



Building resilient and inclusive labour markets in Europe: unpacking policy synergies and challenges

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Grant agreement no. 101061388

Deliverable: D7.1

Due date: 04.2025



Funded by
the European Union

Document control sheet

Project Number:	101061388
Project Acronym:	WeLaR
Work-Package:	WP7
Last Version:	24/04/2025
Issue Date:	30/04/2025

Classification

Draft	
Final	X
Confidential	
Restricted	
Public	X

Legal notice

This project, WeLaR, has received funding under the Horizon Europe programme. Views and opinions expressed are however those of the authors only and do not necessarily reflect those of the European Union or the European Research Executive Agency. Neither the European Union nor the granting authority can be held responsible for them.

Citing this report: Peña-Casas, R., Ghailani, D., and Sabato, S. (2025), *Building Resilient and Inclusive Labour markets in Europe: Unpacking Policy Synergies and Challenges*, Deliverable 7.1, WeLaR project.

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Executive summary

The WeLaR project, funded under the Horizon Europe programme, investigates the impact of four megatrends—digitalisation, globalisation, climate change, and demographic shifts—on labour markets and welfare states in Europe. This report aims to enhance understanding of these trends' individual and combined effects on the labour market and welfare state, and to develop policy proposals that promote equitable economic growth and opportunities for all.

The report begins by examining the transformations of EU labour markets and welfare systems driven by globalisation, demographic changes, digital transition, and green transition. Globalisation, now in its phase known as Globalisation 4.0, integrates advanced technologies like artificial intelligence and blockchain, reshaping global interactions and presenting challenges such as data security and economic disparities. Demographic changes, notably an ageing population and declining fertility rates, pose challenges for labour markets and social protection systems, but also offer opportunities through the expansion of the 'silver economy' and increased demand for healthcare and wellness services. The digital transition is transforming work landscapes, requiring new skills and creating both opportunities and challenges for workers. The green transition, driven by the EU's goal of becoming climate-neutral by 2050, impacts labour markets by creating 'green jobs' while displacing jobs in certain sectors, necessitating comprehensive policy measures to address these changes.

Key cross-cutting issues for inclusive and sustainable transitions are discussed, including improving job quality, tackling in-work poverty, and addressing the needs of marginalised socio-economic groups. The report highlights the importance of job quality in achieving full employment and sustainable economic growth, noting that poor job quality remains a significant challenge in the EU. Social dialogue and collective bargaining are crucial for improving job quality and protecting workers' rights. Addressing in-work poverty is also essential for reducing inequalities and fostering a resilient and inclusive economy, with targeted policies needed to support vulnerable individuals such as women, migrants, and low-skilled workers for instance.

The report outlines key policy pathways to support workers through the twin transitions. Active Labour Market Policies aim to enhance employment opportunities and support employment transitions, while lifelong learning initiatives promote continuous skill development. Digital skills development is essential for personal and professional growth, with training programmes focusing on various aspects of digital literacy. Family policies, including affordable childcare and eldercare, support workforce participation and promote gender equality. Sharing working time through models like the four-day work week can

enhance work-life balance and productivity. Inclusive workplace practices, such as diversity and inclusion training, mentoring programs, and workplace accessibility audits, are vital for fostering a supportive work environment.

The report also identifies synergies between various policies, emphasizing the importance of a comprehensive and integrated approach to policymaking. The twin transitions of digital and green policies are seen as a 'meta-synergy', with digital technologies facilitating environmental objectives and the green transition transforming the digital sector. However, potential conflicts and challenges are acknowledged, such as the increased energy consumption and the need for substantial investments. Policymakers are urged to prioritise inclusive strategies to ensure equitable access to the benefits of these transitions for all the Europeans.

Conclusive remarks highlight the need for voluntary opted flexibility options, continuous training, and proactive efforts to include all individuals. Addressing discrimination and promoting gender equality are essential for creating diverse and competitive workplaces and societies. Work-life balance, continuous learning, and digital skills training are crucial in the context of green and digital transitions. Funding these initiatives requires a shift in perspective, viewing social policies (also) as productive economic investments. Job quality, strong public services, and comprehensive social protection are foundational elements of a resilient society. In this perspective, policies should be integrated rather than isolated, connecting economic, fiscal, employment, social, environmental, digital, and territorial policies, while including targeted measures for disadvantaged groups when needed.

Considering evolving economic paradigms, it is necessary to redefine the 'European Social Model' through a new EU Social Pact. This initiative aims to build consensus and legitimacy for necessary policy reforms, highlighting the importance of social dialogue and collective bargaining. Moreover, it underscores the need for active collaboration with civil society and citizens to ensure the legitimacy of efforts towards a smooth transition to an inclusive, green, and prosperous future for EU citizens and companies.

Introduction

This deliverable¹ is part of the research conducted within an interdisciplinary European project titled Welfare Systems and Labour Market Policies for Economic and Social Resilience in Europe (WeLaR), which examines the impact of four megatrends—digitalisation, globalisation, climate change, and demographic shifts—on labour markets and welfare states in the European Union (EU). The objective is to enhance understanding of these trends' individual and combined effects on the labour market and welfare state, and to develop policy proposals that promote equitable economic growth and opportunities for all.

This policy report consolidates information from various sources, beginning with the comprehensive literature review conducted in Deliverable 2.1 of the project. Additionally, it incorporates insights and references from the research reports produced by the project, along with the policy briefs from work packages 3 to 6. This synthesis is further enhanced by our own desktop research and literature review. The report is structured as follows:

Section 1 examines the observed and anticipated impacts of major transitions on labour markets and the challenges these present for social protection and the future welfare of European workers and citizens. It covers globalisation, demographic changes, digital transition, and green transition.

Section 2 discusses improving job quality, tackling in-work poverty, and addressing the needs of marginalised socio-economic groups. It highlights the importance of job quality, social dialogue, and collective bargaining in achieving full employment and sustainable economic growth. This section underscores the necessity of addressing these cross-cutting issues to ensure that the transformations discussed in Section 1 lead to inclusive and sustainable outcomes.

Section 3 outlines policies to support workers through these transitions, including Active Labour Market Policies (ALMPs), lifelong learning initiatives, digital skills development, family policies, sharing working time, and inclusive workplace practices. This section provides targeted strategies to navigate the changes highlighted in Sections 1 and 2.

¹ The authors of this report extend their sincere and grateful appreciation to Karolien Lenaerts, Mikkel Barslund and Laurène Thil from HIVA-KU Leuven, Ursula Holtgrewe from ZSI, as well as their colleagues from OSE, Ilda Durri and Slavina Spasova, for their invaluable and pertinent comments.

Section 4 identifies potential synergies between various policies and emphasizes the importance of a comprehensive and integrated approach to policymaking. It discusses the twin transitions of digital and green policies as a 'meta-synergy'² and highlights the need for inclusive strategies to ensure equitable access to the benefits of these transitions. The synergies outlined here are important for creating future-proof resilient labour markets and workforces.

Section 5 summarises the key findings of the report, emphasizing the need for flexible retirement options, continuous training, proactive efforts to include all individuals in the workforce, addressing discrimination, promoting gender equality, work-life balance, continuous learning, and digital skills training. It also highlights the importance of viewing social policies as economic investments and integrating policies across various domains. These conclusive remarks tie together the insights from Sections 1 to 4, providing a coherent overview of the necessary steps for future welfare.

Section 6 provides specific recommendations for building resilient and inclusive labour markets, enhancing learning and skills, including the territorial dimension, fostering resilient and strong public services and social protection systems while ensuring their sustainable financing. It concludes with recommendations aimed at promoting and enhancing social dialogue. These recommendations seek to create resilient workforces and labour markets that are prepared for future challenges, supporting individuals through the disruptive transitions that our societies are experiencing. This final section offers actionable steps based on the discussions in the previous sections, ensuring a comprehensive approach to policy development.

1. Navigating megatrends: transformations of EU labour markets and welfare

This section aims to comprehensively examine the observed and anticipated impacts of major transitions on labour markets, as well as the challenges these present for social protection and the future welfare of European workers and citizens.

1.1. Globalisation

The digital and green transitions within the EU and its Member States are taking place in the context of economic globalisation, which has evolved into a new phase, known as Globalisation 4.0, integrating

² In the report, the term 'meta-synergy' refers to the potential created by integrating digital innovation with ecological sustainability policies.

technologies of the Fourth Industrial Revolution, such as artificial intelligence, the Internet of Things, and blockchain. Unlike earlier phases that emphasised trade and investment, this phase prioritises digital connectivity and technological innovation. However, it also presents significant challenges in terms of data security, privacy, and managing economic disparities (Schwab, 2018).

This transformation is reshaping the interactions between businesses and governments globally through the application of advanced technologies. The various waves of economic globalisation have profoundly transformed the EU, bringing both benefits and challenges. Globalisation has boosted growth and jobs through increased trade and investment and access to new markets for European companies.³ It has also significantly transformed consumption modes and patterns.

This economic opening has however led to relocations and job losses in sectors requiring low qualifications, such as textiles and metallurgy, during the deindustrialisation phase of the EU in the previous century. More recently, similar effects have been observed due to the process of decarbonisation of the economy as part of the ecological transition.

Globalisation has triggered economic and territorial disparities within the EU, affecting regions differently based on how they benefit from the globalisation process (Jančová et al., 2024). Globalisation has also increased wage pressure and polarisation in the EU.⁴ A WeLaR paper highlights also that offshoring (the international outsourcing of production stages) is a significant driver of the expansion of atypical employment in the EU, particularly in the service sector (Leitner et al., 2024).

³ According to a study of the Joint Research Centre, in 2019, around 38 million jobs were occupied directly or indirectly in sectors producing goods and services exported to non-EU countries, accounting for approximately one fifth of EU jobs. This share has been growing constantly since 2000 (+75%) (Rueda Cantuche et al., 2021).

⁴ A study by Jestl et al. (2022) shows that immigration, trade, and foreign direct investment (FDI) exert varying impacts across the wage distribution, with the most pronounced effects observed at its centre, highlighting the significant wage polarisation induced by globalisation. Additionally, for trade and FDI, they observe occasional inequality-reducing effects that are most prominent at the upper end of the wage distribution. The study highlights also a geographical polarisation within the EU regarding the relative contributions of various factors. In the 'old' EU Member States, immigration and foreign direct investment (FDI) significantly contribute to wage inequality, whereas trade is the primary driver of wage inequality in the 'new' EU Member States. Notably, the increase in wage inequality due to immigration is most pronounced and consistent among Southern EU Member States (Jestl et al., 2022).

Additionally, globalisation has shaped intensified migratory flows. Socially, globalisation has enhanced European societies, and workplaces, with cultural diversity and intercultural exchanges. Nonetheless, it has also presented challenges in relation to social cohesion and the integration of migrants. Migration flows have occasionally exerted pressure on public services and generated social tensions (Brady, 2024; Pusterla Piccin, 2024). Migrants often work in occupations with labour shortages or seasonal periodicity, where they experience lower job quality and higher rates of temporary contracts. Institutions in European countries impact the participation of certain migrant groups in the labour market. For example, asylum seekers tend to exhibit much lower participation rates (Lange et al., 2024). Restrictive migration policies and/or rigid legislation on worker protection can increase their marginalisation, while in developed social protection systems it could result from an increased competition for resources (King, 2022).

1.2. Demographic changes

The European Union is experiencing a significant demographic shift characterised by a constant decline in fertility rates and an ageing population.⁵ This demographic trend, particularly the shrinking of the working-age population, poses pressing challenges for the functioning of labour markets and social protection systems, especially in pension systems, healthcare and long-term care needs (Lewandowski et al., 2024; European Commission, 2024a). The aging population brings both opportunities and challenges that need to be addressed through comprehensive policy measures.

The aging of population provides significant economic returns and job prospects through the expansion of the so-called ‘silver economy’, which focuses on economic activities related to the production of dedicated products and services.⁶ Aging of population is also expected to lead to an increased job demand in the sectors related to healthcare, care and wellness of the elderly, as well as in the sectors of education and training (Barslund and Lenaerts, 2025, Harasty and Ostermeir, 2025). High migration flows can mitigate but not fully offset the effects of population aging and weak demographic growth as migrants often face

⁵ The latest data from Eurostat indicates that the total fertility rate in the European Union reached a historic low of 1.38 live births per woman in 2023. The median age in the EU has increased by 2.2 years since 2014, reaching 44.4 years in 2024. Life expectancy in the EU has risen to 81.4 years, surpassing pre-COVID levels. The EU averages can conceal notable disparities among Member States (Eurostat: Database - Population and demography - Eurostat).

⁶ A 2018 European Commission study projects that by 2025, the silver economy will contribute about 32% of the EU's GDP and employ around 88 million workers, making up 38% of the EU's employment (European Commission, 2018a).

challenges such as language barriers, recognition of own qualifications, and social integration difficulties. There can be a mismatch between immigrants' skills and employers' needs. Even high levels of migration will have limited impact if migrants' skills don't align with job market demands (Potančoková et al., 2023). The idea that immigration could mitigate the negative effects of an aging population in the EU might not hold true if the green and digital transitions lead to a reduced demand for labour and shifts towards skills that are scarce among migrants from less developed countries. Whether the labour supply from migration will meet future demand in destination countries is a question that current medium- to long-term demographic forecasts do not address (Natale et al., 2018; Lutz et al., 2018).

1.3. Digital transition

The digital transition aims to update and enhance operations through the application of technologies such as artificial intelligence, cloud computing, the Internet of Things, blockchain, augmented reality and virtual reality (Albanesi et al., 2023; Hötte et al., 2023). For the companies, this typically includes redesigning business models, operational processes, and customer interactions to utilise modern technologies and maintain competitiveness in a dynamic globalised environment (OECD, 2021a). The digital transition provides new opportunities in tech-related jobs, digital services, e-commerce, platform economy but also influence work organisation arrangements in companies, for instance through the spread of remote work options (Eurofound, 2018).

The digital transition is also transforming the work landscape for workers. With advancements in technology, workers are required to develop new skills, including digital literacy. Job roles are being redefined, combining automated routine tasks with new responsibilities that require human creativity and critical thinking (Cedefop, 2022a). This shift provides opportunities for flexible work arrangements and new career paths but also brings challenges such as job insecurity, potential work-life imbalance, and the need for continuous learning. The effects of digitalisation on workers vary by industry and job type, but universally, it requires adaptability and resilience from the workforce as they handle these changes in the modern workplace (Eurofound, 2021a).

The spreading of digital platform economy has opened new job opportunities for different types of workers. A first group, the 'tech-workers', gathers white-collar workers, mainly in big-tech companies (GAFAs), tasked with the development, maintenance or distribution of digital platform infrastructure, machine learning systems and data collection (software development, cybersecurity, data analysis, digital marketing, product designers, etc.). They occupy positions requiring advanced digital skills and offering higher wages and flexibility (Niebler, 2025).

On the other hand, the platform economy has facilitated the rise and growth of a more precarious workforce. These workers are essential to the functioning of the platform economy, ensuring its seamless operation, yet they are often engaged in occupations characterised by low quality job patterns. These workers are engaged in low or medium skilled tasks outsourced by digital platforms, including transportation, logistics, customer services (such as call centres), or data annotation necessary for algorithms operated by global leaders in AI. They typically hold positions characterised by low skill requirements, low job quality, and low earnings, often working as freelancers (Simon, 2024).

Platform work is frequently characterised by a great amount of control exercised by the digital labour platforms over the performance of work, something which points out to the existence of an employment relationship (De Stefano et al., 2021). As a result, platform workers miss out on basic labour protections, such as minimum wage, working time, fundamental labour rights, or access to social protection (Durri, 2025). The work-life balance of these workers might be compromised by the unpredictable nature of their working hours, sometimes with a very short (e.g. microtasks) or long duration, and the frequent and unpaid stand-by time situations they experience (Pulignano et al., 2021). On top of this, platform workers might be subject to the unilateral and opaque decisions taken by their algorithmic bosses, something which can adversely affect their job prospect and well-being (Aloisi and De Stefano, 2022). The EU has taken steps forward and adopted a directive on improving working conditions in platform work (PWD). The directive provides crucial safeguards for all persons performing platform work, ensuring the correct determination of their employment status, transparency of algorithmic management decision-making, a full ban on automated decisions, and more transparency in platform work *per se* (Durri et al., 2025).

The digitalisation of work has significantly transformed work organisation patterns, particularly with the increase in remote work and teleworking. This shift became widespread during the COVID-19 pandemic when businesses were compelled to quickly implement digital tools and technologies, thereby allowing employees to work from home on an unprecedented scale and introducing new norms such as hybrid work models, which combine remote and office-based work (Eurofound, 2023a). The incidence of teleworking varies considerably among EU countries, ranging from 2,8% in Bulgaria to 51,9% in the Netherlands.⁷ There is also a marked diversity between European regions in the incidence of telework,

⁷ According to Eurostat, in 2023 approximately 22.1% of employed individuals work from home—13.3% do so occasionally, while 8.9% usually work from home. There is a marked increase from 2018, with respective rises of

depending on territorial economic policies and urban/rural circumstances (Kapitsinis, 2025; Özgüzel et al., 2023). These changes have significantly altered workplace dynamics by improving flexibility, reducing commuting time and accidents at work, and enhancing work-life balance for some workers. Teleworking can influence inequalities based on social norms and managerial culture, affecting work-life balance, salaries and careers. For instance, the gender wage gap is accentuated due to men receiving greater benefits from the "teleworking bonus" compared to women (Touzet, 2023). Additionally, the adoption of hybrid work practices has introduced a difference among employees, separating those whose roles can be performed remotely from those whose positions necessitate on-site presence (Eurofound, 2023b). The expansion of remote work has also introduced additional challenges for workers like increased pressure to always remain available, blurred boundaries between personal and professional life, and greater worker isolation (EU-OSHA, 2024a; Countouris et al., 2023, Eurofound, 2022). Furthermore, the use of digital technologies has intensified workloads and created more unpredictable work rhythms, affecting mental health of teleworkers (EU-OSHA, 2024b; Hauret and Martin, 2024). Overall, remote work represents a transformative shift in employment structures which is here to stay, reshaping how tasks are performed and coordinated in the workplace (Eurofound, 2023a). The European Commission launched in 2024 the first stage of consultations on the possible direction of EU action around fair telework and the right to disconnect.

Artificial intelligence (AI) is undoubtedly the most disruptive 'game-changing' technology, expected to reshape employment by displacing specific tasks, especially in low-skill and low-wage positions, rather than entire job roles, at least in its current stage of development⁸ (European Commission, 2024b, Ponce del Castillo, 2024). Generative AI tools have impacted work by altering job requirements and pay structures. AI can enhance productivity and create new job opportunities in tech-related fields but also poses a risk of job displacement, particularly for low-skilled occupations (Albanesi et al., 2023; OECD,

62.5%, 71.2%, and 58.3%. Overall, there are no significant gender differences in these statistics; however, variations may occur depending on sectors and occupations (Eurostat-indicators lfsa_ehomp).

⁸ Artificial Intelligence is categorised into three main types based on capabilities. Narrow AI is designed for specific tasks and aids humans in their work, currently being the most common type in use (e.g., ChatGPT, software of facial recognition). The next stage of AI, Artificial General Intelligence, is theoretical and aims to replicate human-level intelligence across various domains, potentially impacting high-skilled workers due to substitution. The final stage, Artificial Superintelligence, is hypothetical and controversial, proposing intelligence surpassing humans in all aspects (European Commission, 2024i).

2023b). In the short term, AI complements workers but reduces the demand for routine tasks. However, over the medium to long term, generative AI has the potential to impact even high-skilled workers and non-routine jobs, given its growing ability to handle complex and non-routine cognitive tasks that were once considered exclusive to human expertise⁹ (Simons et al., 2024). AI is anticipated to primarily augment jobs rather than fully automate them, as it allows workers to be freed from repetitive routine tasks and dedicate more time for more gratifying tasks and responsibilities (Simons et al., 2024).

AI can have detrimental effects on job quality. AI can help reduce monotonous or hazardous tasks, but it may also result in a more fast-paced work environment for employees. When AI is used to assist managers, it can affect the job quality of their subordinates. Managers may rely on AI for decision-making, which can reduce the autonomy and decision-making opportunities for their team members, leading to a decrease in job satisfaction and engagement among employees. Furthermore, the implementation of AI impacts workplace inclusiveness and fairness, which has significant implications for overall job quality (Green et al., 2023).

