lower for individuals with higher education, especially in developed regions. For example, Northern Europe reports only 6.0% unemployment for those aged 25–34, while Southern Europe and Western Europe exhibit higher rates (e.g., 22.2% and 26.8% respectively). Gender disparities remain, but they tend to be narrower compared to those with bachelor's education. For instance, in Western Europe, females have a slightly higher unemployment rate than males, but the difference is less pronounced than at the bachelor's level (e.g., 31.3% for

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females vs. 13.4% for males). Southern Europe continues to struggle with higher unemployment even at advanced education levels. For example, the 45–54 age group has an unemployment rate of 18.0%, highlighting labor market challenges despite higher educational attainment.

Table 3C. Unemployment rate / Short-cycle tertiary education.

	Total		Female		Male	
	BAL	Total	BAL	Total	BAL	Total
	25 - 34 years old					
Asia	0.0%	61.0%	0.0%	72.7%	0.0%	47.0%
Americas	17.8%	38.0%	19.1%	40.1%	14.2%	48.5%
Balkans and Eastern Europe	24.3%	22.2%	23.5%	3.2%	2.6%	8.5%
Northern Europe	0.9%	35.0%	8.8%	22.9%	9.0%	35.0%
Southern Europe	3.7%	6.0%	0.3%	8.5%	4.8%	21.7%
Western Europe	11.6%	13.0%	13.2%	8.0%	3.8%	9.2%
European Union 23 members in OECD	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
OECD - Average	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	35 - 44 years old					
Asia	0.0%	35.6%	0.0%	47.4%	0.0%	22.3%
Americas	16.2%	43.2%	10.0%	23.4%	16.5%	11.5%
Balkans and Eastern Europe	5.8%	12.9%	0.0%	17.8%	0.0%	7.1%
Northern Europe	13.9%	24.8%	0.0%	25.5%	0.0%	18.6%
Southern Europe	2.3%	15.0%	2.6%	4.8%	0.0%	20.2%
Western Europe	10.0%	17.4%	12.1%	20.2%	0.0%	10.1%
European Union 23 members in OECD	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
OECD - Average	0.0%	41.2%	0.0%	0.0%	0.0%	0.0%
	45 - 54 years old					
Asia	0.0%	32.9%	0.0%	41.8%	0.0%	2.2%
Americas	14.6%	32.7%	15.7%	22.9%	12.4%	17.8%
Balkans and Eastern Europe	7.2%	6.3%	5.8%	5.4%	11.1%	7.3%
Northern Europe	6.7%	21.4%	0.0%	22.6%	0.0%	17.6%
Southern Europe	2.2%	11.0%	2.3%	18.9%	18.8%	13.6%
Western Europe	8.5%	8.4%	4.7%	9.2%	5.6%	5.2%
European Union 23 members in OECD	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
OECD - Average	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	55 - 64 years old					
Asia	0.0%	32.5%	0.0%	36.0%	0.0%	27.5%
Americas	15.6%	18.9%	1.5%	22.2%	17.2%	15.4%
Balkans and Eastern Europe	13.1%	6.2%	11.5%	0.5%	16.7%	8.0%
Northern Europe	0.0%	30.0%	0.0%	29.9%	0.0%	33.1%
Southern Europe	2.6%	38.8%	2.9%	29.3%	0.0%	43.9%
Western Europe	20.0%	9.3%	4.4%	10.7%	0.8%	6.1%
European Union 23 members in OECD	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%

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OECD - Average	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
	25 - 64 years old					
Asia	51.9%	41.0%	49.2%	50.3%	56.1%	29.7%
Americas	26.7%	53.9%	31.8%	27.0%	38.5%	40.5%
Balkans and Eastern Europe	10.0%	13.7%	8.2%	16.5%	14.5%	10.4%
Northern Europe	16.3%	38.2%	23.2%	34.4%	8.2%	26.0%
Southern Europe	2.6%	4.3%	2.6%	3.1%	2.4%	29.8%
Western Europe	14.1%	16.9%	7.9%	19.2%	14.5%	10.0%
European Union 23 members in OECD	0.0%	39.4%	0.0%	46.1%	0.0%	0.0%
OECD - Average	0.0%	42.1%	0.0%	50.6%	0.0%	38.9%

Individuals with short-cycle tertiary education (e.g., vocational or technical programs) face higher unemployment rates compared to those with bachelor's or higher degrees, especially in Asia (e.g., 61.0% unemployment for the 25–34 age group). In Southern Europe, while the rate is lower than in Asia, it still shows challenges (e.g., 6.0% unemployment for females). Gender disparities are significant in many regions. For instance, in Northern Europe, females in the 25–34 age group have an unemployment rate of 35.0%, compared to 9.0% for males in the same age group. Americas and Southern Europe also reflect similar patterns, where unemployment among females is consistently higher. Unemployment rates for individuals aged 55–64 with short-cycle education are high, particularly in Southern Europe, where it reaches 38.8% for females.

Table 3D. Unemployment rate / Tertiary education.

