



Article

Adolescence in the Italian Labour Market: In Search of an Equilibrium Among Instability, Uncertainty, and AI Challenges

Maria Rita Mancaniello ^{1,*} and Francesco Lavanga ^{2,*} ¹ Department of Social, Political and Cognitive Sciences, University of Siena, 53100 Siena, Italy² Department of Education, Languages, Interculture, Literatures and Psychology, University of Florence, 50121 Florence, Italy

* Correspondence: mariarita.mancaniello@unisi.it (M.R.M.); francesco.lavanga@unifi.it (F.L.)

Abstract: The school-to-work transition (STWT) represents a pivotal challenge in individual development, necessitating a global and interdisciplinary approach to address its inherent complexity. This article examines some key characteristics of the current labour market, focusing on the Italian context, which is undergoing profound transformations that disrupt traditional production systems. In the contemporary landscape, labour market instability has become a norm rather than an exception, often resulting in unclear future prospects and leaving individuals—particularly adolescents—grappling with uncertainty and a lack of direction. For younger generations, this sustained uncertainty exacerbates the challenges of an already delicate and transformative phase of life, generating scepticism toward both present realities and future possibilities. The evolving skills required to navigate the STWT present significant challenges for educational planning, particularly within institutional, organizational, and pedagogical dimensions. Emerging technologies, such as artificial intelligence (AI), are reshaping lifestyles and work environments, further complicating the dynamics of STWT transition. It is essential to undertake comprehensive pedagogical reflection and rigorous research to critically evaluate and redefine educational strategies and policies. Such efforts are crucial for equipping adolescents with the resilience and adaptability required to navigate instability and uncertainty, fostering preparedness for an unpredictable future.



Citation: Mancaniello, Maria Rita, and Francesco Lavanga. 2024. Adolescence in the Italian Labour Market: In Search of an Equilibrium Among Instability, Uncertainty, and AI Challenges. *Social Sciences* 13: 688. <https://doi.org/10.3390/socsci13120688>

Academic Editors: Karen F. Parker, Peter Hopkins and Nigel Parton

Received: 6 September 2024

Revised: 7 December 2024

Accepted: 12 December 2024

Published: 18 December 2024



Copyright: © 2024 by the authors. Licensee MDPI, Basel, Switzerland. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>).

Keywords: school-to-work transition; adolescence; labour market; artificial intelligence; equilibrium

1. Introduction

The school-to-work transition (STWT) represents a critical phase in adolescents' lives, exerting profound individual and social impacts. Numerous studies have demonstrated that employment plays an important role in personal development, contributing to the construction of identity and shaping one's interactions with the broader social system (Stets and Burke 2000; Roccas and Brewer 2002; Cohen-Scali 2003). This critical phase is shaped by the complex interplay of education systems, labour markets, and welfare states, resulting in distinct transition systems across various national contexts (Raffe 2008). Furthermore, Heinz (2009) highlights the escalating uncertainty surrounding youth transitions, shaped by the forces of globalization and rapid technological advancements, necessitating a more comprehensive understanding of how young individuals navigate the challenges of STWT pathways. In Europe, since the late 1970s, the STWT has increasingly drawn scholarly attention due to the growing complexities surrounding it. This era represented a notable shift, as the balance between labour demand and supply became progressively strained. A key factor underlying these challenges was the shift in European macroeconomic policies. A pivot from prioritizing full employment toward controlling inflation intensified the difficulties faced by young people during this transitional phase. The rise of temporary and non-standard employment contracts marked a shift away from the traditional model of full-time, permanent positions. As a result, young workers have faced an increased risk

of being confined to precarious, low-income positions, with potential long-term negative effects on their career progression (Cuzzocrea 2014). Moreover, the transition to a service-oriented economy and the growth of high-productivity sectors have disproportionately disadvantaged individuals whose skills are either outdated or insufficiently developed. These workers often find themselves unemployed or relegated to low-value-added service jobs, a common issue in post-industrial labour markets (Bonoli 2012).

Although younger generations tend to attain higher levels of education, particularly through mandatory schooling pathways, they often lack the practical job experience sought by employers during the STWT. Furthermore, their weaker connections with social partners diminish their power of negotiation, making it harder for them to secure stable and well-paid jobs. Ryan (2008) describes this paradox as a “double skill bias”, where young individuals are disadvantaged both by a lack of specific job skills and the absence of soft skills. Nevertheless, this broad trend is shaped by varying national contexts that influence the interplay between education systems, labour markets, and welfare states. Research highlights how these different institutional approaches can significantly affect adolescents STWT (Rubenson 2006; Rubenson and Desjardins 2009; Blossfeld et al. 2014). Shavit and Müller (1998) argue that the alignment between educational qualifications and occupational outcomes varies considerably across systems, exerting a significant influence on labour market integration. Likewise, Blossfeld et al. (2008) identify globalization and entrenched structural inequalities as factors that further complicate the employment trajectories of young people. This stands in contrast to the present, where the implications for individual identity development and life trajectory are significant. As Marco Aime suggests: “To enter the world of work could in some ways be considered a kind of coming-of-age ritual. Employment grants economic independence and consequently a new negotiating power with family and society. In the past, such an entry was often preceded by a period of apprenticeship, which gave rise to an established pathway, following which an apprentice became a true craftsman. Today this happens less and less, later and in a much more fragmented and fluid form (our translation)” (Aime and Pietropolli Charmet 2014, p. 46).

Contemporary workers often experience multiple job transitions throughout their careers. This phenomenon can be attributed to several factors: corporate instability, the increasing fluidity of the labour market, and the growing capacity for individuals to continuously reinvent themselves across various roles and professional domains (Zangelidis 2014; Orfao et al. 2023). While this aspect of the labour market can be recognised as a positive development, the globalised and fluid labour market, characterised by high rates of job-to-job transition (Engbom 2022), requires workers to constantly adapt to different work organization structures, a trend that has been accelerated by technological advancements and shifting economic conditions (Standing 2014; Autor 2019; World Economic Forum 2020). Tension arises when a unidirectional career path tradition is replaced by new liberal models. However, due to the instability of the European socio-economic system, these models often struggle to achieve their intended outcomes.