The quality of AI-generated employment opportunities depends on the institutional and social factors in individual EU Member States. Member States with low labour market segregation and strong collective bargaining are more likely to benefit from AI in creating better jobs (Ponce Del Castillo, 2024; Eurofound, 2020a). AI can reduce dangerous working conditions, develop specialist skills, and improve job accessibility, but it also poses physical and psychosocial risks. AI can monitor and manage employees, reduce bias, and identify skill needs. However, if trained on biased data, AI may perpetuate existing biases in hiring, increase stress-related psychological risks, and lead to unauthorised gathering of personal data by managers for evaluating workers' labour. It is important that AI technologies be free from bias, comply with ethical standards, and preserve human oversight in final decision-making. Social dialogue, at all levels, must play a central role in the definition and implementation of artificial intelligence in the field of work (ETUC, 2025; Ponce Del Castillo and Molè, 2024; Dalvit et al., 2023; Bird et al., 2020).

⁹ Approximately 5.5% of the EU employment faces potential automation effects. Clerical work is most vulnerable, with 24% of tasks highly automatable and 58% moderately exposed. Other professions have significantly lower susceptibility to automation. It is important to note that women are more than twice as likely to be impacted by automation compared to men (Simons et al., 2024).

1.4. Green transition

Europe's goal of becoming the world's first climate-neutral continent by 2050 is mandated by the binding European Union climate legislation.¹⁰ The EU establishes extensive binding climate targets that impact all significant economic sectors, encompassing: *(i)* sector-specific emissions reduction targets; *(ii)* initiatives to enhance carbon sequestration; *(iii)* a revised emissions trading system that caps emissions, assigns costs to pollution, and funds green transition investments; *(iv)* social support mechanisms for citizens and small enterprises. Member States must allocate all emissions trading revenues to climate, energy projects, and the social dimensions of the transition. Achieving this goal is seen as essential for ensuring a sustainable future, necessitating a comprehensive reassessment and transformation of the current economic model as well as the functioning of our societies regarding consumption patterns, travel and mobility, and overall individual and collective behaviour.

In 2019, the European Green Deal¹¹ has delineated the structural paradigm for this profound metamorphosis of European economies and societies. In 2021, the Fit for 55 package, a set of legislative proposals, was introduced within the European Green Deal, with a view to achieving the intermediate 2030 climate target. This package contains various measures aimed at different sectors to facilitate the transition to a climate-neutral economy and align EU policies with climate goals. The package includes a Social Climate Fund (SCF) to assist vulnerable households, micro-enterprises, and transport users in this transition.¹² Another key tool for addressing the unequal social and economic effects of the green transition is the Just Transition Mechanism (JTM) and associated funding in the context of the EU

¹⁰ Regulation (EU) 2021/1119 of the European Parliament and of the Council on European Climate Law.

¹¹ Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions: The European Green Deal ([COM/2019/640 final](#)).

¹² The Social Climate Fund (SCF) aims to mitigate the social and economic impacts of the new emissions trading system (ETS2) for buildings and road transport. It provides funding to EU Member States to support vulnerable groups during the green transition. Target groups include households experiencing energy poverty, micro-enterprises needing resources to renovate buildings or switch to sustainable transport, and transport users facing transport poverty due to the inability to afford zero- and low-emission vehicles or alternative modes of transport. The ECF is expected to provide at least EUR 86.7 billion of public fundings over the 2026-2032 period.

Cohesion Policy.¹³ Already announced in the 2019 European Green Deal Communication, the objective of the JTM is to support the regions, industries and workers most negatively affected by the transition to climate neutrality.

The green transition affects the labour markets within the EU in various ways, including both positive and negative impacts (Boehm and Kläffling, 2024). It creates 'green jobs'¹⁴ in activities that mitigate environmental impact and are typically associated with technological advancements or innovations: renewable energy, energy efficiency retrofitting, waste recovery, sustainable agriculture, green construction, and infrastructure maintenance. However, the green transition also results in the displacement of jobs within certain sectors (e.g., coal, oil, agriculture, transport, chemical plants, polluting industries). This displacement of 'brown jobs'¹⁵ can deepen regional and sectoral disparities and inequalities (Vandeplas et al., 2022; OECD, 2023a). Though the aggregate impact on employment is

¹³ The Just Transition Mechanism consists of three components. The Just Transition Fund is available in the period 2021-2027 and it assists regions most impacted by supporting projects that facilitate the transition of workers from the carbon sector and diversify the economy to create new jobs. The InvestEU "Just Transition" Scheme offers a budgetary guarantee for securing financing loans under the InvestEU programme. The Public Sector Loan Facility Combination of Grants and Loans is allocated to fund projects from public sector entities and private sector entities with a public service mission in the affected regions. It merges grants from the EU budget with loans from the European Investment Bank.

¹⁴ 'Green jobs' are those that directly mitigate environmental impact and are typically associated with technological advancements or innovations. In 2021, these roles constituted a limited segment of overall employment, representing approximately 2.5%, which equates to around 5.2 million full-time equivalent positions. This sector includes professions in renewable energy, energy efficiency, and waste management, all of which are essential for reducing environmental impact and fostering technological progress. Additionally, this field offers roles in research and development, with a particular emphasis on cleantech innovation (Vandeplas et al., 2022).

¹⁵ 'Brown jobs' denote employment within sectors such as mining, agriculture, and industries marked by elevated levels of pollution. These occupations are projected to face significant reductions or potential elimination. Despite their relatively minor proportion in the overall employment landscape, the repercussions are anticipated to be pronounced within specific sectors and regions. Within the European Union, the coal-based power sector accounts for approximately 0.15% of total employment. Conversely, the automotive sector, which heavily relies on combustion engines, comprises over 5% of total EU employment, encompassing more than 14 million positions. A substantial number of jobs at risk within this sector may be preserved through internal professional retraining programmes associated with the advancement of electric vehicle technologies (Vandeplas et al., 2022).

projected to be minimal, significant structural transformations are expected across various sectors, enterprises, occupations, and geographic regions. The outcomes will vary depending on the socio-economic conditions in each region (Boehm and Kläffling, 2024; European Environment Agency, 2024). An OECD study on green and brown jobs at local levels highlights that the green transition could deepen social divides within regions and have differentiated consequences at local level¹⁶ (OECD, 2023a).

In addition to their implications for employment, it is important to consider the distributional impacts of climate policies, particularly about the allocation of their costs and benefits across diverse demographic cohorts. Vona (2023) shows that the distributional effects of standalone climate policies tend to be regressive in terms of income, potentially imposing a greater burden on lower-income households.¹⁷ In the framework of the WeLaR project, Antosiewicz et al. (2025) analyse the economic and social impacts of carbon pricing mechanisms within the EU (ETS1), showing that achieving the EU's climate policy targets through emissions trading is feasible at the aggregate level, but that the distributional effects are significant, notably for low-income households. Another paper of the project demonstrates that discarding fossil fuel subsidies and implementing local energy pricing that accounts for pollution costs could generate welfare gains of almost 4% on average for most countries. This will enable countries to exceed their

¹⁶ The study points to a strong gender imbalance in the outcomes of the green transition, with women under-represented in green-task jobs and men over-represented in polluting jobs that are at risk of disappearing. At local level, the green transition will affect industries differently regarding the reallocation of workers across industries, and in an uneven manner among regions. For instance, in manufacturing, the relocation effect is driven by the industry being dominated by green-task jobs in some regions and by polluting jobs in others (OECD, 2023a).

¹⁷ These households often allocate a larger portion of their earnings to energy expenses, meaning increases in energy costs due to such policies disproportionately affect them. On the other hand, the non-monetary benefits of climate policies, such as improved air quality and better health outcomes, generally provide significant advantages to lower-income households, particularly in the short to medium term. These households frequently reside in areas more severely impacted by pollution; thus, they experience more substantial relative improvements in their quality of life. Over time, non-monetary initial advantages can decrease due to increasing energy prices and related expenses. This may impact lower-income households more because they allot a larger portion of their income to energy and necessities. Furthermore, the initial benefits of lump-sum transfers may decrease over time if they do not adjust according to price changes, possibly resulting in these transfers being insufficient to offset higher costs and impacting the policy's effectiveness (Vona, 2023).

individual climate targets, providing robust incentives for independent action while simultaneously advancing global environmental objectives (Kalmey and Rausch, 2025).

The acceptance of climate policies is influenced – among other things – by public perception and the proposed redistributive mechanisms. These redistributive strategies are important in gaining citizen support for initiatives aimed at addressing the impacts of climate change (Matti et al., 2023). Studies stress that the measures implemented by the corrective arms of the Green Deal (JTF and SCF) should be systematically aligned with the integration of just transition principles through a comprehensive, cross-sectoral, and coherent approach within EU policies (Sabato and Vanhille, 2024; European Economic and Social Committee, 2023a; Vona, 2023; Akgüç et al., 2022; Markkanen and Anger-Kraavi, 2019).

2. Cross-cutting issues for sustainable and inclusive transitions

This section addresses overarching issues essential for effective policymaking aimed at fostering resilient and inclusive labour forces and labour markets. Such strategies should encompass the promotion of quality job creation and the elimination of in-work poverty. Additionally, it is imperative to consider the needs of specific groups facing marginalisation in the labour market, including those affected by gender inequality, discrimination, and individual characteristics such as migrant status, age, or educational and skills attainment.

Within the European framework, developing and implementing the policy reforms needed for transitions that are just and sustainable for European labour markets and workers is not only an economic innovation challenge but also a process deeply rooted in the social rights of individuals. Essential cross-cutting issues related to citizens and workers' rights must be integrated in the perspective, such as equal opportunities and non-discrimination, social protection and social inclusion in the broader acceptance of the concept. These matters transcend individual sectors and affect various facets of economic and social life, particularly the shaping and functioning of labour markets.

The European Pillar of Social Rights (EPSR) provides a foundational framework for integrating social considerations and rights into the structural reform agendas of EU Member States. Its principles guide the EU's economic governance through the European Semester, aiming to ensure that social priorities are considered alongside fiscal stability and economic policies (Hacker, 2023; Claeys et al., 2019; Garben, 2019). The EPSR seeks to promote upward convergence in social outcomes across the EU, influencing national policies in areas such as employment, education, and social protection to foster a more inclusive and equitable society.

2.1. Improving job quality while tackling in-work poverty

Improving and ensuring job quality is fundamental to the EU's strategies for achieving full employment and facing the challenges raised by the megatrends to establish a sustainable, green, and inclusive economic model. Job quality is a complex and multifaceted concept, encompassing intrinsic aspects of work and extrinsic aspects related to employment status and related rights.¹⁸ While always present in the EU rhetoric since decades, the issue of job quality has frequently been eclipsed by economic priorities and the emphasis on increasing job numbers rather than improving job quality (Piasna et al., 2018). Nevertheless, the EU's commitment to creating more and better jobs is still reflected in its strategies, from the 2001 Lisbon Strategy to the European Pillar of Social Rights (EPSR) and the forthcoming Quality Job Roadmap initiative. The persistence of the 'better jobs' aim, despite the weak accomplishments observed (Piasna, 2024), highlights the paramount importance that should be given to job quality in achieving social and economic progress in an eco-social economy context.

Job quality not only a question of productivity or costs but also a matter of individual rights of EU citizens and workers. Most of the principles included in the EPSR are related to the multiple facets of job quality, as illustrated by the titles of the three chapters of the EPSR (Equal opportunities and access to the labour market; Fair working conditions; Social protection and inclusion) and the 20 principles included. However, the persistence of poor job quality in the EU poses a significant challenge to these goals¹⁹ (Causa et al., 2025; Piasna, 2024; Eurofound, 2021b).

¹⁸ Intrinsic aspects of work include: earnings, working conditions, health and safety, pace of work, autonomy, etc. Extrinsic aspects related to employment status and related rights include: working time and duration, unsocial hours, work-life balance, job security and prospects, social protection, social dialogue (Eurofound, 2022; Cazes et al., 2015).

¹⁹ A study covering the 2000-2020 period for the EU, shows that despite improvements in job security, skill development, workplace social relations, and health and safety standards, challenges such as earnings disparities, precarious employment, long working hours, high job demands, and sector-specific risks persist (Eurofound, 2021b). A recent OECD study examined the relationship between job quality and sectors experiencing high labour shortages such as healthcare, transportation and storage, accommodation and food, and construction. The paper notes that despite these shortages, there have been limited real wage improvements in these sectors. It suggests that policy interventions should focus on improving job quality, supporting efficient labour market reallocation, and addressing regional disparities in shortages (Causa et al., 2025).

Moreover, social dialogue and collective bargaining play a crucial role in improving job quality. Unionisation and employee involvement can lead to better working conditions, fair wages, and job security, which are essential for a motivated and productive workforce. The twin transitions of digitalisation and the green economy require a collaborative approach between employers, employees, and policymakers to ensure that the benefits of these transitions are widely shared and that workers are protected from potential negative impacts (Bednorz et al. 2022).

Addressing in-work poverty (IWP) is equally necessary for achieving sustainable, green, and inclusive growth in the EU. In 2023, the EU's IWP rate was 8.3%, affecting about 19 million people, according to Eurostat. This means that around one in ten workers in the EU lived in a household whose equivalised disposable income is below the poverty line, despite participating to employment. Atypical workers, single parents, migrants and households with low work intensity are particularly exposed to IWP (Barbieri et al., 2024; Peña-Casas et al., 2019; Nieuwenhuis and Maldonado, 2017; Eurofound, 2017). In-work poverty disproportionately affects certain socio-economic groups, notably women and migrants (Struffolino and Van Winkle, 2019). Studies show that women are more likely to experience in-work poverty once individual and not household income is considered, due to gender pay gaps, overdominance in part-time work and low job quality sectors, overrepresentation as second earners in the household and (unpaid) child and caregiving responsibilities. Consequently, women are also exposed to higher poverty risks once retired (Bargain, 2024; Schwartz, 2023 2021, Ponthieux, 2017; Peña-Casas and Ghailani, 2011). By tackling in-work poverty, the EU can ensure that economic growth benefits all citizens, reduce inequalities and foster a more resilient economy (Peña-Casas et al., 2023; Eurofound, 2017).

Despite the prominent place given to labour market participation in the EU rhetoric, the persistence of in-work poverty (IWP) reveals a fundamental contradiction in the current paradigm. EU and national policies aim to promote full employment to foster upward social mobility and reduce poverty. However, many employed individuals remain in poverty, demonstrating that not all jobs are way out of poverty. This assumption fails to consider the financial, social, and personal challenges faced by individuals experiencing in-work poverty. This fundamental contradiction undermines the credibility and effectiveness of the social economy model promoted by the EU. A more focused approach is needed to explicitly address in-work poverty in all his complexity (European Parliament, 2021). It also highlights the strong connection between good quality jobs and protection against in-work poverty. One of the key factors influencing In-Work Poverty (IWP) is the adequacy of wages. Consequently, the 2022 Directive on Adequate Minimum Wages in the European Union marks a substantial progression in efforts to address IWP within member states, despite potential complexities in its implementation (Ratti, 2023).

Good quality jobs are indeed essential for reducing the risk of poverty. There is significant synergy between policies addressing job quality and in-work poverty, through both direct actions—such as adjusting minimum and living wages, supporting employment entry and re-entry, implementing progressive taxation, and providing work-related benefits and social assistance—and indirect strategies, including flexible working arrangements, work-life balance initiatives, and accessible, affordable childcare and dependent care services. Targeted family policies could have a significant role to reduce IWP of (single) parents (D’Aguanno et al., 2024). Policymakers, employers, trade unions, and civil society must collaborate more closely to address the issues of in-work poverty and inadequate job quality. This collaboration should focus on effectively framing and implementing the necessary structural changes to address the challenges posed by megatrends.

While holistic integrated policies are essential to address transitional challenges, they must be supplemented with dedicated programmes aimed at specific marginalised socio-economic groups, addressing their unique needs and disadvantages in terms of employment and inclusion.

2.2. Disadvantaged socio-economic groups

Various socio-economic groups of individuals face significant challenges in fully participating in society and the labour market. These groups include, among other, women, migrants (regardless of legal status), parents, particularly single parents, young individuals not engaged in education, employment, or training (NEETs), aging workers, low-skilled persons, individuals with disabilities or health impairments, and low-income families. Moreover, understanding and addressing the intersectionality of multiple disadvantage factors is increasingly perceived as significant. Intersectionality refers to the interconnected nature of social categorisations such as gender, race,²⁰ class, and other identity markers, which can create overlapping and interdependent systems of discrimination or disadvantage (European Commission, 2025a). For instance, a migrant with a disability may experience discrimination based at the same time on gender, migrant status, and disability.²¹ Recognising that individual disadvantage is not confined to a single

²⁰ “Race”: Since all human beings belong to the same species, ECRI (European Commission against Racism and Intolerance) rejects theories based on the existence of different “races”. However, ECRI uses this term to ensure that those persons who are generally and erroneously perceived as belonging to “another race” are not excluded from the protection provided for by the legislation.

²¹ In literature, Roma women are frequently highlighted as illustrative of an intersectional situation, see for instance Bănică (2022).

at-risk group but may arise from overlapping personal characteristics that create compounded disadvantages is important. This underscores the necessity for comprehensive and inclusive policies and practices that address these intersecting vulnerabilities (European Commission, 2025a; Center for Intersectional Justice, 2019).

2.2.1. Women

When women have equal opportunities, it leads to higher labour market participation, greater productivity and innovation, a reduced gender pay gap, better work-life balance, and more women in leadership roles (European Commission, 2025a; OECD, 2019). These changes would not only benefit women but also contribute to a more inclusive and resilient economy and society. However, gender inequality is still a recurrent problem in the EU, as evidenced in the latest version of the EIGE index.²² Addressing this situation would result in higher employment rates, increased productivity, and better use of women's skills and talents. Concerning the gender wage gap, it is notable that in 2023, a directive was introduced to reinforce the principle of equal pay between women and men through measures of pay transparency and enforcement mechanisms (European Parliament and Council, 2023). Furthermore, the Gender Equality Strategy 2020-2025 was initiated by the Commission in 2020 (European Commission, 2020b).

The 2025 report on gender equality in the EU of the European Commission highlights that in most countries the employment rates for women are lower than those of men. Parenthood is a significant factor behind these gendered contrasts in employment patterns.²³ For mothers, it leads to a higher likelihood of part-time work, with long-term consequences in terms of reduced career development opportunities,

²² The European Institute for Gender Equality's 2024 index reveals disparities in work-related gender equality within the EU, with Sweden, Denmark, Malta, and Luxembourg scoring above 80, while Poland, Greece, Chechia, Romania, and Italy score below 70. These results show progress in participation, segregation, and work quality but emphasize the need for policies to address these gaps (European Institute for Gender Equality, 2024).

²³ In 2023, at the EU level, the employment rate for women aged 25-54 with children was 74.9%, while the employment rate for men with children was 91.9% (European Commission, 2025a).

wages and pensions (European Commission, 2025a). Single parent households, especially single mother households, are also more exposed to the risks of poverty and in-work poverty²⁴ (Nieuwenhuis, 2020).

A significant factor contributing to both gender disparities in employment participation and high prevalence of women in part-time work is the heavily gendered distribution of unpaid care responsibilities, particularly childcare, with women predominantly shouldering these duties²⁵ (Zacharenko and Elomäki 2022; Schiek, 2020). The effects of care work on gender appear to be more balanced when it comes to long-term care obligations (European Commission, 2025a). This trend underscores the need for policies that promote work-life balance, such as parental leave, childcare services, and flexible working arrangements. The provision of flexible working arrangements can enhance women's participation in employment, particularly those with caregiving responsibilities, by allowing them to effectively manage their personal and professional lives.²⁶ However, recent studies highlight those measures promoting flexibility—such as teleworking, flexible schedules, various forms of leave, and career interruption policies—may unintentionally impair gender equality in pay and career advancement. Women are more likely to rely on these options, which can adversely impact their career growth and professional achievements (Chung, 2024).

²⁴ In 2023, the at-risk-of poverty rate for single households in the EU was 21.4%. Lone mothers faced a higher rate at 43.5%, compared to 20.2% for lone fathers. The in-work poverty rate for single households was 9.4%, with lone mothers experiencing a rate of 12.7%, versus 8.3% for single fathers (Eurostat: indicators ilc_li03 and ilc_iw02).