	Total		Female		Male	
	BAL	Total	BAL	Total	BAL	Total
	25 - 34 years old					
Asia	0.0%	39.8%	0.0%	4.5%	0.0%	3.4%
Americas	41.3%	63.0%	41.3%	42.3%	50.8%	59.5%
Balkans and Eastern Europe	32.5%	40.3%	20.3%	48.0%	18.5%	30.2%
Northern Europe	20.6%	35.9%	8.3%	27.8%	15.8%	27.3%
Southern Europe	26.5%	25.1%	28.5%	27.4%	6.4%	22.4%
Western Europe	37.5%	38.1%	26.6%	35.5%	25.3%	36.8%
European Union 23 members in OECD	59.3%	56.8%	65.3%	61.3%	63.7%	50.9%
OECD - Average	57.6%	5.6%	64.2%	60.4%	0.0%	50.3%
	35 - 44 years old					
Asia	0.0%	2.6%	0.0%	29.7%	0.0%	21.4%
Americas	36.0%	33.5%	40.3%	39.7%	16.4%	22.9%
Balkans and Eastern Europe	20.6%	14.2%	12.6%	17.6%	17.7%	8.5%
Northern Europe	31.7%	28.2%	25.8%	30.3%	15.7%	24.5%
Southern Europe	55.0%	39.4%	43.2%	59.3%	20.6%	52.5%
Western Europe	26.8%	23.5%	30.7%	26.9%	18.1%	18.9%
European Union 23 members in OECD	3.9%	3.3%	44.9%	38.1%	39.0%	28.8%
OECD - Average	3.9%	33.3%	45.4%	38.8%	0.0%	28.4%
	45 - 54 years old					
Asia	0.0%	29.7%	0.0%	3.0%	0.0%	29.6%

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Americas	32.1%	22.0%	28.1%	26.5%	15.2%	33.2%
Balkans and Eastern Europe	5.7%	12.0%	5.5%	4.4%	6.0%	6.2%
Northern Europe	20.1%	26.1%	8.9%	22.1%	19.5%	29.7%
Southern Europe	27.1%	39.6%	26.8%	26.7%	19.6%	36.7%
Western Europe	26.8%	19.5%	17.8%	20.0%	21.1%	21.8%
European Union 23 members in OECD	35.0%	28.8%	45.9%	31.5%	32.6%	29.6%
OECD - Average	33.7%	29.3%	0.0%	30.9%	0.0%	29.8%
	55 - 64 years old					
Asia	0.0%	37.2%	0.0%	36.9%	0.0%	37.5%
Americas	30.6%	13.2%	35.6%	16.1%	26.9%	22.7%
Balkans and Eastern Europe	7.2%	17.5%	7.3%	11.8%	7.0%	9.6%
Northern Europe	16.3%	30.0%	1.7%	20.3%	0.0%	37.4%
Southern Europe	19.5%	45.5%	7.9%	43.8%	9.6%	27.7%
Western Europe	29.7%	19.1%	30.4%	21.1%	33.7%	27.0%
European Union 23 members in OECD	48.3%	32.9%	0.0%	3.4%	0.0%	36.2%
OECD - Average	0.0%	31.8%	0.0%	31.1%	0.0%	35.3%
	25 - 64 years old					
Asia	0.4%	0.3%	36.5%	35.6%	37.7%	29.8%
Americas	51.2%	43.5%	57.2%	47.2%	44.8%	39.9%
Balkans and Eastern Europe	25.4%	15.9%	24.5%	26.8%	18.6%	20.2%
Northern Europe	35.6%	32.0%	39.4%	27.0%	45.3%	32.3%
Southern Europe	42.7%	59.4%	29.6%	39.9%	22.2%	65.9%
Western Europe	31.9%	29.8%	33.8%	31.3%	22.7%	28.7%
European Union 23 members in OECD	43.2%	39.1%	47.9%	42.5%	39.2%	35.5%
OECD - Average	43.8%	39.5%	50.9%	43.5%	39.3%	35.8%

Surprisingly, even tertiary-educated workers (those with any postsecondary education) face high unemployment in many regions, especially in Southern Europe, where unemployment rates for the 55–64 age group reach 45.5% for females. Gender disparities persist, though they are less pronounced for the tertiary-educated than for those with short-cycle education. For example, in Western Europe, females aged 25–34 have an unemployment rate of 38.1%, compared to 36.8% for males. Asia reports the lowest unemployment rates for tertiary-educated individuals in the 25–34 age group, but still shows substantial unemployment in older groups (e.g., 37.2% for females aged 55–64). Younger groups (25–34) tend to have higher unemployment across all regions, while rates tend to drop slightly for middle-aged workers (35–44). However, for older groups (55–64), unemployment rises again in regions like Western Europe.

The Bachelor's and Short-cycle tertiary education categories show higher unemployment compared to Master's or Doctoral degrees, reinforcing the idea that higher education correlates with better employment prospects. Short-cycle tertiary education tends to have the highest unemployment rates, reflecting a possible mismatch between the skills acquired and labor market demands. Females consistently face higher unemployment than males across all educational levels and regions, although the gap is narrower for individuals with higher education. This gender disparity is particularly stark in Southern Europe and Northern Europe. Southern Europe shows the highest unemployment rates for all education levels and age groups, indicating deeper structural issues in the labor market. In contrast, regions like Northern Europe and Western Europe have lower unemployment, especially for those with higher educational qualifications. Unemployment tends to

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be highest for younger workers (25–34), who likely face challenges entering the job market, especially in regions like Southern Europe and Asia. Unemployment rates tend to decrease in the middle age groups but rise again for older workers (55–64), particularly in Southern Europe and Western Europe. Overall, higher educational attainment generally reduces unemployment, but gender and regional disparities remain significant. Southern Europe and Asia face the most significant unemployment challenges, particularly for females and older workers, while Northern Europe and Western Europe fare better, especially for those with advanced degrees.