Our suggestion is that equilibrium in labour markets is essential for ensuring efficiency, fairness, and adaptability in response to various economic and social dynamics. This model shows that without targeted interventions, inequitable and inefficient equilibria can persist, highlighting the importance of fairness interventions to achieve a more equitable labour market (Hu and Chen 2017). Equilibrium facilitates the optimal organization of labour by identifying the most efficient combination of trading institutions—such as markets and employment contracts—considering factors like demand, specialisation, and cost variations. This ensures that services are allocated efficiently across different firm sizes and types (Wernerfelt 2011). Furthermore, “spatial equilibrium” in labour markets addresses wage differentials across regions, which historically led to wage convergence through labour mobility. However, in contemporary settings, workers have greater mobility between regions and companies and improved access to job-related information, such as wages, working conditions, and job opportunities, facilitated by advancements in technology and communication channels. Consequently, the concept of equilibrium has shifted to

focus on utility differentials (e.g., quality of life, job satisfaction, and benefits), fostering a paradigm shift in understanding regional labour dynamics (Graves 2021). This approach also considers search frictions, which are inherent in labour markets, affecting the matching process between employers and job seekers. Understanding these complexities is essential for developing policies that enhance labour market efficiency and reduce unemployment (Pissarides 2011). Equilibrium in labour markets is vital for achieving a balance among efficiency, fairness, and adaptability, ensuring that labour resources are optimised in a dynamic economic environment.

2. The Labour Market in Europe in the New Millennium: Between “Brakes” and “Accelerations”

The labour market in the European Union experienced periods of significant stability at the end of the 20th century, largely driven by the consistent and progressive growth of most productive industries. During this time, many EU member states, despite varying circumstances, benefited from a thriving economic environment. A key contributor to this progression was the development of the digital technology sector. The rise and expansion of the World Wide Web, initially underestimated, eventually revolutionized the labour market. The Internet has profoundly transformed labour systems, job classifications, and the skills required for employment, while also reshaping social systems and influencing the contexts in which individuals live (Bauman 2014). The revolution of the labour systems in Europe had already started after the agreements of the Lisbon Strategy in 2000, which had, among its strategic objectives, the socialisation of active labour policies across all member states. The results of the Lisbon Strategy were unsuccessful, and a project review (Lisbon II) was necessary in 2005 to relaunch the strategy, with a focus on economic growth and employment (New strategy for growth and jobs).

The digital transition represents a long, complex, and gradual trajectory, steering the labour market toward horizons that were scarcely conceivable at the beginning of the 21st century. During this period, the concept of ‘smart organisation’ emerged as a necessary change to thrive within the paradigm of business and work management, supported by the revolution and developments in the field of computer research (Filos and Banahan 2001). The intertwined path between the metamorphosis of the labour market and the process of digital transition was abruptly influenced by two events that “changed the wind” for professional systems: the 2008 financial crisis and the COVID-19 pandemic.

These dramatic events led to scenarios of job insecurity that affected the entire world. Thousands of companies declared bankruptcy, triggering widespread redundancies. Since then, uncertainty and precariousness have become the *leitmotiv* of the European labour market. Thus, many social tensions began to grow and expand on several levels along three main needs: elevating employment levels to mitigate fiscal pressures on governments, addressing the social vulnerabilities of individuals, and recalibrating the balance between professional and private life (Monteiro Sanchez et al. 2023; Alkan and Alkan 2024; Dumitra 2024). The uncertainty eroded individuals’ optimism about the future, impacting their ability to develop sustainable life plans (Nelson 2012).

This scenario finds resonance in the European strategic priorities of the new millennium towards the concept of ‘flexicurity’, defined by the interplay between workplace flexibility, employment and income security, encompassing the welfare policies of individual states (Koster et al. 2011). This holistic approach to labour policy is based on the following pillars: contractual flexibility for companies, enabling them to adapt quickly to market changes; employment security strategies that encourage lifelong learning and skills development of workers to foster their employability; a robust welfare system that offers support during periods of transition; and an active social dialogue between trade unions, employers and governments to negotiate working conditions constructively (Williams 2020; Tilly et al. 2022). The EU aimed to create more dynamic and inclusive labour markets, capable of facing the challenges of globalisation, technological advancement and demographic change, while promoting social cohesion and reducing job insecurity. Flexicurity

has been positively linked to increased employment inflows across EU28 countries, with Eastern European nations benefiting more significantly than Northern and Anglo-Saxon regions. This success has been attributed to integrated policy actions that combine flexible contractual arrangements, robust social security, active labour market measures, and lifelong learning strategies (Ferent-Pipas 2024). Notably, educational initiatives targeting skills development within this framework have proven effectiveness in facilitating reintegration into the labour market, highlighting the central role of education and training in promoting employability and economic inclusion (Ferent-Pipas 2024). Flexicurity policies are characterized by low employment protection, generous unemployment benefits, and active labour market programs, which together support the reallocation of workers to more productive firms. By promoting self-insurance through education, these policies mitigate the moral hazard associated with unemployment benefits (Davoine 2023). The Danish policy framework model has shown responsiveness of employment to economic fluctuations, with reforms either enhancing or preserving employment-output elasticities based on the existing policy environment (Kreiner and Svarer 2022). Nevertheless, Ingham (2018) argues that flexicurity by itself has not directly stimulated economic growth in the EU. However, its components—such as lifelong learning and active labour market strategies—have contributed positively when combined with social trust and the active involvement of social partners. Despite challenges posed by economic crises and austerity measures, flexicurity remains a relevant concept in EU policy discussions, as demonstrated by its inclusion in the 2017 European Pillar of Social Rights (Bekker and Leschke 2023). Notwithstanding its benefits, flexicurity has faced criticism for its ambiguity and potential neglect of vulnerable groups, such as low-skilled workers and those in precarious employment. By focusing on flexibility, flexicurity may fail to address the needs of these groups, exacerbating inequalities and limiting inclusivity (Bekker and Leschke 2023). The liberalization of labour markets can disproportionately affect these workers, increasing their vulnerability to job insecurity (Bekker and Leschke 2023). The balance between flexibility and security can be politically contentious, and its effectiveness may vary based on socio-cultural contexts and existing labour market institutions. This ambiguity has been leveraged by political entities, including the European Commission, to align the framework with their agendas, thereby raising concerns about its potential to compromise the framework's overall effectiveness (Uslu 2016). Furthermore, the lack of clarity led to inconsistent implementation across EU member states, hindering efforts to establish a cohesive labour market policy (Uslu 2016). The impact of flexicurity on job insecurity and employee well-being has also raised concerns. While the framework emphasizes generous unemployment benefits and active labour market policies as compensatory mechanisms, their effectiveness in alleviating insecurity remains contested (Berglund 2015). Achieving an equilibrium between flexibility and security remains a delicate challenge. Without robust safeguards, flexicurity risks eroding the very stability it seeks to foster, particularly in southern European countries.