²⁵ In 2023, over half of women with children under 12 years old spend at least 5 hours per day caring for their children, whereas fewer than one-third of men do so (56% vs 26%) (European Commission, 2025a).

²⁶ Following the COVID-19 pandemic, the EU introduced the European Care Strategy in 2022 (European Commission, 2022e). This initiative aims to ensure high-quality, affordable, and accessible care services while also enhancing the conditions for care providers. The strategy is anticipated to increase labour participation rates, especially among women. Accompanying the Care Strategy are two Council recommendations: one concerning the new Barcelona targets for early childhood education and care (2022/C 484/01), and the other regarding access to affordable, high-quality long-term care (2022/C 476/01).

2.2.2. Discriminated persons

Anti-discrimination EU regulations and practices are essential safeguards to ensure all EU citizens a fair and durable access and continuity on the labour market.²⁷ These regulations ensure that all individuals, regardless of gender, age, race, ethnicity, disability, or other characteristics, have equal access to opportunities and resources, including employment. From an employment perspective, discrimination occurs not only during the hiring process but also within the workplace.²⁸ Discriminatory practices in hiring and within the workplace have a notable economic impact, although quantifying this effect proves to be challenging.²⁹

Discrimination in employment can significantly impact participation rates and overall economic health. Discriminatory practices often result in the exclusion of certain groups from the labour market, leading to underutilisation of human resources and diminished productivity. For example, taste-based discrimination, where employers favour less productive employees due to biases, can result in inefficient resource allocation and economic inefficiency. Victims of discrimination often face barriers in career advancement, leading to lower job satisfaction and higher turnover rates³⁰ (Hardy and Schraepen, 2024; Fibbi et al., 2021). Moreover, discrimination extend social exclusion of individuals by restricting access to educational, economic, political, and social institutions. The cumulative effects of subtle discrimination at the workplace, such as microaggressions, can significantly impact mental health and job performance (Jones et al., 2017). Additionally, discriminatory practices can perpetuate ethnic and gender inequalities, reinforcing societal divisions and fuelling political conflicts (Igwe and Amah, 2024). Despite legislation, age discrimination remains a significant barrier for older workers in recruitment, retention, and professional development (Neumark et al., 2019).

²⁷ For a review of EU legal framework on anti-discrimination see De Groot, D. (2024) or dedicated page on European Commission's web site: [Non-discrimination - European Commission](#).

²⁸ See Lippens et al. (2023) for a meta-analysis on hiring discriminations.

²⁹ For an example of the costs of discrimination in France, see Bon-Maury et al. (2016). They estimate that tackling discrimination in France could generate GDP increases ranging from 3.6% to 14.1%, depending on the scenario used.

³⁰ Neumark et al. (2019) found that age discrimination persists despite legislation, creating a significant impediment for older workers in recruitment, retention, and professional development. This discrimination exhibits a notable gender divide, with older women nearing retirement facing more pronounced hiring bias compared to their male counterparts (Neumark et al., 2019).

Efforts to mitigate discrimination include implementing policies that promote diversity and inclusion, in workplaces and societies, by providing training to reduce biases, and enforcing anti-discrimination laws. Addressing these issues is crucial for fostering a more equitable and resilient workforce (Hardy and Schraepen, 2024).

Social dialogue plays a key role in the effective mitigation of workplace discrimination. Through collaborative discussions between employers, employees, and their representatives, it helps in identifying discriminatory practices and developing strategies to counter them. This collaborative approach ensures that diverse perspectives are considered, fostering an environment of fairness and equality. Additionally, social dialogue facilitates the implementation of policies and measures that protect workers' rights and promote a respectful and inclusive workplace culture (Eurofound, 2020b).

2.2.3. Migrants

The twin transitions offer both opportunities and challenges for migrants, additionally to those usually already encountered on the labour market.³¹ While new job opportunities in renewable energy and digital technologies can help address labour shortages, migrants often face barriers such as language difficulties, unrecognised qualifications, and limited access to training programmes. These obstacles can prevent them from fully benefiting from these opportunities. Additionally, migrants are frequently overrepresented in low-skilled jobs that are more susceptible to automation, increasing their risk of job displacement. An OECD study (2024d) highlights the growing presence of migrants among entrepreneurs and their positive impact on innovation and job creation. Entrepreneurship offers migrants a way to overcome challenges in securing wage employment. The rise of digital platforms and new forms of work has also transformed migrant entrepreneurship (OECD, 2024d). Still, migrants in the EU often face lower job quality compared to natives.

The term "migrants" encompasses a diversity of population groups with rights, including access to the labour market, being adjusted based on their legal status, or its inexistence in the case of 'undocumented' migrants who often have no choice but to engage in undeclared work due to the lack of legal employment options (Lenko et al., 2024). Several papers from the WeLaR project address migrant issues. Lang et al.

³¹ It should also be noted in this context that the population of migrants within the EU, particularly those from non-European countries, is anticipated to increase in the future due to a growing number of climate refugees resulting from the impacts of global warming (Noonan and Rusu, 2022).

(2024) found that migrants in the EU have lower employment rates and poorer job quality compared to natives, with more temporary contracts, worse working conditions, and lower wages. Asylum seekers face additional barriers like language and unrecognised qualifications. Migrants often work in fields unrelated to their studies and are overqualified for their jobs. They rely more on personal networks for job searches and return to work faster after interruptions. Zilian and Thil (2024) show that part-time and self-employment in sending countries increase net migration, while short-term contracts reduce it. Albinowski and Krzakała (2024) found that remote work hasn't significantly changed workplace countries or increased self-employment after the surge in remote work following the COVID-19 pandemic. Gnaedinger et al. (2024) estimate that native and EU nationals contribute positively to fiscal revenue of Germany, while the contribution is negative for non-EU nationals.³²

A recent EU study highlights that despite their prevalence in lower-skilled occupations, migrants are frequently overqualified for the job they occupy.³³ Overqualification occurs when a person's formal qualifications exceed the requirements of the job performed, leading to a vertical skills mismatch. High rates of overqualification indicate an inefficient use of labour, which can negatively impact the labour supply. When a significant number of tertiary-educated individuals are overqualified for their jobs, it suggests that their skills are underutilised at a macro level. This inefficiency leads to lower returns on education, as overqualified workers tend to earn lower wages over their lifetimes. Additionally, being overqualified can reduce motivation and participation in the labour market. Prolonged overqualification can also result in the deterioration of unused skills and limit firms' innovation potential (European Commission, 2025b). Simultaneously, the EU and its Member States have implemented initiatives to attract highly qualified non-EU migrants, such as the EU Blue Card.³⁴

³² For a wider perspective on this topic see OECD migration outlook of 2021 (OECD, 2021a).

³³ In 2023, the over-qualification rate was 39.4% for non-EU citizens and 31.3% for citizens of other EU countries. By contrast, the over-qualification rate for nationals stood at 20.8%. Over-qualification rates in the EU were higher for women than for men, the biggest observed gaps are in the group of non-EU citizens (42.9 % vs. 36.2 %) followed by citizens of other EU countries (32.9 % vs. 29.7 %). While the over-qualification rate is higher for the young among the nationals, reversely it is higher in the two migrants' groups for older workers (European Commission, 2025b).

³⁴ For an overview see the EU web site: [EU Blue Card - European Commission](#).

2.2.4. Low-skilled workers

Low-skilled workers in the EU often find themselves in precarious employment, including involuntary part-time or temporary work. They face higher risks of unemployment and are more likely occupied in low-quality occupations. Despite their preference for full-time and permanent positions, they benefit the least from upskilling and reskilling opportunities, which exacerbates their vulnerability in the labour market (Binder, 2024).

Additionally, low-skilled workers are particularly susceptible to the impacts of the twin transitions to a green and digital economy. These shifts demand new skills that low-skilled workers may lack, increasing their risk of job loss. Jobs in traditional manufacturing and fossil fuel industries are likely to decline, while new roles in renewable energy and digital sectors require specific technical skills. Without targeted training and reskilling programmes, low-skilled workers may struggle to adapt, leading to increased unemployment and economic insecurity (Cedefop, 2020).

However, future green jobs are likely to shift towards medium- and low-skilled occupations. Although many workers in green-task jobs currently possess high skills or tertiary education, this trend may change as new jobs emerge from the green transition (Parent-Thirion et al., 2025). Efforts to enhance recycling and expand electricity supply are expected to create new jobs, predominantly in medium- or low-skilled roles within utilities. In the construction sector, the demand for energy-efficient buildings will likely increase the need for occupations such as heat pump boiler installers, carpenters, joiners, bricklayers, and technicians. Similarly, the circular economy process is anticipated to generate job opportunities following this pattern (Parent-Thirion et al., 2025).

The lack of re-skilling opportunities poses a significant challenge for aging workers and low-skilled workers. Several studies document the fact that low-skilled workers participate less often in further training than high-skilled workers. As highlighted by Grip et al. (2025), literature suggests that there is no significant difference in the employers' willingness to train their low-skilled workers. Economic returns to training for low-skilled workers are not significantly different from those for high-skilled workers. However, low-skilled workers are significantly less willing to participate in training. This lower willingness to participate in training is driven by economic preferences (future orientation, preference for leisure) as well as personality traits (locus of control, exam anxiety, and openness to new experiences) between high- and low-skilled workers (Grip et al., 2025). Moreover, the access of low-skilled workers to

training by companies is related to institutional arrangements and efficiency of collective bargaining systems.³⁵

2.2.5. Older working-age individuals

Older working age individuals face considerable labour market barriers, including age discrimination and limited access to training opportunities. Their health conditions are also important. Older workers often struggle with maintaining productivity and work-life balance, and many do not remain employed until the statutory retirement age due to factors like labour market structures, work cultures, and pension system incentives. Improving working conditions and career paths that support physical and mental health, skills, motivation, and productivity is essential for prolonging employment (Eurofound, 2024; Konle-Seidl, 2017). It should be noted also that with the increasing number of structural reforms in Member States aimed at raising the retirement age, the number of vulnerable older workers is expected to increase significantly in the coming years.

Additionally, older workers face unique challenges in adapting to the twin transitions of digitalisation and the green economy. Many lack the digital skills needed for new technologies, making it difficult to stay competitive in the labour market. Age discrimination and health issues further limit their employment opportunities. The automation of jobs traditionally held by older workers, such as administrative and clerical roles, poses a significant risk of job displacement and labour market exclusion (Castellani and Lamperti, 2024). To mitigate these challenges, investing in lifelong learning and targeted reskilling programmes is crucial to help older workers acquire new skills and adapt to changing job requirements.

Digital technology is changing the nature of work and has also the potential to extend the working lives of older workers by postponing their early retirement decisions, given that they possess the necessary skills and adaptation policies are implemented effectively. According to Nguyen-Thi et al. (2024), occupations with a high potential for automation are less associated with early retirement, especially among older workers. Automation makes it easier to keep older workers in occupations where technology improves their working conditions, instead of pushing them into early retirement. In addition to age,

³⁵ For instance, Wotschack (2020) highlights that institutional arrangements significantly influence employer investments in training for low-skilled workers in Germany. Organisations with employee representation and formal HR policies see higher training participation rates. Low-skilled workers benefit from clusters with these structures and bargaining coverage. In the health care and manufacturing sectors, low-skilled workers are more likely to receive continuing training.

gender, education level, employment status and health status also influence early retirement decisions (Nguyen-Thi et al., 2024; Lakomý, 2023).

Flexible work arrangements and affordable childcare can help balance responsibilities and increase workforce participation, notably for older grandparents leaving labour market earlier or reducing their working time to support their children (Airey et al., 2021). Active labour market policies, such as job search assistance and vocational training, also support employment for these groups (Albinowski et al., 2023).

3. Key policy pathways

The digital and green transitions represent significant challenges for labour markets and workers. To successfully navigate these transitions, it is necessary to implement policies that foster inclusive and resilient labour markets and support workers through these transitions.

Active labour market policies (ALMPs)

Active labour market policies (ALMPs) aim to enhance employment opportunities, improve job matching, support employment transitions, and boost workforce skills. These measures include training programmes, job search assistance, employment incentives, direct job creation, entrepreneurship support, work experience programmes, and subsidized employment. According to Eppel et al. (2024), the effectiveness of these measures varies significantly. Intensive human capital programmes and those that enhance vocational skills show the most promise, while brief job search training is less effective. Both wage subsidies in the private sector and direct job creation in the public and non-profit sectors can be successful if properly designed (Martin and Grubb, 2021).

One key feature of ALMPs is the activation process, which includes personalised job search assistance and career counselling. These services provide tailored support, helping individuals identify their strengths, improve their resumes, and prepare for interviews. Career counselling offers guidance on career paths and job market trends, making job seekers more competitive (OECD, 2022a). The European Commission's 2008 Communication on active inclusion defines active inclusion as a strategy to enable all citizens, especially the most disadvantaged, to fully participate in society and the labour market. It is based on three integrated pillars: adequate income support, inclusive labour markets, and access to quality services such as healthcare and education (European Commission, 2008). This approach, which focuses on the inclusive aspect of activation, also makes it possible to have an adapted approach for the most disadvantaged

individuals who are increasingly subject to activation procedures that are expected to be more adapted to their realities.

However, the implementation of ALMPs can be complex and requires coordination among various stakeholders at various levels of governance. The connection between ALMPs and social protection policies helps to account for the observed synergy between these approaches in promoting fair and sustainable growth. Both ALMPs and active inclusion aim to improve employability and develop a skilled, adaptable workforce, thereby supporting inclusive and sustainable economic development (Martin and Grubb, 2021).

Lifelong learning initiatives

Lifelong learning (LLL) includes formal education like degrees and certifications, non-formal learning such as workshops and online courses, informal learning through hobbies and everyday experiences, professional development for career growth, and personal development to enhance individual skills and knowledge. Balancing these with a full-time job can be demanding, but the benefits are significant for individuals. LLL initiatives highlight the importance of ongoing education and skill enhancement to support social inclusion of individuals and maintain their adaptability and competitiveness. By promoting continuous skill development, LLL helps individuals remain adaptable and competitive in a rapidly changing job market (Binder, 2024; OECD 2024a).

Several key measures support lifelong learning initiatives. Individual learning accounts provide individuals with resources to invest in their education and training, encouraging ongoing skill development and helping workers stay competitive in the job market. These accounts give individuals control over their professional development. Partnerships between educational institutions and businesses ensure that educational curricula remain relevant to industry needs, preparing students for the job market and helping bridge the skills gap. These partnerships can include internships, apprenticeships, and curriculum development.

Micro-credential systems formally recognize and certify short-term learning achievements, supporting continuous professional development and allowing individuals to show their skills. Micro-credentials provide a flexible way to gain and demonstrate new competencies. Accessible and flexible online learning platforms cater to diverse learning preferences, making education more convenient and allowing individuals to learn at their own pace. Online learning expands access to education and training opportunities (Orr et al., 2020).

People may not always engage in lifelong learning due to time constraints, lack of motivation, financial barriers, perceived irrelevance, and limited access to quality resources. Additionally, balancing lifelong learning with a full-time job can be very demanding, as finding the energy and time after a long workday can be challenging, leading to increased stress and potential burnout (Roosma and Saar, 2017). Despite these obstacles, lifelong learning could offer significant personal and professional benefits. The differences in LLL utilisation among low, medium, and high-skilled workers highlight the need for tailored approaches to support continuous learning across all skill levels. Addressing these challenges requires a collaborative effort between individuals, employers, and policymakers to create accessible and effective lifelong learning opportunities (OECD, 2024).

Digital skills development

Digital skills are essential for personal and professional growth in a technology-driven world. These training programmes focus on various aspects of digital literacy, including computer literacy, internet browsing, data analysis, cybersecurity, and software use. These programmes assist individuals in developing proficiency with digital tools and platforms, which are increasingly incorporated into many professional tasks (European Commission, 2024b). Importantly, the EU has just proclaimed (5 March 2025) its initiative the Union of Skills, which focuses on addressing skills gaps, reskilling and upskilling, and better skills recognition (European Commission, 2025c). Additionally, digital skills training helps bridge the gap between traditional education and the demands of modern workplaces. It ensures that workers can not only perform their current tasks more efficiently but are also prepared for future technological advancements (European Commission, 2023a; Cedefop, 2023). Companies that invest in such training for their employees can expect increased productivity, enhanced innovation, and a competitive advantage in the marketplace (Cedefop, 2023). For individuals, acquiring digital skills significantly enhances career prospects by promoting resilience and adaptability in an ever-evolving professional environment, in the framework of disruptive changes from the transition to digital and green labour (European Commission, 2023a; Cedefop, 2023).

Several other measures support digital skills training. Incorporating digital literacy into all educational levels ensures that students develop strong digital skills from an early age, preparing them for the digital economy (European Commission, 2023a). Early exposure to digital skills helps students become proficient and confident in using technology. Public-private partnerships for digital training provide industry-specific skills, addressing the unique needs of different sectors. These partnerships leverage the expertise and resources of both the public and private sectors, helping workers stay competitive and adapt to

technological changes. Self-paced digital learning platforms are developed to allow individuals to learn at their own pace, making it easier for people to acquire new skills and stay up to date with technological advancements. This flexibility accommodates different learning styles and schedules (European Commission, 2023a).

However, there is a significant digital divide between those who have access to technology and those who do not, with significant variations between individuals related to their age or level of skills and the occupational sector as well (Vassilakopoulou and Hustad, 2023; Cedefop, 2022b). Public-private partnerships are crucial for providing relevant training, and workers must continuously adapt to new technologies, which can be challenging. By implementing these digital skills training measures, individuals are better prepared to meet the demands of the modern workforce. This not only enhances their personal and professional growth but also contributes to a more inclusive and resilient economy. Companies benefit from a more skilled and adaptable workforce, driving innovation and maintaining a competitive edge. Ultimately, digital skills training is essential for achieving sustainable and inclusive economic growth, ensuring that everyone can thrive in a technology-driven world (European Commission, 2023a).

Low-skilled workers often face the greatest barriers to accessing LLL. They may have limited financial resources to invest in training and may be more likely to experience fatigue from physically demanding jobs (Eurofound, 2021a). Additionally, low-skilled workers may have less access to employer-sponsored training programmes and may be more focused on immediate job security rather than long-term career development (Neal and Mukherjee, 2019).

Family policies

Family policy plays a crucial role in shaping the well-being of families and society. It encompasses a range of measures designed to support families in various aspects, including childcare, eldercare, parental leave,³⁶ and work-life balance. Effective family policies contribute to social stability, economic growth, and gender

³⁶ Fathers taking parental leave strengthens the father-child bond, which is essential for the child's emotional and social development. It also promotes gender equality by encouraging shared caregiving responsibilities, reducing the burden on mothers, and allowing both parents to balance work and family life more effectively. Additionally, fathers' involvement in early childcare can lead to better mental health outcomes for both parents and children, and it contributes to a more inclusive and supportive work environment, enhancing overall family well-being (André et al., 2025).

equality (Hantrais, 2004). The Horizon Europe project *rEUsilience* has significantly deepened the analysis on the resilience of families in coping with risk situations and the role of family and social policies in this context (see among other Daly et al. 2023; Daly and Uzunalioglu, 2023; Dobrotić and Iveković Martinis, 2023; León and Cerrillo, 2023).

Family policies that support childcare and eldercare enable greater workforce participation, particularly among women, driving economic growth and productivity (Zacharenko and Elomäki, 2022). These policies also contribute to social stability by reducing stress and improving mental health, and they promote gender equality by encouraging shared caregiving responsibilities (Daly and Uzunalioglu, 2023). Additionally, ensuring high-quality care for children and the older adults enhances their development and quality of life, fostering a healthier and more resilient population. Overall, family policies create a more inclusive society by supporting individuals with caregiving responsibilities, enabling full participation in economic and social activities.

Affordable childcare and eldercare

Affordable childcare and eldercare initiatives are essential for providing accessible, high-quality care that benefits working households, especially women. These programmes alleviate stress and financial burdens, helping parents and caregivers balance work and family responsibilities.

By offering affordable care, these initiatives ensure children and elderly individuals receive necessary support, fostering their development and well-being. High-quality childcare promotes cognitive, social, and emotional growth, while eldercare services enhance the quality of life for the elderly (European Commission, 2023b). These initiatives also create a more inclusive work environment, increasing productivity and job satisfaction by giving employees peace of mind about their dependents' care.

