



EU Labour Market: Liberal Solutions to Retain, Attract and Innovate

**Edited by
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ISBN: 978-2-39067-102-2

This publication was co-financed by the European Parliament. The European Parliament is not responsible for the content of this publication, or for any use that may be made of it.



Table of Contents

Foreword 6

Hristo Petrov, Member of the European Parliament, Renew Europe Group, Committee on Employment and Social Affairs

Introduction by the Editors 8

Zinaida Zlatanova, Board Member at Liberal Institute for Political Analyses, EU Policy Expert | Advocate for Sustainable Development,

Sofia Mørch, Governance Fellow at The European Liberal Forum,

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Chapter 1 12

Freedom and Fairness: Towards a Flexible Labour Market

Henrik Bach Mortensen, Vice President Liberal International, former Vice President ALDE

Benjamin Robitaille, Research Fellow at the European Liberal Forum

Chapter 2 28

Investing in the Future: The Liberal Case for Expanding Early Childhood Education and Care

Dr. Clemens Ableidinger, Senior Researcher at NEOS Lab, Austria

Chapter 3 40

Bridging Gaps, Not Borders: Circular Migration for a Balanced EU Labour Market

Odilia Abreu, Senior Fellow. Friedrich Naumann Foundation for Freedom (FNF) Europer

Chapter 4 55

Brain Drain and Brain (Re)Gain

Table of Contents

Cristian David, Coordinator, Society 6.0 Competence Center, ICI
Bucharest

Chapter 5 70

Bridging the Digital Skills Gap: Rethinking Education and Career in the Age of AI

Joana de Matos Monteiro, IT professional and Political Opinion
Writer

Chapter 6 83

The Age Of Collaboration: Managing Multigenerational Talent

Dr. Christina Christova, Former Bulgarian Minister of Labour and
Social Policy

Chapter 7 97

From Barriers to Bridges: A Liberal Framework for Labour Inclusion and Mobility in the EU

Constantinos Saravakos, Head of Research, KEFIM

Chapter 8 113

Generative Artificial Intelligence in Higher Education: Implications for the Future European Labour Market

Dejan Ravšelj, PhD, Assistant Professor at the Chair of Economics and Public Sector Management, Faculty of Public Administration, University of Ljubljana, Slovenia

Aleksander Aristovnik, PhD, Executive director of Zavod 14 and a Full Professor at the Faculty of Public Administration, University of Ljubljana, Slovenia

Table of Contents

Chapter 9	127
-----------	-----

Workforce Analytics as a Liberal Lever for Innovation in the EU Labour Market

Riccardo Fratini, Research fellow in labour law – University of 'Roma Tre'

Contributors	151
--------------	-----

About the Publishers	154
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Foreword



Hristo Petrov

Member of the European Parliament, Renew Europe Group, Committee on Employment and Social Affairs

The European Union is the best place in the world to work and live. Our social market economy model is a competitive advantage for retaining our talents and attracting others from across the globe, thanks to favourable working conditions and a high standard of living. We must use EU legislation, policies, funding and tools to ensure that this remains the case and support certain sectors to improve their working conditions as well as reinforce their value.

A clear example is the early childhood sector, which is currently not recognised for its true worth. Yet early childhood education and care services (ECEC) are essential not only for ensuring children's overall development, but also for enabling parents to remain in or return to the labour market. This is a key issue for activating a significant share of the inactive working-age population. It is in this regard that some social spending, such as funding for ECEC, have a positive impact on our societies and should be more accurately considered a social investment.

However, this is only one of the ways to boost our labour markets and activate all the talents in our Union. In the interests of inclusion, but also competitiveness, there are many groups that could benefit from active labour market policies, foremost among them Roma, young people neither in employment nor in education and training (NEETs), women and persons with disabilities. One innovative tool is the recognition and validation of prior or informal learning. Many people have expertise and know-how, but do not have official recognition for it. By making these procedures more accessible, we could improve the qualifications of the

those furthest from employment and promote their integration.

It is also essential to bridge the skills mismatches by modernising our education systems, investing in Vocational education and training (VET), and embracing lifelong learning. There is too much of a gap between workers' skills and companies' expectations. In a constantly changing world of work, with the booming development of digital tools and the use of artificial intelligence, we need training that helps workers keep up with the pace of change.

Finally, we must tackle the issue of social cohesion between the EU's various regions. We must ensure that certain territories do not fall into a talent development trap where educational and employment opportunities, as well as basic infrastructures, become scarce. It is important to revitalise these areas, create new opportunities, but also facilitate the use of flexible or remote working, in order to encourage a return of the workforce and enable what Enrico Letta has called the "freedom to stay".

Introduction

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The EU's economy is facing profound structural challenges: demographic shifts, skills mismatches, and persistent barriers to mobility. An aging population, regional disparities in workforce development, and rising global competition for talent compound these strains. The adaptation of the EU to the rapid societal changes and their consequences should be a concern for the entire political spectrum. This publication is based on the conviction that a well-functioning labour market is essential to meeting the EU's aspirations for a rapid economic transformation, technological leadership, and social cohesion – all at once. We are guided by the belief that liberal approaches such as openness, mobility, and flexibility can contribute to addressing labour market challenges in a way that enhances efficiency and adaptability while preserving the core strengths and the social achievements of the European economic model. These approaches should be underpinned by technology and could be accompanied by targeted and fit-for-purpose public support mechanisms, rather than relying on excessive regulatory intervention.

This publication emerges from the collaboration between the European Liberal Forum and the Liberal Institute for Political Analyses. It presents nine thought-provoking contributions from researchers and policymakers across Europe. Together, they offer a compelling mosaic of ideas to retain, attract, and innovate within the EU labour market. The aim is twofold: first, to identify the barriers that prevent the EU from realizing a truly integrated internal labour market; and second, to offer actionable, liberal policy recommendations to bridge skills gaps, unlock human potential, and future-proof the European economy.

Across the contributions, several common themes recur:

- *Skills mismatch and educational inertia*: As technological and ecological transitions reshape job profiles, education systems remain slow to respond. The labour market increasingly demands digital and green skills, which institutions are only beginning to prioritize.
- *Labour shortages and demographic decline*: The aging of Europe's workforce is accelerating, with certain regions and sectors facing urgent worker deficits.
- *Unequal mobility and internal imbalances*: The unified EU labour market is still to be completed. Persistent barriers, such as divergent social security systems, unrecognized qualifications, and language requirements, continue to hinder internal and external mobility and integration.
- *Underutilization of talent pools*: Women, migrants, elderly workers, and youth are still underrepresented due to insufficient inclusion policies, lack of affordable childcare, inadequate up-skilling support, and rigid workplace structures.
- *Brain drain vs. brain regain*: The freedom of movement has led to East-to-West labour migration, creating imbalances. However, return migration and remote work open new possibilities for reversing talent loss.

Liberal takeaways and solutions

A liberal labour market is one that is open, flexible, dynamic, and inclusive. It empowers individuals to make choices, promotes fair competition, and respects both market efficiency and social protection. We are aware that the topic of the labour market is comprehensive, with various dimensions ranging from macroeconomic to cultural. Our ambition is not to provide a precise and definitive recipe, but to provoke awareness among decision-makers to consider some pressing problems and the feasibility of certain liberal solutions to certain issues.

The nine publications offer and provoke reflection on the following topics:

1. Reimagining workforce governance: flexibility with fairness

Henrik Bach Mortensen argues for a more flexible and efficient European labour market that builds on the principles of open competition, voluntary agreements, and worker empowerment. From a liberal perspective, flexibility must be balanced with fairness: policy should aim to ensure

full employment and attractive working conditions while respecting market dynamics. The piece warns against rigid regulation and instead calls for context-specific solutions—be it through collective bargaining or national law.

2. Investing in early childhood education as economic infrastructure

Dr. Clemens Ableidinger makes a powerful economic case for the expansion of early childhood education and care (ECEC). High-quality, accessible ECEC not only supports children's development but also enables greater labour force participation, especially among women. Liberal policies should embrace ECEC not as a welfare cost but as a foundational investment in inclusive growth and long-term competitiveness.

3. A circular migration for win-win mobility

Odilia Abreu's article presents circular labour migration as a liberal and pragmatic response to skill shortages. Circular migration aligns with liberal values of open markets, legal pathways, and cooperation with third countries. Successful examples from Spain and Germany show that structured, temporary migration can fill critical gaps while also benefitting origin countries through remittances and skills transfer.

4. Turning brain drain into a common gain

The paper on brain drain explores how free movement has created unintended consequences for eastern and southern EU member states. However, it also presents liberal responses: encouraging return migration, supporting remote work, and building diaspora networks for knowledge transfer. Instead of restricting movement, liberals should embrace brain circulation as a dynamic model of mobility.

5. Closing the digital skills gap through educational reform and AI tools

Joana Monteiro highlights how AI and digitalization are reshaping the labour landscape. She urges a radical shift in career guidance and vocational training by using AI not as a threat but as a tool for personalized learning and future job matching. Liberals should champion educational systems that are flexible, data-informed, and inclusive of all learners, particularly NEET youth.

6. Embracing intergenerational diversity in the workplace

Christina Christova addresses the demographic shift by exploring how generational collaboration can enhance resilience. Europe's aging

population is not a liability, she argues, but a source of experience and continuity. Through flexible work arrangements, lifelong learning, and inclusive HR practices, liberal policies can harness the strengths of every generation.

7. Breaking down mobility barriers: from fragmentation to freedom

Constantinos Saravakos points to systemic obstacles preventing the full realization of the EU's internal labour market from bureaucracy to social security fragmentation. His liberal vision includes simplifying qualification recognition, aligning skills with labour demand, and enhancing integration frameworks for migrants.

8. Reforming higher education for an AI-facilitated future

Ravšelj and Aristovnik explore how generative AI is reshaping both higher education and the future labour market. They emphasize that universities must evolve to prepare students not only for current job markets but for those yet to emerge. From a liberal viewpoint, this means fostering critical thinking, diversity of perspectives, and AI literacy.

9. Unlocking Workforce Analytics through Smart Regulation

Riccardo Fratini advocates for workforce analytics as a means to improve recruitment, retention, and performance. But legal uncertainty under GDPR and the AI Act questions its full potential. Liberals should champion regulatory clarity via sandboxes, risk-based oversight, and innovation-friendly frameworks that protect rights without hindering innovation.

The EU cannot meet its ambitions with 20th-century tools. The labour market of the future must be agile, inclusive, and innovation-driven. That means:

- Fostering *lifelong learning* and ensuring *skills mobility* across borders and sectors;
- Supporting *regulated migration* as a lever of economic growth;
- Creating *inclusive workplaces* that leverage generational, gender, and cultural diversity;
- Using *technology* not as a threat to workers, but as a tool for empowerment.

Above all, it means trusting individuals and businesses, under the right conditions, to drive progress.

Chapter 1

Freedom and Fairness: Towards a Flexible Labour Market

Chapter 1

Freedom and Fairness: Towards a Flexible Labour Market

Henrik Bach Mortensen

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Introduction

Europe's labour market stands at a critical juncture. Long celebrated as one of the cornerstones of the European project, it combines the liberal achievement of free movement with a dense network of rules intended to protect workers and ensure social fairness. The result is a system more protective than its North American counterparts and more integrated than any other regional labour market. Yet beneath this strength lie persistent tensions: rules that impede adaptation, entitlements that do not travel cleanly across jobs and borders, and a widening gap between the skills Europe produces and those its firms need.

From a liberal perspective, the point of departure is always the efficiency of free markets. Left to function without distortion, an ideal labour market allocates labour to its most productive uses, sets wages in line with productivity, and rewards innovation¹. However, labour is not a commodity: workers cannot simply be 'reallocated' without real social consequences

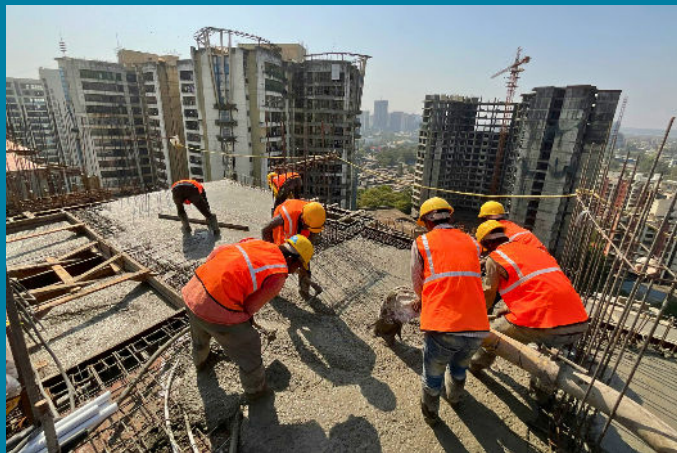
1 See e.g. [A Free Market for All - DRUKKLAAR.indd](#)

for individuals, households, and communities. That is why Europe has layered rules on working time, work–life balance, equal treatment, and minimum wage adequacy, and why it coordinates core social security rights so that mobility does not compromise protection. Properly designed, these instruments are not anti-market but market-enabling, making adjustments politically and socially sustainable.

Even so, fragmentation persists. The relative weight of national governments, EU institutions, and social partners varies significantly across Member States, resulting in uneven rules and incentives. This unevenness manifests in three interlocking challenges that threaten Europe’s ability to combine dynamism with fairness: rigid adjustment rules that constrain flexibility and mobility; demographic decline and skill mismatches that weaken the supply of labour; and uneven empowerment that leaves many workers without real choice or fair wages.

This chapter analyses these challenges through a liberal lens, using three core functions as its analytical framework: flexibility and mobility, an abundant and high-quality supply of labour, and worker empowerment with fair wages. It concludes with policy recommendations to make rights portable, training continuous, and institutions adaptable. In doing so, it anchors the more specialised reforms developed in subsequent chapters of this volume.

Left to function without distortion, an ideal labour market allocates labour to its most productive uses, sets wages in line with productivity, and rewards innovation.



1. Unravelling the structural obstacles to the European labour market

A patchwork of models

Europe's labour market has always been distinctive in global comparison. It is shaped by a combination of local and national governments, European Union directives, and unions and employer associations negotiating through social dialogue. This hybrid model has delivered undeniable achievements, including relatively low inequality – the EU's Gini coefficient is around 29 compared to over 39 in the U.S.² – stronger protections against precarity, and a degree of cross-border mobility unmatched elsewhere, with over 16 million citizens living and working in another Member State. Yet the relative influence between these labour market actors is uneven, producing a fragmented landscape marked by sharp local, national and regional differences.

The form and substance of interventions also vary widely, not only because of the environments and scales in which actors operate, but also because of the political aims each actor represents and advances. National traditions and legislation vary significantly from one EU country to another, with some countries delegating a very large share of regulation in the hands of the union and employer organisations ('social partners'). In others, social partners are weaker and much more emphasis is put on legislation, including EU regulation.

For instance, in the Nordic countries, such as Denmark and Sweden, strong unions and employer associations regulate most of the labour market through collective bargaining, with legislation playing only a limited role. In systems such as France, Italy, and Spain, the state dominates through dense employment protection laws, while social partners play a weaker role. In Central and Eastern Europe, collective bargaining coverage is minimal – only about 15% of workers in Estonia are covered compared with over 80% in Sweden, leaving markets more lightly regulated and wages lower. Southern

2 The Gini coefficient measures income inequality on a scale from 0 (perfect equality) to 100 (maximum inequality). https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Living_conditions_in_Europe_-_income_distribution_and_income_inequality

The aim is clear: to reinforce minimum floors and collaborative institutions, while leaving space for national diversity.

Europe combines heavy statutory rules with weak enforcement and limited social-partner capacity, contributing to persistently high youth unemployment.

From a liberal standpoint, there is no automatic preference for legislation over social-partner agreements, or vice versa. What matters is whether the chosen instrument delivers broad coverage without entrenching insider-outsider divides and remains responsive to changing conditions. In systems where social-partner capacity is weak,

statute will often need to play a larger role; where it is strong, collective agreements can deliver finely tuned outcomes.

The EU's role in harmonisation

Precisely because this balance between interfering actors varies so widely across Europe, the EU has increasingly stepped in to establish minimum standards, seeking to ensure that disparities in national arrangements do not undermine fairness or mobility across the Single Market. Alongside its long-standing labour-law acquis, the EU adopted the Directive on Adequate Minimum Wages (2022)³ and, in March 2025, concluded a Pact for European Social Dialogue⁴ with cross-industry social partners to strengthen the role of collective bargaining in shaping employment policy. The aim is clear: to reinforce minimum floors and collaborative institutions, while leaving space for national diversity.

Yet these EU measures remain partial. While they set important baselines, implementation and enforcement are patchy, and effectiveness depends heavily on national institutions.

Emerging structural pressures

Against this institutional backdrop, three structural pressures continue

3 <https://eur-lex.europa.eu/eli/dir/2022/2041/oj/eng>

4 https://employment-social-affairs.ec.europa.eu/news/commission-and-social-partners-sign-joint-pact-strengthen-social-dialogue-europe-2025-03-05_en

to place the European labour market under strain. First, it remains insufficiently flexible and mobile: dismissal rules discourage hiring, portability of entitlements is partial, and mobility rights are underused. Second, the supply of labour is inadequate and often misaligned, as demographic decline reduces the working-age population while persistent skills mismatches leave vacancies unfilled. Third, worker empowerment and fair wages are unevenly applied. Rights exist on paper but are not always accessible in practice, and too many workers lack the security or bargaining power to make real choices.

The liberal challenge, then, is not to remove regulation altogether, but to ensure that rules are designed to empower across the market, rather than entrench the current setup. Interventions should focus on protecting people rather than jobs, on making rights portable and usable, and on ensuring that education, training, and migration systems supply the labour Europe needs. The next section examines these issues in greater detail.

Labour market flexibility and mobility

A dynamic labour market depends on two qualities above all: the capacity of firms to adapt, and the ability of workers to move. Flexibility captures whether companies can expand or contract their workforce in response to shifting demand and technological change. Mobility reflects whether workers can carry their skills and entitlements across jobs, sectors, and borders in pursuit of better opportunities. Taken together, these features determine how easily Europe's labour markets can adjust to shocks, reallocate talent, and sustain competitiveness.

Yet across the Union, both qualities remain constrained. Many Member States maintain restrictive dismissal rules designed to shield workers from job loss. To the average individual, this may provide stability and a sense of security in their present job; however, such shielding hampers a company's ability to adjust employment to match their demands, subsequently exposing the company to suboptimal costs. These mechanisms also cement the 'last in, first out' principle, where workers with the highest seniority keep their jobs while younger, newly employed (and sometimes better qualified) persons are fired first. OECD Employment Protection Legislation (EPL)⁵ indicators show

5 Nicoletti, G., Scarpetta, S., & Boylaud, O. (2000). Summary indicators

significant differences across Member States when it comes to rules on hiring and firing. Denmark (1.94) and Estonia (1.93) rank among the least restrictive on dismissals, while France (2.68), Italy (2.86), Spain (2.43), and the Netherlands (2.88) remain considerably more restrictive. Such rigidity for the latter cases often discourages hiring altogether, particularly for younger workers or those with unconventional profiles, reinforcing dual labour markets of secure ‘insiders’ and precarious ‘outsiders.’

Mobility is hampered in similar ways. The European labour market is, in principle, open to all citizens to seek employment in any Member State. This free movement of labour is one of the liberal jewels of European integration, underpinning both prosperity and opportunity. However, in practice, workers often hesitate to cross borders because their rights do not follow them – there is thus an issue of ‘portability’. Public pensions are largely coordinated within the EU, but occupational and private schemes often remain ‘locked’ in one country.

Problematically, a 2022 report by the European Court of Auditors concluded that EU initiatives like the Pan-European Personal Pension (PEPP)⁶ had so far failed to achieve meaningful uptake, limiting true cross-border flexibility. Health coverage, parental leave entitlements, and unemployment benefits also vary widely in their transferability, discouraging people from moving even when jobs are available. And while rights exist, they are underused: Regulation 883/2004⁷ allows unemployed workers to export benefits for three months while searching abroad, but implementation is burdened by administrative complexity, low awareness, and language barriers. By overprotecting jobs while underserving mobility, Europe limits the very qualities it needs to stay competitive. Flexibility and free movement should be engines of dynamism, but as of now, they risk becoming missed opportunities.

of product market regulation with an extension to employment protection legislation (OECD Economics Department Working Paper No. 226). Organisation for Economic Co-operation and Development.