The second event that changed the history of the labour market forever is the pandemic season triggered by COVID-19. The impact of this sudden viral wave is still unfolding today with consequences that have affected many strategic economic sectors for all governments worldwide. Uncertainty about the future of the markets has been spreading throughout the months of emergency, and in the meantime many companies have declared bankruptcy, resulting in large-scale redundancies (Anderton et al. 2020). The European labour market experienced a general economic contraction and disorientation of great proportions. Despite the severe impact of COVID-19, Europe has then implemented a range of responses to mitigate the pandemic's effects, with outcomes varying based on national contexts and the specific policy measures implemented (OECD 2020; European Commission 2021a; WHO 2021). An unprecedented financial commitment has been directed into the Next Generation EU initiative, through which substantial funding has been allocated based on the recovery plans and projects proposed by individual member states. This was a sort of buffer to the bleeding of the European economy. The measure did not pretend to solve all labour market issues but is supporting the revitalisation of many professional fields,

particularly in Italy, which has widely benefited from the funding allocated through the National Recovery and Resilience Plan (Piano Nazionale di Ripresa e Resilienza—PNRR). In fact, the Next Generation EU plan aims to support employment by establishing policies focused on job retention and creation, with emphasis on the SURE (Support to Mitigate Unemployment Risks in an Emergency) initiative. This initiative has been instrumental in providing financial assistance to member states to preserve employment during the pandemic. The plan prioritizes investments in training and re-skilling, aligning with the European Commission's goals of enhancing workers' adaptability to labour market changes (Council of the European Union 2020; European Commission 2021b).

The outlook for the future is unpredictable and further complicated by the transformative journey of AI, that will be discussed later in the article.

3. The Consequences of Labour Market Uncertainty on the Individual

Transformations in the labour market have a direct and indirect impact on people's lives. The repercussions of ongoing war conflicts make it even worse, reviving concerns that seemed to have been somewhat overcome, at least on a large scale. These events bring psychological implications. Uncertainty about future and job insecurity are growing realities that have a far-reaching impact on various aspects of the human experience (Bodei 1987). The work fragmentation, the need for continuous adaptation to changing organisational and relational contexts, and the frustration arising from the obligation to subordinate personal aspirations to available opportunities, generate a considerable impact on individual's psychological well-being, especially for those whose income is critical to supporting dependents (Bologna and Banfi 2011).

This condition of economic instability and constant uncertainty is a source of stress and suffering in many ways. The subject's inner world clashes with external forces that are beyond control, thus provoking somatic and repressive manifestations, leading the individual to problematic or even destructive and self-destructive behaviours (Corradini and Lambertucci 2011). The stress reaction takes place on several levels and is expressed in different forms depending on the specific contexts. Anxiety, tension, and dissatisfaction are manifestations of stress that can have significant physiological and behavioral consequences. Physiologically, stress may lead to an increased heart rate, impaired concentration, and reduced production of endorphins and dopamine. Behaviourally, stress can contribute to extreme cases where individuals may turn to substance abuse, involving both legal and illegal substances. It is no coincidence issues concerning the mental health of younger generations are increasingly recognised in Europe, including at the political level. However, strategies to address these challenges remain largely absent or, when implemented, prove to be inadequate. Individuals' life plans are affected and subjected to strong pressure by uncontrollable external agents, forcing them to choose unappealing alternatives to try to achieve their desired goals or aspirations (Sennet 1998).

Capitalism and contemporary production systems have imposed on professionals a workload that limits time for leisure to secure sustainable salaries. Recent empirical studies highlight how extended working hours, and increased labour intensity contribute to work–life imbalances, particularly in advanced capitalist economies (Burchell et al. 2002; Angrave and Charlwood 2015). When linked to an individual's sense of identity, it becomes clear that constant changes in the professional sphere disrupt identity stability. This stability, however, depends on a certain degree of continuity to support the desired process of personal growth and development.

4. Adolescent Brain Development and the School-to-Work Transition

The STWT often represents a major change for individuals. This is not only because of the new working conditions and career issues they face but is also due to the distinct purposes, relational dynamics, and affective frameworks of educational and professional systems. This transformative moment usually overlaps with one of the most turbulent stages in an individual's life: adolescence. Delineating precisely when the period of

adolescence begins, and ends is a rather difficult task. For this discussion, it is appropriate to start from a brain development perspective. In addition to neurological development, social and institutional factors play a pivotal role in shaping adolescents' capacity to navigate this critical transition. [Bynner and Parsons \(2002\)](#) highlight the persistent misalignment between young people's skill sets and labour market demands, often resulting in exclusionary outcomes, particularly for those identified as NEETs (Not in Education, Employment, or Training). Effectively addressing these challenges necessitates a coordinated and integrated approach across education systems, social policy frameworks, and labour market strategies. Puberty can be considered the entry point into adolescence. However, while hormonal changes help mark its onset, they do not help define its end. To gain a deeper understanding of this stage of life, it is essential to include insights from findings in neuroscience.

During adolescence brain development is a continuous sequence of expansion and regression ([Crone 2012](#)). [Spear \(2013\)](#) outlines alterations occurring in the adolescent brain and considers the implications of these developmental changes for public policy and programs targeting adolescents. Following, we summarise some key findings. Synaptic pruning, together with myelination, provide a clear illustration of the expansion and regression stage. On one hand, the number of neurons decreases through the synaptic pruning process, which selectively preserves only those neurons essential for the subject's most functional actions and activities. On the other hand, myelination acts as a form of 'rewiring', enhancing the brain's ability to strengthen neural connections, improve communication between neurons, and facilitate the efficient exchange of information by optimising the quality of synaptic connections. Research focusing on the amygdala has revealed heightened emotional activity that significantly influences and individual's behaviour and perception of reality. These dynamic drives the individual to engage in risky behaviours, often sparked by 'hot' emotional states. A critical function of the brain is plasticity, defined as its capacity to adapt to environmental changes and reorganise itself. This capability reaches its peak efficiency during adolescence, in contrast to the functional stability that characterises adulthood.

The completion of brain development and the beginning of a stabilisation period occur on average around the age of 25, at which point the subject has reached complete brain maturity ([Siegel 2014](#)).

While these explanations are not entirely sufficient—given that environmental, social, and cultural considerations play a significant role in understanding human behaviour—the biological component undeniably provides a common foundation for adolescents worldwide. Given this framework of adolescent brain development alongside the current state of the labour market, the STWT becomes even more challenging than it has historically been in more stable contexts ([László et al. 2010](#)) and have a huge impact on adolescents' approach to the job market.