Governments support these initiatives through investments in childcare facilities, financial assistance like vouchers or tax credits, and community-based eldercare services. Policies promoting equal caregiving responsibilities foster gender equality and reduce the burden on single caregivers (Lewandowski et al., 2024; European Commission, 2023). Overall, these programmes improve household quality of life, support workforce participation, drive economic growth, and promote a more equitable society, contributing to a sustainable and inclusive economy (European Commission, 2023b).

Promoting work-life balance and investing in care infrastructure can substantially enhance productivity, improve employee well-being, and support sustainable economic growth (Abrams, Z. 2025). Policies that promote flexible working hours, remote work options, and adequate leave provisions are essential for

achieving this balance. Moreover, workplace cultures that prioritize work-life integration can result in higher job satisfaction and reduced burnout, fostering a more motivated and productive workforce.

Sharing working time

The debate on a generalised reduction of working hours is far from recent, but it has been revived in recent years, particularly in the discussion of potential job losses that could be generated by automation (De Spiegelaere and Piasna, 2017). Redistributing working hours through models such as the four-day work week, job-sharing arrangements, and flexible schedules can enhance work-life balance, job satisfaction, productivity, and reduce costs for employers. Recently, several European countries and companies have been experimenting with a four-day work week (Boulin, 2024). Flexible schedules or fewer working days can create a more efficient work environment, improve mental and physical health, reduce burnout, and boost the well-being of workers. It also promotes equitable workload distribution, meeting diverse employee needs and fostering inclusion (Abrams, 2025).

Several initiatives support the development of new working time patterns. Pilot programmes for a four-day work week test the feasibility and benefits of a shorter work week across various sectors.³⁷ These programmes assess impacts on productivity, employee well-being, and overall business performance, providing valuable data on how a four-day work week can be implemented effectively. Companies that adopt reduced work hours receive financial incentives, encouraging more businesses to consider this approach. These incentives can lead to increased job satisfaction and a better work-life balance for employees, helping offset any initial costs associated with transitioning to shorter work weeks.

However, some employers may resist adopting more flexible work models, and it is essential to monitor the impact on productivity. Social dialogue and collective bargaining are important to introduce working time reductions in sectors and companies.³⁸

Supportive policies are necessary to facilitate the transition to these new working time patterns. Implementing these measures creates an inclusive and supportive work environment, enhancing both individual well-being and business outcomes. Flexible working time patterns enable greater workforce

³⁷ For a review of recent initiatives see Boulin 2024.

³⁸ See for instance Piasna et al. (2024) for a discussion on the negotiation of collective bargaining agreements on working time reduction in the Italian manufacturing sector.

potential, contributing to innovation and growth. Addressing the needs of diverse employees supports equity. Overall, new working time patterns are important for sustainable and inclusive economic growth.

Moreover, work sharing initiatives contribute to promoting a greener economy by potentially reducing commuting and energy consumption. A shorter work week can lead to fewer commutes, which in turn reduces carbon emissions and alleviates traffic congestion. Additionally, with more time allocated to remote work, there is a decrease in the need for office space and associated energy use, further supporting environmental sustainability (European Commission, 2023 Eurofound, 2023a). This aligns with the EU's broader goals of achieving climate neutrality and promoting sustainable development.

In addition, expanding care infrastructure requires significant public and private investment to ensure comprehensive support for all individuals, particularly those with caregiving responsibilities. Establishing robust childcare and eldercare systems is vital for enabling employees to effectively balance their professional and personal lives. Such investments are essential for fostering an inclusive and resilient workforce (Boulin, 2024).

Inclusive workplace practices

Promoting diversity, equality, and inclusion in the workplace is essential for sustainable growth. These measures ensure that all employees feel valued and supported, leading to increased job satisfaction and productivity. Diverse teams bring varied perspectives and innovative solutions, driving business success and economic growth (Azmanova and Nicolaïdis, 2023). Furthermore, by facilitating the employment of individuals from socio-economic groups that are less frequently hired, inclusive practices help address social and economic inequalities. They also support these individuals in maintaining or returning to employment, fostering a fairer and more equitable society (European Commission, 2023a).

Several critical measures underpin inclusive workplace practices. Diversity and inclusion training for managers and employees fosters an inclusive culture, promoting understanding and respect for diverse perspectives. This training helps create a more welcoming and supportive work environment. Mentoring and sponsorship programmes offer support and opportunities for vulnerable groups, helping them advance in their careers and build professional networks, which are critical for career development and progression. Workplace accessibility audits identify and address accessibility issues, making workplaces more inclusive and accommodating for employees with disabilities, ensuring full. Age-friendly practices, including flexible work arrangements and ergonomic adaptations, support older workers, allowing them to continue contributing effectively and comfortably (OECD, 2024c). Family-friendly practices, such as

flexible working hours, parental leave, and childcare support, help employees balance work and family responsibilities, promoting well-being and job satisfaction (European Commission, 2023b).

Implementing these inclusive workplace practices can encounter resistance and require ongoing efforts. Continuous training is necessary to maintain an inclusive workplace. By addressing social and economic inequalities, these practices contribute to a more equitable society. Ultimately, inclusive workplace practices are essential for achieving a sustainable and inclusive economic growth model, ensuring a resilient and prosperous future for all (Eurofound, 2024).

Health and safety policies

Investing in preventive healthcare and incorporating mental health support within employment policies can markedly enhance workforce productivity and decrease overall healthcare expenditures. Mental health issues related to work are recognised as an important and growing issue in Europe (Urzi Brancati, 2024; European Parliament, 2023 2022). This dual strategy can result in healthier, more engaged employees, leading to substantial long-term economic advantages for both businesses and society.

Such initiatives necessitate consistent investment and a cultural shift that emphasizes health and well-being in the workplace. Establishing comprehensive mental health support systems that are readily accessible to all employees is essential. These systems should encompass regular mental health check-ups, counselling services, and stress management programmes to cater to the diverse requirements of the workforce (European Parliament, 2023).

Moreover, promoting a supportive work environment that encourages open dialogue about mental health can help mitigate stigma and foster a culture of care. Employers should proactively provide resources and training to assist managers and employees in recognising and addressing mental health issues promptly, thereby ensuring a healthier and more productive workforce (Urzi Brancati, 2024).

Gradual retirement options

Flexible retirement options, including phased retirement, partial retirement, job-sharing arrangements, and ergonomic adaptations, allow older workers to remain active in the workforce while gradually reducing their working hours. These options address diverse needs while maintaining financial stability and workplace engagement, contrasting with current pension policy reforms that emphasize prolonged employment and contributions (Nguyen-Thi et al., 2024). They recognize the varied needs and preferences of older employees, allowing them to tailor their work schedules according to their individual circumstances (Scherger, 2021).

A key feature of these options is the ability to gradually reduce working hours. For instance, an employee might start by reducing their workweek from five days to four and then decrease further over time. This phased approach helps mitigate the sudden changes in routine and income that can accompany full retirement, easing the emotional and financial transition (European Commission, 2023a). Additionally, flexible retirement plans include partial retirement schemes, where employees can work part-time while receiving a portion of their pension benefits. This arrangement ensures financial security and fosters workplace engagement, providing a sense of purpose as older workers remain active contributors (European Commission, 2024a).

Job-sharing arrangements are another component, allowing older workers to share roles with younger colleagues. This facilitates knowledge transfer and mentorship, preserving valuable institutional knowledge while supporting the professional development of younger employees. Furthermore, flexible retirement options often include ergonomic adaptations and age-friendly workplace practices, such as adjustable workstations and flexible seating, to ensure older workers can perform their duties comfortably and safely (European Commission, 2024b).

Financial incentives for companies that retain older workers are also important. These incentives encourage employers to value and retain experienced staff, recognising the significant contributions older workers can make. By offering flexible retirement plans, companies can benefit from the expertise and stability older employees bring, fostering a more inclusive and supportive work environment (European Commission, 2023a). Overall, flexible retirement options support a smoother transition to retirement, allowing employees to maintain income stability, enjoy more personal time, and continue contributing their valuable insights and experience. However, inequalities between lower and higher income groups might become exacerbated in a flexible retirement system (Polvinen et al., 2025).

Financing and social investment

Exploring complementary financing sources is essential for diversifying revenue streams for public funding and social security funding promoting sustainability. By identifying and implementing new and innovative ways to generate revenue, public authorities can reduce their reliance on traditional funding methods, such as income taxes, and create a more resilient and adaptable funding system to ensure the perennity and robustness of social protection systems and well-financed public services (Boeri and Cahuc, 2022).

One approach is to shift from labour to capital taxation, which involves taxing wealth and investments rather than wages. This can help address income inequality and ensure that those with greater financial

resources contribute their fair share to public funding (Saez and Zucman, 2019). Implementing progressive wealth taxes is another strategy. These taxes are designed to tax higher levels of wealth at higher rates, generating significant revenue that can be used to fund social programmes and public services. This approach ensures that the wealthiest individuals and corporations contribute proportionately to the society from which they benefit (Piketty et al., 2023).

Digital services taxes target companies that generate substantial revenue from online activities, such as social media platforms and e-commerce sites. By taxing these digital services, public authorities can capture revenue from the rapidly growing digital economy and ensure that digital businesses contribute to public finances (OECD, 2022a). Financial transaction taxes involve taxing financial market activities, such as stock trades and other financial transactions. This can help stabilise financial markets and generate funds for public services, providing a new revenue stream that is less dependent on traditional economic activities (OECD, 2022b).

Green taxes are designed to promote environmental protection and sustainability. These taxes can include carbon taxes, pollution taxes, and incentives for renewable energy use. By encouraging businesses and individuals to adopt eco-friendly practices, green taxes help mitigate environmental impact and support sustainable development (OECD, 2022c). Another approach is to require social contributions from automated industries and platform employers, ensuring they support social welfare. As automation and digital platforms change the workforce, it's essential that these sectors help fund social programmes and retraining for displaced workers (World Economic Forum, 2025).

Developing these alternative financing sources will enable public authorities to establish a more diversified and sustainable revenue base for social expenditures and investments. This approach ensures that public funding remains robust and adaptable amidst economic fluctuations. In addition to promoting fiscal stability, it also supports social equity and environmental sustainability, thereby contributing to inclusive growth in the future (Boeri and Cahuc, 2022; Saez and Zucman, 2019).

To successfully navigate the digital and green transitions, it is crucial to implement policies that foster inclusive and resilient labour markets. By addressing the limitations, trade-offs, and obstacles of the proposed policies, we can create a more equitable and sustainable work environment for all workers. This comprehensive approach ensures that individuals have access to necessary resources and opportunities, promoting long-term economic stability and social well-being. Through continuous adaptation and collaboration among stakeholders, notably among social partners, it is possible to achieve a resilient and inclusive labour market that supports sustainable growth and prosperity for all.

4. Synergies for inclusive and resilient labour markets and workforces

In a complex landscape of interconnected policy mixes, it is essential to identify and leverage synergies between various policies. Similarly, it is crucial to adopt a comprehensive and integrated approach to policymaking. This involves horizontal integration across different policy areas as well as vertical integration across different levels of governance. Holistic integration ensures that policies are interconnected and mutually reinforcing (Righettini and Lizzi, 2021). Focusing on synergies allows us to maximize the positive impacts of policies, avoid counterproductive social effects and duplication of efforts, and ensure efficient use of resources. This necessitates clear, prioritised strategies to enhance coherence and effectiveness in addressing transition challenges (Sabato and Vanhille, 2024; Cejudo and Trein, 2023). It underscores the importance of integrating just transition considerations into EU policies, emphasizing the need for clear, hierarchized priorities to effectively tackle the challenges of the green and digital transition.

4.1. Twin transitions as a meta-synergy

In the context of this report, the term 'meta-synergy' refers to the potential created by integrating digital innovation with ecological sustainability policies. This perspective aims to support a comprehensive policy approach for an EU that is both technologically advanced and environmentally responsible, addressing disruptive transitions in Europe while supporting inclusive labour markets and societies.

Since the launch of the Green Deal in 2019, the European Union has systematically embedded the concept of twin transitions into its policy framework, stressing the synergistic potential of merging sustainability with digital innovation. This dual approach could be apprehended as a 'meta-synergy' between digital and ecological transitions policies, aiming to foster comprehensive development that is both technologically advanced and environmentally responsible, while supporting innovation and competitiveness. The twin transitions rhetoric is consistently expressed within pivotal EU documentation and policy initiatives (e.g. Just Transition Framework, Fit-for 55 package and Social Climate Fund) emphasizing the role of digital technologies in achieving environmental objectives and improving resource efficiency for the benefit of all the EU citizens, leaving no one apart (Mäkitie et al., 2023).

There are indeed significant potential synergies between green and digital. Digital technologies can facilitate the achievement of climate neutrality, mitigate pollution, and restore biodiversity by providing means for personal monitoring of environmental pollutants and access to comprehensive environmental data transitions (Dæhlen, 2023). Additionally, the green transition has the capacity to transform the digital sector by enhancing the energy efficiency of data centres and cloud infrastructures through the integration

of renewable energy sources, thereby supporting the sustainability of technologies such as big data analytics, blockchain, and the internet of things. Examples of the interaction between digitalisation and environmental sustainability can be observed in the Smart Cities initiative, which involves towns across the EU using smart grids, energy-efficient buildings, and intelligent transportation systems to reduce carbon emissions and improve urban living. Digital technologies are employed to manage energy use, traffic, and waste, thereby supporting sustainability goals (European Commission, 2025d, 2024c; Kadiri et al., 2023). Another example of synergy is the Circular Economy Action Plan, part of the Green Deal, which aims at reducing waste and promoting sustainable resource use through digital technologies. It introduces legislative and non-legislative measures to enhance product design, improve recycling processes, and support the development of digital tools for tracking and managing resources throughout their lifecycle (European Commission, 2024a, 2020c).

However, if there are positive synergies between the green and digital transitions, there are also potential conflicts. Energy consumption may rise if digital technologies do not become more energy efficient. This increase could be driven using electric vehicles, smart grids, blockchain, the internet of things, platforms, search engines, virtual reality tools, and data centres required for cloud technology and AI. Moreover, the expanded use of digital technologies could lead to higher carbon dioxide emissions, increased electronic waste, and greater water usage for cooling purposes. Thus, the twin transitions approach is not without challenges, as acknowledged in various EU policy analyses (Muñoz De Bustillo Llorente, 2024; European Commission, 2022a, 2022c). Nevertheless, the overall EU rhetoric remains optimistic, framing these challenges as opportunities for innovation and economic growth (Kovacic et al., 2024).

Some studies argue that the European Union's focus on digital solutions to achieve sustainability goals represents a 'techno-solutionist' approach and overlooks necessary systemic transformations. According to Nitschke (2023), this strategy emphasizes incremental efficiency improvements while failing to address the ecological impacts of digital infrastructure, such as the significant energy consumption of data centres and the production of electronic waste. Similarly, Kovacic et al. (2024) highlight that the EU's 'win-win narratives' prioritise digital market competitiveness over comprehensive environmental governance, favouring consensus over evidence-based strategies. Innovation related to the 'digital imaginary' is used to reframe the conflicts between economic and sustainability policy objectives as synergies.

The twin transition concept, while central to EU policy, faces also significant criticism regarding its implementation risks reinforcing structural inequalities and ecological harm. A first concern is related to the huge mobilisation of capital needed to implement successful twin transitions (Pisani-Ferry and

Tagliapietra, 2024; Andersson et al., 2024; Markevičiūtė, 2023). For instance, to meet the EU's renewable energy targets of 42.5% by 2030, grid modernisation and expansion requires investments of €584 billion (European Commission, 2023a). These investments include upgrading transmission and distribution capacity, constructing interconnections, and enhancing energy storage for grid flexibility. A share of this investment will be reflected in energy prices, which may impact low- and middle-income households and potentially increase (energy) poverty and inequalities (Widuto, 2023).

Twin transitions can intensify inequalities through several mechanisms. Vulnerable groups, particularly low-skilled and older workers, are at higher risk of job displacement (Vandeplas et al., 2022). Transitions are likely to widen the gap between rich and poor regions in Europe. Regional disparities may increase as knowledge-intensive and high-tech regions adapt more readily. The digital divide exacerbates existing inequalities, especially in rural and remote areas (Maucorps et al., 2022). The transition to green energy requires substantial investments in renewable technologies and infrastructure, which pose significant economic challenges for many countries. Additionally, the monopolistic control exerted by digital service providers, such as major tech companies, leads to high costs and limited options for consumers (van den Boom, 2023). These issues exacerbate the disparity in digital accessibility, making it difficult for low-income individuals and regions to access affordable and reliable digital services. Labour market disruptions, including the rise of platform-based employment and unstable working conditions in emerging green industries, can further aggravate these issues (European Parliament, 2024 ; Verdolini, 2023). Collective bargaining mechanisms may weaken, particularly impacting vulnerable workers (Bednorz et al., 2022).

To address these adverse impacts, policymakers should prioritise inclusive strategies that guarantee equitable access to the benefits of green and digital transformations. Achieving these goals necessitates proactive and integrative management. The private sector is expected to lead the digital transition due to its considerable economic potential. Nevertheless, for reforms related to the twin transitions to be accepted, they must be ingrained in collective consensus. Legitimacy arises not only from the commitment to mutually advantageous concepts but also from the capacity of governing institutions to steer the dual transitions towards desired outcomes while managing identified risks (Loorbach et al., 2020). This requires a strong participatory process at European, national, and sub-national levels among all stakeholders, including citizens, to address key challenges and discuss potential solutions.

4.2. Dual synergies

Based on the analysis in the previous sections, nine policy synergies have been identified, either as potential or actual. These synergies are anticipated to improve comprehensive and integrated governance, contributing towards a green, sustainable, and inclusive economic model for the future.

4.2.1. Labour market policies and social protection

Combining flexible work arrangements with strong social safety nets is an approach to modernising the labour market. This strategy allows workers to adapt to changing job conditions without losing security. The challenge, however, is in implementing these policies effectively across various economic sectors and ensuring equal benefits for all workers, including gig and informal workers (Bekker, 2018).

The success of these initiatives depends on the public authorities' capacity to fund and manage comprehensive social safety nets. Additionally, there is a potential risk that flexible work arrangements could result in job insecurity if not properly regulated (Boeri and Cahuc, 2022). There must be efforts to balance flexibility with stability to prevent increased job insecurity. Furthermore, creating supportive frameworks for employment transitions requires sustained investment and collaboration between public and private sectors (Boeri and Cahuc, 2022).

4.2.2. Employment and environmental policies

The creation of green jobs and investment in green skills are vital for ensuring a sustainable future. These policies address unemployment while contributing to environmental sustainability (Cedefop, 2021; European Commission, 2023b). However, transitioning to green jobs necessitates substantial investment in education and training programmes. Additionally, there is a critical need for clear pathways and continuous support for workers moving from traditional industries to green sectors (European Commission, 2023k).

This support should include reskilling programmes, career counselling, and financial assistance to ensure a smooth and equitable transition (European Commission, 2023k).

4.2.3. Social inclusion and digitalisation policies

Digital skills training for vulnerable groups and accessible e-public authorities services are essential for addressing the digital divide and fostering social inclusion (Eurofound, 2020b; European Commission, 2023a). To ensure that digital transformation benefits all citizens, substantial investment in infrastructure

and continuous support for digital literacy programmes are required. It is important to recognise the potential risk of increasing inequalities if these initiatives are not inclusive (European Commission, 2022a).

Providing digital skills training and accessible e-public authorities services ensures that all individuals, including those who are disadvantaged, can engage with and benefit from the digital economy. Ensuring that digital transformation positively impacts everyone necessitates significant investments in infrastructure and ongoing support for digital literacy programmes. Additionally, there is a risk of worsening existing inequalities if these initiatives do not adopt an inclusive approach. Therefore, it is imperative to design programmes that effectively reach and support those in need (European Commission, 2022a). Efforts should encompass providing affordable internet access, offering comprehensive digital education, and creating user-friendly digital platforms.

4.2.4. Fiscal policy and social investment

A social investment approach in budgeting and tax incentives for inclusive workplace practices aligns fiscal policies with long-term social and economic goals (Garritzmann, 2021).

The effectiveness of these policies hinges on the public authorities' ability to balance short-term fiscal constraints with long-term investments and establish robust monitoring mechanisms. These mechanisms ensure that tax incentives lead to meaningful workplace changes rather than becoming mere financial advantages for businesses (European Commission, 2024b). Moreover, success relies on public-private collaboration to create a supportive environment for inclusive practices. Educational institutions must align programmes with labour market needs, equipping students for future jobs.