<https://doi.org/10.1787/215182844604>

6 https://finance.ec.europa.eu/banking/pension-funds/personal-pension-products_en

7 Regulation (EC) No 883/2004 of the European Parliament and of the Council of 29 April 2004 on the coordination of social security systems

Abundant and high-quality labour supply

In liberal economics, the supply of labour is central to growth, innovation, and competitiveness. A market can only function well when workers are both sufficiently numerous and appropriately skilled to meet the needs of employers. When supply is abundant and well-matched to demand, firms can expand and innovate, wages reflect productivity, and individuals enjoy greater choice and bargaining power. Conversely, when supply is scarce or poorly aligned, vacancies remain unfilled, growth slows, and inequality deepens as opportunities are unevenly distributed.

One of the main labour supply pressures takes the form of a Europe-wide demographic squeeze. Eurostat projects that the working-age population will shrink by 27.3 million between 2022 and 2100⁸, while the number of people aged 65 and over will increase by nearly 40 million. The old-age dependency ratio will almost double, placing pressure on public finances and reducing the available pool of workers. Without intervention, Europe risks having too few workers to sustain growth and competitiveness.

And even where workers are available, skills are often misaligned with demand. According to Cedefop's European Skills Index, 21% of Europeans are overqualified for their jobs and 14% underqualified. Employers consistently report shortages in technical and digital fields. Another survey conducted in 2022 (Eurofound's 2022 Company Survey) revealed that 77% of firms in manufacturing and construction experienced recruitment difficulties, while ICT employers struggled to fill roles requiring specialised coding or cybersecurity skills. This mismatch represents both wasted human capital and lost productivity.

For example, when it comes to lifelong learning and retraining of the workforce, we observe uneven results across the continent. Nordic and Benelux countries maintain strong systems of continuous training, while Southern and Eastern Europe lag behind. In 2022, only 16% of adults in Greece and 20% in Romania participated in adult learning, compared to over 73% in Sweden and 53% in Denmark⁹. This unevenness entrenches inequalities: those most in need of retraining are often least likely to receive it.

8 [Population projections in the EU - Statistics Explained - Eurostat](#)

9 https://ec.europa.eu/eurostat/databrowser/view/trng_aes_100/default/?bar?lang=en

Migration offers a partial solution to these labour supply mismatches, but policies remain inconsistent. The recast EU Blue Card (2021) lowered thresholds and improved mobility rights for high-skilled workers, but the new system has not been fully exploited. Germany issued around 78% of all Blue Cards in 2023¹⁰, while many Member States issued only a handful. The uneven implementation reflects both administrative hurdles and political hesitation. At the same time, irregular migration pressures have fuelled populist resistance, complicating the case for pragmatic labour migration.



The public sector, which constitutes a large share of the EU labour market employers, further distorts labour supply by relying on fixed administrative pay scales. This means that wages are fixed by law or administration, not by supply and demand in the labour market¹¹. These systems often fail to respond to market conditions, and as a result, salaries for public sector

10 <https://etias.com/articles/eu-issued-89,000-blue-cards-to-skilled-workers-in-2023>

11 Eurostat: 'The European Economy Since the Start of the Millennium, 2022 interactive edition': Highest

proportion of government employment in 2020: Sweden: 29%, lowest: Luxembourg: 14%

jobs do not rise significantly, even when workers are in short supply.

This is evident in acute shortages of nurses in Germany (shortage of 150,000 nurses as of 2025¹²), ICT specialists in France, and teachers in Southern Europe. Aligning public pay with market signals is challenging. To combat this, Denmark's 'Wage Structure Committee'¹³(2023) examined options to bring public-sector wage formation closer to private-sector dynamics; its findings underscored how difficult this is within administratively governed systems and how misalignment can aggravate shortages in priority services.

Without reforms to education, training, and migration, Europe risks a shrinking and mismatched workforce. Liberalism calls for systems that supply the skills demanded by firms and allow talent to flow where it is most needed.

Individual choice and fair wages

Finally, a liberal labour market must do more than connect workers to jobs, it must also ensure that individuals can exercise real choice and live with dignity. Empowerment means that workers are not locked into unsatisfactory jobs for fear of losing basic protections, and that wages reflect fair value rather than leaving people in poverty despite employment. In this view, fairness is about equipping workers with the security and opportunities to adapt when change occurs.

Regarding wage-setting, liberals emphasise freedom of bargaining but accept minimum standards where market outcomes produce 'working poor'. The EU Adequate Minimum Wages Directive (2022) reflects this principle. However, Eurostat data show that 8.2% of employed Europeans still live at risk of poverty as of 2024¹⁴. In-work poverty is especially high in Southern Europe, where informality and temporary contracts are widespread. Conversely, Nordic countries with strong collective

12 <https://en.tern-group.com/de/blog/increasing-demand-for-nurses-in-germany-opportunities-and-benefits>

13 Main Report from the 'Wage Structure Committee', The Danish Ministry of Employment June 2023. ('Lønstrukturkomiteens Hovedrapport, Beskæftigelsesministeriet 2023)

14 <https://ec.europa.eu/eurostat/databrowser/view/tespm070/default/table?lang=en>

Where schemes are privately financed, regulation should be kept to a minimum, beyond basic prudential oversight.

bargaining maintain lower rates, though often at the expense of higher entry barriers for outsiders. In some Member States, these barriers also take the form of closed shop arrangements¹⁵ or obligatory union memberships, which restrict entry and limit genuine freedom of choice. The liberal challenge, therefore, is to design wage-setting institutions that guarantee basic fairness while remaining open and accessible. This should protect workers without entrenching insider privilege.

It goes without saying that the above-mentioned need for greater portability of rights and benefits is also crucial here, as fairness is just as much about choice as it is about income. Workers who can carry their pensions, access health coverage, and use portable learning accounts are empowered to take risks, leave poor jobs, and pursue better opportunities. Without such portability, workers become 'locked in' to unsatisfactory positions, undermining both fairness and efficiency.

Beyond the issue of portable rights and wages, the European labour market faces a broader dilemma: social protections are essential for fairness, but they are not cost-free. Unemployment insurance, paid leave, shorter working hours, and mandatory pension contributions all embody legitimate social choices, yet they also raise non-wage labour costs. If poorly designed, these costs can discourage firms from hiring – particularly younger and less experienced workers – or reduce incentives for individuals to re-enter work promptly.

Liberals, therefore, argue for a differentiated approach. Take unemployment insurance as an example. Where schemes are privately financed, regulation should be kept to a minimum, beyond basic prudential oversight. By contrast, when benefits are publicly subsidised, they must be paired with strong activation requirements and conditionality to safeguard both work incentives and fiscal sustainability.

Denmark's 'flexicurity' system illustrates how to resolve this tension: in

¹⁵ Agreements whereby only members of a certain union are allowed to be employed by the participating employers

such a system, benefits are generous but are paired with strict job-search requirements and active labour-market policies that maintain strong incentives to return to employment. A liberal approach seeks this balance, ensuring that protections empower workers without raising barriers to entry or sacrificing labour market efficiency/productive output.

In sum, many of these frictions are not economic inevitabilities but the product of institutional imbalances between national governments, EU authorities, and social partners. A liberal strategy rebalances these actors. Where problems are cross-border (portability, recognition, mobility), EU-level action is justified. Where coordination failures are sectoral (training, leave costs), social-partner instruments are efficient. Where coverage must be universal (minimum floors, activation), legislation has a role. The recommendations that follow apply this logic.

2. Policy recommendations and conclusion

Our liberal mission embraces regulation to correct distortions and fill capability gaps. In the proposals that follow, European-level interventions are conceived as strategic tools to remedy the main structural ailments: lack of labour market flexibility, inadequate supply of labour and individual choice/ worker empowerment.

Enhancing flexibility and mobility across Europe

- **Advance a Flexicurity approach:** First developed in Denmark, flexicurity combines flexible hiring and dismissal rules with strong security for workers through generous but conditional unemployment benefits and active labour-market policies. This model enables firms to adjust without fear of prohibitive costs, while workers know they will not be abandoned in transitions. The EU has endorsed flexicurity as a guiding principle since the mid-2000s, but implementation is not widespread. More specifically, national governments should reform dismissal legislation to make procedures less bureaucratic and more predictable, ensuring clearer notice periods and fair severance pay, all while reducing excessive reliance on lengthy litigation. Unemployment insurance should also be modernised and linked to active participation in training or job-search programmes, and phased out rather than cut off abruptly in order to enable smoother re-entry into the workforce. Social partners should be involved in negotiating these fair severance conditions, designing training entitlements, and ensuring that active labour-market policies

align with sectoral needs. At the EU level, these efforts can be reinforced by financing reskilling through funds such as the European Social Fund + and by facilitating exchanges of Member State best practices. Embedding flexicurity across the Union would mean shifting emphasis from protecting specific jobs to protecting employability.

- **Guarantee the Portability of Rights Across Jobs and Borders:** To make it easy for workers to change jobs, pension rights and savings, health schemes, unemployment insurance and other social benefits should not be tied to any specific employer – they should be made portable. Member States should redesign their schemes so that entitlements are transferred automatically when workers change jobs, and they should ensure that private or occupational schemes can be carried over or consolidated into public systems. Here, the EU's role is to strengthen and simplify Regulation 883/2004 by creating a platform where workers can access and transfer their entitlements across borders, as well as by funding awareness campaigns to make workers and employers aware of their rights. In other words, such benefits should either be placed in an outside fund or trust that is co-managed by employer organisations and unions, as opposed to managed by individual employers.

Secure an adequate supply of labour

- **Create Portable Individual Learning Accounts:** The twin pressures of technological change and demographic decline mean that Europeans must train and retrain more often throughout their lives. A liberal solution is to create individual learning accounts (ILAs), enabled through contributions from employers, social partners, and governments, which workers own and carry with them. Member States should establish these accounts in national law and ensure they are accessible to all workers, including those in non-standard or self-employed positions who are often excluded from training schemes. The EU can complement these efforts by co-funding cross-border training through Erasmus+ or the Digital Europe Programme, and by ensuring that micro-credentials earned through ILAs are recognised across Member States. The outcome would allow nurses in Portugal to upgrade their skills for work in Germany without starting from scratch, or an engineer in Poland to reskill into digital fields with credentials recognised in France. ILAs strengthen labour supply, empower individual choice, and reduce the mismatch between

education and demand.

- **Open, skills-based migration with ethical safeguards.** Europe should expand transparent, skills-based pathways for non-EU workers to sustain labour supply in shrinking sectors. At the EU level, this means developing common shortage lists, accelerating pathways for workers to enter shortage occupations, and ensuring that recognised qualifications grant EU-wide mobility rather than being locked to one Member State. National governments, for their part, should accelerate the recognition of foreign qualifications, streamline visa processing, and create clear, predictable residence pathways for both high- and medium-skilled workers. To prevent harmful brain drain, especially in healthcare, the EU and Member States should accompany admissions with reciprocity schemes – such as co-investment in education systems abroad, circular migration opportunities, or training partnerships benefiting both sending and receiving countries. This approach strengthens labour supply while preserving fairness beyond Europe’s borders, demonstrating that a liberal labour market can be competitive without being extractive.

Worker Empowerment:

- **Promote transparent and accessible wage-setting institutions.** Wage councils and collective agreements are essential to empower workers, but they risk becoming exclusionary if they operate as closed shops. National governments should ensure legal frameworks keep bargaining processes open and transparent, preventing rules that restrict entry or compel union membership. Social partners, meanwhile, should commit to extending agreements in ways that include vulnerable groups such as young workers, migrants, and those in non-standard employment. This ensures that wage-setting empowers workers broadly rather than entrenching privileges for insiders.

- **Expand access to in-work benefits.** For workers at the lower end of the wage scale, targeted in-work benefits, such as tax credits or wage top-ups, can boost take-home pay without increasing labour costs for employers. Unlike lowering income tax rates, which spread relief across all earners, these measures are narrowly focused on low-wage workers. This ensures work pays more than inactivity, strengthens fairness where it is most needed, and preserves competitiveness in entry-level hiring. This allows workers to live decently from employment, while preserving

competitiveness in entry-level hiring.

- **Pool social risks through collective funds.** Creating and promoting sectoral or national funds that reimburse firms for the costs of parental leave or sickness spreads risks across employers and can reduce hiring barriers that disproportionately affect small and medium-sized enterprises. Without such pooling, each firm must shoulder unpredictable costs alone, encouraging discrimination and pushing governments towards rigid job-protection rules that ultimately stifle flexibility. Collective funds offer a better path by keeping hiring risks predictable for firms while empowering workers to take leave without fear of penalty. Whether negotiated by social partners or legislated nationally, these schemes work best when rules are transparent, administration is light, and coverage is broad enough to ensure fairness.

Europe's labour market has long combined freedom of movement with strong protections, but its current rigidities, mismatches, and uneven empowerment hold back both fairness and competitiveness. A liberal approach provides the tools for that shift: flexicurity to balance adaptability and security, portability to let rights travel with workers, and continuous learning and ethical migration to sustain a shrinking workforce. By pooling risks and empowering individuals with real choice, Europe can move beyond defensive regulation towards a labour market that is fairer at home, more competitive abroad, and more resilient in the face of change.



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Chapter 2

Investing in the Future: The Liberal Case for Expanding Early Childhood Education and Care

Chapter 2

Investing in the Future: The Liberal Case for Expanding Early Childhood Education and Care

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Introduction

Early childhood education and care (ECEC) has found renewed interest by the current European Commission (EC). As a part of the EC's agenda to improve Europe's competitiveness and social cohesion among the EU-27, the EC developed an action plan on universal basic skills. While the actions set out by the Commission concern mostly primary and post-primary education, 'access to quality early education and care' features as one of the focus areas defined in the action plan¹.

With good reason, as the access and quality of ECEC vary not only among the EU-27 but also within individual member states. Only in a few – mostly northern – EU countries are pre-primary educators university-educated. A quarter of European countries do not have a national curriculum on pedagogical work with young children. And very few member states guarantee ECEC immediately at the end of childcare leave, further illustrating the differences in availability and quality of ECEC within the EU-27².

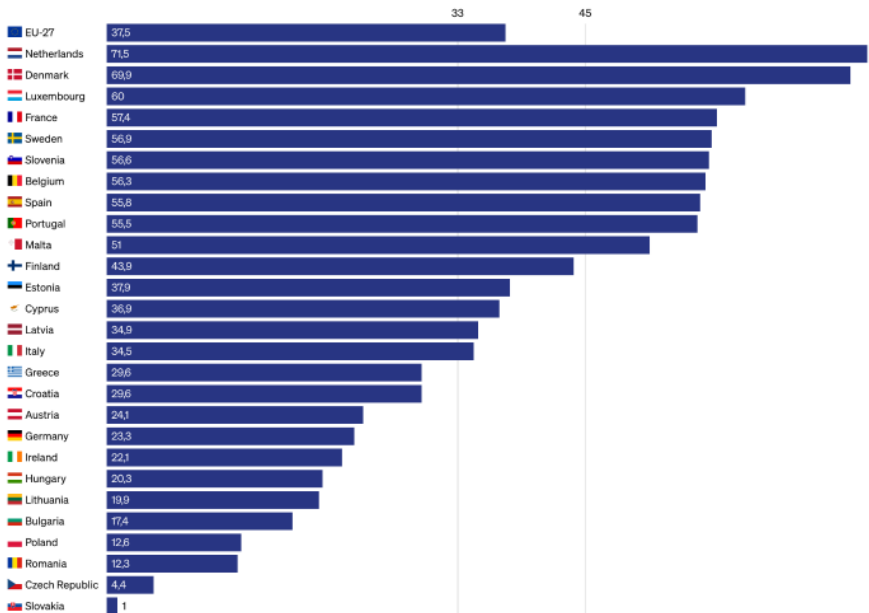
1 European Commission (2025), Communication from the Commission to the European Parliament, The Council, The European Economic and Social Committee and the Committee of the Regions on the Action Plan on Basic Skills (Brussels: EC) / COM (2025) 88 final, 5.

2 See European Commission/EACEA/Eurydice (2025), Key data on early childhood

Debates on the expansion of institutional ECEC are shaped by cultural norms and worldviews, and are very often influenced by perceptions of gender and family norms. In this paper, however, it will be argued that the expansion of ECEC is more than just a social policy but has significant fiscal and macroeconomic benefits. These benefits are not only the result of increased participation in the labour market by primary caregivers but also of improvements in educational attainment, functioning as prerequisites for the development of universal basic skills in students.

Participation rates in ECEC of children under age 3

Percentage of children below 3 in ECEC



Quelle: Eurostat, EU-SILC

education and care in Europe – 2025. Eurydice report. (Luxembourg: Publications Office of the European Union).

Problem Analysis and Background

What are universal basic skills? While there are different definitions, depending on the research area, development economists Gust, Hanushek, and Woessman define them as ‘the skills needed to participate effectively in modern economies³’. Based on available large-scale assessments as well as imputation where comprehensive skill data are lacking, they estimate that about two-thirds of the world’s youth and a quarter of European students do not obtain basic skills. According to their estimates, the world would gain \$732 trillion in added GDP over the next 75 years, were it to reach global basic skills⁴. To put it bluntly: education is not just a matter of principle, but a matter of wealth.

The European Commission employs a related, although slightly different, definition of basic skills that integrates economic participation and adaptation skills. Basic skills – consisting of literacy, mathematics, science, digital, and citizenship – are defined as ‘the foundation of the key competences of lifelong learning⁵’. The Commission’s action plan focuses on two things: 1. Reducing the number of people unable to effectively participate in the labour market. 2. Increasing the number of people able to adapt to changes in the labour market due to their capacity for up- and reskilling. Both are meant to further economic growth and innovation.

Educational expansion, both quantitative and qualitative, could boost competitiveness and social cohesion among the EU-27. OECD data suggest, however, that interventions at the level of primary and secondary schools – although important – are only one component of a comprehensive educational programme⁶.

3 Gust, S., Hanushek, E.A., Woessmann, L. (2024), ‘Global universal basic skills: Current deficits and implications for world development’, *Journal of Development Economics* (166), <https://doi.org/10.1016/j.jdeveco.2023.103205>.

4 Gust et al. (2024).

5 COM (2025) 88 final, 5.

6 OECD (2025), *Reducing Inequalities by Investing in Early Childhood Education and Care, Starting Strong*. (Paris: OECD Publishing), <https://doi.org/10.1787/b78f8b25-en>.

As far as educational attainment is concerned, children from underprivileged backgrounds or those with developmental difficulties profit most from high-quality ECEC. In those groups, high-quality ECEC is an effective early intervention, helping them develop socio-emotional skills that are important preconditions for educational attainment. In addition, ECEC is a cost-effective way to alleviate achievement gaps, compared to interventions at higher educational levels. In plain terms, interventions in secondary schools are expensive and occur quite late in an educational career.

Yet, in most EU countries, ECEC places are only guaranteed for children aged three years and above⁷. In addition, across OECD countries, half of all children under three are enrolled in private institutions⁸, whose fees economically disadvantaged families may be unable to afford. Apart from socio-political considerations, expanding ECEC might therefore be an effective way to boost competitiveness by facilitating the development of universal basic skills.

There is, however, an additional case to be made for the expansion of ECEC from an economic perspective, namely an increase in labour-market participation of parents, especially women, leading to a reduction in social spending as well as an increase in tax revenue. Employed persons not only contribute to the federal budget by paying income tax but also by providing social security contributions, which are deducted from gross income. Employment is also expected to increase the average household income, thereby raising consumption and thus revenue generated by indirect taxes such as VAT.

Austria: Case Study and Policy Options

Austria is a case in point. Despite its relatively small population of 9.1 million, the country is a highly federalised polity, consisting of nine regions (Bundesländer), which are responsible for several policy areas, including ECEC, as well as primary and lower secondary education. To complicate matters further, they share responsibility for ECEC with more than 2000 municipalities of different sizes. For this reason, the availability and quality

7 European Commission / EACEA / Eurydice (2025).

8 OECD (2025).

of pre-primary education varies significantly within the country, with its capital, Vienna, being the only region reaching or even surpassing the EU's Barcelona targets on childcare, covering 45.6% of the population below the age of three⁹. That being said, the number of three- to five-year-olds attending pre-primary educational facilities exceeds 90% in all Austrian regions. For this reason, institutional expansion is most pressing for children under three.

These stark regional differences concern ECEC availability in general. Even in municipalities where ECEC for children under three is available, the opening hours are often incommensurable with full-time-employment of both primary caregivers, with issues being daily opening hours as well as seasonal holidays, when ECEC institutions are often closed for weeks at a time.