5. The Italian Labour Market, Its Peculiarities and Youth Employment

Beyond the broader challenges affecting the European labour market, Italy faces a set of specific circumstances contributing to uncertainty and instability, further amplifying the precariousness of workers' contractual conditions. Between the late 1990s and early 2000s, the 'Pacchetto Treu' of 1997 and Law No. 30 of February 2003, known as the 'Biagi Law', marked a turning point in the Italian labour market. These legislative measures facilitated the proliferation of atypical forms of employment, introducing a range of new contractual arrangements such as part-time work, apprenticeships, project-based contracts, occasional collaborations, and more.

These contractual forms of employment have, on one hand, introduced a necessary flexibility that has contributed to higher employment levels; on the other hand, they have undermined the structures that once provided stability for workers' personal growth and professional development trajectories ([Mancaniello 2012](#)). Previously, professional growth in Italy often followed a linear trajectory, typically unfolding with one or a few companies. However, the phase following this legislative shift resulted in an increasingly complex and

precarious labour market. In the Italian context, the crisis that began in 2008 was never mitigated. It evolved into new forms because of social policies that inadequately addressed the underlying causes of the issue. These policies created administrative and bureaucratic confusion while undermining workers' rights through insecure contractual arrangements. As a result, workers lost trust in the labour market, and trade unions were reduced to mere intermediaries. Rather than driving change, unions increasingly focused on maintaining the status quo. The escalation of inflation, combined with stagnant wages—particularly notable in Italy, where real wages have remained unchanged for the past three decades—and the consequent decline in purchasing power, have collectively led to significant economic stagnation nationwide (Storm 2019; Belser et al. 2022; Maccarrone 2023). Individuals who benefited from the assets and resources accumulated by their families over time have, to some extent, managed to navigate the current landscape. The same cannot be said for those born into more vanishing socio-economic backgrounds. In Italy, the family remains the primary social and economic safety net, offering the greatest capacity for support (Scabini and Rossi 1997). State intervention aimed at supporting precarious workers, such as the Biagi Reform, the Fornero Reform, and the Jobs Act have inadvertently intensified labour market polarization and precarization. By creating a segmented labour market with unequal levels of protection across worker categories (Loffredo 2018), these measures have ultimately proven insufficient. State welfare mechanism struggle due to the absence of a coherent political vision to guide their direction, only offering temporary solutions that are insufficient to address the country's challenges. These conditions have led to family structures where young adults remain in their parental homes for longer periods. This extended dependency often emerges as the only feasible option for maintaining a stable and sustainable life (Billari and Dalla Zuanna 2008).

To grasp the complexity of youth employment in Italy, just consider that NEETs account for nearly one-fifth of individuals aged 15 to 29 (Eurostat 2023—with reference to 2022). While the situation has improved compared to 2012, when estimates indicated nearly one in four, the issue remains relevant. Between January and December 2022, 44% of those who emigrated were young Italians aged 18 to 34. Among individuals aged 18 to 34 in 2022, nearly one out of two young people (4.8 million) showed at least one “sign of deprivation” (e.g., socioeconomic vulnerability, lack of access to resources like food, education, or healthcare, or exposure to harmful conditions such as violence or exploitation) and the most affected categories are education and employment (Fondazione Migrantes 2023). The data also reveal the problem skills mismatch, a phenomenon in which the competencies students acquire during their education fail to align with the skills required for the professional profiles sought by companies. As a result, businesses face a shortage of qualified personnel, as the necessary skills are not adequate during the mandatory education period (Garda 2017). The labour market in Italy faces challenges related to skill mismatching, as outlined in the 2022–2026 occupational and professional demand forecast report by Unioncamere and ANPAL (Sistema Informativo Excelsior 2023). Structural transformations, encompassing digital, environmental, and demographic transition, are redefining the labour market, demanding a workforce with advanced digital skills, green expertise, and insights into demographic trends. Alongside technical skills, transversal competencies, such as cognitive and social abilities, are becoming essential, reflecting the growing complexity of professional roles. A gap persists between the outcome of the educational system and labour market demands, particularly in high-demand fields such as information technology, telecommunications, mechatronics, and robotics, where the supply of skilled professionals remains insufficient. Replacement demand—driven by retirements and workforce attrition—accounts for a significant portion of the labour needs but frequently fails to address critical skill gaps. These challenges are further compounded by regional disparities, with Northern Italy providing better opportunities compared to Southern regions and islands, further intensifying geographic mismatches. Policy interventions, such as enhanced active labour market strategies and investments in professional education (e.g., ITS programs), are essential to bridge these gaps. The National Recovery

and Resilience Plan (PNRR) aims to align educational and training systems with labour market requirements by focusing on digitalization and ecological transition. However, a coordinated approach involving educational institutions, labour policies, and industrial strategies is necessary to effectively mitigate skill mismatching and support sustainable economic growth. Strengthening collaboration between educational institutions and employers is necessary to align the skills taught with industry requirements, thereby reducing the skills gap that drives job mismatches (Daka et al. 2023). Italy's National Recovery and Resilience Plan (PNRR) prioritizes improving active labour market policies (ALMPs), although it has been criticised for its limited focus on demand-side interventions and wage stagnation issues (Tassinari 2022). The 2015 labour market reforms, which introduced hiring incentives and reduced firing costs, proved effective in increasing permanent job contracts and could be expanded to further address labour market dualism (Sestito and Viviano 2016). Tailored job search assistance and training programs are advocated to enhance re-employment opportunities, especially for older workers and individuals experiencing temporary job separations, thereby mitigating the risk of long-term unemployment and its associated adverse effects (Jin et al. 2016). Implementing these strategies would enable Italy to align its labour market with the skills of its workforce, promoting economic growth and enhancing job quality.

6. Pedagogical Perspectives and the New Challenges of AI

Reflecting on what we learn within an ever-evolving context is currently central to the educational discourse. The prevailing trend, which has become a necessity considering the ecosystem in which we operate, emphasizes the importance of 'learning how to learn'. This approach aims to enable individuals to regulate cognitive and motivational processes while adapting them to address emerging challenges effectively (Morin 2015). Quintini et al. (2007) highlight the imperative of lifelong learning and targeted skills development to enhance the efficacy of youth transitions. The development of digital and transversal skills is essential for fostering resilience and adaptability among young workers in a dynamic labour market. In this historical period, we find ourselves entwined in an intricate and complex social fabric, characterised by a variety of affiliations. This diversity arises in part from the exponential growth in social roles, relationships, as well as the groups and associations we encounter. The fluidity of these social networks is such that entry into and exit from the various membership systems occurs very quickly compared to earlier periods. Consequently, there is a need to develop proficiency in a broad spectrum of languages, roles, and norms. The ongoing evolution and transformation of the social context compel individuals to engage in a continuous process of adaptation. This process necessitates identifying new methods of interaction in each specific situation, along with adopting diverse communicative codes and relational approaches. This represents a constant demand to respond effectively to each communicative challenge (Mancaniello 2018). This relentless flow of information compels individuals to devise defensive strategies to avoid becoming overwhelmed. Learning to navigate this technological landscape requires the development of specialised skills. These skills are often not mastered during the school years, further undermining the transition to the workforce. To complicate matters, as already mentioned, recent technological advancements are once again reshaping the professional landscape on a global scale.