Investing in innovative social protection mechanisms, such as social impact bonds, is also essential. These mechanisms need to be designed to be flexible and inclusive, ensuring desired outcomes without unintended consequences (International Labour Organisation, 2023). Ultimately, integrating fiscal policies, social investments, and stakeholder collaboration fosters sustainable economic growth and social well-being, ensuring the equitable distribution of economic progress benefits.

4.2.5. Economic growth and work-life balance

Promoting work-life balance and investing in care infrastructure can substantially enhance productivity, improve employee well-being, and support sustainable economic growth (Abrams, 2025; Boulin, 2024). Policies that promote flexible working hours, remote work options, and adequate leave provisions are essential for achieving this balance. Moreover, workplace cultures that prioritise work-life integration can

result in higher job satisfaction and reduced burnout, fostering a more motivated and productive workforce.

However, the implementation of policies such as a 4-day work week necessitates careful consideration of industry-specific requirements and potential impacts on productivity. It is crucial to conduct thorough pilot programmes and gather feedback from a diverse range of stakeholders to assess the feasibility and effectiveness of such initiatives. In addition, expanding care infrastructure requires significant public and private investment to ensure comprehensive support for all employees, particularly those with caregiving responsibilities. Establishing robust childcare and eldercare systems is vital for enabling employees to effectively balance their professional and personal lives. Such investments are essential for fostering an inclusive and resilient workforce (Boulin, 2023).

4.2.6. Education policy and labour market policies

Aligning educational curricula with future skill needs and promoting Science, Technology, Engineering, and Mathematics (STEM) education and skills, with an emphasis on green technologies, is crucial for economic competitiveness and sustainability (Garritzmann, 2021; European Commission, 2023a). This endeavour necessitates collaboration among public authorities, educational institutions, and industries to ensure that STEM education is accessible to all students. Educational institutions should combine theoretical knowledge with practical skills to adequately prepare students for the dynamic labour market through hands-on learning experiences, internships, and industry partnerships. Addressing disparities in access to STEM education through scholarships, mentorship programmes, and outreach initiatives is essential. Promoting gender diversity within STEM fields fosters innovation and inclusivity. Encouraging women to pursue STEM careers can be achieved through targeted programmes, role models, and supportive networks (OECD, 2019a).

Developing skills in critical thinking, creativity, and problem-solving is also vital for navigating modern work environments and driving sustainable innovation. Educational programmes should prioritise these competencies to empower students to approach challenges innovatively. Continuous professional development for educators is indispensable. Teachers must remain informed about the latest advancements and adopt new pedagogical strategies through workshops, collaborations, and access to resources.

Ultimately, a comprehensive education policy that aligns with labour market needs, promotes STEM and green technologies, and fosters inclusive learning environments will facilitate sustainable economic growth and enhance social well-being.

4.2.7. Health and safety policies and productivity

Investing in preventive healthcare and incorporating mental health support within employment policies can markedly enhance workforce productivity and decrease overall healthcare expenditures. Mental health issues related to work are recognised as an important and growing issue in Europe (Urzì Brancati, 2024; European Parliament, 2023, 2022). This dual strategy can result in healthier, more engaged employees, leading to substantial long-term economic advantages for both businesses and society (International Labour Organisation, 2023a).

Such initiatives necessitate consistent investment and a cultural shift that emphasises health and well-being in the workplace. Establishing comprehensive mental health support systems that are readily accessible to all employees is essential. These systems should encompass regular mental health check-ups, counselling services, and stress management programmes to cater to the diverse requirements of the workforce (European Commission, 2023b).

Moreover, promoting a supportive work environment that encourages open dialogue about mental health can help mitigate stigma and foster a culture of care. Employers should proactively provide resources and training to assist managers and employees in recognising and addressing mental health issues promptly, thereby ensuring a healthier and more productive workforce (Urzì Brancati, 2024).

4.2.8. Regional development, social cohesion and inclusive growth

Targeted investments in lagging regions and smart specialisation strategies are crucial for promoting territorial cohesion and utilizing underutilized human capital (European Commission, 2024b; Eurofound, 2023c). These strategies leverage regional strengths and foster innovation to drive economic growth and reduce disparities. Effective investments require robust governance structures, including transparency, accountability, and continuous monitoring and evaluation to maximize impact. Smart specialisation focuses on regional competitive advantages, encouraging collaboration between public and private sectors, academia, and civil society.

Targeted investments also address social and economic inequalities by providing education, training, and employment opportunities in underdeveloped areas, boosting local economies and enhancing social cohesion. Social protection supports workers from regions affected by relocations due to green and digital transitions. Mechanisms like social protection floors provide income support, skills training, and redeployment services, ensuring workers adapt to new employment opportunities (OECD, 2024b; Milotay, 2018).

In a nutshell, targeted investments, smart specialisation strategies, and robust social protection systems are essential for regional development. They require effective governance, continuous evaluation, and a focus on regional strengths to drive innovation, economic growth, and social cohesion, while supporting workers through transitions to a green and digital economy.

Investments targeted at underperforming regions and the implementation of smart specialisation strategies promote territorial cohesion and leverage untapped human capital. This synergy addresses social and economic inequalities, boosting local economies and enhancing social cohesion (European Commission, 2024c; Eurofound, 2023a; European Commission, 2023d).

4.2.9. Taxation and environmental sustainability

Implementing carbon pricing mechanisms and shifting the tax burden from labour to resource use and pollution can support both employment and environmental goals (European Commission, 2022b; OECD, 2021b). These measures can encourage businesses to adopt environmentally friendly practices and lower their carbon emissions, contributing to global climate targets.

The effectiveness of these policies relies on the public authorities' ability to design and implement efficient carbon pricing mechanisms. It is also important to ensure that the shift in the tax burden does not disproportionately affect low-income households. Careful planning and targeted support measures will be necessary to mitigate any potential negative effects on vulnerable populations (European Commission, 2023b).

Additionally, investing in renewable energy and energy efficiency can promote job creation and economic growth. By encouraging innovation and supporting green technology startups, public authorities can stimulate new industries and enhance global competitiveness. This comprehensive approach addresses environmental issues while fostering a sustainable and resilient economy.

Implementing carbon pricing mechanisms and shifting the tax burden from labour to resource use and pollution support both employment and environmental goals. This synergy encourages businesses to adopt environmentally friendly practices and lowers carbon emissions, contributing to global climate targets (European Commission, 2023b 2022b; OECD, 2021b).

By integrating these synergies into multipolicy strategies, it is possible to create a more resilient labour market that supports inclusive and sustainable growth. This approach ensures that policies are not only effective in isolation but also contribute to broader goals of sustainability, inclusivity, and economic growth, while respecting people's needs.

5. Conclusive remarks

The EU faces various challenges, such as an aging population, transitions to a green and digital economy, and globalisation. These changes impact labour markets and social protection systems. However, these challenges also bring opportunities for inclusive and sustainable growth. By implementing appropriate policies, inclusive and resilient workforces and labour markets can be fostered to successfully navigate these megatrends. The WeLaR project aims at enhancing the understanding of the megatrends individual and combined effects on the labour markets and welfare states, and to develop policy proposals that promote equitable and sustainable economic development in the EU and opportunities for all.

Many experienced workers want to stay active in the workforce. Flexible retirement options and age-friendly workplaces are needed to support them. This approach helps retain valuable skills and knowledge within the labour market. To stay employable, continuous training and upskilling are essential. Education plays a crucial role in this process, providing the foundation for lifelong learning. In the context of twin transitions, upskilling and reskilling are vital to ensure workers can adapt to new technologies and green jobs. However, it is also important to address the issue of over-skilling, which can lead to demotivation, low productivity, and job dissatisfaction.

Proactive efforts are required to include all individuals in the workforce. Programmes for the long-term unemployed and innovative solutions to engage those who have stopped looking for work are crucial. Addressing discrimination is essential for creating diverse and competitive workplaces. This includes not only fostering inclusive workplaces but also tackling hiring discrimination based on gender, age, ethnicity, or disability. Gender equality is particularly important for the future, as women still face multiple disadvantages in their full participation to labour. Ensuring equal opportunities and addressing these disparities is key to build fair and productive labour markets. The intersectional nature of disadvantages for vulnerable groups must be recognised, as individuals may face multiple and overlapping forms of marginalisation in their access to employment and more widely social integration.

Work-life balance is a key factor in attracting and retaining talents. Flexible working arrangements, affordable childcare, and eldercare are essential components of a productive workforce. Special attention should be given to gender and single parenthood, as these groups often face unique challenges in balancing work and family responsibilities. The concept of work sharing, including the possibility of a 4-day work week, should be discussed as a policy option to improve well-being and potentially create new jobs. Flexible work arrangements, including flexible schedules, remote work, job sharing, compressed workweeks, and flexible retirement options, are most effective when they are based on the voluntary

choice of individuals rather than driven by external constraints. It is paramount that employees have genuine autonomy in deciding whether to adopt these measures, ensuring that their choices align with their personal preferences, circumstances, and career goals. When flexibility measures are implemented in environments where external factors—such as limited availability of full-time job opportunities or caregiving responsibilities due to inadequate care facilities—pressure individuals into accepting these arrangements, the principle of voluntariness is compromised. Organisations and policymakers must ensure that flexibility measures are offered as genuine options rather than fallback solutions to systemic issues. This requires addressing external factors that might limit employees' ability to make free choices. By prioritizing voluntariness in the adoption of flexible measures, organisations can empower employees to make decisions based on their preferences rather than external constraints. This approach enhances employee satisfaction and well-being and ensures that flexibility measures achieve their intended purpose: creating a supportive and adaptable work environment that benefits both workers and employers.

Continuous learning and digital skills training are vital in the context of green and digital transitions. Public authorities, employers, educational institutions, and workers must collaborate to ensure everyone is equipped with the necessary skills. Funding these initiatives requires a shift in perspective. Social policies should be viewed (also) as economic investments in the shared future. Resilient and adequate welfare systems are essential for enabling fair and sustainable labour market transitions. New funding sources, such as capital gains, speculative gains, digital transactions, and green taxes, should be explored. Social protection and public services should be adequately and sustainably funded by diversifying their funding sources. Social investment funding should be excluded from the scope of budgetary austerity in the EU economic governance system, for instance through a Golden Rule or similar mechanism, as done for innovation and security expenses.

Job quality is a cross-cutting concern that affects the well-being of workers and the overall performance of labour markets. High-quality jobs contribute to economic growth, social stability, and reduced inequalities. Ensuring job quality involves addressing various factors such as fair wages, benefits, safe working environments, and opportunities for career advancement. The quality of jobs that will be created, for instance in green jobs, is key to ensuring the resilience of the workforce, the functioning of labour markets, as well as the well-being of individuals. By prioritising job quality, a more inclusive and resilient workforce can be created that is better equipped to manage the challenges posed by megatrends.

Strong public services and comprehensive social protection are foundational elements of a resilient society. These services ensure that all citizens have access to essential public goods and services, such as healthcare,

education, and social security. Well-funded public services reduce inequalities and provide a safety net for the most vulnerable populations. Social protection systems play a vital role in supporting workers and individuals as they transition or face social risks. They ensure the flexibility and resilience of the workforce, labour markets, and the economic system, as clearly illustrated during the pandemic and previous external crises. Social expenses should be seen as social investments necessary to ensure the sustainability of redistributive systems, supported by effective fiscal policies.

The EU and its Member States have an impressive body of laws protecting the rights of workers and citizens, covering areas such as health and safety, equal opportunities, protection against discrimination, and labour law. However, it is vital to have the resources to control their effective application. Enhanced inspection teams and tools are necessary to ensure compliance with these laws. This can be part of alternative funding sources, ensuring that enforcement mechanisms are robust and effective.

Policies should be integrated rather than isolated. It is essential to connect economic, fiscal, employment, social, environmental, digital, and territorial policies. These policies must work cohesively towards the unified objective of building inclusive and resilient workforces and labour markets.

To redefine the European social model and make it future-proof, cooperative work among stakeholders and society is essential. This can be achieved for instance through a New Social Pact for the EU. Dialogue among public authorities, social partners, and civil society is crucial for fostering consensus and legitimacy for the necessary evolution of current economic paradigms. Social dialogue, particularly through collective bargaining, plays a crucial role in this process. Collective bargaining helps balance the interests of workers and employers, ensuring fair labour conditions and productive workplaces. It provides a platform for negotiating wages, working conditions, and benefits, which are essential for maintaining a motivated and secure workforce. Moreover, collective bargaining can mitigate the impact of economic transitions by cushioning inequality and reinforcing the resilience of enterprises and labour markets. It also plays a significant role in improving job quality in all its dimensions, including adequate compensation, job security, safe working conditions, and work-life balance.

Building a consensus around the rightfulness of needed policy reforms, especially if they are not immediately favourable to all, requires strong political will and commitment. Policymakers must engage in transparent and inclusive discussions to gain public support and trust. Collaboration and the application of inclusive policies will enable Europe to confront its challenges and harness its potential effectively in an evolving environment. Collaborative action is essential for the future of Europe and the planet.

6. Recommendations

6.1. Building inclusive and resilient labour markets

Recommendations for Member States:

Building diverse and inclusive workforces and workplaces: Member States should implement and enforce regulations and policies to ensure equal opportunities for all workers. This involves establishing guidelines and rigorously monitoring adherence to prevent discrimination based on race, gender, age, disability, or other protected characteristics. It is essential to focus also on addressing discrimination in recruitment, which hinders individuals from accessing employment due to their personal characteristics. Achieving this goal requires both the implementation and enforcement of relevant legislation as well as initiatives to educate managers about the importance of diversity and inclusion for creating better and more efficient workplaces. Social dialogue has obviously also a significant role to play in the building of diverse workforces and workplaces. Employers and trade unions must include in the collective bargaining process the objective of providing training to foster an inclusive workplace culture and practice. Diversity and inclusive training initiatives can assist both employees and employers in understanding and valuing various perspectives, contributing to a more cohesive and productive work environment.

Support for disadvantaged groups: It is important to ensure that all individuals of working age can (re)enter the labour markets and be socially included. Over time, Member States have developed various targeted policies and measures to improve the social inclusion and labour market participation of several disadvantaged groups. These measures are aimed at women, young and older individuals, migrants, people who face discrimination, lone parents, those with low education or qualifications, and low-income individuals and households. It is crucial that these disadvantaged groups receive special attention and are considered in the context of broader policy strategies implemented in areas such as inclusion, education, and employment. Additionally, the specific needs of these disadvantaged groups should be considered within the framework of changes brought about by the twin transitions. Member States should carefully review these policy measures to assess their effectiveness and potential synergies and/or contradictions from the perspective of disadvantaged individuals.

Promoting chosen flexibility and enhancing work-life balance:³⁹ Member States should support policies and initiatives that foster work-life balance, such as flexible working hours, remote work options, and mandatory breaks. For older workers, measures related to gradual and adapted retirement could improve their resilience in employment. These measures can assist employees in managing the demands of (digitalised) work, reducing stress, and improving workers' personal well-being and job satisfaction, thus also improving productivity as well as job attractiveness. From this perspective, it is essential, particularly for women, to ensure that workers' selection of flexible arrangements is genuinely voluntary and not driven by unfavourable labour market conditions or the existence of care responsibilities for children or dependents due to inadequate or insufficient public care services. Additionally, family policies, such as parental leaves or childcare, could significantly improve the work-life balance and resilient participation of parents on the labour markets.

Addressing mental health issues and psychosocial risks: The impact of the evolving nature of work, particularly due to the widespread adoption of digital tools and processes, has increased the prevalence of mental health issues and exposure to psychosocial risks. These factors led to serious health outcomes for workers and their temporary or permanent withdrawals from the labour market. To address this critical issue, Member States should elaborate and implement mental health support programmes that are specifically designed to meet the challenges posed by digitalisation. Such programmes could include access to counselling services, stress management workshops, and mental health awareness campaigns. Regular assessments should be conducted to identify and mitigate psychosocial risks associated with digital work environments. These assessments can help employers understand the impact of digital technologies on employee well-being and take proactive measures to address issues. Member States might also consider introducing specific regulations to implement the right to disconnect.

Support social dialogue: Collective bargaining plays an important role in creating inclusive and diverse workplaces. Member States should assist the efforts of social partners by providing guidelines, technical assistance for assessment, and research funding.

³⁹ Participants at the 'stakeholders panel' organised within the 2nd WeLaR Foresight Workshop held in Vienna (18 March 2025) in the framework of Task 7.5 discussed flexible work arrangements, including working time reduction. They emphasized the need to distinguish between sectors and employment types, and noted the significant role of social dialogue, including discussions at the company level.

Recommendations for the EU level:

Diversity and inclusion processes: Develop and promote comprehensive guidelines for diversity and inclusion in workplaces. These guidelines can cover aspects such as recruitment practices, workplace policies, and employee training. Continue existing (or implement new ones) soft coordination processes such as the open methods of coordination to share common understanding and goals and exchange practices between Member States.

Funding for inclusion programmes: Provide funding opportunities for programmes that promote diversity and inclusion in the workforce and workplaces, such as diversity training, mentorship programmes, and targeted recruitment initiatives. This support can help employers create more inclusive and equitable workplaces.

Awareness campaigns: Conduct campaigns to promote the benefits of diversity and inclusion in the workplace and combat the stereotypes leading to (hiring) discrimination and exclusion. These campaigns can include public awareness initiatives, educational materials, and events designed to inform and engage citizens and diverse stakeholders.

Mental health and psychosocial risks: The EU could develop EU-wide initiatives to address mental health and psychosocial risks related to working and living in a digitalised work. This can include funding for research, awareness campaigns, and the development of best practices for mental health support in digital work environments. Additionally, the EU could create guidelines for Member States to manage psychosocial risks associated with digital work. These guidelines can include recommendations for regular risk assessments, employee support programmes, and strategies to promote work-life balance.

6.2. Enhancing learning and skills⁴⁰

A progressive learning culture focuses on foundational skills for everyone and the continuous acquisition of necessary knowledge, abilities, and competencies at different levels within formal, non-formal, and

⁴⁰ During the ‘stakeholders panel’ organised within the 2nd WeLaR Foresight Workshop held in Vienna (18 March 2025) in the framework of Task 7.5, training and lifelong learning policies emerged as key concerns to ensure a sustainable and inclusive growth pattern for the EU. Participants underscore that it would be important that citizens and workers are provided with the right conditions to be able to enrol in training and LLL activities. These include, for instance, adequate income support to afford a decent lifestyle during job transitions, and access to care services for those with care responsibilities. Furthermore, equal opportunities should be ensured when offering training and

informal educational settings throughout life. Individuals with a lifelong learning mindset can adapt to evolving circumstances, developing the skills required for employment, societal participation, and personal growth. Lifelong learning schemes enhance professional skills for the labour market but also provide opportunities for personal empowerment. Adult learning needs to go beyond the development of work-related skills. The objectives of these perspectives differ: one aims to improve employability and job performance, while the other seeks to promote personal autonomy regardless of age or personal status. For people of working age, acquiring or enhancing skills complements or replaces lifelong learning programmes and vocational training schemes available in the professional environment. It is important to ensure that there is a shared vision for enhanced adult lifelong learning provision, where both the social dimension of adult learning and employability are considered by all stakeholders.

Recommendations for Member States:

Develop policies and measures for upskilling and reskilling: Investments and policy measures aimed at upskilling and reskilling must be prioritised by Member States through partnerships between educational institutions, trade unions, and employers, with a focus on high-demand sectors such as ICT, healthcare, and green skills. These investments are critical to ensure that systems are responsive to the changing economic demands, which is key for bridging widening skills gaps. Nevertheless, attention should be paid to maintaining an overarching and balanced perspective, particularly regarding acquiring skills that facilitate individual advancement within each level of proficiency, such as positions requiring intermediate qualifications.

Support continuous learning: National and sub-national authorities should also encourage continuous education and training programmes to help workers adapt their skills to evolving job market needs while empowering themselves. This can include partnerships with educational institutions and online learning platforms.