With policy options ranging from mere institutional expansion and the expansion of opening hours to the reduction of closing days, questions on what the costs of expanding ECEC opportunities would amount to, but also whether the benefits of their expansion might outweigh them, appear especially pertinent. The independent economic research institute EcoAustria, on behalf of NEOS Lab, studied three Austrian regions – Styria, Upper Austria and Vorarlberg – calculating different expansion scenarios¹⁰. While initial investments are substantial, the long-term returns outweigh the costs in every region and in every scenario.

Taking the case of Upper Austria, which is the Austrian region with the lowest percentage of children below the age of three being educated in ECEC institutions (20.9%), estimates for three expansion scenarios can

9 Legally, Vienna is considered both a region and a municipality. Generally, ECEC-coverage in medium- and large-sized municipalities tends to be higher than in smaller or rural ones.

10 C. Ableidinger (2025) Kinderbetreuung lohnt sich. Auch für die Steiermark (Vienna: NEOS Lab), <https://lab.neos.eu/thinktank/publikationen/kinderbetreuung-steiermark>. C. Ableidinger (2024) Kinderbetreuung lohnt sich. Auch für Oberösterreich (Vienna: NEOS Lab), <https://lab.neos.eu/thinktank/publikationen/kinderbetreuung-oberoesterreich>.

be presented¹¹. In addition, the opening hours of many Upper Austrian ECEC institutions are not compatible with full-time-employment of both primary caregivers. Improving ECEC coverage in this region thus requires both the expansion of ECEC institutions as well as their opening hours. This resulted in three reasonable expansion scenarios: 1a) Raising ECEC opportunities in Upper Austria by 9 percentage points to match the Austrian average (29.9%). 1b) Raising ECEC opportunities in Upper Austria to match the EU's Barcelona targets of 33%¹². 2) Expanding the opening hours of all Upper Austrian ECEC institutions by one hour to improve the compatibility of family and work¹³.

To calculate the potential fiscal benefits of ECEC expansion, two parameters must be considered: 1. The impact of ECEC expansion on employment rates, especially of mothers. 2. The number of additional children covered by ECEC institutions.

In 2024 a total of 43,712 children aged between zero and two lived in Upper Austria. Until 2030, a moderate increase is expected (45,644), which amounts to 1,150 additional children. Institutional expansion aiming at ECEC coverage at the rate of the Austrian average (29.9%) or the Barcelona Targets 2002 (33%) would therefore lead to 4,038 and 5,429 additional children in ECEC, respectively. Additionally, scholars estimate that an increase in ECEC coverage of ten percentage points could lead to an increase in labour-market participation by women of between seven and ten percentage points¹⁴.

11 Statistik Austria (2024), Kindertagesheimstatistik 2023/24 (Vienna: Statistik Austria).

12 The Barcelona Targets have since been updated and expanded to 45%.

13 All data see Ableidinger (2024) based on Köppl-Turyna, M., Graf, N., Schwarzbauer, W., (2024) Endbericht: Ausweitung der Kinderbetreuung in Oberösterreich (Vienna: EcoAustria), <https://ecoaustria.ac.at/kinderbetreuung-ooe/>.

14 See Huebener, M., Pape, A., und Spiess, C. K. (2020), Parental labour supply responses to the abolition of day care fees. *Journal of Economic Behavior & Organization*, 510–543. and Busse, A., Gathmann, C. (2020), Free daycare policies, family choices and child development. *Journal of Economic Behavior*

Costs and benefits of ECEC-expansion (in Million EUR)

	Austrian Average	Barcelona Target 2002	Opening Hours
Revenue			
Direct Taxes and Social Security Contributions	24.6	33.1	33.4
Indirect Taxes	10.1	13.6	4.7
Expenditure			
Social benefits	-12.2	-16.5	2.4
Overall fiscal effect	47	63	36
Costs of ECEC-expansion	-69.0	-90.0	-18.0
Additional consumption	67.5	90.8	31.4
Net benefits after costs	45.5	64.0	49.1

This scenario considers the workforce-mobilisation of persons currently not participating in the labour market and unemployed persons.
Table: NEOS Lab • Source: EcoAustria based on EUROMOD und Statistik Austria

The ‘Austrian Average’ scenario projects 4,038 additional children in need of care, while the more ambitious ‘Barcelona’ scenario includes 5,429. Adjusting for family size, this translates to an employment potential of 3.400 to 4.600 parents.

Based on the estimations mentioned above, around 1,300 to 1,700 parents would newly enter the labour market. Many already employed mothers would also be able to increase their working hours.

As a result, public revenue from direct taxes and social contributions would rise by 23-24 million EUR, plus about 10 million EUR from indirect taxes. At the same time, social benefits would decline by 10-12 million EUR. The total fiscal effect is estimated at 43-47 million EUR, significantly higher in the ‘Barcelona’ scenario.

Higher household incomes would also lead to greater consumption. After adjusting for savings, a consumption boost of 64-67 million EUR is expected in the ‘Average’ scenario, and 87-91 million EUR in the ‘Barcelona’ scenario. Extending ECEC opening hours by one hour further

8 Organization, 240–260.

enhances these positive fiscal and economic effects. In total, the gross regional product (GRP) in Upper Austria would rise by 68-99 million EUR. GRP per capita would rise by 44-65 EUR.

Policy Recommendations

Based on these estimates, ECEC expansion shows considerable social and economic potential. Policymakers should therefore consider a range of actionable, evidence-based policy options rooted in individual empowerment, fiscal responsibility, and equal opportunity, including:

1. Expand ECEC access for children under three

Prioritising public investment in childcare for the youngest age group addresses the most critical coverage gaps. Expansion should focus not only on increasing the number of places but also on making them accessible regardless of income. Vouchers or means-tested subsidies can ensure parental choice while maintaining social equity.

2. Align ECEC opening hours with full-time employment norms

Liberal family policy must enable parents – particularly women – to engage in meaningful employment without structural barriers. Extending the opening hours of childcare institutions by at least one hour, as modelled in Austrian regions, improves work-life compatibility and leads to measurable increases in labour market participation, tax revenue, and household consumption.

3. Set data-driven ECEC coverage targets tied to labour participation and regional development goals

Liberal governments should define and monitor quantitative ECEC benchmarks – such as the EU's Barcelona targets – and integrate them into regional development and employment strategies. Regions falling short of national or EU averages should receive targeted support to close the gap.

4. Introduce outcome-oriented funding mechanisms

Shift from purely input-based funding (e.g. staff-child ratios) to models that reward quality, accessibility, and educational outcomes. This incentivises innovation and efficiency while ensuring resources are used to empower both children and parents.

5. Foster public-private partnerships and community-based provision

Especially in rural or low-density areas, decentralised liberal solutions – such as childcare cooperatives or subsidised private providers – can ensure coverage without over-reliance on centralised public infrastructure.

Conclusion

For policymakers both on the national and European levels, these calculations emphasise the importance of ECEC expansion from a strictly economic perspective. ECEC expansion matters because the increased participation of parents, particularly women, in the labour market leads to higher tax revenues, lower social transfer payments, and boosts in household income and consumption.

Naturally, numbers only tell a part of the whole story. In the calculations mentioned above, we only considered macroeconomic effects that are immediately causally related to the expansion of ECEC opportunities. The calculations were based on the specific structure of Upper Austria's regional economy and Austria's welfare state. For this reason, the economic impact of ECEC-expansion will undoubtedly be different depending on the country and region in question. We can, however, extrapolate from these calculations that ECEC expansion is a net-positive investment in all EU countries, positive effects on gender equality and the integration of women in the labour markets notwithstanding.

It is worth noting that providing the parents with the opportunity to work is by far not the only point of early childhood education. Rather, its main purpose in the 21st Century is the education of very young children, helping them develop so-called universal basic skills that are fundamental to participating in the European labour market and for future personal, educational and professional development.

Yet there is still room for improvement in many European countries and regions. Only a few member states have eliminated the gap between the end of childcare leave and ECEC. Some countries do not require ECEC staff to be university-educated, and about a quarter of the EU-27 have no national curriculum for pedagogical work with young children. In addition, only ten out of the EU-27 reach or surpass the current Barcelona

targets of 45%¹⁵ 12 countries have not yet reached the 2002 Barcelona targets of 33%¹⁶.

In addition to national efforts to improve the quantity and quality of ECEC institutions, there ought to be a renewed European effort to harmonise the quality of ECEC among the EU-27. As the foundation for developing universal basic skills, the importance of quality ECEC cannot be overestimated. Returning to the point made at the beginning of the paper, we can therefore safely say that ECEC is more than a social policy; it is a critical investment in a society's long-term prosperity.



15 The Netherlands, Denmark, Luxembourg, France, Sweden, Slovenia, Belgium, Spain, Portugal, and Malta.

16 Greece, Croatia, Austria, Germany, Ireland, Hungary, Lithuania, Bulgaria, Poland, Romania, the Czech Republic, and Slovakia.

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Chapter 3

Bridging Gaps, Not Borders: Circular Migration for a Balanced EU Labour Market

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Bridging Gaps, Not Borders: Circular Migration for a Balanced EU Labour Market

A Liberal Approach to Europe's Seasonal Workforce Shortages

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Introduction

The European Union (EU) economy is facing a growing challenge: labour and skills shortages across a wide range of sectors – particularly in low- to mid-skilled and seasonal roles. Coupled with an ageing population, these shortages pose a challenge to the EU's economic resilience and long-term competitiveness.

This paper explores how a coherent, EU-wide framework for circular labour migration can provide a strategic approach aligned with liberal values such as open markets, economic integration, legal migration pathways, cooperation with third countries, and public-private partnerships. Despite its clear potential to support sustainable economic growth, circular migration remains largely overlooked in the EU Pact on Migration and Asylum. This article seeks to fill that gap by offering targeted policy recommendations for developing a consistent and effective EU approach to circular labour migration.

A commitment to circular migration presents a unique opportunity: to address pressing labour and skill gaps while reshaping Europe's migration narrative. By framing migration as a mutually beneficial driver of economic development – for both origin and destination countries – circular migration can become a

cornerstone of a pragmatic and forward-looking EU migration policy. This framework not only addresses economic needs but also aligns with core liberal principles – promoting open markets, safeguarding human rights, and strengthening international cooperation - thereby contributing to a more resilient, inclusive and competitive Europe.

1. The EU's labour and skills landscape: Navigating demographics and economic transitions

The EU currently faces a complex interplay of demographic shifts and economic transitions, both of which are profoundly reshaping its labour markets. Ageing populations, declining birth rates, and shrinking working-age cohorts are contributing to structural labour shortages across key sectors such as healthcare, agriculture, and information technology. At the same time, the transitions of digitalisation and decarbonisation are generating new skill demands that outpace domestic training and education systems. Grasping these interconnected challenges is essential to appreciating the strategic relevance of circular migration – not only as a labour market tool, but also as a means to support sustainable economic growth.

The demographic shift towards an older population in the EU is clearly reflected in the Eurostat's EU Demographic Report 2024¹. Over 20% of

1 Eurostat (2024), Demography of Europe – 2024 edition, 2 May, ISBN 978-92-68-14375-9, DOI 10.2785/911441 <https://ec.europa.eu/eurostat/web/>

The EU currently faces a complex interplay of demographic shifts and economic transitions, both of which are profoundly reshaping its labour markets.



EU citizens are now aged 65 or older. Reflecting this trend, the median age across the EU has reached 44.5 years, underscoring the reality of an ageing society with far-reaching implications for the labour market and social systems.

Not only does demography pose challenges to the labour market, but it also creates skills shortages. While high-skilled sectors often capture more attention at the policy level, the most pressing shortages are in low- to mid-skilled occupations. As sociologist Hein de Haas notes, “many people migrate not primarily because of wage gains, but because they have particular skills, qualifications and professional aspirations that fit jobs such skills-matching to jobs explains why rich countries continue to have significant levels of immigration and emigration”².

Not only does demography pose challenges to the labour market, but it also creates skills shortages.

These insights contextualise the data on labour shortages and skills mismatches, offering a clearer lens to understand the job market. According to the Report on Labour Shortages and Surpluses³ (Figure 1), the highest number of shortage occupations was submitted by Switzerland (240), Italy (205), and the Netherlands (166).⁴ Twelve of the 38 most reported occupations in this study have consistently ranked among the top 10 shortage professions across all four previous reports. These include bricklayers, plumbers, nurses, software developers, cooks, agricultural, and systems analysts.⁵

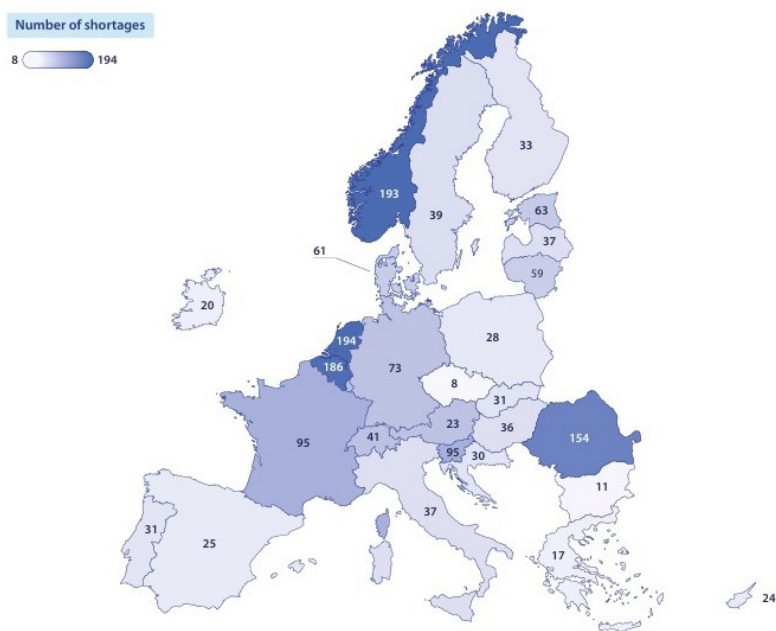
[interactive-publications/demography-2024](#)

2 H. de Haas (2023), *How Migration Really Works: A Factful Guide to the Most Divisive Issue in Politics* (Ireland: Penguin Books), p. 111

3 European Labour Authority (2022), *Report on Labour Shortages and Surpluses*, 2 May, p.19 <https://www.ela.europa.eu/sites/default/files/2023-09/ELA-eures-shortages-surpluses-report-2022.pdf>.

4 European Labour Authority (2022, 2 May), p.20

5 European Labour Authority (2022, 2 May), p.24



Source: Data submitted by EURES National Coordination Offices

Figure 1: Number of shortage occupations identified by country, 2023.
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In this context, a 2021 briefing paper published by the EMN⁶ reported that labour shortages were already impacting 28 occupations, collectively employing around 14% of the EU's workforce. The EU's commitment to green and digital transitions adds a significant layer of complexity to the labour market challenges, as it seeks to decarbonise the economy and foster technological innovation. While these transitions promise long-term economic and environmental benefits, they also bring immediate shifts in labour demand. Key sectors such as renewable energy, digital infrastructure, and sustainable agriculture are already facing labour shortages across many EU countries.

6 EMN (2021), Labour Migration Roundtable Briefing Paper, 2 May https://emn.ie/wp-content/uploads/2021/01/00_labour_migration_roundtable_briefing_paper.pdf.

2. Existing approaches and missing pieces: The case for circular migration

To tackle the EU's skill shortages, the focus should be on making certain industries or jobs more appealing. It is also crucial to enhance services that better connect people to jobs and address skill mismatches. While some efforts are underway, a comprehensive, coherent EU-wide approach to circular migration remains largely underexplored.

A precise understanding of circular migration schemes is essential to fully understand their potential, as this concept proposes a structured and mutually beneficial model of mobility. The European Commission (2007)⁷ defines circular migration as 'a form of migration that is managed in a way allowing some degree of legal mobility back and forth between two countries'. This concept is further elaborated by the European Migration Network (EMN), which describes it as the 'repetition of legal migration by the same person between two or more countries.'⁸

To tackle the EU's skill shortages, the focus should be on making certain industries or jobs more appealing

This model is designed to promote regular, flexible and mutually beneficial mobility schemes between countries of origin and destination. A core condition is that, upon completion of the authorised stay, migrants are expected to return and re-establish their main residence in their home country. The return is not only a legal requirement but also a critical element in ensuring knowledge and skill transfer and development in the country of origin.

7 European Migration Network (2011), 'Temporary and Circular Migration: Empirical Evidence, Current Policy Practice and Future Options in EU Member States', 2 June, http://ec.europa.eu/dgs/home-affairs/what-we-do/networks/european_migration_network/reports/docs/emn-studies/circularmigration/0a_emn_synthesis_report_temporary_circular_migration_final_sept_2011_en.pdf

8 UNECE Task Force (2016), Defining Circular Migration: Final Report, 2 June, https://unece.org/fileadmin/DAM/stats/documents/ece/ces/bur/2016/October/18Add1-CircularMigration_for_Bureau_final.pdf.

To enhance this circularity, migrants who return may benefit from facilitated access to the EU for future stays – particularly to and from Member States where they have previously resided, often through re-entry procedures.

3. Member States Initiatives: Lessons from Spain and Germany

Several EU Member States, notably Germany and Spain, have successfully implemented effective circular labour migration schemes, providing valuable best practices and insights for the development of future policies in other Member States. Spain's with the GECCO Order (Collective Management of Hiring at Origin, Spanish acronym 'GECCO') and Germany's Skilled Immigration Act.

3.1. Spain

Since 2000, the Spanish Government – working in close consultation with trade unions – has implemented circular migration programmes to address specific labour and skills shortages, particularly in the agriculture sector, while simultaneously aiming to reduce irregular migration flows. One of the most prominent examples is the GECCO Order⁹, developed in partnership with Morocco. This scheme primarily targets women with children, facilitating their temporary employment in Spain's agricultural sector. Over the past two years, the programme has facilitated the temporary migration of approximately 40,000 individuals in 2023 and 2024.

Public perception about circular migration in Spain has been mixed. In regions heavily reliant on seasonal agricultural labour – such as Andalusia – local employers and agricultural associations have generally expressed support for the programme, citing its contribution to workforce stability. However, some civil society organisations (CSOs) have raised concerns about working conditions, gender vulnerability, and insufficient oversight

9 Spanish Ministry of Inclusion, Social Security and Migration (2025), New GECCO Order on Circular Migration, 9 June, <https://www.inclusion.gob.es/w/el-ministerio-de-migraciones-aprueba-la-nueva-orden-gecco-de-contratacion-de-personas-extranjeras-en-origen-y-migracion-circular-para-el-ano-2025>

in rural areas¹⁰, especially regarding accommodation and labour rights.

3.2. Germany

In 2019, the German government adopted a comprehensive package of eight immigration bills, including the Skilled Immigration Act (Fachkräfteeinwanderungsgesetz - FEG),¹¹ which was further updated in August 2023. This legislation provides a structured approach to facilitate and expand the immigration of qualified skilled workers from non-EU countries, to address critical labour shortages across key sectors of the German economy. Preliminary data indicate that approximately 200,000 visas were issued in the first year of implementation alone.¹²

In addition, Germany has launched targeted circular migration initiatives aimed at matching labour market needs with international talent. Notable examples include:

- 'Hand in Hand for International Talents',¹³ a programme designed to connect skilled workers from non-EU countries – such as Brazil, India, and Vietnam – with small and medium-sized enterprises in Germany.
- The 'Triple Win' programme¹⁴ focuses on the recruitment of nursing

10 El Salto Diario (2024), 'La agricultura europea: un campo de explotación de personas migrantes', July 4 <https://www.elsaltodiario.com/union-europea/agricultura-europea-un-campo-explotacion-personas-migrantes>

11 German Federal Ministry of the Interior (2024), FAQs on the Skilled Immigration Act, 9 June <https://www.bmi.bund.de/SharedDocs/faqs/DE/themen/migration/fachkraefteeinwanderung/faqs-fachkraefteeinwanderungsgesetz.html>

12 German Federal Ministry of the Interior (2024), Press Release on Skilled Immigration, 9 June, <https://www.bmi.bund.de/SharedDocs/pressemitteilungen/EN/2024/11/fachkraefteeinwanderung.html>

13 Bundesagentur für Arbeit (2024) 'Hand in Hand for International Talents', 4 July, <https://www.arbeitsagentur.de/vor-ort/unternehmen/hand-in-hand-for-international-talents>

14 GIZ (2024), Sustainable recruitment of nurses (Triple Win)', 4 July <https://www.giz.de/en/worldwide/41533.html>

professionals from countries such as the Philippines, Indonesia, Tunisia, and Bosnia and Herzegovina.

While both programmes have been welcomed by employers and policymakers as innovative approaches to labour shortages, public and political perceptions remain cautious. Support tends to be stronger when migration is framed as temporary and needs-based, aligning with the concept of circular migration. However, CSOs and trade unions have raised concerns about integration support and job quality.