Artificial intelligence is not a recent innovation. Its origins trace back to the 1950s, mainly thanks to the work of Alan Turing. How, then, has AI only recently gained widespread attention? Two primary factors provide a partial explanation for this phenomenon, offering insights into the implications of the rise of this technology. First of all, two innovations transformed the landscape: the generative and conversational capabilities of AI. To simplify, AI has evolved to the point where it can generate 'original' contents and creations. The way in which we interact with this technology has been the other game changer. Accessing these AI tools (in this case we refer to GenAI) has become very easy, allowing users to engage through simple interfaces and produce outputs in a variety of

formats (video, text, images, etc.). The second reason is related to the operating model of AI software, which needs a huge amount of data in order to perform efficiently. With the expansion of the techno-ecosystem, we have been ‘enveloped’ within an *infosphere* that has driven the exponential growth of data production (Floridi 2017). AI performs efficiently when big data are available, and in 2021, data production reached zettabyte levels. The sheer volume of information fuelling AI databases has become an unstoppable force. The launch of ChatGPT, first released in November 2022, marked the beginning of a transformative era, with nations worldwide striving to regulate, manage, and harness AI. The goal remains to leverage its potential for positive innovation while minimising associated risks to the greatest extent possible (Floridi and Cabitza 2021). For this reason, many countries are working to establish specific regulations that delineate allowed and prohibited practices in the development and use of these systems (Tegmark 2018). AI is challenging humanity with a transformative shift, which some experts compare to the invention of the light bulb in terms of its potential impacts. For the purpose of this discussion, it is relevant to examine how this innovation is currently affecting the labour market and how it is poised to reshape it in the coming years.

7. What Kind of STWT with the Rise of AI?

AI is set to change the fundamental nature of work, introducing radical changes (McKinsey Global Institute 2017; Floridi 2023) already evident in other countries such as China (Yan 2024; Shen and Zhang 2024). The accelerated evolution of AI introduces greater complexity and unpredictability to the labour landscape, contributing to the instability that is already influencing employment trends and individual livelihoods (Longo and Scorza 2020). AI enables the automation of a whole range of tasks and processes, reducing the need for human intervention by replacing it in various stages of production. Consider Charlie Chaplin’s film *Modern Times*, where Chaplin portrays Charlot, a factory worker tasked with tightening bolts on an assembly line. The monotonous and exhausting nature of his repetitive work drives him to the brink of obsession, ultimately leading to a loss of control and self-inflicted harm as a desperate attempt to escape the relentless demands of the assembly line. Many tasks currently performed humans can now be handled by such software, despite supervision requirements. While this is an opportunity to get rid of monotonous and repetitive jobs—albeit with some level of supervision—it also raises concerns about reallocating the workforce and developing systems that integrate this technology. At the same time, it necessitates the sustainable redistribution of human resources and skills (Bedessi 2019).

Recent mass layoffs within major technology companies, often referred to as Big Tech, have raised concerns that these measures are not driven by financial pressure or strategic budget reallocations. Instead, there is growing speculation that these layoffs are part of a broader, and more radical restructuring of operational models, driven by the integration of AI systems across multiple stages of work processes, effectively diminishing the need for human intervention (Huang and Rust 2018; Vorobeva et al. 2022). While there is no definitive evidence on this matter, the scale of AI software released following ChatGPT is remarkable, occurring within a very short timeframe. The range of tasks these systems can perform is vast, and this is only the beginning. This suggests that work systems will change consistently within a few years with no turning back. Statistical analyses highlight the rapid integration of AI across nearly every field, with these tools either replacing or complementing human efforts (Statista 2024). While some jobs could be automated, others could experience an augmentation of human capabilities through AI. However, this process may generate inequalities and social tensions. Responding to the shifting dynamics of the labour market will require ongoing workforce adaptation through continuous reskilling and upskilling. This demand for skills development could have implications for both economic stability and social cohesion (Kaplan 2021).

What do we need to do then to improve STWT within this scenario? To effectively improve STWT in this context, we must consider two foundational pillars. Although there

is no definitive solution, we can make meaningful progress by concentrating on these areas. The first pillar involves fostering life skills, which are, and will continue to be, among the most crucial attributes needed in the labour market. Life skills such as problem-solving, adaptability, teamwork, and effective communication are fundamental to ensuring individuals are equipped to navigate the evolving challenges of modern employment. These skills not only enhance employability but also contribute to personal growth and resilience, qualities that are valued across all sectors.

The second pillar is the need to enhance digital competencies, given the pervasiveness of technology in our daily lives. With advancements in AI and other technological domains, digital skills are no longer optional but essential. The rapid integration of technology into almost every aspect of life and work means that individuals must be prepared to engage with the digital ecosystem with responsibility and awareness. Europe has already demonstrated a commitment to addressing this need through initiatives like DigComp, DigCompEdu, and DigCompOrg, which provide frameworks for digital skills development across different scenarios. However, while these initiatives are a positive step, we must further intensify our focus on digital skills to meet the demands of a rapidly changing labour market. These skills will be pivotal in addressing future challenges, such as ensuring equitable access to technology, fostering digital innovation, and mitigating the risks associated with technological advancement. By equipping individuals with both life skills and digital competencies, we can help build a more adaptable, resilient, and inclusive workforce capable of thriving in an ever-evolving world.

8. Conclusions

The transformative processes shaping the labour market continue to accelerate, driven by rapid advancements in digital technology. This has created a striking contrast between two opposing paces: the rapid evolution of technology, where innovations quickly become obsolete, and the slower pace of human adaptation to these changes. Achieving balance by adhering to the paradigms of life and growth from the late twentieth century is no longer viable. Rather, embracing the inherent instability and uncertainty of the present seems to be the most effective strategy for facing future challenges. However, the battles for the future are being waged today, and the current educational system falls short in equipping adolescents with the skills and competencies needed to approach the future proactively. Instead of being passive recipients of its challenges, they should be empowered to solve them with responsibility, awareness, and critical thinking.