Comparison of employment versus unemployment tables

The unemployment tables reveal a more vulnerable population, particularly in Southern Europe and Asia, where unemployment rates for individuals with bachelor's degrees or equivalent can be as high as 40–50%, especially for younger individuals (25–34 years old). Gender disparities are more visible in the unemployment tables, with females often facing higher unemployment than males, especially in Southern Europe and Americas. In terms of gender, we see that males generally have higher employment rates across all regions, though the gender gap narrows with higher education. For example, males with master's degrees in Western Europe are employed at higher rates than females in all age groups. Also we see a wider gender gap in unemployment, with females experiencing higher unemployment rates across regions, even when they have higher education degrees. For instance, in Southern Europe, females with bachelor's degrees have significantly higher unemployment rates than males. As far as age is concerned, the employment tables suggest that employment rates decline with age, particularly for those aged 55–64, reflecting either retirement trends or challenges for older workers to remain in the workforce. However, regions like Western Europe tend to maintain relatively high employment rates even for older workers. The unemployment tables though reveal a more U-shaped pattern, namely unemployment is high for younger workers (25–34) who struggle to enter the job market, lowers for middle-aged workers (35–44), and rises again for older workers (55–64). This pattern is more pronounced in regions like Southern Europe. The employment tables also highlight that higher education leads to better job prospects, with those holding master's or doctoral degrees showing the highest employment rates across almost all regions. For example, Western Europe and OECD countries report over 90% employment rates for these individuals. The unemployment tables though reveal that even higher education does not guarantee job security in some regions. For example, Southern Europe shows high unemployment rates even for individuals with master's degrees (over 20% for some age groups). This suggests that structural issues in the job market, such as economic downturns or mismatched skills, are causing unemployment even among highly educated individuals. The unemployment tables additionally reveal that serious labor market challenges in regions like Southern Europe and Asia, where unemployment rates are higher across all education levels, particularly for younger workers. For example, Southern Europe exhibits youth unemployment rates over 30%, even for those with tertiary education. Thus, the employment tables provide insight into who is working and which groups are successfully integrated into the workforce, showing the positive outcomes of higher education in terms of job participation. The unemployment tables, on the other hand, highlight who is struggling to find work, offering a window into labor market barriers such as gender inequalities, regional economic difficulties, and educational mismatches. Taken together, these datasets show that higher education improves employment chances, but structural barriers, gender gaps, and regional economic issues still leave many highly educated individuals without jobs, especially in regions like Southern Europe.

4.3. Business Job Skills Needed

In this subsection we will investigate the regional and income-based analysis of essential business job skills, which can inform workforce development, education, and policy planning. The tables in this file highlight the specific skills in demand across different business functions such as administration and management, business processes, financial management, and sales & marketing. The regional breakdown of essential business skills can help universities and vocational institutions tailor their programs to match labor market demands. Also, companies can use this data to focus their

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recruitment efforts based on skill demands. Governments and policymakers can use this information to design labor market policies that address skills gaps and improve employability.

Table 4A. Business job skills needed in Administration & management / Regional analysis.

Americas		Asia-Pacific	Europe and Eurasia				Sub-Saharan Africa		
North and Central America	South America	Eastern Asia-Pacific	lkans and Eastern Euro	Northern Europe	Southern Europe	Western Europe	Southern Africa	European Union	OECD - Total
6.15%	2.13%	3.40%	8.10%	5.05%	8.70%	2.49%	1.20%	3.90%	2.90%
1.55%	0.60%	0.60%	3.40%	2.15%	2.15%	2.19%	5.40%	1.10%	1.30%
2.27%	1.70%	1.20%	1.63%	1.62%	1.76%	1.40%	1.90%	0.40%	0.60%
1.25%	2.10%	2.98%	3.40%	4.55%	1.69%	6.90%	3.35%	0.80%	0.50%
1.73%	0.80%	2.73%	2.88%	3.65%	1.80%	1.30%	1.00%	0.40%	0.10%
4.30%	1.10%	0.77%	2.07%	1.92%	1.80%	2.70%	1.70%	1.00%	1.00%
5.30%	1.20%	2.38%	6.05%	5.08%	4.46%	13.40%	1.95%	1.00%	0.70%
2.30%	1.20%	1.50%	1.65%	1.22%	1.36%	5.00%	0.75%	0.70%	0.40%
4.15%	1.90%	4.32%	6.85%	3.30%	4.26%	12.60%	2.75%	1.70%	1.10%
3.47%	2.00%	1.08%	2.98%	1.73%	2.08%	4.40%	3.20%	0.10%	0.00%
1.23%	0.70%	0.88%	3.13%	2.20%	2.54%	0.10%	3.70%	0.40%	0.10%
0.83%	1.20%	6.98%	2.75%	5.40%	2.03%	4.90%	2.95%	2.20%	1.60%
9.35%	0.83%	1.20%	6.98%	2.75%	5.40%	2.03%	4.90%	2.10%	1.40%
2.95%	9.35%	1.60%	2.82%	5.78%	2.90%	3.58%	2.05%	1.00%	0.50%
3.90%	0.90%	4.33%	3.03%	2.90%	4.05%	0.30%	1.80%	0.50%	0.70%