4. Overlooked potential: The EU Pact on Migration and Asylum

Despite its strong alignment with liberal values and its potential to address Europe's labour and skill shortages, circular migration remains an under-prioritised policy instrument within the EU. Its limited reference in the EU Pact on Migration and Asylum reflects a missed opportunity – one already highlighted by experts, who noted that 'labour immigration continues to be treated as a secondary matter'. No legislative proposal is put forward, and a number of core dilemmas remain unresolved."¹⁵

Although labour migration falls under Member States' competence, the EU supports broader efforts through key instruments such as the Blue Card and Single Permit Directives.¹⁶ These initiatives aim to create a more flexible and coherent system for admitting migrants and integrating their skills into the EU labour market.

Notably, the revised Single Permit Directive, adopted in 2024, has streamlined administrative procedures by reducing processing times to three months, enhanced intra-EU mobility rights, and reinforced equal treatment for non-EU workers.

15 J.-B. Farcy and S. Sarolea (2022), 'Labour Migration in the "New Pact": Modesty or Unease in the Berlaymont?', in D. Thym (ed.), *Reforming the Common European Asylum System* (Odysseus Network), pp. 277–287, <https://www.nomos-elibrary.de/de/10.5771/9783748931164-277>.

16 European Commission (n.d.), EU Blue Card Scheme, 2 May https://home-affairs.ec.europa.eu/policies/migration-and-asylum/legal-migration-and-resettlement/work/eu-blue-card_en.

Nevertheless, few Member States fully leverage the potential of these mechanisms. Fragmented national approaches and concerns over sovereignty lead governments to prioritise domestic schemes over EU-level mechanisms.

5. The liberal axes of circular labour migration

A cornerstone of liberal thought is the commitment to free trade and open competitive markets. Circular migration goes in line with this vision by enabling a more flexible and responsive labour market. By allowing the temporary entry of workers, particularly in sectors facing labour shortages such as agriculture, tourism, and care services, it helps businesses meet demand efficiently. This scenario not only enhances productivity but also supports sustainable economic growth across Member States.

Liberal policymakers are particularly well-positioned to act as bridges between the public and private sectors, ensuring that labour mobility strategies are aligned with market needs. Circular migration, as a regular form of mobility, offers stronger safeguards to human rights. When implemented effectively, these programmes ensure fair labour contracts, enforce minimum wage standards, and uphold safe working conditions.

Circular migration programmes depend on structured agreements between origin and destination countries. These partnerships can serve as powerful tools for development: they enable skills enhancement, support technology transfer, and foster capacity building in origin countries when migrants return. Additionally, remittances sent by circular migrants contribute to the economic development of their home communities. This cooperative framework reinforces the idea that migration can be a tool for economic development in both origin and destination countries.

As Jan-Christoph Oetjen, a liberal policymaker and President of the European Liberal Forum (ELF), recognises, 'tailor-made and mutually beneficial partnerships with third countries are key to achieving coherent and effective external action'.¹⁷ However, Oetjen warns that poorly

17 J.-C. Oetjen and M. Hodun (2023), 'Coordinating EU External Action on Migration: A Timely Imperative' (Madrid: Friedrich Naumann Foundation for Freedom), <https://www.freiheit.org/spain/coordinating-eu-external-action-migration-timely-imperativ>

coordinated external actions can become a liability: ‘when they are badly coordinated, the EU’s increasingly interwoven external actions can also prove to be a weakness’.¹⁸



6. Policy recommendations

To explore the full potential of circular migration, liberal policymakers must propose a set of concrete, actionable measures that position circular mobility as a core component of the EU’s migration strategy. A common, coordinated approach at the EU level would provide greater predictability for both migrants and employers, streamline administrative processes, and maximise the economic and social benefits for all Member States.

Promote public-private partnerships: Encourage and facilitate structured collaborations between governments and businesses (including chambers of commerce). These partnerships should focus on co-designing, implementing, and monitoring circular migration programmes, ensuring they align with market needs and worker protections. For instance,

18 Idem

creating dedicated platforms for employers to register their needs and for potential candidates to find verified job opportunities.

Focus on low- to mid-skilled and seasonal occupations: Tailor specific circular migration programmes to address labour and skills shortages in sectors like agriculture and hospitality, which are often overlooked in high-skilled immigration policies. These programmes should clearly define the types of roles, required skills, and duration of stay.

Enhance migrant rights: Ensure legal pathways for circular migrants, including fair labour contracts, guaranteed minimum wages, safe working conditions, access to social security systems, and the right to change employers (as per the revised Single Permit Directive).

Strengthen partnerships with third countries: Invest in and expand comprehensive agreements with key third countries, such as Morocco. These partnerships should go beyond simple recruitment, focusing on mutual benefits, pre-departure skill development tailored to EU market needs, and cooperation in return. Develop mechanisms, such as mentorship programmes, for returning migrants to share new skills and best practices within their communities, fostering local economic development.

Leverage circular migration for green and digital transitions: Implement circular migration programmes specifically designed to bridge skill gaps emerging from the EU's green and digital transitions. This includes facilitating the temporary migration of skilled workers for renewable energy installation, ensuring the workforce can adapt to new demands.

Reshape the migration narrative: Promote a narrative that positions migration, with an emphasis on circular migration, as a mutually beneficial component of economic development. This involves highlighting success stories, demonstrating tangible economic benefits for both origin and destination countries, and countering stereotypes through evidence-based communication campaigns.

Strengthen EU and MS coordination: There is an urgent need for stronger cooperation and harmonisation at the EU and national levels. This requires developing shared standards for circular migration schemes, facilitating the mutual recognition of qualifications, and improving information exchange on labour market needs. In addition, incentives

and governance mechanisms are needed to encourage Member States to prioritise EU schemes. This could be achieved by linking EU funding to participation in such schemes and by raising the profile of EU-level initiatives, making them more attractive to both employers and migrants, offering a clear advantage over fragmented national initiatives.

Conclusions

Europe's future economic competitiveness is connected to its capacity to adapt to profound demographic and technological transformations. Persistent labour shortages-particularly in low- to mid-skilled sectors-demand forward-looking and innovative approaches. This article has argued that circular labour migration represents a liberal, rights-based strategy that can address these gaps in the EU labour market, while simultaneously promoting human rights and strengthening cooperation with third countries.

As migration scholar Hein de Haas reminds us, the narrative that 'migrants steal jobs' is a harmful fallacy; in reality, 'migrants fill vacancies'¹⁹—and they can do so in a structured, circular manner that maximises economic development.

Successful examples, such as Spain's GECCO Order to Germany's Skilled Immigration Act, demonstrate that well-designed circular migration schemes can deliver tangible results, benefiting labour markets and fostering international cooperation. Circular migration offers a transformative opportunity to reshape the European narrative on migration. It enables liberals to move beyond rhetoric rooted in crisis and fear by instead promoting a forward-looking vision grounded in economic development.

19 H. de Haas (2023), *How Migration Really Works: A Factful Guide to the Most Divisive Issue in Politics* (Ireland: Penguin Books), p. 131

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Chapter 4

Brain Drain and Brain (Re)Gain

Chapter 4

Brain Drain and Brain (Re)Gain

Challenges and Opportunities for the EU Cohesion

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I. Process overview

Freedom of movement is a foundational principle of the European Union (EU) and a hallmark of European unity. No national policy should attempt to constrain the pursuit of excellence, fulfilment, or opportunity by any citizen. However, this very freedom, while beneficial at the individual level, has also produced imbalances and growing disparities in the skilled labour market.¹

The new EU Member States from the former communist bloc, having invested a significant share of their scarce resources in the education and specialisation of their youth, face a recurring paradox: they subsidise human capital, which the wealthier Member States then absorb. Uneven economic development across Member States has led to asymmetrical migration patterns, with significant outflows of highly skilled professionals from countries in South-Eastern Europe (SEE) and the Baltic states to more developed Western and Northern countries.² This outflow of talent has raised concerns about the long-term effects of brain drain on sending countries, including weakened capacity to sustain economic growth and innovation, demographic decline, accelerated ageing, and strained public services, especially in healthcare and

1 European Commission. (2023). Demography report 2022: The impact of demographic change in a changing environment. Retrieved from https://commission.europa.eu/system/files/2023-01/Demography_report_2022_0.pdf

2 Eurostat. (2023). Migration and migrant population statistics. Retrieved from https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Migration_and_migrant_population_statistics

education.³

Conversely, return migration, coupled with the rise of remote work, points toward a potential 'brain regain', offering a path to mitigate the long-term effects of talent loss and rebalance the labour market. Models of circular migration and brain regain present significant opportunities for economic renewal, knowledge transfer, innovation, entrepreneurship, and skills reintegration. This phenomenon, if left unchecked, undermines the EU's convergence objectives and threatens long-term social cohesion.

To fully leverage these opportunities, targeted strategies must prioritise SEE, where the outflow of talent has been most severe and persistent. Countries such as Romania, Bulgaria, and Croatia, despite producing highly skilled graduates, struggle to retain or attract them back due to limited infrastructure, wage gaps, and weak innovation ecosystems. Therefore, the burden of action lies both with national governments and EU institutions, who must coordinate policies that foster return incentives, promote remote and circular work arrangements, and invest in local conditions that make staying (or returning) viable. A proactive, region-focused approach to brain regain is not only desirable but essential for restoring equilibrium to the European labour market and ensuring convergence across the Union.

II. Brain drain: root causes and consequences

One of the core drivers of brain drain in SEE countries is the persistent underinvestment in human capital. Public spending on education, research, and innovation remains significantly lower than in Western EU countries. For example, in Romania, research and development (R&D) spending has hovered around 0.5% of GDP in recent years, compared to the EU average of 2.3%.⁴ As a result, graduates and skilled professionals

3 Berger, S. (2022). Brain drain, brain gain and its net effect (KNOMAD Paper No. 46). The World Bank. <https://documents1.worldbank.org/curated/en/099158408222442073/pdf/IDU-1323fa9f-7756-4666-b6a0-5018bf1c080a.pdf>

4 Eurostat. (2023). Research and development expenditure – statistics explained. Retrieved from https://ec.europa.eu/eurostat/web/products-eurostat-news/product/-/asset_publisher/VWJkHuaYvLIN/content/id/13718576/

often find that their home countries cannot offer competitive opportunities for advancement. Career ceilings are particularly common in the public sector and academia, where systemic underfunding and political interference hinder growth.

Receiving countries within the EU benefit from this imbalance. Highly educated professionals trained in SEE countries are absorbed into more developed labour markets, often with minimal barriers to entry. Over 40% of tertiary-educated Romanians living abroad are employed in high-skill sectors in Western Europe, compared to only 25% in Romania, according to the World Bank.⁵ This means that the sending countries effectively bear the cost of education, while the benefits, in productivity and tax revenue, are reaped by the receiving states. This uneven distribution reinforces regional inequalities and deprives SEE countries of key drivers of modernisation and reform.

The brain drain is most visible in sectors such as healthcare, information and communication technology, engineering, and research. For example, Romania lost over 15,700 doctors between 2007 and 2022, with the vast majority relocating to France, Germany, or the UK.⁶ Similar patterns are visible in Bulgaria, where over 10,000 medical professionals emigrated in the same period.⁷

The phenomenon is also highly regionalised: rural and peripheral areas are hardest hit, as they lack the infrastructure and incentives to retain

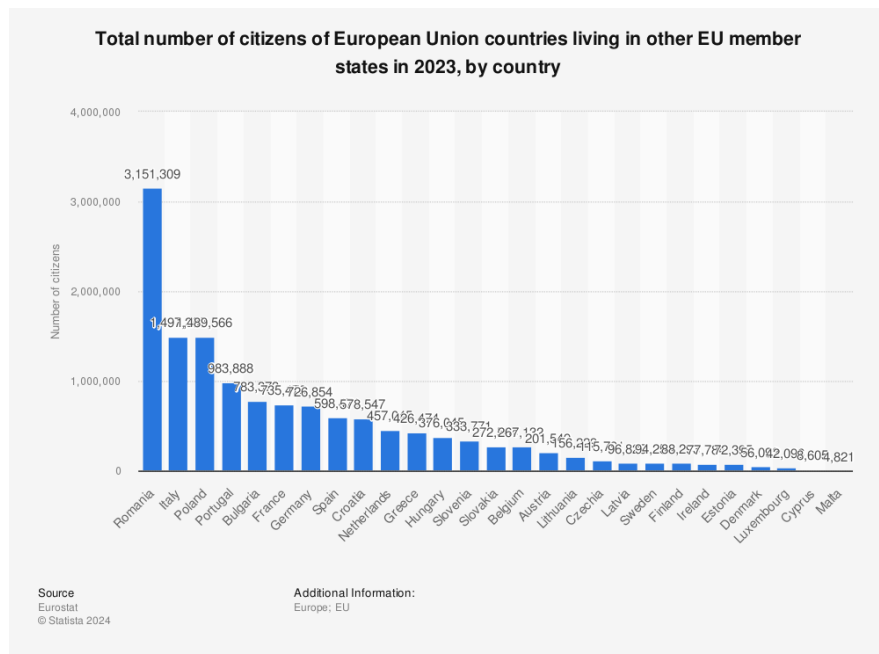
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5 World Bank (2022). Romania Systematic Country Diagnostic. Retrieved from <https://documents1.worldbank.org/curated/en/210481530907970911/pdf/128064-SCD-PUBLIC-P160439-RomaniaSCDBackgroundNoteMigration.pdf>

6 Nicula, M. (2025). Left behind or pushed out? Rethinking health workforce policy in Romania. *Journal of Community Positive Practices*, 25(2), 73–97. Retrieved from <https://doi.org/10.35782/JCPP.2025.2.04>

7 Garrote-Sanchez, D., Kreuder, J., & Testaverde, M. (2021). Migration in Bulgaria: Current challenges and opportunities (World Bank Report No. 914401640249485571). World Bank. Retrieved from <https://documents1.worldbank.org/curated/en/914401640249485571/pdf/Migration-in-Bulgaria-Current-Challenges-and-Opportunities.pdf>

young talent. Urban centres, while more dynamic, are also affected by the emigration of top graduates. In 2020, over 70% of Romanian emigrants aged 20–34 held university degrees.⁸



Key push factors include low wages, limited career mobility, endemic corruption, and weak institutions. For instance, a junior doctor in Germany earns around €2,700 net per month, compared to roughly €1,000 net per month in Romania. When adjusted for cost of living and purchasing power, the gap narrows but remains substantial. Romania's overall cost of living is about 40–60% lower than Germany's. This means that while a junior Romanian doctor's €1,000 stretches further at home, it still cannot match the purchasing power of a German junior doctor's income. In

8 Bălan, M., & Olteanu, C. (2017). Brain drain in the globalization era: The case of Romania. *Annals of the 'Constantin Brâncuși' University of Târgu Jiu, Economy Series*, (3), 18–26. Retrieved from https://www.utgjiu.ro/revista/ec/pdf/2017-03/03_MARIANA%20BALAN,%20COSMIN%20OLTEANU.pdf

other words, even after factoring in lower living costs, German doctors retain a clear advantage in real earnings. This disparity makes migration a rational economic strategy for many healthcare professionals, continuing to fuel the exodus of talent from Eastern to Western Europe.

Many skilled workers report frustration with meritocracy deficits, a lack of transparency in recruitment, and bureaucratic inefficiency. In Transparency International's 2023 Corruption Perceptions Index, most SEE countries scored below the EU average, with Romania scoring 46 out of 100, and Bulgaria scoring 43 out of 100.⁹ These systemic issues create a climate in which emigration becomes not just a choice, but a life necessity.

Many skilled workers report frustration with meritocracy deficits, a lack of transparency in recruitment, and bureaucratic inefficiency

The migration of young, educated individuals accelerates ageing and depopulation trends in the sending countries. Between 2007 and 2023, countries like Romania and Bulgaria lost over 15% of their working-age population.¹⁰ Eurostat projects that, by 2030, the EU's population aged 20–64 will decline by 4.2 million people, with the steepest decreases expected in Eastern and Southern Europe.¹¹ This leads to a shrinking tax base, increased pressure on pensions, and labour shortages in key public services. Socially, emigration affects family cohesion: in Romania, over 75,000 children were registered as having at least one parent working abroad in 2022.¹²

9 Transparency International. (2023). Corruption Perceptions Index 2023. Retrieved from <https://www.transparency.org/en/cpi/2023>

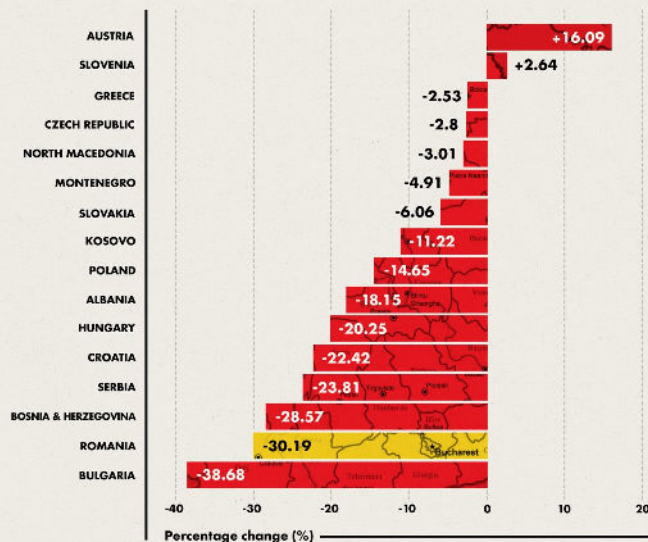
10 European Commission, 2023, Demography Report 2022.

11 Eurostat. (2023). Population projections in the EU. Retrieved from https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Population_projections_in_the_EU

12 SOS Children's Villages International. (n.d.). Romania. Retrieved from <https://www.sos-childrensvillages.org/where-we-help/europe/romania>

BIGGEST DEMOGRAPHIC LOSERS

Projected population change in countries
of Central and Southeast Europe (1989-2050)



Source: United Nations, World Bank, Agency for Statistics of Bosnia and Herzegovina



The long-term consequence of constant brain drain is weakened economic competitiveness. Countries face shortages in critical sectors, declining innovation capacity, and a depleted base of high-skilled professionals. For example, the Global Competitiveness Index (2023) ranks most SEE countries in the bottom third of EU states, citing human capital loss as a key constraint.¹³ As the gap between sending and receiving

13 Lanvin, B., & Monteiro, L. F. (2023). The Global Talent Competitiveness Index 2023: What a difference ten years make – What to expect for the next decade. INSEAD; Human Capital Leadership Institute; Descartes Institute for the Future.

countries widens, regional disparities within the EU deepen, posing risks to both economic cohesion and political stability.

III. Brain (re)gain: bridging imbalances

Efforts to address talent loss operate on two levels. At the EU level, policies and programs provide strategic frameworks, funding, and tools for cross-border cooperation designed to mitigate brain drain and promote talent mobility. At the national level, governments implement targeted initiatives aimed directly at attracting back and reintegrating skilled nationals.

While many highly educated individuals continue to migrate from SEE countries and Baltic states toward North-Western Europe and Scandinavia, the EU is also recruiting skilled professionals from outside its borders—primarily from regions such as India, North Africa, and Latin America. This non-EU inflow is offering an additional ‘brain gain’ to Western and Northern Europe, amplifying the already existing imbalances with SEE.

However, the focus remains on brain regain strategies for SEE countries and Baltic states, while acknowledging the broader talent acquisition strategies employed by the EU.

Return migration plays a vital role in reversing brain drain in SEE countries and Baltic states. Skilled migrants who return after gaining international experience make substantial contributions to innovation, entrepreneurship, and the modernisation of institutions. They bring with them enhanced skills and global networks that facilitate knowledge transfer and support regional development. Research indicates that returnees are more likely to engage in innovation-driven activities, which strengthens local economies and institutions.

To encourage this trend, several Member States, such as Estonia and Poland, have introduced policies that incentivise return migration through measures like tax breaks, research grants, and diaspora engagement programs. These national initiatives demonstrate a commitment to rebuilding domestic talent pools by providing conducive environments

Retrieved from <https://www.insead.edu/system/files/2023-11/gtci-2023-report.pdf>

for returnees and complement the wider EU-level approaches.

The rise of digital work and hybrid employment models, accelerated by the COVID-19 pandemic, has transformed the nature of talent mobility. By reducing the necessity of physical relocation, remote work allows professionals to maintain employment within international organisations while residing in their home countries. This shift fosters a new model of brain circulation, rather than a one-way brain drain, enabling greater economic integration across borders without permanent migration. Digitalisation acts as a key enabler for talent retention and cross-border contribution.