At the same time, the education system alone cannot address the problem. Comprehensive policy measures are required to allocate greater economic and human resources for the benefit of citizens, while fostering new models of sustainable development that provide a more optimistic vision for the future. Younger generations, including adolescents, must no longer be unfairly labelled as the root of all societal issues. They did not choose the world they inhabit but inherited it from previous generations. What is needed is a paradigm shift that recognizes the new generations as integral to the solution, leveraging their boundless creativity and ideas to collaboratively shape a shared and aspirational future.

Navigating the school-to-work transition (STWT) remains one of the most complex challenges in this transformative era. Undeniably, there are actionable steps to enhance our understanding of this complex phenomenon. Central to this effort is actively engaging with young generations: listening to their perspectives, envisioning the world through their lens, and involving them meaningfully in policy-making processes. By positioning them not only as participants but also as leading actors in development initiatives, we acknowledge their critical role in shaping the future. After all, the future we are building through the present will be the world they will live in.

Author Contributions: The content of the paper emerges from a collaborative process of in-depth discussion and comparative analysis between the two authors. Introduction and conclusions are written by both authors. M.R.M. is responsible for the Sections 2–4. F.L. is responsible for the Sections 5–7. All authors have read and agreed to the published version of the manuscript.

Funding: This research received no external funding.

Institutional Review Board Statement: Not Applicable.

Informed Consent Statement: Not applicable.

Data Availability Statement: Not applicable.

Conflicts of Interest: The authors declare no conflicts of interest.

References

- Aime, Marco, and Gustavo Pietropolli Charmet. 2014. *La fatica di diventare grandi. La scomparsa dei riti di passaggio*. Torino: Einaudi.
- Alkan, Isil H., and Bora Alkan. 2024. Labor Market Reflections of COVID-19 Pandemic: A Global Investigation Specific to Income Groups and Vulnerable Workers. *Ankara Hacı Bayram Veli Üniversitesi İktisadi Ve İdari Bilimler Fakültesi Dergis* 26: 103–22. [\[CrossRef\]](#)
- Anderton, Robert, Vasco Botelho, Agostino Consolo, António Dias Da Silva, Claudia Foroni, Matthias Mohr, and Lara Vivian. 2020. *The Impact of the COVID-19 Pandemic on the Euro Area Labour Market*. ECB Economic Bulletin, n.8. Frankfurt: European Central Bank.
- Angrave, David, and Andy Charlwood. 2015. What is the relationship between long working hours, over-employment, under-employment and the subjective well-being of workers? Longitudinal evidence from the UK. *Human Relations* 68: 1491–515. [\[CrossRef\]](#)
- Autor, David H. 2019. Work of the past, work of the future. *AEA Papers and Proceedings* 19: 1–32. [\[CrossRef\]](#)
- Bauman, Zigmund. 2014. *Futuro liquido. Società, uomo, politica e filosofia*. Milano: Albo Versorio.
- Bedessi, Sergio. 2019. *Intelligenza Artificiale e Fenomeni Sociali*. Milano: Apogeo.
- Bekker, Sonja, and Janine Leschke. 2023. The academic and policy roots of flexicurity and its pathways. In *Handbook of Labor Market Policy in Advanced Democracies*. Edited by Daniel Clegg and Niccolo Durazzi. Cheltenham: Edward Elgar Publishing, pp. 54–67.
- Belser, Patrick R., Rosalia Vazquez-alvarez, and Ding Xu. 2022. *Global Wage Report 2022–2023: The Impact of Inflation and COVID-19 on Wages and Purchasing Power*, 1st ed. Geneva: ILO.
- Berglund, Tomas. 2015. Flexicurity, Job Insecurity, and Well-Being in European Labor Markets. In *Sustainable Working Lives. Aligning Perspectives on Health, Safety and Well-Being*. Edited by Jukka Vuori, Roland Blonk and Richard Price. Dordrecht: Springer, pp. 145–67.
- Billari, Francesco C., and Gianpiero Dalla Zuanna. 2008. *La rivoluzione nella culla. Il declino che non c'è*. Milano: Bocconi.
- Blossfeld, Hans-Peter, Elina Kilpi-Jakonen, Daniela Vono De Vilhena, and Sandra Buchholz, eds. 2014. *Adult Learning in Modern Societies: An International Comparison from a Life-Course Perspective*. Cheltenham: Edward Elgar Publishing.
- Blossfeld, Hans-Peter, Sandra Buchholz, Erzsébet Bukodi, and Karin Kurz, eds. 2008. *Young Workers, Globalization and the Labor Market*. Cheltenham: Edward Elgar Publishing Ltd.
- Bodei, Remo. 1987. *Scomposizioni. Forme dell'individuo moderno*. Torino: Einaudi.
- Bologna, Sergio, and Dario Banfi. 2011. *Vita da freelance. I lavoratori della conoscenza e il loro futuro*. Milano: Feltrinelli.
- Bonoli, Giuliano. 2012. The postindustrial employment problem and active labour market policy. Paper presented at 10th ESPAnet Annual Conference, Edinburgh, Scotland, September 6–8.
- Burchell, Brendall, David Ladipo, and Frank Wilkinson, eds. 2002. *Job Insecurity and Work Intensification*. London and New York: Routledge.
- Bynner, Jhon, and Samantha Parsons. 2002. Social exclusion and the transition from school to work: The case of young people not in education, empolymnet, or training (NEET). *Journal of Vocational Behavior* 60: 289–309. [\[CrossRef\]](#)
- Cohen-Scali, Valérie. 2003. The influence of family, social, and work socialization on the construction of the professional identity of young adults. *Journal of Career Development* 29: 237–49. [\[CrossRef\]](#)
- Corradini, Isabella, and Pietro Lambertucci. 2011. *Lo stress nei luoghi di lavoro. Profili psicologici, giuridici e metodologie di valutazione*. Roma: Themis.
- Council of the European Union. 2020. *Regulation Establishing a European Instrument for Temporary Support to Mitigate Unemployment Risks in an Emergency (SURE) Folloqing the COVID-19 Outbreak*. Brussels: Council of the European Union.
- Crone, Evelin. 2012. *Nella testa degli adolescenti. I nostri ragazzi spiegati attraverso lo studio del loro cervello*. Milano: Urra.
- Cuzzocrea, Valentina. 2014. Projecting the category of NEET into the future. In *Perspectives on Youth: Volume 1. 2020—What Do YOU*. Edited by Council of Europe. Strasbourg: Council of Europe, pp. 69–82.
- Daka, Harrison, Linda Minjale, Paul Kakupa, Bestern Kaani, Pilira Tembo, Lydia Mukuka Mulenga, and Astridah Musonda. 2023. Bridging the gap: Addressing the disparity between higher education knowledge and industry needs. *International Journal of Social Science and Education Research Studies* 3: 1589–94. [\[CrossRef\]](#)
- Davoine, Thomas. 2023. Flexicurity, education and optimal labour market policies. *Labour* 37: 592–625. [\[CrossRef\]](#)
- Dumitra, Teodora-Cătălina. 2024. The Influence of COVID-19 Phenomenon on the Labour Market at the European Regional Level. *Proceedings of the International Conference on Business Excellence* 18: 3124–42. [\[CrossRef\]](#)
- Engbom, Niklas. 2022. *Labor Market Fluidity and Human Capital Accumulation*. National Bureau of Economic Research (NBER), Working Paper n.29698, JEL n.E24, J24. Cambridge, MA: National Bureau of Economic Research.