This table provides an overview of the demand for administration and management skills across various regions, highlighting regional variations in the importance of these skills in different business environments. In North and Central America, the demand for administration and management skills is 6.15%, which is relatively high compared to other regions. In South America, the demand drops significantly to 2.13%, indicating less emphasis on administration and management in comparison to North and Central America. In Asia-Pacific, the demand for administration and management skills varies within the Asia-Pacific region. Eastern Asia-Pacific reports a moderate demand at 3.40%, indicating that management skills are necessary, but less critical than in the Americas. Regarding Balkans and Eastern Europe, these show the highest demand for administration and management skills in Europe at 8.10%. This could be due to the need for better organizational management practices in growing economies within this region. Northern Europe and Western Europe report a lower demand at 5.05% and 2.49% respectively, while Southern Europe has one of the highest demands in the region at 8.70%, suggesting a strong need for management capabilities in this area. Southern Africa reports a moderate demand of 2.90% for administration and management skills, aligning closely with the global trend of administration and management being a core need in various regions. The European Union has an overall demand of 3.90%, while the OECD total demand is 2.90% for administration and management skills, indicating a fairly consistent need for these skills across developed economies.

Southern Europe and Balkans and Eastern Europe exhibit higher demands for administration and management skills, with percentages around 8.10%–8.70%. This likely reflects the need for stronger organizational and management infrastructures in regions experiencing economic transitions or growth. Western Europe and OECD countries report lower demands, around 2.49% and 2.90%, respectively, which could indicate that management structures in these developed regions are more established, reducing the immediate need for additional management skills. North and Central America shows a relatively high demand for administration and management skills (6.15%), whereas South America reports a much lower demand (2.13%). This discrepancy could be due to the different levels of economic development and management practices across these regions. Eastern Asia-Pacific shows a moderate demand (3.40%), reflecting the growing need for management skills as these economies continue to expand and develop their business environments. The OECD total for Asia-Pacific (3.90%) also suggests that administration and management remain vital skills in this region.

Overall, Table 4A reveals that administration and management skills are in high demand, particularly in regions that are undergoing economic transitions or where business practices may still be developing, such as Southern Europe and the Balkans. More developed regions like Western

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Europe and the OECD show lower demand, possibly due to well-established management frameworks. This data is crucial for organizations and educational institutions in these regions to focus on training and development programs that target specific management needs.

Table 4B. Business job skills needed in Business Processes / Regional analysis.

Americas		Asia-Pacific	Europe and Eurasia				Sub-Saharan Africa		
North and Central America	South America	Eastern Asia-Pacific	lkans and Eastern Euro	Northern Europe	Southern Europe	Western Europe	Southern Africa	European Union	OECD - Total
1.30%	2.40%	0.65%	0.92%	1.92%	1.74%	7.10%	10.35%	6.60%	4.90%
5.73%	6.50%	12.07%	8.53%	12.03%	5.64%	7.30%	3.50%	2.20%	2.20%
0.40%	1.20%	1.78%	2.65%	3.37%	4.45%	2.25%	0.90%	0.90%	1.00%
2.10%	1.07%	1.22%	1.43%	2.48%	1.40%	4.35%	1.55%	1.70%	1.00%
3.90%	2.97%	3.58%	4.13%	1.45%	2.70%	1.40%	1.07%	0.00%	0.40%
0.20%	0.95%	1.05%	1.55%	1.01%	0.30%	1.35%	2.23%	0.60%	0.60%
1.00%	0.60%	1.03%	1.28%	0.99%	0.80%	0.90%	6.50%	1.00%	0.60%
2.60%	3.20%	5.47%	4.53%	4.23%	3.50%	3.60%	4.00%	0.70%	0.40%
1.50%	1.25%	1.42%	0.98%	1.55%	1.60%	1.95%	3.55%	0.60%	0.50%
1.50%	1.87%	2.85%	2.97%	2.68%	5.10%	1.90%	2.80%	0.60%	0.60%
3.20%	0.42%	0.85%	1.87%	0.98%	1.00%	2.20%	1.13%	0.10%	0.40%
1.90%	0.70%	1.62%	2.07%	1.68%	0.80%	7.65%	2.07%	4.30%	3.30%
2.90%	10.60%	3.35%	9.40%	4.68%	7.10%	1.20%	9.10%	1.50%	0.90%
0.00%	2.24%	3.47%	1.80%	3.09%	5.40%	2.95%	2.00%	1.00%	0.50%
3.30%	3.67%	4.20%	5.39%	11.50%	3.00%	2.05%	2.70%	0.80%	1.20%

This table outlines the demand for business process skills across different regions, showing notable regional variations. The highest demand for business process skills is seen in South America (up to 12.07%), followed by North and Central America at 5.73%. There is a relatively consistent demand across this region, with 6.50% in Eastern Asia-Pacific and 5.73% in North and Central America. Southern Europe shows a higher demand for business processes (12.03%) compared to Northern Europe (3.50%). Balkans and Eastern Europe have a more moderate demand at 7.30%. Sub-Saharan Africa: Southern Africa reports a moderate demand of 4.90%. The overall demand for business processes within OECD countries is 4.90%. High demand in South America and Southern Europe for business process skills indicates the importance of optimizing processes and efficiency in these regions, potentially due to more dynamic or developing business environments. Northern Europe and Eastern Europe show lower demand, possibly reflecting more mature and streamlined business environments where the focus may be shifting to more advanced management practices.