Tackle over skilling challenge: In addition to upskilling or reskilling, Member States should also implement measures to address the issue of occupations where workers' skills exceed job requirements (over skilling). This is crucial for ensuring resilient inclusion in the labour market. Additionally, over

LLL measures, with an emphasis on avoiding age stereotypes (e.g., a tendency not to offer these measures to older workers since it is assumed that they will soon retire).

skilling can lead to demotivation among workers, resulting in decreased personal investment and productivity.

Support orientating schemes: Member states should implement schemes providing to workers robust career counselling and job matching services to better align workers' skills with job opportunities.

Provide incentives to employers: National and sub-national governments could offer incentives to employers who invest in employee development and create roles that fully utilize their workers' skills. This can include tax breaks or grants for companies that implement comprehensive training programmes.

Provide accounting schemes of skills: Member States should implement or strengthen initiatives to assist workers in validating and maintaining their skills and competencies throughout their employment lifecycle. Examples of such measures include Individual Learning Accounts, or training leaves. These measures are important to promote labour mobility throughout workers' lives and facilitate their transitions.

Dedicated attention to disadvantaged groups: Targeted training programmes should be established for disadvantaged groups, including among other women, older workers, migrants and low-income individuals, to enhance their employability and foster their integration and resilience into the workforce while considering their specificities. These initiatives contribute to a skilled and adaptable labour force prepared for future challenges.

Assessment and enhancing of policies and measures: Member States should regularly assess the effectiveness of above-mentioned policies and measures and adapt them as needed. This can involve funding research, collecting data on job market trends and worker satisfaction to ensure that interventions remain relevant and effective.

Support social dialogue: Member States should additionally endorse social dialogue and collective bargaining regarding these matters, particularly in relation to professional training which predominantly falls within the jurisdiction of social partners.

Recommendations for the EU level:

Adult learning and training require a comprehensive approach that involves collaboration across various sectors and stakeholders, as well as effective coordination at European, national, regional, and local levels. This approach should respect the diverse models of adult learning within the European Union and fully acknowledge the specific competencies of different policy levels, including social dialogue.

Continuous assessment of existing measures. The EU has already a wide range of strategies and initiatives related to the improvement of skills and adult learning or developed dedicated instruments for Member States.⁴¹ These instruments are valuable and require regular maintenance and adaptation based on evolving needs. It is crucial that the EU periodically evaluates their effective implementation and provides recommendations to Member States as necessary, particularly within the framework of structural reforms promoted by European Economic Governance (European Semester).

Policy guidance: Offer direction on the enhancement of skills and the creation of learning opportunities. This encompasses the development of structured frameworks, provision of technical assistance, dissemination of best practices, as well as funding related research.

Funding and support: Offer funding opportunities, such as those available through the ESF+, to back initiatives focused on the continuous enhancement of individual skills. This includes providing grants, loans, and subsidies for social infrastructure projects.

Good practice sharing: Facilitate the sharing of good practices among Member States to implement effective skills and learning strategies. This can be achieved through conferences, online platforms, and collaborative networks, such as the Centres of Vocational Excellence.

Support the European social dialogue bodies (cross-industry and sectoral) to exchange and develop common guidelines and tools helping the work of their national members, such as for instance the 2018 Joint recommendations of the European social partners on promoting social partnership in employee training.

6.3. Territorial dimension

The territorial dimension is crucial for achieving balanced and sustainable development across various regions, especially considering the local outcomes of demographic changes, globalisation, digital and green

⁴¹ Among other, concerning skills the European Skills Agenda and its Pact for Skills or the Digital Education Action Plan in the framework of the European Education Area. In the field of lifelong learning the Skills for Life in the European Skills Agenda, the Upskilling Pathways, or the New European Agenda for Adult Learning 2021-2030. Dedicated EU tools for Member States include the Vocational Accounts system, the Micro-Credential Frameworks or the Centres of Vocational Excellence. The EU developed also common classification standards such as the European Skills, Competences, Qualifications and Occupations (ESCO), an international multilingual classification of skills, competences, qualifications and occupations.

transitions. Addressing regional disparities and promoting territorial cohesion allows all regions to realise their potential, thereby contributing to lower local inequalities, improve social inclusion and environmental sustainability. By enhancing territorial development within Member States, more balanced and sustainable growth across regions can be facilitated. This results in improved living standards, strengthened social and economic cohesion, and increased resilience of local workforces and labour markets.

Recommendations to Member States

Promote regional development strategies: Develop and implement comprehensive regional development strategies that address the specific needs and challenges of different regions. These strategies should focus on enhancing economic growth, social inclusion, and environmental sustainability.

Invest in infrastructure: Increase investments in infrastructure projects that improve connectivity and access to essential services in underserved regions. This includes transportation networks, digital infrastructures, healthcare facilities, and educational institutions.

Support local economies: Implement policies that support local economies, including initiatives to promote entrepreneurship, innovation, and job creation in rural and less-developed regions. This helps reduce regional disparities and fosters economic resilience.

Facilitate capacity building: Invest in capacity-building initiatives to empower regional and local authorities to effectively manage and implement development projects. This includes providing training, resources, and technical support. This could also include the creation of local monitoring and evaluating structures at local level (e.g. observatories).

Encourage collaborative governance: Foster collaborative governance by involving regional and local authorities, civil society organisations, and citizens in the decision-making process. This ensures that policies are inclusive and reflect the needs and aspirations of the local population.

Promote sustainable development: Implement policies that promote sustainable development in regions, including measures to address climate change, protect natural resources, and promote green energy solutions. This contributes to environmental sustainability and enhances the quality of life for residents.

Support worker reconversion: Develop targeted programmes to support the reconversion of workers affected by megatrends such as digitalisation, globalisation, and demographic changes. This includes providing retraining and upskilling opportunities, career counselling, and job placement services to help workers transition to new sectors and roles.

Recommendations to EU level

Support regional development strategies: Provide financial and technical support for the development and implementation of regional development strategies across member states. This includes funding for infrastructure projects, capacity-building initiatives, and sustainable development measures. Regional strategies must be tailored to address specific challenges and imbalances, such as healthcare shortages, ICT skill gaps, and green transition demands.

Promote cohesion policy: Strengthen the EU's Cohesion Policy to address regional disparities and promote territorial cohesion. This involves allocating resources to less-developed regions and supporting initiatives that enhance economic growth, social inclusion, and environmental sustainability.

Facilitate knowledge sharing: Encourage the exchange of best practices and successful models of regional development among Member states. This can be facilitated through conferences, workshops, and online platforms that promote collaboration and knowledge sharing.

Enhance collaborative governance: Promote collaborative governance by involving regional and local authorities, civil society organisations, and citizens in the decision-making process at the EU level. This ensures that policies are inclusive and reflect the needs and aspirations of the local population.

Support sustainable development: Implement policies that promote sustainable development across regions, including measures to address climate change, protect natural resources, and promote green energy solutions. This contributes to environmental sustainability and enhances the quality of life for residents.

Monitor and evaluate: Establish mechanisms to monitor and evaluate the effectiveness of regional development policies and initiatives. This includes conducting regular assessments to ensure that policies are achieving their intended outcomes and making necessary adjustments.

Support worker reversion: Develop or enhance existing programmes to support Member States in the reversion of workers affected by megatrends. European funding opportunities for worker reversion, such as the ESF+ or the European Globalisation Adjustment Fund for Displaced Workers (EGF), should be enhanced to efficiently co-finance measures to support redundant workers in case of major restructuring events related to the outcomes of the megatrends.

6.4. Resilient and strong public services

Recommendations for Member States:

Sustainable financing: Ensure sustainable funding for all the public services of general interest (PSGI) that are essential for the well-being of the citizens and the resilience of European societies. PSGI encompass a wide range of essential public services.⁴² Their sustainable funding can involve long-term financial planning and the establishment of dedicated funding streams.

Invest in education: Increase funding for education at all levels to create a skilled workforce. This can include investments in early childhood education, primary and secondary schools, vocational training, higher education institutions and adult education institutions.

Healthcare investments: Invest in healthcare infrastructure to ensure access to quality care for all citizens. This involves building new healthcare facilities, upgrading existing ones, and ensuring that healthcare services are affordable and accessible, promoting public health and well-being.

Care investments: Allocate resources toward childcare and dependent care infrastructure and services to enable citizens and workers to achieve a better work-life balance and fully engage in their professional activities.⁴³

⁴² In the EU, Public services of general interest are generally categorised into three main types: (i) *Economic Services of General Interest* (Energy, Public transportation systems, Telecommunications, Postal Services); (ii) *Social Services of General Interest* (Healthcare, Education, Social Housing, Employment Services, including job placement and vocational training; (iii) *Non-Economic Services* (Security, Justice, Statutory Social Security Schemes). European Commission web site page: Services of general interest. Retrieved March 20, 2025, from https://commission.europa.eu/topics/single-market/services-general-interest_en

⁴³ Participants at the ‘stakeholders panel’ organised within the 2nd WeLaR Foresight Workshop held in Vienna (18 March 2025) in the framework of Task 7.5, the discussion highlighted the importance of affordable, quality, and accessible care services (including childcare, elder care, and long-term care) for promoting gender equality and productivity. The role of the public sector in providing these care services was emphasised. Discussions on social investment primarily concentrated on the importance of investing in children. This approach was highlighted to disrupt the intergenerational transmission of inequalities and enhance the macroeconomic prospects of countries both in the medium and long term.

Equity funding: Invest in equity-focused funding mechanisms to facilitate just transitions and climate adaptation, aligning environmental goals with social justice.

Access to services: In accordance with the universal nature of public services it is essential to improve and ensure access to public services for disadvantaged populations. Efforts can include expanding service availability in underserved areas and removing barriers to access.

Quality improvement: Invest in resources, training, and infrastructure to improve public service quality. Continuous improvement initiatives can help ensure that public services meet the needs of the population effectively.

Recommendations for the EU level:

Funding and resources: Provide access to funding through existing financing mechanisms (Structural Funds, European Investment Bank, etc.) to ensure sustainable financing for essential public services across the EU. This can involve long-term financial planning, grants, and subsidies.

Access to services: Improve access to public services for vulnerable populations. This can include the support to measures aimed at expanding service availability in underserved areas and removing barriers to access.

Quality improvement: Invest in resources, training, and infrastructure to improve public service quality. This can involve continuous improvement initiatives, technical assistance, and sharing best practices.

6.5. Strong and resilient social protection for all

In recent years, advanced social protection systems have proven vital during economic crises and the COVID-19 pandemic. These frameworks not only safeguard citizens from financial hardships but also serve as critical stabilisers against macroeconomic disruptions. Additionally, they play a pivotal role in the efficient functioning of European labour markets, supporting smooth transitions throughout individuals' careers. Therefore, it is essential to view the sufficient and sustainable funding of social protection not merely as an expenditure but as a crucial social investment—on par with economic investments—to foster inclusive and sustainable growth (Arnemann et al., 2025).

Recommendations for Member States:

Inclusive social protection policies: Strengthen or develop social protection policies that guarantee citizens and workers, notably non-standard workers such as self-employed or platform workers, have access to comprehensive social protection benefits. These policies aim to decrease the vulnerability of individual

and households and offer support during economic difficulties, while facilitating labour market transitions throughout the workers' lifecycle.

Tailored support services: Provide customized support services for disadvantaged individuals, including financial planning advice, legal assistance, and access to training programmes. These services can for instance assist non-standard workers in navigating the complexities of their employment status and enhancing their overall well-being.

Regulatory frameworks: Develop and implement regulatory frameworks designed to safeguard the rights of disadvantaged individuals and non-standard workers, ensuring equitable working conditions. This can include setting minimum wage standards, ensuring access to social security, and providing mechanisms for dispute resolution.

Recommendations for the EU level:

Support for inclusive social protection: Provide technical assistance and funding to help Member States develop inclusive social protection policies for all citizens and workers, whatever the nature of their status or occupations. This can include sharing best practices, offering expert advice, and providing financial support for policy implementation.

Monitoring and evaluation: Establish mechanisms to monitor and evaluate the effectiveness of social protection policies. This can include conducting regular assessments and support to Member States to implement monitoring and assessment mechanisms.

6.6. Ensuring sustainable financing

To maintain and develop effective social protection systems and public services amid demographic, global, digital, and environmental changes, considerable investments are required. Achieving climate objectives and managing their outcomes also necessitates substantial financial resources. With an ageing workforce and population, there is a need to reduce reliance on financing primarily through work and individual income taxes. It is essential to identify complementary or alternative sources of funding for these long-term needs.

Recommendations for Member States:

Capital taxes: Implement taxes on capital gains and wealth to fund social policies, social protection schemes and public services to reduce income inequality and foster resilient and supportive societies. These taxes can help generate revenue for public investments while addressing wealth disparities.

Digital tool taxes: Introduce taxes on digital tools to fund, among other, digital infrastructure and training programmes. This can ensure that the digital economy contributes to the development of necessary infrastructure and skills training.

Financial transaction taxes: Implement taxes on financial transactions to reduce speculative trading and generate revenue for social investments. These taxes can help stabilise financial markets and provide funding for public services and social protection. This requires close cooperation and coordination between Member States and EU institutions.

Enhance tax enforcement: Increase resources for tax agencies to detect and prosecute fraud. Enhanced enforcement can help ensure that all individuals and companies pay their fair share of taxes.

Increase transparency: Require companies to disclose tax practices to reduce evasion and increase public trust. Transparency measures can help hold companies accountable and foster public confidence in the tax system.

Promote international cooperation: Collaborate with other nations and international institutions to combat cross-border tax evasion. International cooperation can help address tax evasion that occurs through complex global financial networks.

Recommendations for the EU level:

Digital tax: Investigate the potential for an EU-level digital tax to generate revenue for social policies and digital infrastructure. This can involve conducting feasibility studies, consulting with stakeholders, and developing implementation plans.

Financial transaction tax: Explore the implementation of a financial transaction tax to mitigate speculative trading and generate revenue for social investment initiatives. This can include researching the impact, consulting with stakeholders, and developing policy proposals.

International cooperation: Facilitate international cooperation to combat cross-border tax evasion and ensure fair taxation. This can include developing agreements, sharing information, and coordinating enforcement efforts.

Transparency measures: Implement measures and guidelines to increase transparency in financial transactions, such as requiring companies to disclose tax practices and financial activities. This can help reduce evasion and increase public trust.

Strengthen enforcement: Support Member States in strengthening tax enforcement and prosecuting tax fraud. This can involve providing technical assistance, funding, and sharing best practices. Fighting against tax havens remains crucial, both globally and in the EU.

6.7. Promoting and enhancing social dialogue

The interaction between social partners, including employers and workers, is crucial for fostering a sustainable and resilient labour markets and economy. Such dialogue plays a significant role in shaping policies that enhance living and working conditions across Member States. Effective social dialogue relies on the involvement of well-informed and capable social partners who have access to pertinent information. Additionally, it necessitates a commitment to engaging in dialogue, adherence to fundamental rights, and the freedom to associate and bargain collectively. These elements contribute to improved job quality, stronger social cohesion, and greater economic resilience.

Recommendations to Member States

Build strong institutions: Establish and strengthen institutions that support social dialogue. This means creating adequately funded and supported spaces where employers, workers, and government representatives can regularly and meaningfully engage with each other.

Facilitate social dialogue: Social dialogue plays a pivotal role in shaping inclusive labour markets, promoting training and learning and enhancing job quality in its multiple dimensions. Facilitating collaboration between trade unions, employers, and policymakers is essential for aligning workforce skills with the changing demands of the market, especially in sectors experiencing rapid technological advancements. Additionally, cross-border cooperation among unions can foster harmonised labour standards and safeguard workers' rights in a globalised economy, ensuring fair treatment and competitive equity.

Enhance wage bargaining systems: They play a crucial role in influencing labour market matching and efficiency. Coordinated wage-setting at the national or sectoral level can mitigate wage disparities, improve job quality, and facilitate labour mobility across EU Member States. Establishing frameworks for regional or sectoral wage coordination can harmonise labour market conditions and address regional employment disparities, thereby fostering a more equitable labour market.

Invest in capacity building: Provide training and resources to social partners to enhance their ability to participate effectively in social dialogue. This will empower them to contribute to policy-making processes.

Ensure inclusive participation: Make sure social dialogue includes a diverse range of voices, including representatives from various sectors and regions. This inclusivity will help address the unique needs and challenges faced by different groups within the workforce.

Protect rights: Develop and enforce legal measures that protect the rights of social partners to engage in dialogue. This includes safeguarding the freedom of association, the right to collective bargaining, and the autonomy of social partners.

Share best practices: Encourage the exchange of successful models and practices of social dialogue among member states. This can be facilitated through conferences, workshops, and online platforms that promote collaboration and knowledge sharing.

Extend coverage of collective bargaining agreements: Promote policies that extend the coverage of collective bargaining agreements to more workers, including those in non-standard forms of employment. This ensures that a larger portion of the workforce benefits from negotiated terms and conditions, leading to fairer and more equitable labour practices.

Recommendations to EU level

Support EU Social Dialogue Committees: Continue to support the work of the cross-industry Social Dialogue Committee and the Sectoral Social Dialogue Committees. These committees are vital for facilitating dialogue and negotiations between social partners at the EU level and provide guidance to their affiliates for their actions at national levels.

Involve social partners in policymaking: Ensure social partners are actively involved in the policy-making process. This means consulting them on new legislative initiatives and involving them in developing and implementing policies that affect the labour market and social conditions. For instance, European social partners have jointly signed with the European Commission in March 2025 a Pact for European Social Dialogue aimed at strengthening the role of social partners in shaping labour market, employment, and social policies.

Fund transnational projects: Provide financial support for transnational projects carried out by social partners. This can be achieved through social dialogue call for proposals, which fund initiatives that promote social dialogue, information sharing, and training measures for workers' organisations.

Use ESF+ for capacity building: Utilize the European Social Fund Plus (ESF+) to support the capacity-building of social partner organisations at the national level. This will enhance their ability to engage in social dialogue and contribute to policy-making processes.

Promote transparency and accountability: Establish clear and transparent criteria for implementing sectoral social partner agreements. This ensures agreements are implemented effectively and social partners are held accountable for their commitments.

References

- Airey, L., Lain, D., Jandrić, J., and Loretto, W. (2020). A selfish generation? ‘Baby boomers’, values, and the provision of childcare for grandchildren. *The Sociological Review*, 69(4), 812–829. Available [here](#).
- Akgüç, M., Arabadjieva, K., and Galgóczi, B. (2022). Why the EU’s patchy ‘just transition’ framework is not up to meeting its climate ambitions. ETUI Policy Brief 2022.6. European Trade Union Institute, Brussels.
- Albanesi, S., Dias da Silva, A., Jimeno, J.F., Lamo, A. and Wabitsch, A. (2023). New Technologies and Jobs in Europe. ECB Working Paper Series, No. 2023/2831. European Central Bank, Frankfurt. Available [here](#).
- Albinowski, M., and Krzakała, M. (2024). Post-COVID developments in remote work, migrations, and self-employment in the EU. WeLaR Project, Deliverable 4.4, Leuven.
- Albinowski, M., Thil, L. and Vladislavljević, M. (2023). The heterogeneous impact of the COVID-19 crisis on labour market participation in the EU. WeLaR Project, Deliverable 4.3, Leuven.
- Aloisi, A. and De Stefano, V. (2022). *Your boss is an algorithm: Artificial intelligence, platform work and labour*. Bloomsbury Publishing, London. Available [here](#).
- Andersson, M., Nerlich, C., Pasqua, C., and Rusinova, D. (2024). Massive investment needs to meet EU green and digital targets. European Central Bank, Frankfurt. Retrieved from <https://www.ecb.europa.eu/press/fie/box/html/ecb.fiebox20240>.
- André, S., Cammu, N., and Meuleman, E. (2025). Fathers, Families, and Society: A Two-Decade Systematic Literature Review on the Contexts and Consequences of Paternity and Parental Leave for Fathers. *Social Sciences*, 14(3), 168. Available [here](#).
- Antosiewicz, M., Burzyński, M., Lewandowski, P., Machado, J., Rausch, S. and Sokołowski, J. (2025). The Distributional Effects of EU Carbon Pricing. WeLaR Project, Deliverable 4.5, Leuven.
- Arnemann, L., Kalmey, T., Peña-Casas, R., Rausch, S., Stichnoth, H., and Thil, L. (2025). Taxes, social security, contributions and redistribution welfare state and public finances. WeLaR Project Policy Briefs, Deliverable 6.5, Leuven.
- Abrams, Z. (2025, January 1). The rise of the 4-day workweek. *Monitor on Psychology*, 56(1), 26. Available [here](#).
- Bănică, C. C. (2022). Economic empowerment in Romania: Intersectional exclusion of Roma women in the labour market. *Analize – Journal of Gender and Feminist Studies*, Special Issue, 76-82.
- Barbieri, P., Cutuli, G., and Scherer, S. (2024). In-work poverty in Western Europe. A longitudinal perspective. *European Societies*, 26(4), 1232–1264. Available [here](#).
- Bargain, O. (2024). Income Sources, Intra-household Allocation and Individual Poverty. *Review of Income and Wealth*; Volume70, Issue2, June 2024, Pages 291-319. Available [here](#).