- European Commission. 2021a. *Commission Implementing Decision of 22.12.2021 on the Financing of the Special Measure in Favour of Contributing to the Global Immunisation Efforts Against the COVID-19 in Low and Lower-Middle Income Countries for 2021*. Brussels: European Commission.
- European Commission. 2021b. *Next Generation EU: Investing in Europe's Recovery*. Brussels: European Commission.
- Eurostat. 2023. *Young People (Aged 15–29) Neither in Employment nor in Education and Training, 2012 and 2022*. Luxembourg: Eurostat, May 22.
- Ferent-Pipas, Marina. 2024. Flexicurity and employment inflows in the EU28 countries: A panel data analysis. *International Journal of Manpower* 45: 1589–606. [\[CrossRef\]](#)
- Filos, Erastos, and Eoin Banahan. 2001. Towards the smart organization: An emerging organizational paradigm and the contribution of the European RTD programs. *Journal of Intelligent Manufacturing* 12: 101–19. [\[CrossRef\]](#)
- Floridi, Luciano. 2017. *La quarta rivoluzione. Come l'infosfera sta trasformando il mondo*. Milano: Raffaello Cortina Editore.
- Floridi, Luciano. 2023. *The Ethics of Artificial Intelligence. Principles, Challenges, and Opportunities*. Oxford: Oxford University Press.
- Floridi, Luciano, and Federico Cabitza. 2021. *Intelligenza artificiale. L'uso delle nuove macchine*. Milano: Bompiani.
- Fondazione Migrantes. 2023. *RIM—Rapporto Italiani nel Mondo*. Todi: Tav Editrice.
- Garda, Paula. 2017. *Enhancing Employability and Skills to Meet Labour Market Needs in Italy*. OECD Economics Department Working Papers 1401. Paris: OECD Publishing.
- Graves, Philip E. 2021. Spatial Equilibrium in Labor Markets. In *Handbook of Regional Science*. Edited by Manfred M. Fischer and Peter Nijkamp. Berlin and Heidelberg: Springer, pp. 539–55.
- Heinz, Walter R. 2009. *Youth Transition in an Age of Uncertainty*. London: Routledge.
- Hu, Lily, and Yiling Chen. 2017. Fairness at equilibrium in the labor market. *arXiv* arXiv:1707.01590v1.
- Huang, Ming-Hui, and Roland T. Rust. 2018. Artificial intelligence in service. *Journal of Service Research* 21: 155–72. [\[CrossRef\]](#)
- Ingham, Hilary C. 2018. *Economic Growth in the EU: Is Flexicurity a Help or a Hindrance?* Working Papers, n.238220512. Lancaster: Lancaster University School, Economics Department.
- Jin, Myung, Bruce D. McDonald, and Jaehee Park. 2016. Followership and job satisfaction in the public sector: The moderating role of perceived supervisor support and performance-oriented culture. *International Journal of Public Sector Management* 29: 218–37. [\[CrossRef\]](#)
- Kaplan, Jerry. 2021. *Le persone non servono. Lavoro e ricchezza nell'epoca dell'intelligenza artificiale*. Roma: Luiss University Press.
- Koster, Ferry, John McQuinn, Iulia Siedschlag, and Olaf van Vliet. 2011. *Labour Markets Models in the EU*. Neujobs Special Report No.1. Brussel: CEPS.
- Kreiner, Claus T., and Michael Svarer. 2022. Danish flexicurity: Rights and duties. *Journal of Economic Perspectives* 36: 81–102. [\[CrossRef\]](#)
- László, Krisztina D., Hynek Pikhart, Mária S. Kopp, Martin Bobak, Andrzej Pajak, Sofia Malyutina, Gyöngyvér Salavecz, and Michael Marmot. 2010. Job insecurity and health: A study of 16 European countries. *Social Science and Medicine* 70: 867–74. [\[CrossRef\]](#)
- Loffredo, Antonio. 2018. From Polarisation to Precarisation of the Italian Labour Market. Working Paper 2/2018 der DFG-Kollegforscher_innengruppe Postwachstumsgesellschaften. Available online: <https://www.fsv.uni-jena.de/fsvmedia/37960/wp-2-18-loffredo.pdf> (accessed on 5 September 2024).
- Longo, Alessandro, and Guido Scorza. 2020. *Intelligenza artificiale. L'impatto sulle nostre vite, diritti e libertà*. Milano: Mondadori Università.
- Maccarrone, Vincenzo. 2023. Inflation and real wages. The insufficiencies of the Italian collective bargaining system. *Synapsi* 13: 96–109. [\[CrossRef\]](#)
- Mancaniello, Maria Rita. 2012. Diverse Jobs: Atypical Work and Formation to Support an Unstable Balance. In *A Glance at Work. Educational Perspectives*. Edited by Vanna Boffo. Firenze: Firenze University Press, pp. 135–57.
- Mancaniello, Maria Rita. 2018. *Per una pedagogia dell'adolescenza. Società complessa e paesaggi della metamorfosi identitaria*. Lecce: Pensa Multimedia.
- McKinsey Global Institute. 2017. *Jobs Lost, Jobs Gained: Workforce Transitions in a Time of Automation*. New York: McKinsey Global Institute.
- Monteiro Sanchez, Guilherme, Sander K. R. van Zon, Patricia Ots, G. van den Berg, S. Brouwer, and R. van Ooijen. 2023. Labour market effects of the COVID-19 pandemic: A Dutch longitudinal study. *European Journal of Public Health* 33 (S2): ckad160-703. [\[CrossRef\]](#)
- Morin, Edgar. 2015. *Insegnare a vivere. Manifesto per cambiare l'educazione*. Milano: Raffaello Cortina Editore.
- Nelson, Moira. 2012. *State of the Art: Reconciling Work and Welfare in Europe*. Neujobs State of the art Report No.5/D 5.1. Brussel: CEPS.
- OECD. 2020. OECD Policy Responses to Coronavirus (COVID-19). Available online: https://www.oecd.org/en/publications/oecd-policy-responses-to-coronavirus-covid-19_5b0fd8cd-en.html (accessed on 2 August 2024).
- Orfao, Guillermo, Alberto del Rey, and Miguel Ángel Malo. 2023. Multiple jobholding and non-standard employment among young workers: A comparative analysis of EU-28 member states. *Journal of Youth Studies* 27: 961–85. [\[CrossRef\]](#)
- Pissarides, Christopher A. 2011. *Equilibrium in the Labour Market with Search Frictions*. Research Papers in Economics. Stockholm: Nobel Price Committee.
- Quintini, Glenda, John P. Martin, and Sébastien Martin. 2007. *The Changing Nature of the School-to-Work Transition Process in OECD Countries*. IZA Discussion Paper n. 2582. Bonn: Zukunft der Arbeit GmbH (IZA).
- Raffe, David. 2008. The concept of transition system. *Journal of Education and Work* 21: 277–96. [\[CrossRef\]](#)
- Roccas, Sonia, and Marilynn B. Brewer. 2002. Social identity complexity. *Personality and Social Psychology Review* 6: 88–106. [\[CrossRef\]](#)