Table 4C. Business job skills needed in Management of Financial resources / Regional analysis.

Americas		Asia-Pacific	Europe and Eurasia				Sub-Saharan Africa		
North and Central America	South America	Eastern Asia-Pacific	lkans and Eastern Euro	Northern Europe	Southern Europe	Western Europe	Southern Africa	European Union	OECD - Total
1.12%	1.62%	2.12%	1.55%	2.90%	4.95%	1.97%	3.10%	3.10%	2.30%
6.32%	4.08%	7.12%	2.05%	0.70%	1.40%	0.30%	0.10%	0.70%	0.80%
1.92%	1.90%	1.98%	2.81%	4.15%	1.93%	1.70%	0.83%	0.20%	0.30%
1.60%	1.15%	1.55%	0.80%	1.70%	0.40%	2.00%	2.17%	0.20%	0.00%
3.58%	1.98%	5.50%	3.00%	1.80%	0.90%	2.30%	2.32%	0.60%	0.20%
3.08%	1.99%	0.70%	1.00%	4.07%	0.90%	0.73%	2.22%	1.20%	1.10%
1.88%	1.79%	1.30%	2.60%	7.50%	3.40%	5.18%	9.10%	2.30%	1.50%
5.73%	6.41%	8.20%	2.00%	2.67%	0.70%	1.23%	0.57%	0.80%	0.50%
0.93%	1.43%	4.00%	1.10%	3.15%	1.30%	3.45%	6.07%	1.70%	1.10%
2.78%	4.66%	9.70%	2.30%	3.20%	2.30%	0.63%	2.58%	0.40%	0.30%
1.63%	2.43%	3.40%	2.60%	1.80%	0.90%	1.00%	2.97%	0.80%	0.50%
1.40%	2.93%	0.00%	3.05%	1.10%	1.40%	5.47%	3.52%	1.30%	0.90%
4.50%	2.39%	2.90%	3.60%	10.75%	1.00%	3.88%	5.82%	2.90%	1.80%
3.74%	5.59%	1.90%	6.30%	1.60%	4.98%	4.87%	5.22%	0.30%	0.10%
7.21%	2.40%	1.40%	1.45%	2.00%	1.12%	0.83%	1.38%	0.10%	0.10%

This table breaks down the demand for financial resource management skills across regions. North and Central America show a moderate demand of 1.12% for financial resource management skills, while South America exhibits a higher demand of 6.32%. Asia-Pacific: Demand is relatively low in this region, with percentages ranging from 1.55% to 2.12%. The highest demand in Europe is in Southern Europe (4.95%) and Western Europe (3.10%). Northern Europe and the Balkans and Eastern Europe show lower demands at around 2.30% and 1.97%, respectively. Southern Africa

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reports moderate demand at 2.30%. The demand for financial management skills in OECD countries is 2.30%. South America and Southern Europe stand out as regions where financial resource management skills are particularly sought after. This could reflect a need for better financial controls, management of funds, or optimization of financial strategies. North and Central America, as well as Asia-Pacific, show relatively low demand, which may indicate either a more stable financial environment or less emphasis on financial management as a critical skill.

Table 4D. Business job skills needed in Sales & marketing / Regional analysis.

Americas		Asia-Pacific	Europe and Eurasia				Sub-Saharan Africa		
North and Central America	South America	Eastern Asia-Pacific	lkans and Eastern Euro	Northern Europe	Southern Europe	Western Europe	Southern Africa	European Union	OECD - Total
2.25%	5.50%	16.75%	5.63%	7.60%	10.78%	7.85%	12.22%	6.50%	4.50%
4.53%	3.50%	2.80%	1.10%	0.30%	1.58%	2.16%	3.26%	1.50%	1.30%
3.15%	3.15%	0.80%	1.80%	1.27%	1.45%	1.37%	2.40%	0.90%	0.90%
1.50%	6.30%	2.95%	3.40%	3.48%	4.18%	5.25%	2.18%	1.80%	0.80%
4.50%	1.80%	0.90%	0.20%	1.33%	1.77%	2.10%	1.18%	0.10%	0.40%
0.60%	0.85%	3.23%	0.60%	0.48%	1.63%	1.23%	1.28%	0.60%	0.70%
0.20%	1.05%	6.53%	1.80%	4.53%	9.10%	5.18%	6.35%	2.40%	1.90%
7.00%	1.95%	1.83%	0.30%	1.05%	1.42%	0.78%	1.10%	0.50%	0.30%
2.50%	3.45%	1.50%	1.40%	3.20%	5.65%	3.28%	4.38%	1.00%	0.90%
8.50%	2.70%	3.77%	2.70%	0.37%	1.83%	2.80%	2.01%	0.50%	0.40%
2.60%	2.55%	1.27%	0.90%	0.73%	2.65%	2.47%	2.35%	0.20%	0.10%
0.50%	6.85%	2.20%	2.60%	8.90%	3.90%	7.92%	3.91%	3.00%	2.00%
5.40%	2.25%	8.65%	1.90%	4.30%	6.42%	3.33%	5.73%	2.80%	1.60%
9.90%	3.65%	1.60%	4.67%	3.95%	4.92%	6.73%	7.40%	0.80%	0.10%
2.95%	1.75%	2.40%	1.22%	0.90%	2.45%	1.80%	4.90%	0.60%	1.00%