The European Union further supports talent retention and circular mobility through programs such as Erasmus+ and Horizon Europe, which promote academic and research mobility, innovation, and international collaboration. Additionally, Cohesion Funds are used to reduce regional disparities and improve the attractiveness of less developed areas for skilled workers. The European Social Fund contributes by supporting skills development, vocational training, and cross-border cooperation. Collectively, these initiatives encourage circular migration, capacity building, and knowledge exchange, providing alternatives to permanent

Digital work mitigates some effects of brain drain, but cannot substitute for robust domestic opportunities in research, healthcare, or technology.



talent loss and fostering sustainable labour market development.

Yet, despite these initiatives, existing policies remain fragmented, underfunded, and unevenly implemented. Many programs primarily benefit already mobile or highly skilled individuals, leaving structural issues—such as low wages, weak institutions, and limited career opportunities in SEE and the Baltic states—largely unaddressed. Digital work mitigates some effects of brain drain, but cannot substitute for robust domestic opportunities in research, healthcare, or technology. Without stronger, systemic interventions that directly improve local working and living conditions, current measures risk being insufficient to stem the long-term erosion of talent. This gap underlines the urgency of more ambitious policy action, which the following recommendations aim to address.

III. Policy recommendations

A. Recommendations for the European Union

1. Integrate brain drain into EU convergence policy

- Recognise brain drain as a structural driver of divergence across Europe.
- Incorporate human capital retention and reintegration into strategic priorities and country-specific recommendations.
- Link Cohesion Policy funding directly to reforms improving local working conditions in healthcare, education, and research.
- Introduce measurable targets for talent retention and return migration in the European Semester.
- Use the Recovery and Resilience Facility to monitor progress on reducing talent outflows.

2. Balance free movement with targeted regional support

- Adopt a synergistic migration and labour market strategy that upholds mobility rights while supporting regions with severe demographic pressures.
- Expand programs such as Erasmus+ and Horizon Europe to strengthen mobility and collaboration.

- Increase investment in cross-border innovation ecosystems and regional hubs to create opportunities locally.

3. Incentivise return migration

- Respond to Eurobarometer findings that ~40% of young emigrants would return if conditions improved.
- Dedicate EU funding to start-up grants, innovation hubs, and accelerated career pathways for returnees.

4. Promote circular and digital mobility

- Support short-term professional exchanges, remote work, and transnational projects within the EU.
- Enable skills exchange without permanent migration, fostering European solidarity.

5. Strengthen diaspora engagement

- Develop EU-level platforms connecting skilled nationals abroad with home-country opportunities.
- Support diaspora hubs, mentorship networks, and digital knowledge-transfer platforms to enhance expertise and investment flows.

B. Recommendations for Member States

1. Improve working conditions and wages

- Prioritise investment in competitive salaries and better working environments, particularly in healthcare and education.
- Expand professional development opportunities and clear career pathways.
- Boost national research and development funding to retain high-skilled professionals.

2. Facilitate reintegration of returnees

- Implement tax incentives, housing assistance, re-entry programs, and career guidance tailored to diaspora talent.
- Streamline credential recognition processes for professionals trained

abroad.

3. Align education with labour market needs

- Adapt national education and vocational training systems to anticipated skills demand.
- Expand lifelong learning, digital education, reskilling, and upskilling programs.
- Work with the EU to improve mutual recognition of diplomas and qualifications.

Effective brain drain mitigation requires:

- **At EU level:** strategic frameworks, funding, and coordination tools.
- **At Member State level:** attractive working conditions, reintegration pathways, and skills alignment.

A liberal approach views talent as a European common good, investing in people's freedom to thrive wherever they choose to live and work. Combining EU-wide initiatives with national policies will foster a more balanced, inclusive, and resilient European labour market.

VI. Final remarks

Brain drain remains a pressing challenge to the socio-economic cohesion of the EU. The labour market faces a dual challenge: mitigating the negative effects of brain drain while leveraging the potential of brain regain. If effectively harnessed, brain regain offers a powerful tool for rebalancing labour markets and fostering inclusive, sustainable growth.

EU institutions and Member States must adopt a proactive and coordinated approach to fully unlock the potential of return migration, circular mobility, and digital labour integration. With strategic investment in human capital, inclusive labour policies, and support for innovation ecosystems, these trends can deliver convergent opportunities for economic growth, regional cohesion, and global competitiveness.

To maintain a balanced labour market capable of supporting economic cohesion and competitiveness, the EU and Member States must address brain drain through coordinated strategies that transform mobility into mutual benefit. Promoting circular migration and investing in human

capital across all regions are crucial steps toward a more equitable, inclusive, and resilient European labour market.



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Chapter 5

Bridging the Digital Skills Gap: Rethinking Education and Career in the Age of AI

Chapter 5

Bridging the Digital Skills Gap: Rethinking Education and Career in the Age of AI

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IT Professional and Political Opinion Writer

Introduction

We are facing the Industrial Revolution 2.0 in the world, and this time it is not about the massification of large-scale mechanized factory production, but rather the globalisation of advanced systems that can reproduce human-like skills in a highly competent way, notably Artificial Intelligence (AI) technologies. Two centuries later, the same positive and negative consequences of these social changes continue to exist: while on the one hand, there will be exponential technological advances accompanied by economic growth, on the other, society will inevitably change its processes and will have to adapt to new economic and social conditions, reformulating the labor market.

For instance, the findings published in this year's World Economic Forum's 'Future of Jobs Report'¹ note that 41% of employers intend to downsize their workforce due to AI automation in certain tasks and roles. A similar study about the Portuguese job market, done by Randstad in 2024²,

1 O. Dmitracova (2025). '41% of companies worldwide plan to reduce workforces by 2030 due to AI', CNN, 8 January, <https://edition.cnn.com/2025/01/08/business/ai-job-losses-by-2030-intl>

2 Randstad Research (2024), 'A IA e o mercado de trabalho português',

Within the next ten years, the expansion of AI will automate around 481 thousand of the current job roles

showed that within the next ten years, the expansion of AI will automate around 481 thousand of the current job roles, eliminating 17% of them, but at the same time, creating more than 400,7 thousand new emerging professions. These job opportunities will require workers qualified with digital and AI skills.

As we navigate the unfolding of this AI-driven era of rapid digitalisation, it becomes clear that our societal structures, especially in education and labor, must evolve in tandem. The disruptions caused by AI offer a rare opportunity to recalibrate systems that have long lagged technological innovation. To capitalize on this moment, Europe must foster a paradigm shift: one that aligns vocational guidance, education, and employment strategies with the real-time demands of a fast-evolving job market.

This paper examines the key challenges in education and career sectors during this period of technological transition, analyses policy

Randstad, 14 March, <https://www.randstad.pt/randstad-research/o-impacto-da-ia-no-mercado-portugues/>

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options and reforms that are being implemented already, and outlines recommendations to solve the problem at the European level.

Introducing the Problem

The advance of AI will change the paradigm of jobs in the future, but young people are still encouraged to follow traditional careers. Nowadays, we are already witnessing the existence of a 'parallel' job market (online and digital), whose skills are quite different from traditional offline professions and are little known to the general population. Recent research conducted with the aim of measuring the impact that AI is already having on the labor market³ shows that the introduction of Gen AI chatbots and image-generating tools led to nearly immediate decreases in posts for online gig workers across job types. For instance, after the introduction of ChatGPT, there was a 21% decrease in the weekly number of posts in automation-prone jobs compared to manual-intensive jobs, and the same occurred with the launch of DALL-E 2, when the demand for graphic design and 3D modeling freelancers decreased by 17.01%.

Despite the number of jobs in the Information technology (IT) and AI fields increasing every day, companies are facing issues in hiring specialized human resources, because there are no qualified professionals for these roles. One of the problems is the perceptible lack of understanding from parents and schooling institutions to advise young students to look for certain 'new' career paths in these areas when deciding, for example, on a higher education specialization. These changes in the world are also reflected in the uncertainty regarding their vocation, which, with the lack of differentiated and forward-looking course paths options, makes them opt for degrees that go against their real interests. For instance, in Portugal, there has been an increase in higher education dropout rates, in which the most determining factors reported by students are not only academic exhaustion but also difficulties in adapting at a vocational level⁴.

3 O. Demirci, J. Hannane and X. Zhu (2024), 'How Gen AI Is Already Impacting the Labor Market', Harvard Business Review, 11 November, <https://hbr.org/2024/11/research-how-gen-ai-is-already-impacting-the-labor-market>

4 Fundação 'la Caixa' (2024), 'O abandono académico no ensino superior: Fatores sociodemográficos, económicos e psicossociais na era pós-pandemia',

Unemployment among young people is another challenge that Europe is facing, as Eurostat shares⁵. Over 14.5% of young people across the EU were unemployed as of February 2025. The issue is named NEETs (young people not in education, employment, or training) and is caused by many factors, such as the disconnection with the education system, the job market shrinkage, the trauma of the pandemic during their formative years, and the ongoing cost-of-living crisis. Especially for people in these conditions, the first step for labor market integration is not direct employment, but the confidence to do it based on self-strengths understanding, vocational profile mapping, and settlement of realistic career goals aligned with the society's needs⁶.

Education, as the basis for the construction of an individual in society, must be rethought and redesigned from now on, equipping citizens with the right tools and highlighting their individual digital skills, to adapt to the emerging context in which we live, preventing and guarding against problems in the future job market. As a global example of innovation in education models, Finland carried out an 'anticipation study'⁷ for 2025 in order to adapt the skills needed for the development of the Finnish economy and the adaptation of the education system to these new realities, concluding that the focus was positive in the areas of transversal skills, and negative in the narrower and less qualified sectors.

O Observatório Social, June, <https://oobservatoriosocial.fundacaolacaixa.pt/pt/-/o-abandono-academico-no-ensino-superior-fatores-sociodemograficos-economicos-e-psicossociais-na-era-pos-pandemia>

5 Eurostat (2025), 'Unemployment Statistics', https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Unemployment_statistics#Youth_unemployment

6 Interreg Europe (2025), 'Youth and employment: not just any job', 6 May, [https://www.interregeurope.eu/find-policy-solutions/stories/youth-employment-not-just-any-job#:~:text=Youth%20unemployment%20remains%20one%20of,%25%20\(source%3A%20Eurostat\)](https://www.interregeurope.eu/find-policy-solutions/stories/youth-employment-not-just-any-job#:~:text=Youth%20unemployment%20remains%20one%20of,%25%20(source%3A%20Eurostat))

7 A. Cristo (2017), 'Levar os alunos para o século XXI? A Finlândia já o fez', Observador, 19 March, <https://observador.pt/especiais/levar-os-alunos-para-o-seculo-xxi-a-finlandia-ja-o-fez/>

The individual's environment influences the acquisition of this 'pattern' of skills, since the social context and family dynamics in terms of life orientation can be very different. Equality is not the same as equity, and for a society to be fair, it is necessary to think about strategies to provide the right tools in an individual and personalised way. The tools referred to are based on encouraging the teaching of the soft skills necessary to enhance 'multipotentialites'⁸, which largely involve subjects such as critical thinking, civic and economic literacy, motivation, and ambition. As Thomas Sowell stated⁹, 'the difference for good results in professional and academic careers often lies in the existence of someone who guides an individual with great potential in the right direction, since the context of the social group does not dictate the norm'.

Current Policies and Solutions

The Digital Education Action Plan (2021–2027), defined by the European Commission, outlined two main strategic priorities for digital education across the EU¹⁴:¹⁰ Fostering a high-performing digital education ecosystem and enhancing digital skills and competences for digital transformation. As of mid-2025, this ambitious roadmap for transforming EU education systems for the digital era seems to have the foundational governance largely complete (including structured dialogues and Council recommendations) and some tools and frameworks are already in place. However, the actions of the project have not yet been truly realized with visible evidence, since the major initiatives around skills certification, competence frameworks, data tracking and broad digital inclusion are still in the deployment phase. The comprehensive evaluation of its results is also yet to be captured (including equity impact, infrastructure gaps, and learning outcomes), which makes it difficult to understand its level of achievement. These results urgently need to start being

8 S. Millar (2023), 'Preparing Our Young People For The Future Of Work - The Next Generation Of Multipotentialites', Scott Millar, 23 January, <https://www.iamscottmillar.com/post/preparing-our-young>

9 T. Sowell (2018), 'Discrimination and Disparities', Basic Books

10 European Commission (2020), 'Digital Education Action Plan (2021-2027)', September, https://education.ec.europa.eu/eu/focus-topics/digital-education/action-plan?utm_source=chatgpt.com

Natural language processing can analyze writing samples or social media behavior to infer personality traits, such as openness and conscientiousness, emotional tone, and even work-style preferences..

institutionally mapped, as planned and expected, to guide their following implementation over the next two years towards 2027.

As discussed, traditional career guidance methods are also limited in scope and rely heavily on subjective assessments. In contrast, AI offers scalable data-driven insights. For example, natural language processing can analyze writing samples or social media behavior to infer personality traits, such as openness and conscientiousness,

emotional tone, and even work-style preferences. Some projects in implementation, such as the 'Vocational Maturity Self-Assessment Tool' ⁶ created by the Youth in Transition Erasmus+, aim to help guide young people and co-design vocational pathways. However, this type of solution, despite addressing the issue of vocational guidance, lacks the additional understanding of changes in the IT job market and professions of the future. This knowledge is imperative to be able to map the citizen skills with specific roles and professions in the emerging AI market.

On the other hand, Generative (Gen) AI literacy has also been proven to be essential not only to gain the skills needed for most jobs in the coming decades but also as a tool for self-knowledge in personal and professional improvement. A study¹¹ done to young people in United Kingdom, where over 869 thousand young people are currently classified as NEET, highlights the vital role technology, in specifically Gen AI, plays in shaping employment opportunities for NEET young people, not only in the vocational orientation but also helping to find a suitable jobs, such

11 Movement to Work (2025), 'AI can empower young people struggling to get into work', Institute of Students Employers, 22 January, https://ise.org.uk/knowledge/insights/362/ai_can_empower_young_people_struggling_to_get_into_work/

as writing CVs, editing cover letters and even preparing for interviews. Generative models can also be used to create efficient applications that serve as a career guidance assistant specialized in IT and AI roles, to help not only young students who are looking for new professional paths but also academic institutions to update and improve their academic courses.

By leveraging machine learning, psychometric profiling, and behavioral analytics, AI systems can act as sophisticated mirrors, helping individuals uncover latent traits, preferences, and cognitive styles that might otherwise remain obscured. These rich datasets allow Gen AI models to construct dynamic, personalized models that not only reflect who a person is but also predict which types of digital roles they are most likely to thrive in. For instance, someone who exhibits high creative fluency and tolerance for ambiguity (traits measurable through both linguistic markers and decision-making patterns) may be steered toward careers in generative design, AI-assisted storytelling, or innovation management. Therefore, individuals with demonstrated strengths in procedural thinking and precision might be better matched with digital roles in cybersecurity, robotic process automation, or synthetic data engineering.

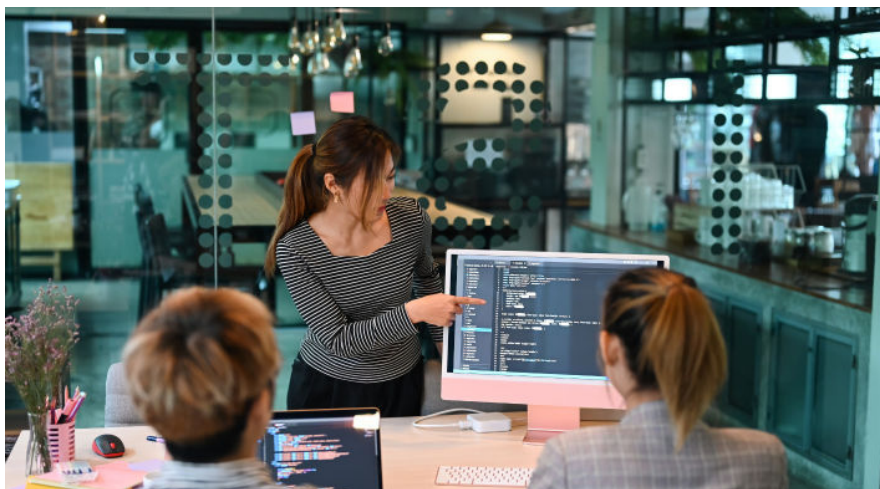
Despite the clear role of AI in work productivity and efficiency, the importance of soft skills, or, as Simon Sinek refers to them as 'human skills'¹², such as communication, time management, teamwork, networking, empathy, critical thinking, proactivity, and self-awareness, remain a foundation to personal success and development. AI tools might come to enhance the person's individuality, not replace it. To fully benefit from technology, one should deliberately and thoughtfully embrace innovations that enhance life, while avoiding those that may hinder it¹³.

12 P. Jacob (2023), 'In An Era Of Artificial Intelligence, There's Always Room For Human Intelligence', Entrepreneur Middle East, 30 May, <https://www.entrepreneur.com/en-ae/technology/in-an-era-of-artificial-intelligence-theres-always-room/453058>

13 E. Dankaert (2024), 'The Future of Self-Discovery: Using Technology and AI', Medium, 5 May, <https://medium.com/lessons-from-the-couch/the-future-of-self-discovery-using-technology-and-ai-3f791ba6cff0>

Recommendations

The demand for tech-related skills, as a primary concern in every emerging economic strategy, must be reflected in the implementation of solutions for vocational training and education, which align skill-building programs with labour market needs. In this sense, it is imperative to ideate and create initiatives that empower individuals to gain transversal skills to adapt to the present ambiguity of the AI world, focusing their interests and motivations on concrete future objectives.



1. Digital & AI literacy policy plans

Implementing leading-edge European policies, providing all EU governments with studied frameworks and directions to implement national solutions, could definitely update and fill the existing gaps in the developing 'Digital Education Action Plan'. These policies could include: modernising the educational institutions' pedagogical structure; updating their curricula to the current digital-focused job market; implementing vocational guidance plans with a focus on emerging trends and technologies; and Gen AI literacy programmes. These guidelines should be converted to specific action plans and initiatives with concrete key objective indicators:

- Decrease the number of NEET EU citizens;

- Raise the number of EU citizens with specialized and technical AI knowledge;
- Measure the impact of implementing vocational guidance tools focused on IT educational and career paths on the growth of qualified professionals with digital and AI skills qualified to work in European technology companies, increasing job demand and reducing unemployment at the European and local level.

2. Support innovative solutions projects

The funding of European projects, created by EU-wide private or public institutions, which aim to design and build AI systems that put into practice these initiatives, is also essential to move forward in a good direction. The objective would be to develop several tools, such as academic / market assessment tools that could help governments and educational institutions in improving the innovation and offer based on data-driven insights; self-vocational guidance applications which combine the citizen's profile with job recommendations and trainings in the emerging online professional market; learning and development platforms to help individuals to acquire more AI knowledge and skills; among other relevant solutions.

AI has the potential to not only match people to existing roles, as well it can also anticipate how a person might grow into emergent ones. With continuous feedback loops and adaptive learning architectures, it can help individuals track their evolving competencies and recalibrate their career trajectories accordingly. This is particularly relevant in an era where digital jobs mutate faster than educational systems can adapt.

These systems can present themselves as a solution to the identified problems if they are done responsibly, safely, and while protecting citizens' personal data from the government and organizations. In the AI age, data ownership is crucial to implement digital privacy rights, in which individuals should have the ultimate control and authority over the personal information they generate or provide online in this type of tool¹⁴.

14 J. Drabkin and G. Stegmaier (2024), 'The thorny issue of data ownership', Reed Smith, <https://www.reedsmith.com/en/perspectives/ai-in-entertainment-and-media/2024/02/the-thorny-issue-of-data-ownership>

Moreover, the ethical application of AI in this domain can promote greater fairness and inclusion. By decoupling vocational recommendations from traditional demographic or institutional biases, AI systems can spotlight unconventional talents in marginalized or overlooked populations, democratising access to meaningful digital work.

Conclusion

The path forward to Europe lies in a hybrid approach that merges technological innovation with human-centric values. This means not only equipping EU citizens with technical competencies but also cultivating soft skills that machines cannot replicate. AI-powered tools should act as enablers of personalized development, capable of illuminating hidden potential and expanding career possibilities, especially for those currently disengaged from the labor market.