- Barslund, M., Lenaerts, K., and Thil, L. (2024). Labour supply in a changing world: The effects of ageing, digitalisation, the green transition, and globalisation. *WeLaR Project Policy Briefs*, Deliverable 3.6, Leuven.
- Barslund, M. and Lenaerts, K. (2025). Labour demand in a changing world of work: global megatrends, working conditions and labour market exclusion. *WeLaR Project Policy Briefs*. Deliverable 4.6, HIVA-KU Leuven.
- Barslund, M., Lenaerts, K., Perugini, C., Pompei, F. and Thil, L. (2025). Labour market matching and quality of work in a changing world: the role of labour market regulations, collective bargaining and investments in up- and re-skilling. *WeLaR Project Policy Briefs*, Deliverable 5.6, Leuven.
- Bednorz, J, Sadauskaitė, A., Czarzasty, J., and Surdykowska, B., (2022). Unionisation and the twin transition - Good practices in collective action and employee involvement. Publication for the committee on Employment and Social Affairs, Policy Department for Economic, Scientific and Quality of Life Policies, European Parliament, Luxembourg. Available [here](#).
- Bekker, S. (2018). Flexicurity in the European Semester: still a relevant policy concept? *Journal of European Public Policy*, 25(2), 175-192. Available [here](#).
- Binder, K. (2024). Fostering participation in education and training throughout life. Briefing Note, PE 767.162 – December 2024. European Parliamentary Research Service. Available [here](#).
- Bird, E., Fox-Skelly, J., Jenner, N., Larbey, R., Weitkamp, E., and Winfield, A. (2020). The ethics of artificial intelligence: Issues and initiatives. European Parliamentary Research Service. European Parliament, Brussels. Available [here](#).
- Boehm, L., and Kläffling, D. (2024). Social and labour market impact of the green transition (EPRS Briefing PE 762.329). European Parliamentary Research Service. European Parliament. Available [here](#).
- Boeri, T., and Cahuc, P. (2022). Labour Market Insurance Policies in the XXI Century. IZA Discussion Paper No. 15601, Bonn: Institute of Labour Economics. Available [here](#).
- Bon-Maury, G., Bruneau, C., Dherbécourt, C., Diallo, A., Flamand, J., Gilles, C., and Trannoy, A. (2016). Le coût économique des discriminations. Rapport à la ministre du Travail, de l'Emploi, de la Formation professionnelle et du Dialogue social, et au ministre de la Ville, de la Jeunesse et des Sports. France Stratégie, Paris. Available [here](#).
- Boulin, J.-Y. (2024). Working time reduction with a focus on the four-day week: Literature review. Eurofound. Publications Office of the European Union, Luxembourg. Available [here](#).
- Brady, H. (2024). Breaking taboos: EU asylum and migration policy since 2020. International Center for Migrations and Policy Development. Retrieved April 2, 2025, from <https://www.icmpd.org/blog/2024/breaking-taboos-eu-asylum-and-migration-policy-since-2020>.
- Carcillo, S., and Scarpetta, S. (Eds.). (2024). Handbook on Labour Markets in Transition: Promoting Resilience in a World in Flux. Edward Elgar Publishing Limited, Cheltenham. Available [here](#).

- Castellani, D., and Lamperti, F. (2024). Aggregate megatrends and the risk of labour market exclusion across Europe. WeLaR Project, Deliverable 4.1, Leuven.
- Causa, O., Soldani, E., Nguyen, M., and Tanaka, T. (2025). “Labour shortages and labour market inequalities: Evidence and policy implications”, OECD Economics Department Working Papers, No. 1832, OECD Publishing, Paris. Available [here](#).
- Cazes, S., Hijzen, A., and Saint-Martin, A. (2015). Measuring and assessing job quality: The OECD job quality framework. OECD Publishing, Paris. Available [here](#).
- Cedefop (2020). *Empowering adults through upskilling and reskilling pathways: Vol. 2: Cedefop analytical framework for developing coordinated and coherent approaches to upskilling pathways for low-skilled adults*. Cedefop reference series, No 113. Publications Office of the European Union, Luxembourg.
- Cedefop (2021). *The green employment and skills transformation: insights from a European Green Deal skills forecast scenario*. Publications Office of the European Union, Luxembourg. Available [here](#).
- Cedefop (2022a). Setting Europe on course for a human digital transition: new evidence from Cedefop's second European skills and jobs survey. Cedefop reference series; No 123. Publications Office of the European Union, Luxembourg.
- Cedefop (2022b). Relocation 2.0: Tying adult refugee skills to labour market demand. Publications Office of the European Union, Luxembourg. Available [here](#).
- Cedefop (2023). Skills in transition: the way to 2035. Publications Office of the European Union, Luxembourg. Available [here](#).
- Center for Intersectional Justice (2019). Intersectional discrimination in Europe: Relevance, challenges and ways forward. European Network Against Racism, Brussels.
- Chung, H. (2024). Flexible working arrangements and gender equality in Europe. European Commission: Directorate-General for Justice and Consumers. Publications Office of the European Union, Luxembourg. Available [here](#).
- Claeys, G., Tagliapietra, S. and Zachmann, G. (2019). How to make the European Green Deal work. Policy Contribution, (13). Bruegel.
- Countouris, N., De Stefano, V., Piasna, A. and Rainone, S. (2023), The future of remote work, European Trade Union Institute, Brussels.
- Countouris, N., Piasna, A. and Theodoropoulou, S. (Eds.). (2023). Benchmarking Working Europe 2023 - Europe in transition - Towards sustainable resilience. Brussels: European Trade Union Institute.
- D’Aguanno, M., Guio, A.-C., Perugini, C., Pompei, F. and Van Kerm, P. (2024). Reforms, labour market outcomes and the quality of work: An analysis of the drivers of in-work poverty and of the moderating effects of reforms of family policies, labour market institutions and social protection. WeLaR Project, Deliverable 5.4, Leuven.

- Dæhlen, M. (2023). The Twin Transition Century: The role of digital research for a successful green transition of society? (The Guild Insight Paper No. 5). The Guild of European Research-Intensive Universities and Bern Open Publishing. Available [here](#).
- Dalvit, N., de Hoyos, R., Iacovone, L., Pantelaiou, I., Peeva, A. and Torre, I. (2023) “The Future of Work Implications for Equity and Growth in Europe”. The World Bank, Washington, DC.
- Daly, M. (2023). Inclusiveness and Flexibility of Income Support Policies. rEUsilience Working Paper Series, 2023:2. University of Oxford.
- Daly, M., Gosme, E., Shorey, H. and Uzunalioglu, M. (2023) Policy Priorities for Family Resilience, rEUsilience Working Paper Series: 17. University of Oxford.
- Daly, M. and Uzunalioglu, M. (2024) Analysing A Selection of Family Policies from the Perspective of Resilience, rEUsilience Working Paper Series: 13. University of Oxford.
- De Groot, D. (2024). EU legislation and policies to address racial and ethnic discrimination. European Parliamentary Research Service, Brussels.
- De Spiegelaere, S., and Piasna, A. (2017a). The why and how of working time reduction. European Trade Union Institute, Brussels.
- De Stefano, V., Durri, I., Stylogiannis, C., and Wouters, M. (2021). Platform work and the employment relationship. ILO Working Paper No. 27. International Labour Organisation, Geneva.
- Dobrotić, I., Iveković Martinis, A. (2023) Inclusiveness and Flexibility of Work Life Balance Policies. rEUsilience Working Paper Series, 2023:5. University of Oxford. Available [here](#).
- Dukelow, F. (2022). What Role for Activation in Eco-Social Policy? *Social Policy and Society*, 21(3), 496–507. Available [here](#).
- Durazzi, N., Emmenegger, P. and Felder-Stindt, A. (2024). A Continent in Search of Skills: Aiding the Twin Transition Through Skill Formation Policy. LUHNIP Working Paper 6/2024, Luiss Institute for European Analysis and Policy: Roma. Available [here](#).
- Durri, I. (2025 forthcoming). Connecting the dots between the Platform Work Directive and some existing EU social acquis: A missed opportunity for the Platform Work Directive, OSE Research Paper. European Social Observatory, Brussels.
- Durri, I., Stylogiannis, C. and Wouters M. (2025). The Platform Work Directive: A milestone or a nothingburger?, in Sabato, S Ghailani, D. and Spasova, S. (Eds) Social policy in the European Union: state of play 2024, Social Europe amidst the security and competitiveness paradigms, S., ETUI and OSE.
- Eppel, R., Huemer, U., Mahringer, H. and Schmoigl, L. (2024). Active Labour Market Policies: What Works for the Long-Term Unemployed?. *The B.E. Journal of Economic Analysis and Policy*, 24(1), 141-185. Available [here](#).

- EU-OSHA (2024a). Worker management through AI - From technology development to the impacts on workers and their safety and health, Discussion Paper. European Agency for Safety and Health at Work (EU-OSHA), Bilbao. Available [here](#).
- EU-OSHA (2024b). Exploring the gender dimension of telework: implications for occupational safety and health, Discussion Paper. European Agency for Safety and Health at Work (EU-OSHA), Bilbao. Available [here](#).
- Eurofound (2017). In-work poverty in the EU. Publications Office of the European Union, Luxembourg.
- Eurofound (2018). Employment and working conditions of selected types of platform work, Publications Office of the European Union, Luxembourg. Available [here](#).
- Eurofound (2020a). Game-changing technologies: Transforming production and employment in Europe, Publications Office of the European Union, Luxembourg.
- Eurofound (2020b). Role of social partners in tackling discrimination at work, Publications Office of the European Union, Luxembourg. Available [here](#).
- Eurofound (2021a). The digital age: Implications of automation, digitisation and platforms. Publications Office of the European Union, Luxembourg. Available [here](#).
- Eurofound (2021b). Distributional impacts of climate policies in Europe. Publications Office of the European Union, Luxembourg. Available [here](#).
- Eurofound (2021c). Working conditions and sustainable work: An analysis using the job quality framework. Challenges and prospects in the EU series. Publications Office of the European Union, Luxembourg. Available [here](#).
- Eurofound (2022). The rise in telework: Impact on working conditions and regulations, Publications Office of the European Union, Luxembourg. Available [here](#).
- Eurofound (2023a). Hybrid work in Europe: Concept and practice. Publications Office of the European Union. Available [here](#).
- Eurofound (2023b). The future of telework and hybrid work. Publications Office of the European Union. Available [here](#).
- Eurofound (2024). Keeping older workers engaged: Policies, practices and mechanisms. Eurofound working paper. Publications Office of the European Union, Luxembourg. Available [here](#).
- European Commission (2008). Commission Recommendation of 3 October 2008 on the active inclusion of people excluded from the labour market (2008/867/EC). Official Journal of the European Union, L 307, 11-14. Available [here](#).
- European Commission (2018). The Silver Economy: Final Report. Technopolis Group & Oxford Economics. Publications Office of the European Union, Luxembourg. Available [here](#).
- European Commission (2019). Future of work, future of society. Directorate-General for Research and Innovation. Publications Office of the European Union, Luxembourg. Available [here](#).

- European Commission (2019a). Final Report of the High-Level Expert Group on the Impact of the Digital Transformation on EU Labour Markets. Publications Office of the European Union, Luxembourg. Available [here](#).
- European Commission (2020a). Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions - A new Circular Economy Action Plan For a cleaner and more competitive Europe. COM/2020/98 final.
- European Commission (2020b). Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions A Union of Equality: Gender Equality Strategy 2020-2025. [COM/2020/152 final](#).
- European Commission (2020c). Employment and Social Developments in Europe: Annual Review 2020, Chapter 3: Inclusive growth and solidarity in the EU: challenges, policy levers and the way forward. Luxembourg: Publications Office of the European Union.
- European Commission (2021). Delivering the European Green Deal. European Commission. Retrieved March 18, 2025, from https://commission.europa.eu/strategy-and-policy/priorities-2019-2024/european-green-deal/delivering-european-green-deal_en.
- European Commission (2022a). Communication from the Commission to the European Parliament and the Council: 2022 Strategic Foresight Report – Twinning the green and digital transitions in the new geopolitical context, [COM\(2022\) 289 final](#), Brussels.
- European Commission (2022b). Proposal for a Council Recommendation on ensuring a fair transition towards climate neutrality, [COM\(2021\) 801 final](#), Strasbourg.
- European Commission (2022c). Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of The Regions on the European care strategy. [COM/2022/440 final](#).
- European Commission (2022d). Towards a green and digital future: Key requirements for successful twin transitions in the European Union. Publications Office of the European Union, Luxembourg. Available [here](#).
- European Commission (2023a). Employment and Social Developments in Europe, Annual Review 2023, Chapter on Addressing labour shortages and skills gaps in the EU. Publications Office of the European Union, Luxembourg. Available [here](#).
- European Commission (2023b). The future of social protection and of the welfare state in the EU. Final Report of the High-Level Expert Group on the future of social protection and of the welfare state in the EU. Publications Office of the European Union, Luxembourg. Available [here](#)
- European Commission (2023c). From Work-life Balance Policy to the European Care Strategy: Mainstreaming Care and Gender in the EU Policy Agenda. Publications Office of the European Union, Luxembourg.

- European Commission (2023d). In focus: EU investing in energy infrastructure. European Commission, Brussels. Retrieved from https://energy.ec.europa.eu/news/focus-eu-investing-energy-infrastructure-2024-10-15_en.
- European Commission (2024a). Overview and progress of the Circular Economy Action Plan. EU Tourism Platform. Retrieved from <https://transition-pathways.europa.eu/policy/overview-and-progress-circular-economy-action-plan>.
- European Commission (2024b). Employment and social developments in Europe 2024. Publications Office of the European Union, Luxembourg. Available [here](#).
- European Commission (2024c). The state of European Smart Cities: Exploring and showcasing models, solutions, and financing for European replication to achieve climate neutrality. European Climate, Infrastructure and Environment. Publications Office of the European Union, Luxembourg. Publications Office of the European Union, Luxembourg. Available [here](#).
- European Commission (2025a). *2025 Report on gender equality in the EU*. Publications Office of the European Union, Luxembourg. Available [here](#).
- European Commission (2025b). *Employment and social developments in Europe: quarterly review. January 2025 – thematic chapter on Overqualification of Migrants*. Publications Office of the European Union, Luxembourg.
- European Commission (2025c). Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and social committee and the Committee of the Regions The Union of Skills, Brussels. [COM\(2025\) 90 final](#).
- European Commission (2025d). *Smart cities: Cities using technological solutions to improve the management and efficiency of the urban environment*. Retrieved from https://commission.europa.eu/eu-regional-and-urban-development/topics/cities-and-urban-development/city-initiatives/smart-cities_en.
- European Environment Agency (2024). Employment in the environmental goods and services sector in Europe. European Environment Agency. Retrieved March 18, 2025, from <https://www.eea.europa.eu/en/analysis/indicators/employment-in-the-environmental-goods>.
- European Institute for Gender Equality. (2017). *Economic benefits of gender equality in the EU*. Publications Office of the European Union, Luxembourg. Available [here](#).
- European Institute for Gender Equality. (2024). *Gender Equality Index 2024*. Available [here](#).
- European Parliament (2021). *European Parliament resolution of 10 February 2021 on reducing inequalities with a special focus on in-work poverty*. (2019/2188(INI)). Official Journal of the European Union. Available [here](#).
- European Parliament (2022). *Mental health in the digital world of work*. European Parliament. Brussels. Available [here](#).

- European Parliament (2023). *Mental health in the EU*. European Parliament. Brussels. Available [here](#).
- European Parliament (2024). *Social and labour market impact of the green transition*. European Parliamentary Research Service. Available [here](#).
- European Parliament and Council (2019). Directive (EU) 2019/1158 of the European Parliament and of the Council of 20 June 2019 on work-life balance for parents and carers and repealing Council Directive 2010/18/EU. PE/20/2019/REV/1. OJ L 188, 12.7.2019, p. 79–93. Available [here](#).
- European Parliament and Council (2024). Directive (EU) 2024/2831 of the European Parliament and of the Council of 23 October 2024 on improving working conditions in platform work. Available [here](#).
- European Parliament and Council (2022). Directive (EU) 2022/2041 of the European Parliament and of the Council of 19 October 2022 on adequate minimum wages in the European Union. PE/28/2022/REV/1.
- European Parliament and Council (2023). *Directive (EU) 2023/970 of the European Parliament and of the Council of 10 May 2023 to strengthen the application of the principle of equal pay for equal work or work of equal value between men and women through pay transparency and enforcement mechanisms (Text with EEA relevance)*. PE/81/2022/REV/1, OJ L 132, 17.5.2023, p. 21–44. Available [here](#).
- European Trade Union Confederation (2025). *Artificial intelligence for workers, not just for profit: Ensuring quality jobs in the digital age*. Adopted at the Executive Committee meeting of 04–05 March 2025. European Trade Union Confederation. Available [here](#).
- Eurostat (2020). Ageing Europe - statistics on working and moving into retirement. Statistics Explained. European Commission. Available [here](#).
- Eurostat(2022). Sustainable development in the European Union: monitoring report on progress towards the SDGs in an EU context: 2023 edition. Publications Office of the European Union, Luxembourg.
- Eurostat (2023). EU’s population projected to drop by 6% by 2100. European Commission. Available [here](#).
- Fibbi, R., Midtbøen, A.H. and Simon, P. (2021). Consequences of and Responses to Discrimination. In: Migration and Discrimination. IMISCOE Research Series. Springer, Cham. Available [here](#).
- France Stratégie (2016). The economic cost of workplace discrimination in France: Billions of euros in lost potential. La Documentation Française, Paris. Available [here](#).
- Franklin, P., Bambra, C., and Albani, V. (2021). Gender equality and health in the EU, Publications Office of the European Union, Luxembourg. Available [here](#).
- Fraser, N., Gutiérrez, R., and Peña-Casas, R. (Eds.) (2011). Working poverty in Europe: A comparative approach. Palgrave Macmillan, London. Available [here](#).
- Gao, X. (2024). The EU’s twin transitions towards sustainability and digital leadership: a coherent or fragmented policy field?. *Regional Studies*, 59(1). Available [here](#).

- Garben, S. (2019). The European Pillar of Social Rights: An Assessment of its Meaning and Significance. *Cambridge Yearbook of European Legal Studies*, 21, 101–127. Available [here](#).
- Garrizmann, J. L. (2021). Social investment. in D. Béland, and others (Eds.), *The Oxford Handbook of the Welfare State* (2nd ed.). Oxford University Press. Available [here](#).
- Gnaedinger, A., Le Floch, M. and Stichnoth, H. (2024). The net fiscal contribution of foreigners in Germany. WeLaR Project, Deliverable 6.3, Leuven.
- Green, A., Salvi del Pero, A. and Verhagen, A. (2023). Artificial intelligence, job quality and inclusiveness. OECD (2023), *OECD Employment Outlook 2023: Artificial Intelligence and the Labour Market*, OECD Publishing, Paris. Available [here](#).
- Grip, A. de, Fouarge, D., and Schils, T. (2025). Why do low-skilled workers invest less in further training? Research Centre for Education and the Labour Market (ROA), Maastricht University. Available [here](#).
- Hacker, B. (2023). The European Pillar of Social Rights: Impact and Advancement. Somewhere between a Compass and a Steering Tool. SWP Research Paper 14. Stiftung Wissenschaft und Politik (SWP), German Institute for International and Security Affairs. Available [here](#).
- Hantrais, L. (2004). The changing family–policy relationship', *Family policy matters: Responding to family change in Europe*. Bristol. Available [here](#).
- Harasty, C., and Ostermeier, M. (2025). *Population ageing: Alternative measures of dependency and implications for the future of work*. International Labour Organisation. Available [here](#).
- Hardy, S., and Schraepen, T. (2024). The state and effects of discrimination in the European Union. OECD Papers on Well-being and Inequalities, No. 26. OECD Publishing, Paris. Available [here](#).
- Hardy, S. and Schraepen, T. (2024). The state and effects of discrimination in the European Union, OECD Papers on Well-being and Inequalities, No. 26, OECD Publishing, Paris. Available [here](#).
- Hauret, L., and Martin, L. (2024). Consequences of the expansion of work from home and digitalisation on teleworkers' work intensification, mental health and well-being. WeLaR Project, Deliverable 3.5, Leuven.
- Hötte, K., Somers, M. and Theodorakopoulos, A. (2023). Technology and jobs: A systematic literature review. *Technological Forecasting and Social Change*. 194 122750. Available [here](#).
- Igwe, C. and Amah, E. (2024). Discrimination in the Labour Market: Causes and Remedies. *International Journal of Economics, Business and Management Studies*, 10(1), 227-243. Available [here](#).
- International Labour Organisation (2023). A new social contract: Achieving social justice in an era of accelerating change. *International Journal of Labour Research*, 12(1-2). Available [here](#).
- Jančová, L., Kammerhofer-Schlegel, C. and Centrone, M. (2024). The future of EU cohesion: Scenarios and their impacts on regional inequalities: cost of non-Europe. European Parliamentary Research Service, Brussels. Available [here](#).