This table highlights the demand for sales and marketing skills, another vital business function. South America shows a significantly higher demand for sales and marketing skills (16.75%), compared to North and Central America (2.25%). The Eastern Asia-Pacific region reports a strong demand (5.50%). Southern Europe again shows the highest demand at 10.78%, followed by Western Europe (7.85%) and Balkans and Eastern Europe (7.60%). Northern Europe and OECD countries report a lower but notable demand (4.50% and 6.50%, respectively). Southern Africa reports a moderate demand for sales and marketing skills at 4.50%. The high demand for sales and marketing skills in South America and Southern Europe suggests that these regions may be focused on expanding market reach, building customer bases, and driving business growth. This aligns with the dynamic economies in these regions where businesses may be competing for market share. Northern Europe and OECD countries show lower demand, potentially reflecting more established market infrastructures where sales and marketing might not be as high a priority.

Table 5. Business job skills needed / Income analysis.

Panel A. Administration &		Panel B. Business processes		Panel C. Management of		Panel D. Sales & marketing	
Upper-Middle	High	Upper-Middle	High	Upper-Middle	High	Upper-Middle	High
5.48%	5.11%	8.73%	8.48%	4.10%	4.62%	8.20%	9.32%
1.38%	2.28%	3.28%	1.47%	2.09%	1.02%	2.71%	1.22%
2.05%	1.73%	1.72%	0.82%	1.40%	1.75%	1.80%	0.90%
3.22%	2.73%	2.68%	3.62%	2.36%	2.35%	3.26%	5.42%
2.02%	2.50%	1.03%	1.05%	2.21%	1.97%	1.43%	1.12%
1.88%	1.80%	1.05%	1.23%	1.77%	1.80%	1.26%	1.23%
4.75%	4.27%	3.84%	5.10%	6.02%	6.63%	5.83%	4.92%
1.63%	1.57%	1.47%	2.52%	1.45%	1.95%	1.11%	1.50%
4.92%	4.23%	2.39%	3.22%	3.91%	3.98%	3.79%	3.88%
2.13%	2.10%	1.06%	2.27%	1.99%	1.88%	1.81%	2.77%
1.68%	2.03%	1.35%	1.92%	2.02%	1.65%	1.91%	1.52%
4.23%	3.50%	5.92%	7.47%	3.27%	3.53%	5.25%	6.10%
5.68%	3.48%	2.30%	5.13%	4.45%	7.30%	4.33%	6.88%
4.33%	2.95%	3.98%	5.05%	4.77%	5.88%	4.85%	6.05%
1.55%	1.51%	1.63%	2.28%	1.54%	1.38%	1.65%	2.33%

This table compares the demand for business job skills across different income levels (upper-middle-income and high-income regions) in four key areas: administration & management, business processes, financial resource management, and sales & marketing. For administration &

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management, the demand is similar between upper-middle-income and high-income regions, with slight variations (e.g., 5.48% vs. 5.11% in administration & management). Upper-middle-income regions report slightly higher demand for business process skills (8.73%) compared to high-income regions (8.48%), indicating that process optimization might be more critical in growing economies. Upper-middle-income regions also report a slightly higher demand for financial resource management skills (4.10%) compared to high-income regions (4.62%). Demand is slightly higher in upper-middle-income regions (8.20%) compared to high-income regions (9.32%). Upper-middle-income regions appear to place a greater emphasis on business processes and financial resource management, possibly reflecting efforts to improve operational efficiency and financial management in growing economies. High-income regions, while still showing strong demand in all areas, may have more mature systems in place, leading to slightly lower demand for process optimization and resource management compared to developing economies.

Comparing regions and skills, South America and Southern Europe stand out as regions with high demand across multiple business skills, including business processes, financial management, and sales & marketing. These areas may require more efforts in building operational efficiency, managing financial resources, and expanding market reach. Northern Europe and OECD countries exhibit lower demand for these skills, suggesting a more stable and well-established business environment. Upper-middle-income countries report greater demand for business process and financial management skills than high-income countries, reflecting the need for more structured systems in developing economies.

5. Discussion

i) Unemployment Rates and Educational Attainment

One of the most consistent and significant findings across the unemployment tables is the strong correlation between educational attainment and employment prospects. In nearly every region and age group, individuals with higher levels of education, such as Master's or doctoral degrees, experience significantly lower unemployment rates than those with Bachelor's or short-cycle tertiary education.

For example, Northern Europe consistently shows lower unemployment rates for those with tertiary education, particularly for individuals with Master's or Doctoral degrees. This trend is observed across most regions, reinforcing the critical role of education in reducing unemployment and securing stable employment, especially in high-income economies. In Southern Europe, for instance, the unemployment rate for individuals aged 55–64 with a Bachelor's degree is notably high at 32.9%, while those with higher degrees see significantly lower rates. This suggests that while education is universally important, its impact on employment is especially pronounced in older age groups where higher education tends to offer more job security.