To ensure this transformation is equitable and sustainable, a cohesive EU liberal policy framework is essential, which could support: fostering inclusive access to digital open market opportunities and modernising educational institutions and vocational systems through AI-driven insights, always ensuring individual freedom through ethical data practices. If deployed responsibly, AI will not replace the human workforce but rather empower it, enabling citizens to thrive in careers that are both personally meaningful and economically relevant. The future of work in Europe depends on our ability to harness this technology to build a more adaptive, resilient, and inclusive society.

AI has the potential to act as both a diagnostic and a developmental tool, enhancing self-knowledge and guiding individuals toward future-fit careers that harmonise with their 'traditional jobs' and profile characteristics. This convergence of internal insight and external opportunity may prove pivotal in building a more adaptive, equitable, and human-centered digital workforce. If used in a wise and faithful manner, AI will provide the resources and tools to reflect the European citizens' skills and goals in the best way possible.

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Chapter 6

The Age Of Collaboration: Managing Multigenerational Talent

Chapter 6

The Age Of Collaboration: Managing Multigenerational Talent

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Introduction and context

Europe's ageing population is one of the most significant social and economic challenges that the EU faces. It is a process with many consequences. An ageing society puts pressure on all elements of social and economic development, including public finances, the functioning of the labour market, the pension and healthcare systems, the education system, and the social services system.

Projections for the working-age population in EU-27 countries indicate that the 55-64 age group is expected to increase by 16.2% (9.9 million) between 2010 and 2030. A decline is observed in all other age groups, ranging from 5.4% (in people aged 40-54 years) to 14.9% (in people aged 25-39 years). In many countries, due to ageing, older workers will make up 30% or more of the working-age population.¹

These demographic trends are creating qualitatively new challenges in the education system, particularly in the fields of continuing education, lifelong learning, and acquiring new skills. The challenges to working conditions are significant, particularly in ensuring that ergonomic requirements are met and reducing workplace stress. Human resource management, career

1 Ilmarinen J(2012), 'Promoting the active life of older people at work', European agency for safety and health at work, <https://osha.europa.eu/publications>

management and transitions in the work-life cycle are also facing new challenges. Likewise, the issue of justice and equal treatment of generations comes to the fore. Therefore, it is necessary to work to mitigate the contradictions and divisions between the younger and older generations in terms of employment, access to education, information, new technologies, the decision-making process, material security, and the sharing of financial burdens in society.

Currently, the employment rate among workers aged 55-64 in EU-27 countries is below 50%, due to various factors, including diseases, disability, demotivation, family concerns, and the fact that many elderly workers leave work before reaching the mandatory retirement age. Therefore, to ensure and finance the increasing life expectancy of European citizens, urgent action is needed to improve the quality and duration of working life. Due to labour shortages, the labour market cannot afford to overlook the potential of older workers.²

This chapter explores how a holistic approach to age management can reduce the structural factors contributing to early retirement and promote longer, better working lives. As labour market policy remains primarily regulated at the national level, significant variation exists across EU countries in terms of labour market participation and pension receipt patterns.

² https://ec.europa.eu/info/sites/info/files/economy-finance/ip065_en.pdf

Currently, the employment rate among workers aged 55-64 in EU-27 countries is below 50%.



Bulgaria is an instructive case study for multigenerational workplace collaboration due to its dramatic demographic shifts, low birth rates and massive emigration. At the same time, immigration levels are low from both the EU and third countries.³ With its low unemployment rate of 3.7% (compared to the EU average of 6.9%) and the share of people who continue to work after retirement, Bulgaria is an interesting case to examine. Approximately 17% of people continue to work after starting to receive old-age pensions. It is far from the Nordic countries' 30-40% but is higher than the 13% EU average and almost twice the numbers in the region, and higher than most EU countries, both new and old.⁴ It is also important to note that historically, Bulgaria has a tradition of strong intergenerational solidarity within families, at work, and in other aspects of society.

Current policy and regulatory environment

The EU has implemented legislative measures to prevent discrimination in the employment sector. In 2000, Directive 2000/78/EC on equal treatment in employment and occupation, including on grounds of age, was adopted. Some of the principles outlined in the European Pillar of Social Rights, adopted in 2017, relate to fairness, inclusion, equality at work, and solidarity between generations in the workplace.

The latest key EU initiative, launched this year, is the Union of Skills, which aims to support the development of human capital and strengthen the EU's competitiveness. Among the main objectives of the Union Skills

3 Eurostat, (2024). 'Residence permits - statistics on stock of permits at the end of the year'

https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Residence_permits_-_statistics_on_stock_of_permits_at_the_end_of_the_year

4 Eurostat, (2024). 'Pensions and labour market participation - main characteristics'

https://ec.europa.eu/eurostat/statistics-explained/index.php?title=Pensions_and_labour_market_participation_-_main_characteristics&stable=0

The EU faces major challenges, requiring increased efforts to develop policies to attract, retain and motivate talent.

are to provide opportunities for older workers to engage in lifelong learning, upskilling, and reskilling, and to attract and retain the talent needed by the European economy.

The EU faces major challenges, requiring increased efforts to develop policies to attract, retain and motivate talent. These policies should be designed and implemented in the context of:

- Growing shortage of qualified personnel in all areas of the economy and the need to extend active working life and work capacity;
- Increasingly high level of competition, implying greater needs for storing and sharing knowledge and experience;
- Growing age diversity due to the ever-expanding participation of people after working age;

The need for studying generational divides and their Impact on the labour market

Obviously, there is a problematic situation related to the management of age gaps in the labour market. Without relying on a theoretical basis and knowledge of the processes, it would not be possible to solve the outlined problems. Practice shows that differences and distances between generations in the workplace can often negatively impact productivity and efficiency.

According to a study by the Bulgarian Industrial Chamber from 2024, the age structure of the workforce in Bulgaria is:

- Generation Z - 11% of the workforce: born 1997-2010
- Generation Y - 27% of the workforce: born 1981-1996
- Generation X - 40% of the workforce: born 1965-1980
- Generation T - 23% of the workforce: born 1956-1964

The generational structure of workplaces is characterised by generational diversity that varies according to the field of activity. A study by the Employment Agency in October 2024 indicates that Bulgarian businesses require approximately 262,000 workers annually. 66.7% of employers have difficulty hiring new workers, due both to the general lack of people of working age and to the mismatch of education and skills with the needs of the economy.

Unfavourable demographic trends pose many challenges to business management:

- Ageing workforce, especially in manufacturing and heavy industry;
- Increasingly acute shortages of skilled and unskilled labour;
- Difficulties in ensuring continuity in key positions and danger of loss of knowledge and skills

The theory of generations explores the most characteristic traits shared by cohorts born in specific chronological intervals. It is based on analysing the causes and factors of differences in thinking, behaviour and values of people born in different historical periods.

The generation is defined as 'all people born about the same time'⁵ or as 'all people of approximately the same age, within a given community or within a certain family'.⁶ Other researchers accept that a generation is an identifiable group of people who share birth years, age, and significant life events at critical stages of their development.⁷ To summarise, it could be assumed that generations are groups of people, born in a certain period of time, whose formation was influenced by certain historical, social, economic, and cultural circumstances, as well as those related to the development of technologies.

Academic research deals little with the topic of generational differences and their reconciliation from the perspective of labour participation. In the last few years, however, this interest has intensified due to objective

5 <https://www.oxfordlearnersdictionaries.com/>

6 <https://dictionary.cambridge.org/dictionary/english/generation>

7 Kupperschmidt, B.R.(2000), 'Multi-Generation Employees: Strategies for Effective Management', *The Health Care Manager*, 19, 65-66.

reasons, driven by changes in how generations succeed one another, and where newer generations are marked by sharper contrasts in values, behaviours and skills.

First, in periods of socio-economic crises, accelerated technological development and mass migration processes, differences between generations sharply increase and are often expressed in contradictions and conflict between them.

Our current period has these features. The global COVID-19 pandemic has led to changes in the way people live and communicate, and in perceptions of the nature of the workplace and working hours. Upheavals in economic development, which manifested themselves in an economic crisis, the presence of wars and enormous migrant pressure, digitalisation and the advent of artificial intelligence, have fundamentally changed Europe and the world.

Secondly, the relatively smooth succession of generations has been shaken by the emergence of new cohorts characterised by profound qualitative changes in behaviour and makeup. Generations are usually classified into periods of about 20-30 years. In recent generations, however, we have observed a shortening of generational periods, and their identity is being defined over shorter periods of about 10-15 years. This is mainly due to the rapid technological development and its role as an important shaping factor.



There are differences in theory regarding the classification of generations. The reasons for this are the differences between the various geographical regions of the world, in their natural and economic factors, as well as in the peculiarities of folk psychology. If we try to summarise, modern researchers distinguish five generations:

Generation T - 'Traditionalists', 'Baby Boomers', 'Paper Generation', born in the period 1946-1964

Generation X - 'intermediate generation', 'lost generation', 'analogical generation', born in the period 1965-1980

Generation Y - 'Millennials', 'Children of the Millennium', 'me-me generation', 'Individuals', born in the period 1981-1996

Generation Z - 'Digital Generation', 'Digital Natives', 'Innovative', born in the period 1997-2010

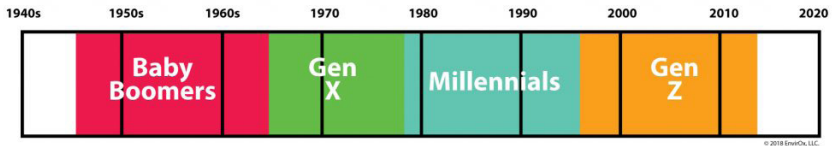
Generation A (Alpha) - 'The different ones', 'Smartphone generation', iGen. These are today's children, born after 2010.

Some researchers are already discussing the new generation B (Beta), which is expected to emerge between 2025 and 2039. Therefore, the first humans of this generation are being born this year. This generation will be dominated by artificial intelligence.

How to work in an intergenerational team?

The increased interest in working in intergenerational teams over the last few years is driven by the need for the older generation to stay in the labour market longer and the qualitative leap in the characteristics of new generations. There have always been teams of different generations in the workplace, but the need to better understand how they function has become acute. For example, due to labour shortages, Generation T will have to work longer, and Generation Z, according to statistical data, will already make up 30% of the workforce within a few years. The graph below provides a clearer visualisation of the life-cycle placement of the four generations now in the labour market.⁸

Generations In & Entering The Workforce



Differences in the enduring characteristics of individual generations related to work are determined primarily by the social context in which each generation lives. It influences personal characteristics and attitudes, values and beliefs in the organisation, labour ethics and the goals that the individual pursues in their work.

In different sectors in Bulgaria, the ratio of generations varies, and the management problems that need to be solved differ accordingly.⁹

- In the manufacturing and engineering sectors, employees 'aged', and workers over 50 are the predominant group. If quick measures are not taken to ensure continuity and attract staff, the shortage will soon be huge. In sectors such as IT, the outsourcing industry, the advertising industry, logistics and others, employees up to the age of 30 predominate. These are generations Z and Y. The environment is innovative and highly dynamic.
- *Job satisfaction.* It is lower and more difficult to achieve in younger generations (Z and Y) compared to generations /X and T/.¹⁰
- *Commitment to the business of the company they work for.* It is highest among people from Generation T and Generation Z. But while loyalty is key for Generation T, Generation Z seeks meaning in what they commit to.¹¹

9 <https://acrobat.adobe.com/id/urn:aaid:sc:EU:161d967c-cde8-43dd-858f-dcc52367317a>

10 Twinge, J. M., Campbell, S. M., (2008), 'Generational differences in psychological traits and their impact on workplace' – In: Journal of Managerial Psychology.

11 Grant, A. 'Give To Get', ed. Altera, C, 2017;

- *Workplace sustainability.* It is more important for Generation T and Generation X, compared to Generation Z and partly to Generation Y. Generation T has a strong preference for job security and finds it more difficult to leave. The generation now entering the labour market prefers to have experience from different organisations and businesses and tends to leave their jobs if they do not feel satisfied.
- *Autonomy at work, flexible working hours, work-life balance.* Representatives of Generation Z and Generation Y attach greater importance to these work conditions. For the younger generation, work is not such an undeniable value in itself if it does not provide some of the above conditions.¹²
- *Importance of learning and development opportunities.* They are a universal value for all generations. Differences exist in terms of methods, forms, the time and the way of learning.¹³
- *Affiliation.* Generation Z and, to some extent, Generation Y are more affiliative. They prefer to work in an environment dominated by their peers, and they have more difficulty communicating with older generations.¹⁴

Policy recommendations

Dynamic changes in the socio-cultural environment, changing workplace conditions, and an ageing workforce create the need to adapt management patterns and support the integration of different generations into effective intergenerational teamwork. For the purposes of this publication, age management refers to the promotion of practices/ strategies that result in quality and inclusive workplaces for all employees,

12 Cennamo, L., Gardner, D., 2008. Generational differences in work values, outcomes and person-organization values fit – In: Journal of Managerial Psychology;

13 D'Amato, A., Herzfeldt, R., 2008. Learning orientation, organizational commitment and talent retention across generations: A study of European managers – In: Journal of Managerial Psychology, 23 (8);

14 Wong, M., Gardiner, E., Lang, W., Coulon, L., 2008. Generational differences in personality and motivation: Do they exist and what are the implications for the workplace? – In: Journal of Managerial Psychology;

regardless of age. In the era of rising career length and retirement age, age management should be integrated as a core component of human resource policies and encompass a proactive, comprehensive approach that should:

1. Develop a holistic and proactive strategy that leads to better motivation, job satisfaction, better work-life balance, and higher productivity of all age groups.

Its objectives should include:

- Ensuring equal opportunities and equitable access to development and career progression for all age groups;
- Promoting a healthy, inclusive, and attractive working environment tailored to diverse age-related needs;
- Supporting the recruitment, engagement, and retention of skilled employees across all generations.

2. Foster an inclusive organisational culture, which allows the employees to experience a number of benefits such as:

- Taking full advantage of the strengths and talents of different generations;
- Reducing the turnover and costs of hiring new staff;
- Avoiding the expensive loss of knowledge, skills and experience;
- Attracting, engaging and retaining capable people from different generations.

3. Prevent age discrimination

Age management should take into account manifestations of ageism, which is a prejudiced, most often negative attitude towards an individual, based on age. This should be aimed at preventing:

- Discriminatory criteria in the recruitment and selection process;
- Limiting access to training and development opportunities;
- Excluding older workers from new technology projects;
- Unobjectivity in employee evaluation.

Age discrimination should be ignored, and interaction should be encouraged, despite age differences. This will become increasingly relevant for economic development.

Conclusion

If we are to conclude, the keyword that best illustrates the situation related to managing age differences at the European and national levels is 'challenge'. Discrimination, exclusion, biases and prejudice are hindering societal development. Liberal principles, including individual autonomy, equal opportunity, and fair treatment regardless of age, form the basis of an age management approach that can be successful at national and European levels in both public and private organisations, focusing on maximising the potential of all employees through inclusive practices and policies. This will become increasingly relevant for economic development, productivity and efficiency.

Dynamic changes in the workforce are putting pressure on further accelerating improvements to the regulatory framework, with the aim of creating greater adaptability to the needs of different generations within the workforce. Policies must be responsive to these contextual differences to ensure effective age management.

A comprehensive review is necessary to ensure the completeness of the transposition of European documents' requirements related to age management, active ageing, and the extension of working life, as well as solidarity and the transfer of knowledge between generations, into national legislation.

In parallel with consolidating and improving the regulatory framework, targeted scientific and applied research must be encouraged and financed to contribute to solving practical problems. It would be challenging to report progress without widespread public awareness and the establishment of a culture of tolerance and cooperation.

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Chapter 7

From Barriers to Bridges: A Liberal Framework for Labour Inclusion and Mobility in the EU

Chapter 7

From Barriers to Bridges: A Liberal Framework for Labour Inclusion and Mobility in the EU

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Introduction

Draghi's ambitious agenda aims to boost European competitiveness and revive the European economy. However, Europe's labour market is grappling with a structural mismatch between the skills of the workforce and the evolving demands of the economy. In addition to the long-standing structural weaknesses of the European economy, persistent barriers to labour mobility and the exclusion of under-represented groups remain major obstacles to this objective. This chapter argues that legal migration and labour mobility must become core components of a revitalised, liberal strategy for economic resilience. Drawing on the Migration Integration Policy Index (MIPEX) and recent EU data, the study reveals fragmented integration outcomes across Member States, with many migrants facing institutional and practical barriers. Best practices demonstrate that inclusive educational and reskilling frameworks yield stronger labour market outcomes. The paper proposes a set of evidence-based reforms, such as linking migration to labour demand, simplifying qualification recognition, and investing in inclusive integration. These are essential to aligning Europe's labour force with its future economic

ambitions.

1. Europe's Labour Market Challenge

The current debate on Europe's economic policy is focused on competitiveness, innovation, and autonomy, seen as critical pillars for tackling the immediate challenges of our time and the more complex problems that lie ahead. Recent significant reports on the European economy, such as the Draghi *Report on the Future of European Competitiveness*,¹ have highlighted that over half of EU businesses report difficulties in finding workers with the right skills. This shortage is not confined to low-skilled roles but extends to high-skilled professions, particularly in sectors critical for innovation and growth, such as information and communication technology. The current labour force is not yet aligned with new technologies that emerge, resulting in a misalignment between education and training systems and labour market demands.²

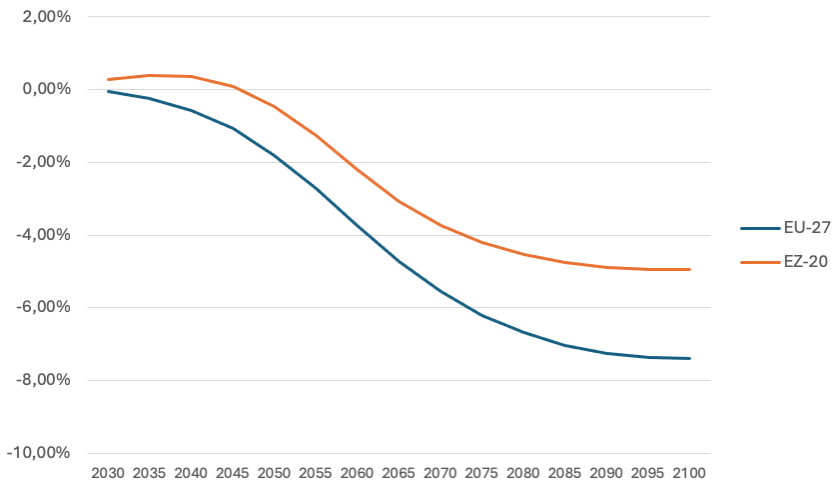
1 M. Draghi (2024), Report on the Future of European Competitiveness (Brussels: European Commission), https://commission.europa.eu/topics/eu-competitiveness/draghi-report_en

2 G. Di Pietro (2024), SMEs, Skills Shortages and Third-Country Nationals (Seville: European Commission, Joint Research Centre), <https://publications.jrc.ec.europa.eu/repository/handle/JRC139979>



Compounding this, the continent's workforce is expected to shrink significantly in the coming years due to rapid population ageing. Figure 1 presents the projections of future European Union (27) and Eurozone (20) populations, compared to the 2025 populations. The population of the EU-27 is expected to decline steadily, falling by more than four percentage points by 2060 and approaching an eight-point decrease by 2100 compared to 2025 levels. Moreover, if net migration levels from the past two decades are not maintained, the population decline will reach more than a third by 2100.³

Figure 1. Projection of future European population, compared to the 2025 population.



Source: Eurostat. (n.d.). Population projections at the national level (2019-based) [proj_19np] [Dataset]. European Commission. https://ec.europa.eu/eurostat/databrowser/view/proj_19np/default/table?lang=en

Note: The graph assumes that countries will maintain their net migration inflows.

3 A. Clark (2025), 'Europe's Population Crisis: See How Your Country Compares – Visualised', The Guardian, 18 February, <https://www.theguardian.com/world/ng-interactive/2025/feb/18/europes-population-crisis-see-how-your-country-compares-visualised>

These three structural labour market inefficiencies and challenges expose systemic shortcomings in the economic policy design. Structural unemployment, underemployment, and skills mismatches will persist, while labour force participation rates will remain uneven across member states, putting more pressure on pension systems. These issues not only jeopardise the sustainability of current social welfare systems but also undermine the labour market's ability to produce the economic output required to drive innovation and enhance competitiveness.