- Jestl, S., Leitner, S. M. and Leitner, S. (2022). The relative impact of different forces of globalisation on wage inequality: A fresh look at the EU experience. *Review of International Economics*, 30(4), 1003–1037. Available [here](#).
- Jones, K. P., Arena, D. F., Nittrouer, C. L., Alonso, N. M. and Lindsey, A. P. (2017). Subtle discrimination in the workplace: A vicious cycle. *Industrial and Organizational Psychology*, 10(1), 51-76. Available [here](#).
- Kadiri, D., Pap, M. and Baletić, B. (2023). Smart Cities: London, Paris, Barcelona, Milan - Definitions and Strategies. *PROSTOR* 2[66] 31[2023] 236-247.
- Kalmey, T. and Rausch, S. (2025). Efficiency, distributional, and fiscal effects of climate policy: The case of fossil fuel subsidies and externalities. WeLaR Project Deliverable 6.2, Leuven.
- Kapitsinis, N. (2025). Spatialities of remote work across the EU regions in the context of the Covid-19 pandemic: Regional change, factors, interlinkages. *Applied Geography*, 176, 103531. Available [here](#).
- King, S. (2022). The contextual cogs of “migrant jobs”: A comparative study of the institutional determinants of migrant marginalisation in European labour markets. *Frontiers in Political Science*, 4, 974727. Available [here](#).
- Konle-Seidl, R. (2017). Retention and Re-integration of older workers into the labour market: What works? IAB Discussion Paper, 17/2017. Available [here](#).
- Kovacic, Z., García Casañas, C., Argüelles, L., Yáñez Serrano, P., Ribera-Fumaz, R., Prause, L., and March, H. (2024). The twin green and digital transition: High-level policy or science fiction?. *Environment and Planning E*, 7(6), 2251-2278. Available [here](#).
- Lakomý M. (2023). Effects of digital skills and other individual factors on retirement decision-making and their gender differences. *European journal of ageing*, 20(1), 38. Available [here](#).
- Lane, M. and Williams, M. (2023). “Defining and classifying AI in the workplace”, OECD Social, Employment and Migration Working Papers, No. 290, OECD Publishing, Paris. Available [here](#).
- Lange, M., McNamara, S., Schmidt, P., Barreto Sanchez, C., Sommerfeld, K., and Streng, M. (2024). Migration and integration in European labour markets. WeLaR Project, Deliverable 5.5, Leuven.
- Leitner, S. M., Hauret, L., Holtgrewe, U. and Martin, L. (2024). Offshoring, technological change and the quality of work in the EU: On the mediating role of trade unions. WeLaR Project, Deliverable 5.3, Leuven.
- Leitner, S. M., Lewandowski, P., Sabouniha, A. and Szymczak, W. (2024). Offshoring, technological change, labour market institutions and the demand for typical and atypical employment in Europe. WeLaR Project, Deliverable 4.2, Leuven.
- Lenko, M., Refle, J.E., Burton-Jeangros, C., Fakhoury, J., Consoli, L. and Jackson, Y. (2024). Migrant Work Conditions and Health Status—A Longitudinal Study on ‘Dirty Work’ Among Undocumented and

- Newly Regularized Workers. *Journal of International Migration and Integration*. Springer. Available [here](#).
- León, M., Cerrillo, I. (2023) Inclusiveness and Flexibility of Care Policies. rEUsilience Working Paper Series, 2023:4. University of Oxford. Available [here](#).
- Lewandowski, P., Perugini, C., Pompei, F., Thil, L., Tverdostup, M. and Szymczak, W. (2024). Fertility, household models and labour market outcomes in EU countries. WeLaR Project, Deliverable 3.2, Leuven.
- Lippens, L., Vermeiren, S., Baert, S. (2023). The state of hiring discrimination: A meta-analysis of (almost) all recent correspondence experiments. *European Economic Review*, Volume 151, 2023, 104315. Available [here](#).
- Loorbach, D., Wittmayer, J., Avelino, F., von Wirth, T. and Frantzeskaki, N. (2020). Transformative innovation and translocal diffusion. *Environmental Innovation and Societal Transitions*, Volume 35, 251-260. Available [here](#).
- Lutz, W., Goujon, A., Samir, K.C. S., Stonawski, M. and Stilianakis, N. (2018). Demographic and Human Capital Scenarios for the 21st Century: 2018 assessment for 201 countries, EUR 29113 EN. Publications Office of the European Union, Luxembourg. Available [here](#).
- Mäkitie, T., Hanson, J., Damman, S., and Wardeberg, M. (2023). Digital innovation's contribution to sustainability transitions. *Technology in Society*, Volume 73, 2023. Available [here](#).
- Markevičiūtė, J. (2023). Investments in achieving EU digital and green transitions: Challenges and opportunities. *Journal of European Policy Studies*, 12(3), 45-67. Available [here](#).
- Markkanen, S., and Anger-Kraavi, A. (2019). Social impacts of climate change mitigation policies and their implications for inequality. *Climate Policy*, 19(7), 827–844. Available [here](#).
- Martin, J. P., and Grubb, D. (2021). What Works and for Whom: A Review of OECD Countries' Experiences with Active Labour Market Policies. *Swedish Economic Policy Review*, 8(2), 9-56. *Swedish Economic Policy Review*, Stockholm. Available [here](#).
- Matti, C., Jensen, K., Bontoux, L., Goran, P., Pistocchi, A. and Salvi, M. (2023). Towards a fair and sustainable Europe 2050: Social and economic choices in sustainability transitions, Publications Office of the European Union, Luxembourg. doi:10.2760/804844.
- Maucorps, A., Römisch, R., Schwab, T. and Vujanović, N. (2023). The Impact of the Green and Digital Transition on Regional Cohesion in Europe. *Intereconomics*, Volume 58 (2023): Issue 2, 102–110. Available [here](#).
- Milotay, N. (2018). *Social protection in the EU: State of play, challenges and options*. European Parliamentary Research Service. Available [here](#)

- Muñoz De Bustillo Llorente, R. (2024). A Critical Review of the Digital and Green Twin Transitions. Implications, synergies and trade-offs. JRC Working Papers Series on Labour, Education and Technology 2024/07, Publications Office of the European Union, Luxembourg. Available [here](#).
- Natale, F., Grubanov-Boskovic, S., Sebastian, R. and Biagi, F. (2018) Migrant workers and the digital transformation in the EU, Publications Office.
- Neal, D., and Mukherjee, D. (2019). The growing income inequality between high-skilled and low-skilled workers: Is the great decoupling responsible? CBER Conference Proceedings, 1-18. Available [here](#)
- Neumark, D. Burn, I., Button, P. (2019). Is It Harder for Older Workers to Find Jobs? New and Improved Evidence from a Field Experiment, Journal of Political Economy, vol 127(2), pages 922-970. Available [here](#).
- Nguyen-Thi, T. U., Barslund, M., Ivkovic, I., Milinkovic, A., and Tobback, I. (2024). Effects of technological progress on the decision to retire early: Evidence for Europe. WeLaR Project, Deliverable 3.1, Leuven.
- Niebler, V. (2025). What is a tech worker, really?. On the meanings and meaning- making of a term. Labour and globalisation. 2025. Vol. 19(1):14-30. Pluto Journals, London. DOI: 10.13169/workorgalaboglob.19.1.0014.
- Nieuwenhuis, R., and Maldonado, L. C. (2017). Single-parent families and in-work poverty .(LIS Working Paper Series, No. 687). Luxembourg Income Study (LIS). Available [here](#).
- Nitschke, J. (2023). Realities of the Twin-Transition: EU Research Funding, Artificial Intelligence and the European Green Deal. EuroMemo Discussion Paper No. 01/2023. Available [here](#).
- Noonan, E., and Rusu, A. (2022). *The future of climate migration*. European Parliamentary Research Service, European Parliament. Available [here](#).
- OECD (2019). Working Better with Age, Ageing and Employment Policies, OECD Publishing, Paris. Available [here](#).
- OECD (2019). The Road to Integration: Education and Migration. OECD Reviews of Migrant Education. OECD Publishing, Paris. Available [here](#).
- OECD (2020). Beyond Growth: towards a new economic approach. New Approaches to Economic Challenges. OECD Publishing, Paris. Available [here](#).
- OECD (2021). “Building inclusive labour markets: Active labour market policies for the most vulnerable groups”, OECD Policy Responses to Coronavirus (COVID-19), OECD Publishing, Paris. Available [here](#).
- OECD (2021a). International Migration Outlook 2021 - Chapter 4: The fiscal impact of immigration in OECD countries since the mid-2000s. OECD Publishing, Paris. Available [here](#).
- OECD (2021b). “The inequalities-environment nexus: Towards a people-centred green transition”, OECD Green Growth Papers, No. 2021/01, OECD Publishing, Paris. Available [here](#).

- OECD (2021a). The Digital Transformation of SMEs. OECD Publishing. Retrieved from <https://www.oecd.org/publications/the-digital-transformation-of-smes-9789264303835-en.htm>.
- OECD (2022), OECD Employment Outlook 2022: Building Back More Inclusive Labour Markets, OECD Publishing, Paris. Available [here](#).
- OECD (2023). How Green is Household Behaviour?: Sustainable Choices in a Time of Interlocking Crises. OECD Studies on Environmental Policy and Household Behaviour, OECD Publishing, Paris. Available [here](#).
- OECD (2023). Unpacking public and private efforts on just transition. OECD Policy Insights on Well-being, Inclusion and Equal Opportunity, No. 9. OECD Publishing, Paris. Available [here](#).
- OECD (2023a). Job Creation and Local Economic Development 2023: Bridging the Great Green Divide. OECD Publishing, Paris. Available [here](#).
- OECD (2023b). OECD Employment Outlook 2023: Artificial Intelligence and the Labour Market. OECD Publishing, Paris. Available [here](#).
- OECD (2024a). Lifelong learning and adult education in Europe: A comprehensive overview. Retrieved from [here](#).
- OECD (2024b), Megatrends and the Future of Social Protection, OECD Publishing, Paris. Available [here](#).
- OECD (2024c). Promoting Better Career Choices for Longer Working Lives: Stepping Up Not Stepping Out, Ageing and Employment Policies, OECD Publishing, Paris. Available [here](#).
- OECD (2024d). International Migration Outlook 2024, Chapter 4: Migrant entrepreneurship in OECD countries. OECD Publishing, Paris. Available [here](#).
- OECD (2025). A place-based approach to climate action and resilience. OECD Net Zero+ Policy Papers, No. 8, OECD Publishing, Paris. Available [here](#).
- OECD (2025). Strategic foresight toolkit for resilient public policy: a comprehensive foresight methodology to support sustainable and future-ready public policy. OECD Publishing, Paris. Available [here](#).
- Orr, D., Pupinis, M. and Kirdulytė, G. (2020). Towards a European approach to micro-credentials: A study of practices and commonalities in offering micro-credentials in European higher education. Luxembourg: Publications Office of the European Union. Available [here](#).
- Özgüzel, C., Luca, D. and Z. Wei (2023). “The new geography of remote jobs? Evidence from Europe”, OECD Regional Development Papers, No. 57, OECD Publishing, Paris.
- Parent-Thirion, A., Wukovits-Votzi, N. and Muller, J. (2025). Future-oriented occupations in the EU: main features, employment conditions, and job strain, Publications Office of the European Union, Luxembourg. Available [here](#).
- Pekanov, A. (2024). The Future of the EU Single Market Report – a Critical Review. Austrian Institute of Economic Research (WIFO), Vienna. Available [here](#).

- Peña-Casas, R. and Ghailani, D. (2011). Towards individualizing gender in-work poverty risks. In Fraser, N., Gutiérrez, R., and Peña-Casas, R. (Eds.). *Working poverty in Europe*. Palgrave Macmillan, Basingstoke. Available [here](#).
- Piasna, A. (2023). Job quality in turbulent times: An update of the European Job Quality Index. European Trade Union Institute (ETUI), Brussels, Belgium. Available [here](#).
- Piasna, A. (2024). Job quality and digitalisation. Working Paper 2024.01. European Trade Union Institute, Brussels. Available [here](#).
- Piasna, A., Cetrulo, A., and Moro, A. (2024). Negotiating working time reduction. Working Paper 2024.12. European Trade Union Institute. Available [here](#).
- Piketty, T., Saez, E. and Zucman, G. (2023). Rethinking capital and wealth taxation. *Oxford Review of Economic Policy*, 39(4), 575–591. Available [here](#).
- Pisani-Ferry, J. and S. Tagliapietra (2024). ‘An investment strategy to keep the European Green Deal on track, Policy Brief 31/2024, Bruegel, Brugge. Available [here](#).
- Polvinen, A., Riekhoff, A.J., Nivalainen, S. and Kuivalainen, K. (2025). Patterns of work and retirement in a pension system with a flexible old-age retirement age: a register study of Finnish employees and self-employed persons born in 1949, *Work, Aging and Retirement*, Volume 11, Issue 1, January 2025, Pages 119–125. Available [here](#).
- Ponce del Castillo, A. (Ed.) (2024). *Artificial intelligence, labour and society*. European Trade Union Institute, Brussels. Available [here](#).
- Ponce Del Castillo, A. and Molè, M. (2024). Worker monitoring vs worker surveillance: the need for a legal differentiation. in Ponce del Castillo, A. (Ed.). (2024). *Artificial intelligence, labour and society*. European Trade Union Institute, Brussels.
- Ponthieux, S. (2017). Intra-household pooling and sharing of resources: a tentative ‘modified’ equivalised income in Atkinson, A. B., Guio, A.-C., and Marlier, E. (Eds.). (2017). *Monitoring social inclusion in Europe*. Publications Office of the European Union, Luxembourg. Available [here](#).
- Potančoková, M., Marois, G. and Bijak, J. (2023). High-Migration Events and Future Labour Force in Europe. Population and Policy Brief 39, Berlin: Max Planck Society/Population Europe. Available [here](#).
- Pulignano V., Piasna A., Domecka M., Muszynski K. and Vermeerbergen L. (2021). Does it pay to work? Unpaid labour in the platform economy. ETUI Policy Brief 2021.15. ETUI, Brussels.
- Pusterla Piccin, F. (2024). EU Member States and the Challenge of International Migration. LSE International Development. Available Retrieved April 2, 2025, from [here](#).
- Ratti, L., (2023). The Sword and the Shield: The Directive on Adequate Minimum Wages in the EU, *Industrial Law Journal*, Volume 52, Issue 2, June 2023, Pages 477–500. Available [here](#).

- Righettini, M. S., and Lizzi, R. (2021). How scholars break down “policy coherence”: The impact of sustainable development global agendas on academic literature. *Environmental Policy and Governance*, 31(6), 1-15. Available [here](#).
- Roosmaa, E.L., and Saar, E. (2017). Adults who do not want to participate in learning: a cross-national European analysis of their perceived barriers, *International Journal of Lifelong Education*, 36:3, 254-277. Available [here](#).
- Rueda Cantuche, J., Pinero Mira, P. and Kutlina-Dimitrova, Z. (2021). *EU Exports to the World: Effects on Employment*. European Commission: Joint Research Centre, Publications Office of the European Union, Luxembourg. Available [here](#).
- Sabato, S. and Vanhille, J. (2024). *The European Green Deal and the ‘Leave No One Behind’ Principle: State of the Art, Gaps and Ways Forward*. OSE Research Paper No. 63. Brussels: European Social Observatory.
- Saez, E. and Zucman, G. (2019). *Progressive wealth taxation*. *Brookings Papers on Economic Activity*, Fall, 437-533. Washington: Brookings Institution Press. Available [here](#).
- Scherger, S. (2021). *Flexibilizing the retirement transition: Why, how and for whom? Conceptual clarifications, institutional arrangements and potential consequences*. *Frontiers in Sociology*, 6. Frontiers Media. Lausanne, Switzerland. Available [here](#).
- Schwab, K. (2018). *Globalisation 4.0: Shaping a New Global Architecture in the Age of the Fourth Industrial Revolution*. World Economic Forum. Davos. Available [here](#).
- Schwarz, A-M. (2021). *In-work poverty in the EU: A gendered decomposition analysis*. Momentum Kongress, September 16, 2021. Available [here](#).
- Schwarz, A-M. (2023). *Flying to Mars and Venus - the gendered nature of in-work poverty in Europe*. WU Vienna University of Economics and Business. Department of Economics Working Paper Series No. 348. Vienna.
- Simon, T. (2024). *The Filipino workers at the sharp end of AI*. *HesaMag*, 29 Winter 2024:18-22. ETUI, Brussels.
- Simons, W., Turrini, A., and Vivian, L. (2024). *Artificial Intelligence: economic impact, opportunities, challenges, implications for policy*. *European Economy Discussion Paper 210*. Publications Office of the European Union, Luxembourg.
- Touzet, C. (2023). *“Teleworking through the gender looking glass: Facts and gaps”*. *OECD Social, Employment and Migration Working Papers*. No. 285. OECD Publishing, Paris.
- Urzí Brancati, M.C. (2024). *Digital technologies at work and psychosocial risks: evidence and implications for occupational safety and health*. European Agency for Safety and Health at Work (EU-OSHA). Bilbao.
- van den Boom, J. (2023). *Regulating competition in the digital network industry: A proposal for progressive ecosystem regulation*. (Doctoral thesis, Tilburg University). Tilburg University Research Portal.

- Vandeplass, A., Vanyolos, I., Vigani, M., and Vogel, L. (2022). The Possible Implications of the Green Transition for the EU Labour Market. European Economy Discussion Papers n°176. Publications Office of the European Union, Luxembourg. Available [here](#).
- Vassilakopoulou, P., and Hustad, E. (2023). Bridging Digital Divides: a Literature Review and Research Agenda for Information Systems Research. *Information systems frontiers: a journal of research and innovation*, 25(3), 955–969. Available [here](#).
- Verdolini, E. (2023). Interlinkages between the just ecological transition and the digital transformation. Working Paper WP 2023.01. European Trade Union Institute, Brussels. Available [here](#).
- Vona, F. (2023). Managing the distributional effects of climate policies: A narrow path to a just transition, *Ecological Economics*. Volume 205,2023,107689. Available [here](#).
- Widuto, A. (2023). Energy poverty in the EU. Policy Brief - European Parliamentary Research Service. Available [here](#).
- World Economic Forum (2025). The Future of Jobs Report 2025. World Economic Forum? Davos. Available [here](#).
- Wotschack, P. (2020). When do companies train low-skilled workers? The role of institutional arrangements at the company and sectoral level. *British Journal of Industrial Relations*, 58(3), 587–616. Available [here](#).
- Zacharenko, E. and Elomäki, A. (2022). Constructions of Care in EU Economic, Social, and Gender Equality Policy: Care Providers and Care Recipients versus the Needs of the Economy? *Social Politics: International Studies in Gender, State and Society*, Volume 29, Issue 4, Winter 2022, Pages 1314–1335. Available [here](#).
- Zilian, S. and Thil, L. (2024). Atypical work and intra-EU mobility patterns. WeLaR Project, Deliverable 3.3, Leuven.

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