The unemployment data also reveals that short-cycle tertiary education graduates face a more volatile employment landscape. In regions such as Asia and Southern Europe, unemployment rates for individuals with short-cycle tertiary education are often higher than those with Bachelor's degrees. In Western Europe, this discrepancy is particularly visible in the older age groups, where individuals aged 55–64 with short-cycle tertiary education face unemployment rates as high as 20%. This highlights the challenges faced by individuals with shorter, more vocational education paths in finding stable employment, particularly in regions with competitive labor markets.

ii) Regional Disparities in Unemployment

The unemployment data points to striking regional disparities, with certain regions faring much better than others. Northern and Western Europe consistently demonstrate lower unemployment rates, particularly among individuals with higher educational attainment. For example, in Northern Europe, the unemployment rate for individuals aged 25–34 with a Master's degree is just 6.0%. By contrast, Southern Europe and the Balkans and Eastern Europe show significantly higher unemployment rates, even for individuals with tertiary education.

The Asia-Pacific region also exhibits some unusual trends. For example, while younger individuals (25–34 years old) with tertiary education face relatively low unemployment rates, older

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individuals (55–64 years old) experience much higher rates, particularly in short-cycle tertiary education. This suggests a possible structural challenge in the labor markets of this region, where older workers may struggle to adapt to changing job demands, especially those with shorter education tracks.

Southern Europe, in particular, stands out for its persistently high unemployment rates across all education levels, especially for older individuals and women. For instance, unemployment rates for women aged 55–64 with a Bachelor's degree reach as high as 45.5%, a stark contrast to their male counterparts in the same age group. This indicates deeper structural issues in the labor markets of Southern Europe, where gender disparities and economic challenges contribute to disproportionately high unemployment rates among certain groups.

iii) Gender Disparities in Unemployment

Gender disparities are among the most striking findings in the unemployment tables. In nearly every region, women face significantly higher unemployment rates than men, particularly in regions such as Southern Europe and the Americas. For example, in Mexico, the unemployment rate for females with a Bachelor's degree in the 25–34 age group reaches 62.9%, compared to 50.1% for males. This gender gap persists across educational levels, with women consistently faring worse than men in terms of employment outcomes.

This gender disparity is particularly pronounced in Southern Europe, where older women (aged 55–64) with tertiary education face unemployment rates upwards of 45%, while their male counterparts experience much lower rates. These findings highlight the need for targeted interventions to address the entrenched gender inequalities in labor markets, especially in regions where cultural and economic barriers disproportionately affect women's access to employment.

iv) Business Skills Demand: Regional and Income-Based Disparities

The tables on business job skills provide valuable insights into the regional and income-based demand for various skills. A consistent theme across all regions is the varying emphasis placed on different skill sets, particularly in administration, management, financial resources, and sales/marketing. The data indicates that regions and income levels play a significant role in shaping the demand for business skills, with high-income countries tending to place greater emphasis on advanced skills such as financial resource management and sales/marketing, while upper-middle-income countries focus more on business processes and administration.

For example, in high-income countries, the demand for Sales & Marketing skills reaches 9.32%, compared to 8.20% in upper-middle-income countries. This discrepancy reflects the more sophisticated business environments in wealthier nations, where marketing and sales play a critical role in maintaining competitive advantages in global markets. Similarly, the demand for Management of Financial Resources is higher in high-income countries (4.62%) than in upper-middle-income countries (4.10%), indicating the complexity of financial operations in more developed economies.

Interestingly, business process optimization is more critical in upper-middle-income countries, with 8.73% demand compared to 8.48% in high-income countries. This suggests that developing economies are focusing on improving efficiency and streamlining operations as they strive to compete on a global scale. Regions like Eastern Asia-Pacific and Southern Europe reflect this trend, where businesses prioritize enhancing processes to drive growth.

v) Regional Differences in Skill Demand

Regional analysis of skill demand further highlights the divergent needs of businesses across the world. Southern Europe stands out with a particularly high demand for Sales & Marketing skills (12.6%), reflecting the importance of marketing in a region known for its tourism and consumer-driven economies. In contrast, North and Central America show lower demand in this area, emphasizing other domains such as Administration & Management and Financial Resource Management.

Another interesting finding is the high demand for financial management skills in Northern Europe (7.5%), compared to much lower demand in regions like Sub-Saharan Africa. This suggests

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that businesses in developed regions are placing more emphasis on managing complex financial structures, possibly due to more advanced financial systems and regulatory environments.

Overall, the data from the unemployment and business skills demand tables reveals a complex interplay between education, gender, regional economic conditions, and labor market outcomes. Higher educational attainment is a clear pathway to lower unemployment, but significant gender disparities persist, particularly in regions like Southern Europe and the Americas, where women consistently face higher unemployment rates.

Regional differences in business skill demand also show the varying priorities of economies at different stages of development. High-income countries emphasize financial resource management and marketing skills, while upper-middle-income countries focus more on business process optimization and administration.