2. Rethinking Labour Market Openness

Labour, as a core factor of production, remains essential to the growth trajectory envisioned by the recalibrated European economic agenda. Two core elements that made labour more productive and efficient are its mobility and openness; the former concerns workers' capacity to move across different territories (regions, sectors, or countries), while the latter describes whether institutional and legal frameworks permit such movement in practice. Entry conditions for foreign workers, recognition of qualifications and skills, and fair access to employment opportunities constitute the key factors that enable workers to exercise their potential by relocating to contexts where their labour supply can be utilised most effectively. Accordingly, both mobility and openness represent essential prerequisites for the functioning of a more efficient labour market. However, with today's demographic outlook, most European countries lack the necessary tools to effectively respond to the looming labour shortages, which are already contributing to declining productivity and a loss of economic dynamism.

Tackling the growing skills shortage is a pressing challenge for the EU, as employers across a wide range of sectors are struggling to fill vacancies. This mismatch between effective labour supply and demand is particularly concerning in the context of the digital and green transitions. Ensuring a steady pipeline of talent proficient in both green and digital domains is essential to meet employer needs and support broader industrial goals.⁴ In the face of a rapidly ageing population, persistent skills shortages, and the green and digital transitions, Europe must make better use of its existing and potential workforce.

4 Di Pietro, SMEs, Skills Shortages



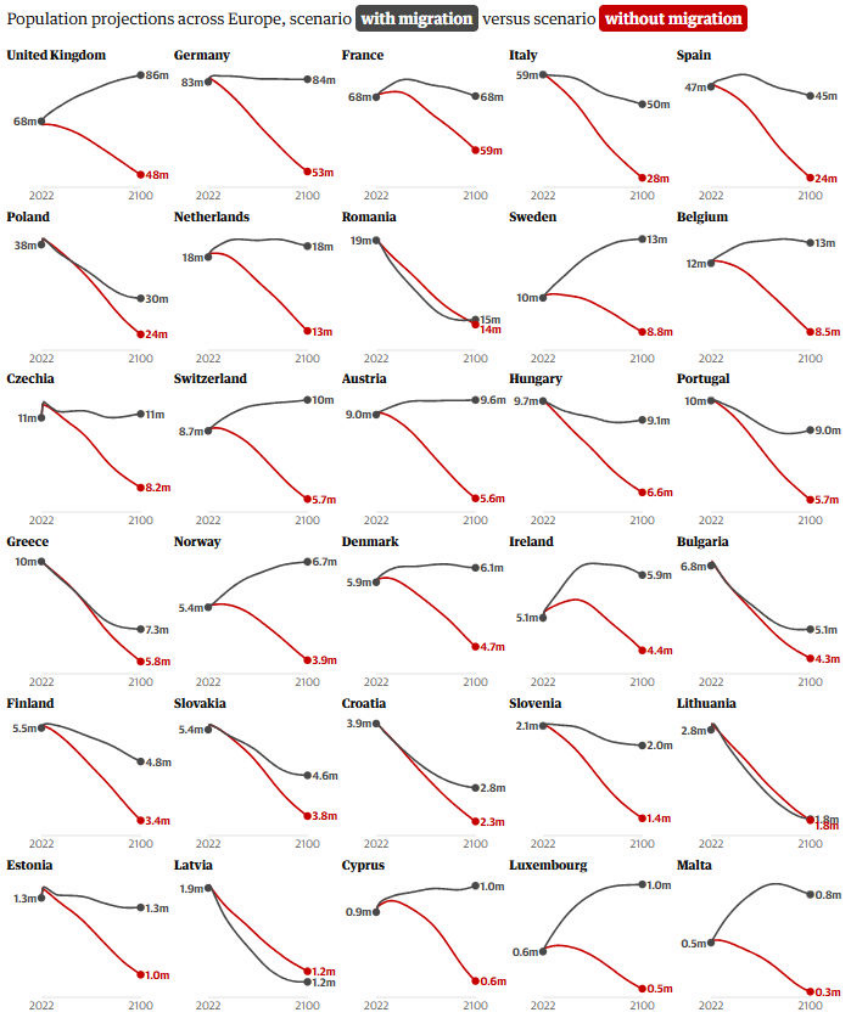
Market openness to people who have skills but not the requirements is still a pressing issue. Figure 2 presents two contrasting scenarios for population projections across EU countries, highlighting the significant role migration can play in shaping current and future demographic trends.⁵ In contrast to the first scenario, where projections incorporate net migration based on each country's average inflows and outflows over the past 20 years, the second scenario excludes migration entirely, relying only on natural population change, that is, births minus deaths. The difference between these two projections is striking: countries with historically high net migration, such as Germany, Spain, and Sweden, show markedly lower population estimates in the absence of migration. Even though migration can operate as a demographic lever and a potential tool for addressing labour shortages and economic stagnation, a sound migration plan is still absent at the EU level.

5 Clark, Europe's Population Crisis

Figure 2. Population projections across Europe, scenario with migration versus scenario without migration.

Graph Source: Clark, Europe’s Population Crisis.

Notes: Eurostat population projections, UK Office for National Statistics.



The scenario with migration is based on a country's average net migration levels from up to 20 years ago, depending on data availability. Scenario without excludes this input from the projection model and is based on natural population dynamics.

3. Diagnosing Labour Market Inefficiencies: The European Framework – Law, Migration, and the Internal Market

From a liberal standpoint, migration, seen as labour mobility, is more than a tool for improving economic efficiency; it embodies core European values, such as freedom of movement, equality of opportunity, and the open circulation of ideas and talent. Article 45 of the Treaty on the Functioning of the European Union (TFEU) enshrines the free movement of workers and prohibits discrimination based on nationality. This is reinforced by key instruments such as Regulation (EC) No 883/2004 on social security coordination and Directive 2005/36/EC on the recognition of professional qualifications.

Mobility within the EU remains relatively stable and strong, as approximately ten million working-age EU citizens (aged 20–64) reside in another Member State, with 976,000 individuals moving from one EU/EFTA country to another and 738,000 returning to their country of citizenship.⁶ These figures reflect high intra-European migration, with its most striking characteristic being that intra-EU movers tend to have a higher employment rate (78%) compared to both nationals (76%) and third-country nationals (63%). However, according to Eurostat, over 30 per cent of EU firms face recruitment challenges due to skills shortages,⁷ which cannot be filled from the intra-EU supply.

To address these shortages effectively, the current framework for legal migration from third countries must change to a more inclusive direction.

6 European Commission, Directorate-General for Employment, Social Affairs and Inclusion (2025), Annual Report on Intra-EU Labour Mobility 2024 (Brussels: European Commission), https://employment-social-affairs.ec.europa.eu/news/annual-report-intra-eu-labour-mobility-2024-published-2025-02-07_en

7 Business Europe (2023), Analysis of Labour and Skills Shortages: Overcoming Bottlenecks to Productivity and Growth (Brussels: Business Europe), https://www.businesseurope.eu/wp-content/uploads/2025/02/2023-10-23_analysis_of_labour_and_skills_shortages-1c2-1.pdf

The Blue Card Directive (2009/50/EC, revised in 2021) seeks to attract highly skilled workers, while other instruments such as the Single Permit Directive and Long-Term Residents Directive aim to streamline residence and work procedures. The Temporary Protection Directive, recently used in response to the Ukrainian crisis, shows that coordinated approaches are possible. Nevertheless, for many low- and medium-skilled migrants, access to EU labour markets remains limited, even where demand is high. This institutional and practical fragmentation exacerbates existing inefficiencies. Besides that, an EU-oriented migration policy plan is currently out of the debate, migrants often encounter legal and practical obstacles in certain member states, to full labour market participation, from slow qualification recognition to restricted access to job counselling and training.

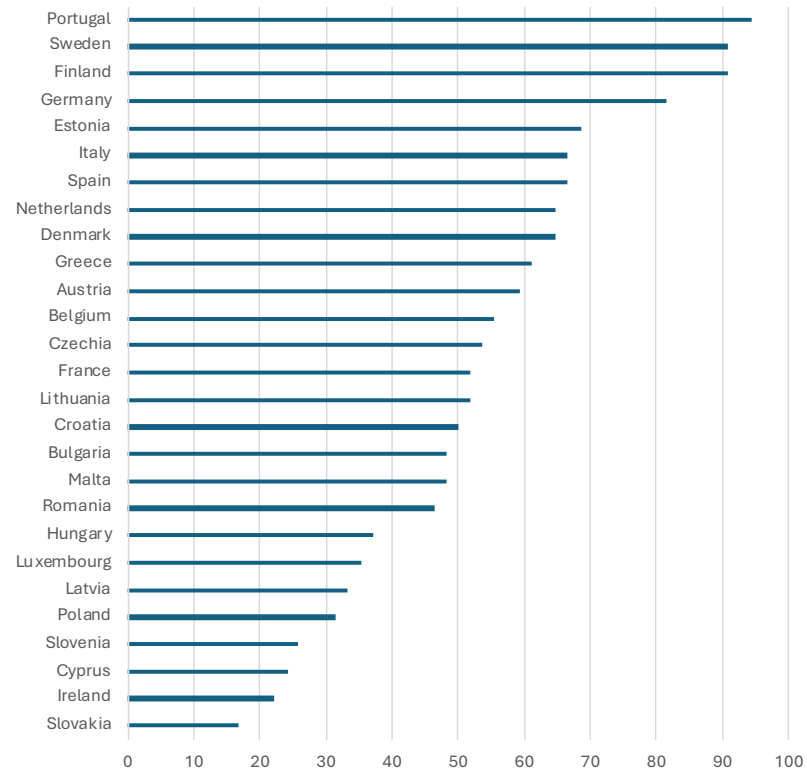
4. Migrant Exclusion and the Limits of Current Frameworks: are there best practices?

Although the EU labour market mobility scheme is well designed for intra-EU migrants, migrants from abroad face certain institutional obstacles. To identify these obstacles, we will use the Migrant Integration Policy Index (MIPEX),⁸ which measures how well governments promote equal rights and opportunities for migrants. One of MIPEX's key dimensions for migrants' integration is labour market mobility, which assesses whether immigrants have the legal right and practical support to access employment, advance their skills, and achieve equal outcomes compared to native citizens.

As Figure 3 demonstrates, labour market mobility scores in the EU-27 vary significantly, highlighting that the migration regulatory framework in the EU countries is fragmented. Countries such as Portugal, Sweden, Finland and Germany ensure to a greater extent that immigrants are institutionally supported to access employment, similarly to the way natives do. In contrast, Slovenia, Cyprus, Ireland and Slovakia are less keen to offer access to labour market opportunities to migrants.

8 G. Solano and T. Huddleston (2020), 'Labour Market Mobility', Migrant Integration Policy Index (MIPEX), <https://www.mipex.eu/labour-market-mobility.mipex.eu+6>

Figure 3. Labour market mobility scores in EU-27, 2019.



Source: Solano and Huddleston, Labour Market Mobility.

The current challenges of labour market integration arise from Member States’ domestic policies and the lack of a certain pan-EU migration plan. EU countries often impose delays or conditions on labour and family migrants before they can even participate in the job market. Self-employment seems to be more accessible in certain cases, with most EU countries permitting newcomers to work independently.⁹ Evidence from Spain has shown that

9 A. Gómez, F. López, and W. Wang (2022), *Inmigrantes Empresarios: Valor sin Fronteras. Informe sobre el Emprendimiento de los Inmigrantes en España* (Madrid: Fundación para el Avance de la Libertad), <https://fundalib.org/wp-content/>

immigrants contribute significantly to the country's demographic, labour, and economic vitality through entrepreneurship. However, the complex and burdensome process they must face to obtain residency and start

Access to public employment service, vocational training, and higher education is widespread for documented migrants but limited for temporary migrants, who often face barriers in accessing scholarships, study grants, and other essential supports for skills development.

businesses remains a huge obstacle. In Italy, similar structural barriers such as limited access to credit, bureaucratic challenges, and possible discrimination have significantly restricted migrants' self-employment, compared to natives.¹⁰

Moreover, several Member States still restrict access to certain sectors or professions, an approach that can inadvertently limit entrepreneurial potential among migrants. Access to public employment service, vocational training, and higher education is widespread for documented migrants but limited for temporary migrants, who often face barriers in accessing scholarships, study grants, and other essential supports for skills development.

Another major aspect is the recognition of foreign qualifications, which also varies significantly from one member state to another. While many EU countries offer standardised procedures, others impose burdensome requirements, such as high fees or excessive documentation. No formal systems for recognising qualifications at all can leave migrants unable to translate their skills into

uploads/2022/09/Inmigrantes_empresarios_fundalib.pdf

10 M. Brunetti and A. Zaiceva (2023), Is Self-Employment for Migrants? Evidence from Italy, IZA Discussion Paper No. 16314 (Bonn: Institute of Labor Economics), <https://docs.iza.org/dp16314.pdf>

employment opportunities, in certain cases.

Public sector employment is particularly restricted, as these roles remain largely reserved for nationals or, in some cases, EU citizens. Only a minority of EU countries guarantee equal access for immigrants to public sector jobs.

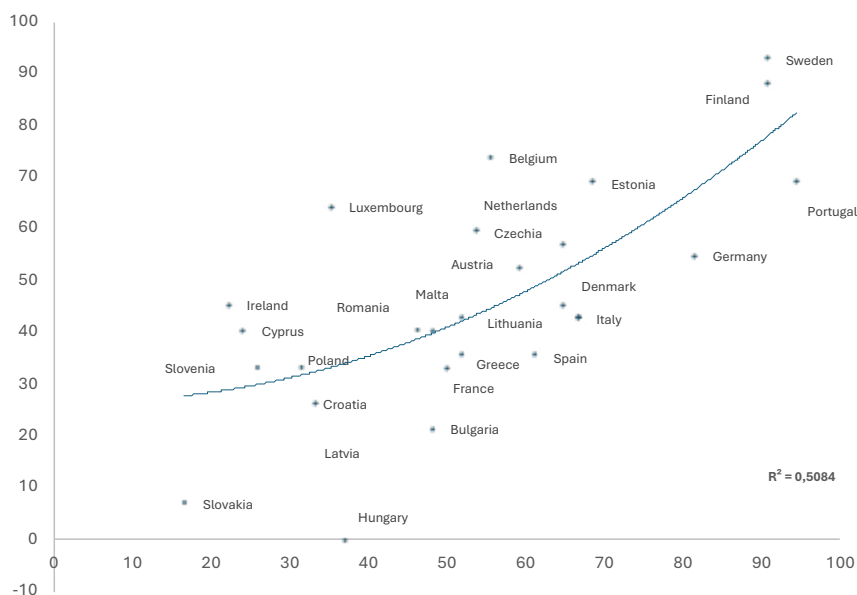
Nevertheless, there are best practices upon which the EU or Member States can base their migration policies. Sweden consistently ranks among the top performers in migrant integration, as it combines early intervention with social services, such as language training, vocational education, and mentoring. Notably, its '*Introduction Programme*'¹¹ for newly arrived migrants, links employment support with housing, health, and education services. Moreover, Portugal's relatively open and inclusive approach to migration policy stands out as a model for countries in southern Europe. A decentralised integration support system through local centres has introduced regularisation pathways, invested in multilingual public services. Portugal's overall migration policy operates as a development tool, aligning residency rights with labour participation and family stability. In addition, Germany's dual vocational training model offers another example, by involving businesses in training and integration.

As best practices show, effective integration into the labour market necessitates the elimination of institutional barriers, reskilling and upskilling.

As best practices show, effective integration into the labour market necessitates the elimination of institutional barriers, reskilling and upskilling, a target also set by the Draghi Report. Vocational education is a core element for a labour market that seeks to integrate newcomers, and the relationship between the labour market score and the education score in MIPEX is evidence of this (Figure 4).

11 Informationsverige.se (2025), 'The Introduction Programme', Informationsverige.se, 29 April, <https://www.informationsverige.se/en/om-sverige/att-forsorja-sig-och-utvecklas-i-sverige/etableringsprogrammet.html>

Figure 4. Correlation between the labour market score and the education score, MIPEx 2019



Conclusion and policy recommendations

Europe's accelerating demographic shift, pressing global competition, and persistent labour shortages are the main economic challenges that can be addressed by a modernisation of the EU labour market and migration frameworks to sustain growth, innovation, and social cohesion. The current regulatory framework is shaped by fragmented national policies, slow to adapt, and often mismatched with real economic needs.

The current legal migration pathways continue to suffer from low uptake, bureaucratic hurdles, and limited reach, especially in sectors most affected by shortages. The lack of a pan-EU migration plan, despite the seasonal and bilateral worker arrangements, is another obstacle to Europe's competitiveness. Labour market inefficiencies reveal that access, opportunity, and support for immigrants are still far from equal across Member States, despite the demand from businesses for workers ready to join production. If the EU is to maintain its global standing,

boosting its innovation and competitiveness, a shift from fragmented, reactive approaches to a comprehensive, liberal strategy that aligns migration, labour, and integration policies is needed. To that end, a liberal agenda for labour market reform should:

- **Link migration to labour market demand:** Introduce sector-specific EU-harmonised legal pathways and mobility partnerships with countries of origin, supported by real-time labour market data. This proposal underscores the need for alignment between immigration policy and the principles of supply and demand. Legal pathways and mobility partnerships allow markets and not arbitrary quotas, to guide migration flows. The use of real-time labour market data can ensure that migration supports economic needs, minimises distortions, and promotes individual economic opportunity.
- **Ensure horizontal digitised access:** A streamlined qualification recognition, through an EU-wide platform, across Member States, could match skills with jobs. This proposal reflects a commitment to the liberal values of equality of opportunity and freedom of movement. It reduces bureaucratic barriers, respects the rule of law, and fosters meritocracy by matching people's actual skills with job opportunities. At the same time, it facilitates cross-border mobility within the EU, embodying the liberal belief in open, integrated markets and efficient governance through digital innovation.
- **Incentivise employers:** Co-funded training schemes, tax incentives, and simplified hiring processes for migrant workers could encourage private sector participation and openness to new talents. By co-funding training schemes and offering tax incentives, the proposal empowers employers to invest in migrants voluntarily. In this manner, they simplify hiring processes by reducing red tape, in line with the liberal principles of limited government interference and market-driven labour integration.
- **Promote immigrant entrepreneurship:** shifting the immigration debate toward policies that promote immigrant entrepreneurship, which in turn would help dismantle stereotypes and foster social cohesion. This proposal encapsulates classical liberal values, such as individual initiative, economic freedom, and self-reliance. It positions migrants as job creators and contributors, not burdens, which helps counter exclusionary narratives. By championing their entrepreneurial potential, it embraces diversity, helps to combat stereotypes, and supports social cohesion through bottom-up, market-driven integration.

An open labour market access is not only about unlocking economic potential, but also about affirming Europe's commitment to freedom, opportunity, and dignity for all. Talent must not be trapped and wasted in regulatory barriers; it must be welcomed, recognised, and empowered.



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Chapter 8

Generative Artificial Intelligence in Higher Education: Implications for the Future European Labour Market

Chapter 8

Generative Artificial Intelligence in Higher Education: Implications for the Future European Labour Market

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Introduction

Throughout the course of human development, and particularly in the contemporary era in which many countries prioritise the knowledge economy, higher education has emerged as a crucial pillar of economic advancement. It serves not only as a foundation for economic growth but also plays a significant role in promoting socio-political stability and enhancing overall well-being¹. Besides economic and societal contributions, a liberal perspective

1 Trinh, N. T. H. (2023). Higher education and its role for national development. A

puts emphasis especially on the role of higher education in fostering individual emancipation, enabling social mobility, and strengthening democratic participation². Higher education plays a vital role in developing human capital by equipping individuals with the skills and knowledge needed to thrive in a competitive global environment, which is also a key priority of the European Union (EU)³.