- Rubenson, Kjell. 2006. The Nordic model of lifelong learning. *Compare: A Journal of Comparative and International Education* 36: 327–41. [CrossRef]
- Rubenson, Kjell, and Richard Desjardins. 2009. The impact of welfare state regimes on barriers to participation in adult education. *Adult Education Quarterly* 59: 187–207. [CrossRef]
- Ryan, Paul. 2008. Youth employment problems and school-to-work institutions in advanced economies. In *Young Workers in the Global Economy: Job Challenges in North America, Europe and Japan*. Edited by Gregory De Freitas. Cheltenham: Edward Elgar, pp. 137–59.
- Scabini, Eugenia, and Giovanna Rossi, eds. 1997. *Giovani in famiglia tra autonomia e nuove dipendenze*. Milano: Vita e Pensiero.
- Sennet, Richard. 1998. *L'uomo flessibile. Le conseguenze del capitalismo sulla vita personale*. Milano: Feltrinelli.
- Sestito, Paolo, and Eliana Viviano, eds. 2016. *Hiring Incentives and/or Firing Cost Reduction? Evaluating the Impact of the 2015 Policies on the Italian Labour Market*. Questioni di Economia e Finanza (Occasional Papers), n. 325. Rome: Bank of Italy, Economic Research and International Relations Area.
- Shavit, Yossi, and Walter Müller, eds. 1998. *From School to Work*. Oxford: Clarendon Press Oxford.
- Shen, Yang, and Xiuwu Zhang. 2024. The impact of artificial intelligence on employment: The role of virtual agglomeration. *Palgrave Communications* 11: 122. [CrossRef]
- Siegel, Daniel J. 2014. *La mente adolescente*. Milano: Raffaello Cortina Editore.
- Sistema Informativo Excelsior. 2023. *Previsioni dei fabbisogni occupazionali e professionali in Italia a medio termine (2023–2027)*. Rome: Unioncamere.
- Spear, Linda P. 2013. Adolescent neurodevelopment. *Journal of Adolescent Health* 52: S7–S13. [CrossRef]
- Standing, Guy. 2014. *The Precariat: The New Dangerous Class*. London: Bloomsbury Academic.
- Statista. 2024. Number of Artificial Intelligence (AI) Tool Users Globally from 2020 to 2030. Available online: <https://www.statista.com/forecasts/1449844/ai-tool-users-worldwide> (accessed on 2 August 2024).
- Stets, Jan E., and Peter J. Burke. 2000. Identity theory and social identity theory. *Social Psychology Quarterly* 63: 224–37. [CrossRef]
- Storm, Servaas. 2019. Lost in deflation: Why Italy's woes are a warning to the whole eurozone. *International Journal of Political Economy* 48: 195–237. [CrossRef]
- Tassinari, Arianna. 2022. Labour market policy in Italy's recovery and resilience plan. Same old or a new departure? *Contemporary Italian Politics* 14: 441–57. [CrossRef]
- Tegmark, Max. 2018. *Vita 3.0. Esseri umani nell'era dell'intelligenza artificiale*. Milano: Raffaello Cortina Editore.
- Tilly, Zippel, Lu Z. Kwan, and Liu S. Shin. 2022. Unraveling the Threads: A Comprehensive Analysis of Government Policies on Unemployment, Worker Empowerment, and Labor Market Dynamics. *Law and Economics* 16: 69–87. [CrossRef]
- Uslu, Hasan F. 2016. The debate on the concept of flexicurity at the European Union level. *Marmara University Journal of Political Science, Siyasal Bilimler Dergisi* 4: 237–57. [CrossRef]
- Vorobeva, Darina, Yasmina El Fassi, Diego Costa Pinto, Diego Hildebrand, Márcia M. Herter, and Anna S. Mattila. 2022. Thinking skills don't protect service workers from replacement by artificial intelligence. *Journal of Service Research* 25: 601–13. [CrossRef]
- Wernerfelt, Birger. 2011. The Equilibrium Organization of Labor. *Social Science Research Network*. <https://doi.org/10.2139/SSRN.1932799>. Available online: <https://ssrn.com/abstract=1932799> (accessed on 2 August 2024).
- Williams, Colin. 2020. Developing a Holistic Integrated Strategic Approach Towards Undeclared Work: A Toolkit. Social Science Research Network, Regional Cooperation Council, Sarajevo, July. Available online: <https://ssrn.com/abstract=3730934> (accessed on 2 August 2024).
- World Economic Forum (WEF). 2020. *The Future of Jobs Report 2020*. Cologny: World Economic Forum.
- World Health Organization. 2021. *WHO's Response to COVID-19—2021 Annual Report*. Available online: <https://www.who.int/publications/m/item/who-s-response-to-covid-19-2021-annual-report> (accessed on 2 August 2024).
- Yan, Rui. 2024. The Impact of Artificial Intelligence on the Labor Market. *International Journal of Global Economics and Management* 2: 233–38.
- Zangelidis, Alexandros. 2014. Labour Market Insecurity and Second Job-Holding in Europe. *Social Science Research Network*. <https://doi.org/10.2139/SSRN.2615268>. Available online: <https://ssrn.com/abstract=2615268> (accessed on 2 August 2024).

Disclaimer/Publisher's Note: The statements, opinions and data contained in all publications are solely those of the individual author(s) and contributor(s) and not of MDPI and/or the editor(s). MDPI and/or the editor(s) disclaim responsibility for any injury to people or property resulting from any ideas, methods, instructions or products referred to in the content.