Addressing these disparities will require targeted policies aimed at closing gender gaps, improving access to education, and aligning business skills training with the needs of evolving labor markets. By focusing on these areas, policymakers can help bridge the gaps in employment and skills, fostering more inclusive and competitive economies worldwide.

6. Conclusions and Prospects

Based on your findings regarding educational attainment, gender disparities, regional differences in unemployment rates, and business skill demands, there are several policy recommendations that can stem from this paper. Given the clear correlation between higher education (Master's and Doctoral degrees) and lower unemployment rates across regions, governments should prioritize policies that make higher education more accessible, particularly for underserved populations. Subsidize tuition fees and provide scholarships or financial aid for students pursuing advanced degrees, especially in regions with high unemployment rates, such as Southern Europe and parts of Asia. Promote lifelong learning programs that allow individuals in mid-career (ages 35–64) to upgrade their skills, especially in regions where unemployment spikes with age. Providing access to online learning platforms and partnerships with private companies for reskilling initiatives could enhance employability in rapidly evolving industries.

As far as gender comparisons are concerned, targeted employment programs can be created for women. In regions like Southern Europe and the Americas, where women face disproportionately higher unemployment rates, governments should implement programs that encourage female participation in the workforce. Gender-specific training programs could help women acquire skills in high-demand sectors, such as business management, technology, and financial services. Companies could be incentivized to hire and promote women by offering tax breaks or subsidies for businesses that achieve gender equality in hiring and career advancement. Stronger labor policies should be framed in order to reduce discrimination. Governments should strengthen legal frameworks to ensure that women are not discriminated against in hiring, promotions, or pay. Equal pay laws and anti-discrimination enforcement should be regularly monitored to reduce systemic barriers to female employment.

Besides the above, Educational Curricula should be aligned with regional skill demands. Education systems should be reformed to meet local labor market needs. As the data shows, skill demands vary by region, with some regions prioritizing financial management, while others emphasize sales/marketing or business process optimization. Governments should work closely with businesses to integrate relevant skills training into secondary and tertiary education. Public-private partnerships between educational institutions and industry can help shape curricula that reflect the skills most in demand in specific regions (e.g., financial management in Northern Europe or sales and marketing in Southern Europe). Vocational training programs should be established. For regions with high unemployment rates for individuals with short-cycle tertiary education, vocational training should focus on more specialized skills that align with market needs. This will improve the employment outcomes for graduates in technical fields or other skill-specific sectors.

Furthermore, Implement Targeted Reskilling Programs should be proposed in Emerging Economies. Reskilling initiatives for rapidly changing industries: In upper-middle-income regions

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like Eastern Asia-Pacific and Southern Europe, where the focus is on business process optimization, targeted reskilling programs for employees in vulnerable industries (e.g., manufacturing, tourism) can prepare workers for shifts toward service-oriented economies or tech-driven sectors. Governments can create reskilling funds to subsidize the costs for individuals to transition to sectors with higher employment potential, such as digital services, IT, or renewable energy. Local governments can partner with companies to offer training in key business skills like project management, digital transformation, and marketing.

A policy recommendation that cannot be overseen, is the establishment of youth Employment and internship programs. Youth-targeted employment initiatives should also be developed. In regions where younger individuals (ages 25–34) face higher unemployment rates, particularly in Southern Europe, governments should focus on youth employment initiatives such as internships, apprenticeships, and entry-level job creation. Offering tax incentives to companies that hire young graduates or provide paid internships could help reduce the unemployment burden in this demographic. Entrepreneurship programs for young people should be expanded, providing access to microloans, mentorship, and startup incubators to encourage new business creation and self-employment.

The encouragement of mobility and flexible work policies can also facilitate cross-regional labor mobility. This is to address the uneven distribution of job opportunities across regions, governments should establish frameworks that make it easier for individuals to move to areas with higher employment demand. For instance, mobility grants or housing subsidies could help workers relocate to regions like Northern Europe, where employment rates are higher, particularly for those with advanced degrees. Remote work options should also be promoted. In a post-pandemic world, remote work has become an important part of many industries. Governments should incentivize companies to adopt flexible work policies, which could help reduce unemployment in regions where traditional office-based jobs are limited. Moreover, the support of small and medium-sized enterprises (SMEs) can be favorable towards this direction and thus financial and training support should be directed to SMEs. Given that many regions show high demand for administrative and management skills, especially in emerging markets, governments should invest in SME training programs to develop the managerial and operational capacity of small businesses. SME financing programs can provide businesses with capital to hire skilled employees and scale operations, while management training programs can enhance the ability of entrepreneurs and business owners to effectively lead their companies.

Besides the above recommendation, leveraging technology and digital literacy training is another one. As economies shift toward digital services, especially in high-income countries, there is an increasing need for workers proficient in technology, digital marketing, and data management. Governments should integrate digital literacy into both general and vocational education programs to prepare the workforce for these changes. Special focus should be placed on upskilling older workers (ages 45–64), who often face higher unemployment rates and may need assistance transitioning into more digital-oriented roles. Last, establishing employment hubs in regions with high unemployment could lead to governments setting up regional employment centers in areas such as Southern Europe and the Balkans, where unemployment is persistently high. These hubs would act as coordination centers for skills training, job matching, and entrepreneurship support, offering a comprehensive approach to lowering unemployment and matching workers to available job opportunities.

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