However, generative artificial intelligence (AI) has significantly disrupted higher education, introducing both opportunities and challenges to traditional educational models. This disruption began with the release of ChatGPT by OpenAI in November 2022 and continued with the emergence of various other generative AI chatbots⁴. As generative AI reshapes labour

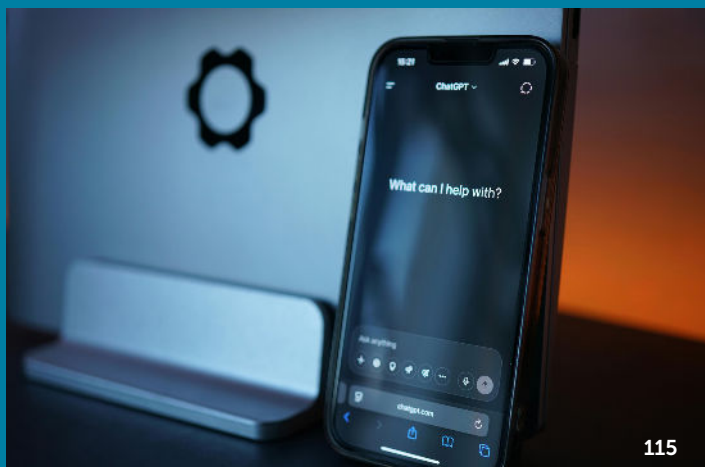
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2 Li, J., Xue, E., Wei, Y., & He, Y. (2024). How popularising higher education affects economic growth and poverty alleviation: empirical evidence from 38 countries. *Humanities and Social Sciences Communications*, 11(1). <https://doi.org/10.1057/s41599-024-03013-5>

3 European Commission. (2025). Union of skills: Investing in people for a competitive European Union. https://commission.europa.eu/topics/eu-competitiveness/union-skills_en

4 Lee, D., Arnold, M., Srivastava, A., Plastow, K., Strelan, P., Ploeckl, F., ... &

Generative artificial intelligence (AI) has significantly disrupted higher education, introducing both opportunities and challenges to traditional educational models



market demands, higher education must urgently integrate it into teaching and learning to support future skills development⁵. Although concerns about job automation and displacement remain prevalent, generative AI is also creating new roles and enhancing existing ones. Reflecting this complex landscape, more than half of graduates in developed countries express concern about AI's impact on their future employment prospects, while a significant portion remains optimistic, believing that their own career paths are unlikely to be threatened.⁶ Projections indicate that by 2030, approximately one-quarter of jobs worldwide will be affected by structural transformations, including the influence of generative AI⁷, with recent evidence indicating widespread organisational adoption of AI.⁸ In response, higher education must adapt its strategies to address these transformations and foster next-generation learning.⁹

Accordingly, this chapter focuses on generative AI in higher education, with

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5 Ravšelj, D., & Aristovnik, A. (2024). ChatGPT and the labour market in the EU: Perspectives on employability from young Europeans. In M. Alesina (Ed.), *Opportunities for all: Solutions for liberals to own the social and human rights agenda again* (ELF Study 8, pp. 13–18). European Liberal Forum. <https://doi.org/10.53121/ELFS8>

6 Cengage Group. (2024). 2024 graduate employability report: Preparing students for the GenAI-driven workplace. Cengage Group. <https://cengage.widen.net/s/bmjxxjx9mm/cg-2024-employability-survey-report>

7 World Economic Forum. (2025). The Future of Jobs Report 2025. <https://www.weforum.org/publications/the-future-of-jobs-report-2025/>

8 Singla, A., Sukharevsky, A., Yee, L., Chui, M., & Hall, B. (2025). The state of AI: How organizations are rewiring to capture value. McKinsey & Company. <https://www.mckinsey.com/capabilities/quantumblack/our-insights/the-state-of-ai/>

9 Ravšelj, D., Keržič, D., Tomažević, N., Umek, L., Brezovar, N., A. Iahad, N., ... & Aristovnik, A. (2025). Higher education students' perceptions of ChatGPT: A global study of early reactions. *PloS one*, 20(2), e0315011. <https://doi.org/10.1371/journal.pone.0315011>

particular attention to its implications for the future European labour market. This is specifically addressed through the case of ChatGPT, supported by survey data collected in 15 EU member states: Austria, Bulgaria, Croatia, Cyprus, Estonia, Greece, Hungary, Italy, Latvia, Luxembourg, Poland, Portugal, Romania, Slovenia, and Spain. The data were gathered in two waves, with the first conducted from October 2023 to February 2024 (7,305 students) and the second from October 2024 to February 2025 (6,478 students). The data captures the perceptions of young Europeans, namely higher education students, who are generally more inclined to advocate for liberal values than their less-educated peers¹⁰, thus contributing to liberal perspectives on the topic. After a brief introduction, the chapter first explores how generative AI aligns with liberal educational values in higher education, then examines its potential impact on the future of the European labour market, and concludes with key reflections.

1. Generative artificial intelligence and liberal educational values in higher education

Many young people are often overwhelmed with factual information and the repeated opinions or expressions of others, mistaking these for genuine understanding. This kind of approach in higher education can result in individuals who simply repeat what they have been taught, without developing the ability to think independently or engage critically with ideas that go beyond familiar patterns¹¹. This concern highlights two essential principles often emphasised in liberal approaches to higher education. First, higher education should encourage the development of each student's individuality by supporting personal judgment, emotional

10 Scott, R. (2022). Does university make you more liberal? Estimating the within-individual effects of higher education on political values. *Electoral Studies*, 77, 102471.

11 Swart, J. (2021). Experiencing algorithms: How young people understand, feel about, and engage with algorithmic news selection on social media. *Social media+ society*, 7(2), 20563051211008828. <https://doi.org/10.1177/20563051211008828>

awareness, and imaginative thinking¹². Second, it should foster a diversity of perspectives¹³. These two aims are closely connected. Independent thinking flourishes in environments where students have the freedom to express different views, and the presence of diverse opinions contributes to the growth of individuality. When learners are encouraged to be distinct in their thoughts and expressions, society as a whole becomes more open to new and original ideas¹⁴.

Meanwhile, generative AI is becoming increasingly common in higher education across the EU, with a growing number of students using chatbots like ChatGPT. In the 2023/2024 academic year, 74.9% of students reported using ChatGPT, rising to 95.6% in 2024/2025. Students find these chatbots particularly helpful because they offer quick and relevant responses to almost any question. The most frequently reported uses include summarising complex texts and brainstorming new ideas¹⁵, both of which have seen significant growth in popularity over time. Among these expanding use cases, the most pronounced increase was in the use of ChatGPT for study assistance, particularly for practising for exams (13.2 percentage points). These trends suggest that students are increasingly relying on generative AI not only for creative thinking but also for academic support, reflecting the potential of generative AI chatbots to provide a structured framework for approaching questions and guiding students in their academic work¹⁶.

12 Mintz, S. (2022). Why liberal education matters: Exploring a distinctively American article of faith. Inside Higher Ed. <https://www.insidehighered.com/opinion/blogs/higher-ed-gamma/2022/10/22/why-liberal-education-matters>

13 Trepanier, L. (2023). How AI could save liberal education. Law & Liberty. <https://lawliberty.org/essay/how-ai-could-save-liberal-education/>

14 Chan, W. (2024). AI chatbots and liberal education. *AI & Society*, 39(5), 2607-2609. <https://doi.org/10.1007/s00146-023-01736-8>

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16 Chan, W. (2024).

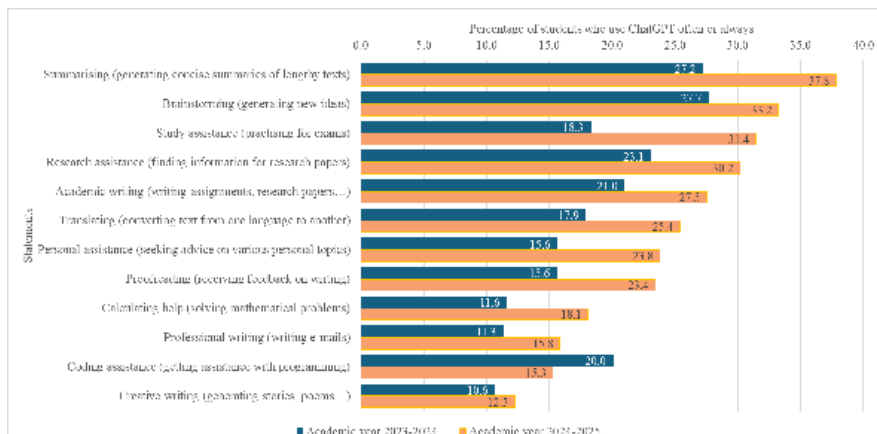


Figure 1: Adoption of generative AI in higher education in the EU

Source: Authors' elaboration based on the survey data.

The increasing reliance of students on generative AI chatbots raises concerns within the framework of liberal higher education for two key reasons¹⁷. First, generative AI chatbots tend to homogenise students' thinking and presentation¹⁸. Although students rarely copy responses directly due to concerns about plagiarism, the similar and limited perspectives provided by chatbots in response to academic questions, regardless of how those questions are phrased, encourage students to approach problems in uniform ways. This reduces diversity in thought and expression, as students may rely on the chatbot's clear and well-structured writing style to shape their own ideas, contributing to a lack of variation in how arguments are framed and presented. Second, the use of generative AI chatbots may discourage students from engaging

17 Wang, H., Dang, A., Wu, Z., & Mac, S. (2024). Generative AI in higher education: Seeing ChatGPT through universities' policies, resources, and guidelines. *Computers and Education: Artificial Intelligence*, 7, 100326. <https://doi.org/10.1016/j.caeai.2024.100326>

18 Urzedo, D., Sworna, Z. T., Hoskins, A. J., & Robinson, C. J. (2024). AI chatbots contribute to global conservation injustices. *Humanities and Social Sciences Communications*, 11(1), 1-8. <https://doi.org/10.1057/s41599-024-02720-3>

in important learning processes that are essential to meaningful intellectual development¹⁹. These processes include generating different interpretations of a question, identifying relevant sources, developing a personal argumentative structure, collecting supporting evidence, and critically revising their written work. Dependence on generative AI chatbots for these tasks can lead students to overlook these crucial steps, which are fundamental to building critical thinking, creativity, and independent academic inquiry, all of which are central goals of liberal higher education²⁰.

While generative AI chatbots offer practical support for students, their widespread use poses challenges to the core aims of liberal higher education in the EU, particularly the cultivation of independent thinking and diversity of expression. As these technologies continue to shape learning practices, they also raise important questions about their broader implications beyond academia, prompting a closer examination of how generative AI may influence the future of the European labour market.

2. Generative artificial intelligence and the future of the European labour market

As generative AI continues to advance rapidly, the labour market is undergoing profound transformations, raising growing concerns that AI-driven productivity gains could render traditional fields increasingly obsolete²¹. In response to these shifts, it is essential for higher education to proactively prepare the workforce, anticipate potential labour market disruptions, and adapt educational systems to meet both current and future demands²². Although the specific changes are

19 Suriano, R., Plebe, A., Acciai, A., & Fabio, R. A. (2025). Student interaction with ChatGPT can promote complex critical thinking skills. *Learning and Instruction*, 95, 102011. <https://doi.org/10.1016/j.learninstruc.2024.102011>

20 Chan, W. (2024).

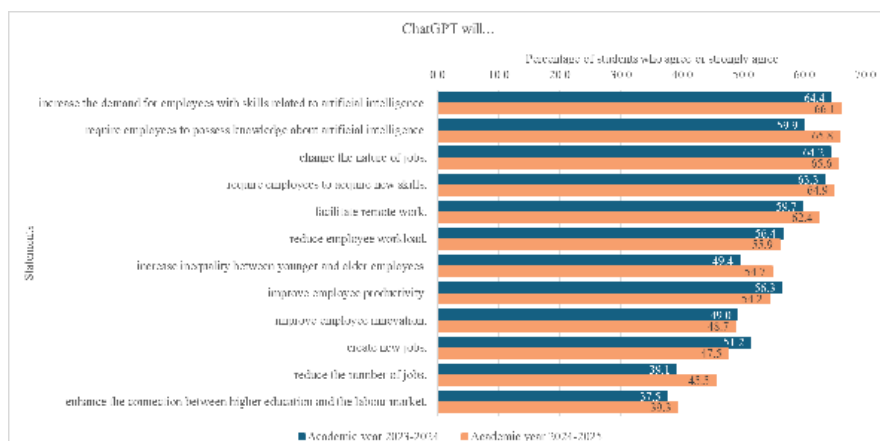
21 Liu, J., Chen, K., & Lyu, W. (2024). Embracing artificial intelligence in the labour market: the case of statistics. *Humanities and Social Sciences Communications*, 11(1), 1-14. <https://doi.org/10.1057/s41599-024-03557-6>

22 Abendroth Dias, K., Arias Cabarcos, P., Bacco, F. M., Bassani, E., Bertoletti, A., ... Van Bavel, R. (Eds.). (2025). *Generative AI outlook report: Exploring the intersection of technology, society and policy* (JRC142598; EUR 40337 EN). Publications Office of the European Union. <https://doi.org/10.2760/1109679>

not yet clearly defined, it is widely believed that generative AI will shape the future labour market from multiple angles, such as skills and knowledge requirements, job transformation, workplace dynamics, and societal and educational implications.

Young Europeans increasingly believe that generative AI chatbots like ChatGPT are transforming the future of work (Figure 2). Over two academic years, more respondents agreed that these technologies will boost the demand for employees with relevant skills (rising to 66.1%) and require workers to possess knowledge about AI (65.8%). Many also believe that chatbots will change the nature of jobs (65.6%) and require people to acquire new skills (64.9%). Generative AI is also seen as a tool that can support remote work and help reduce workloads. However, there are growing concerns about its impact on inequality, especially between younger and older employees, with agreement on this point increasing notably (from 49.4% in the academic year 2023-2024 to 55.7% in 2024-2025). While some continue to see the potential for AI to create jobs, fewer believe this than before, and more now expect it to reduce the number of jobs (up to 46%).

Figure 2: Perceived implications of generative AI for the future labour market in the EU



Source: Authors' elaboration based on the survey data.

From a liberal point of view, the results reflect a largely optimistic yet

realistic mindset among young Europeans, one that values innovation, embraces change, and recognises the need for personal adaptability. The strong belief in the demand for new skills and the transformation of work aligns with liberal ideals that prioritise individual responsibility, self-improvement, and freedom of choice in career development. The positive perception of remote work enabled by AI also resonates with liberal values of flexibility, autonomy, and decentralisation of the workplace. At the same time, the rising concern about inequality suggests that while young people are open to the promises of AI, they are also aware of the risks it poses if access to knowledge and opportunity is uneven. This indicates a liberal commitment to fairness and inclusion, not through rigid control, but through equal access to the capabilities needed to benefit from technological progress.

Conclusion and policy recommendations

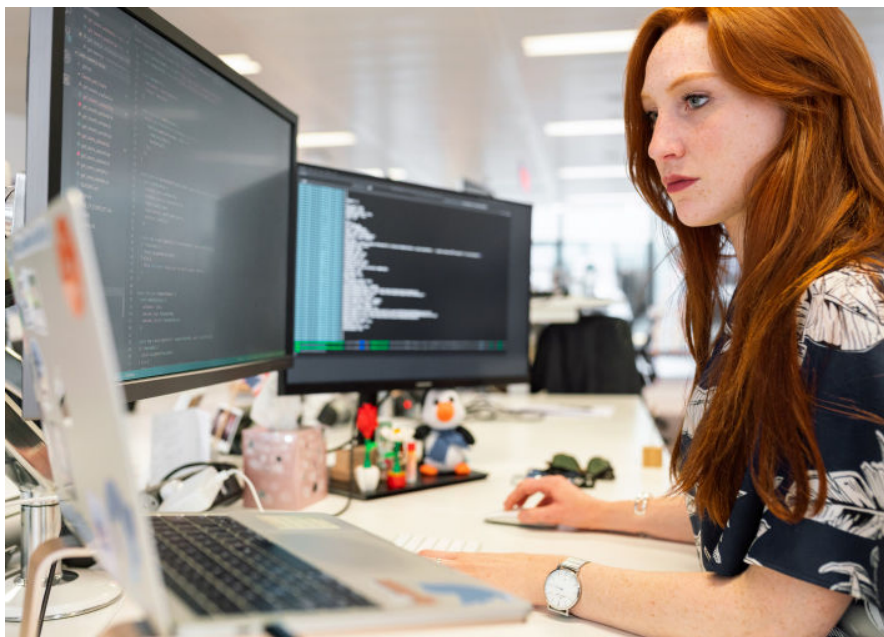
As generative AI becomes increasingly integrated into higher education in the EU, aligning its use with core academic and civic values demands thoughtful governance. Liberal education, which emphasises critical thinking and civic responsibility, remains essential for preparing students to navigate complexity and contribute meaningfully to society. Nevertheless, many students report feeling unprepared to use generative AI chatbots in professional contexts, even as employers increasingly seek such competencies. In response, some institutions are offering AI-focused training and co-curricular learning opportunities to improve student readiness. Research indicates that pedagogical environments that encourage open dialogue, personal reflection, and analytical thinking, particularly in the humanities and social sciences, play a vital role in promoting civic engagement. This highlights the need to integrate generative AI in ways that uphold the humanistic mission of higher education while also preparing students for the evolving demands of the labour market.

In light of these findings, policymakers at both national and EU levels should develop a comprehensive strategic framework that aligns generative AI integration in higher education with the core liberal values of individual empowerment, democratic engagement, and equal opportunity. This framework should promote policy coherence across education, innovation, and labour market domains, and ensure that academic institutions receive regulatory clarity and targeted support. For European liberals, the broader liberal agenda calls for safeguarding academic freedom, nurturing entrepreneurial

mindsets, and fostering student agency in digital transitions. Such efforts must prioritise inclusive access to AI education, uphold the integrity of knowledge creation, and encourage civic digital literacy. By embedding liberal democratic principles in the governance of AI in education, Europe can shape a future labour market that is not only competitive but also fair, participatory, and human-centred.

Therefore, the integration of generative AI into higher education in the EU demands strategic and coordinated policy responses to uphold liberal educational values. First, national and EU-level education policies should require the inclusion of AI literacy across curricula to ensure that students acquire not only technical competence but also critical thinking and ethical awareness necessary for responsible engagement with generative. This should be done through the rigid application of established competence frameworks such as DigCompEdu and its 2024 AI Supplement. Through this, educators can be trained to guide students in navigating AI environments safely and responsibly, and student outcomes can be assessed against common European standards. Second, higher education institutions need to revise teaching and assessment practices to discourage passive dependence on AI chatbots and instead foster original thinking, academic integrity, and meaningful learning experiences. For instance, instructors could require students to include a brief methodology section explaining how generative tools were used in their work or ask them to give short oral defenses justifying their use of AI in assignments. Such practices not only promote transparency and accountability but also encourage students to critically reflect on their own learning processes. Third, targeted public investment is essential to address digital and educational inequalities by expanding equitable access to AI-related resources, infrastructure, and inclusive learning opportunities for all students. In the European Union, such investment could be channelled through the Digital Europe Programme, which specifically supports the development of digital skills, infrastructure, and innovation. Fourth, these educational reforms must be aligned with anticipatory labour market policies that support cross-sector collaboration and ensure institutions remain responsive to evolving AI-driven skills demands. One concrete approach is for schools and universities to offer micro-credential courses that provide students

with recognised AI skill certifications, thereby strengthening their employability and fostering closer alignment between education and labour market needs . Collectively, these measures can help generative AI advance the democratic, equitable, and humanistic mission of higher education in the EU.



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Chapter 9

Workforce Analytics as a Liberal Lever for Innovation in the EU Labour Market

Chapter 9

Workforce Analytics as a Liberal Lever for Innovation in the EU Labour Market

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Introduction

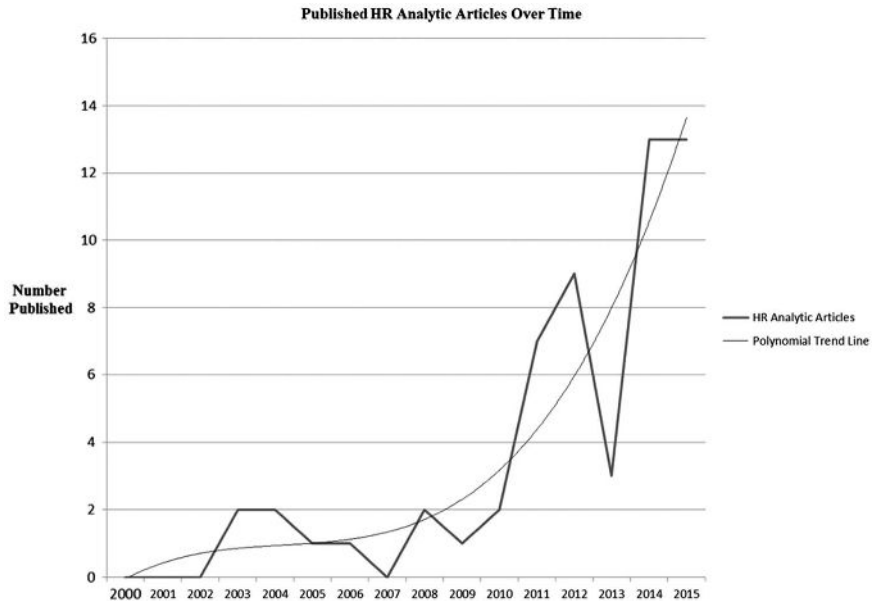
In today’s labour market, Europe faces a growing gap between skills demand and workforce supply – driven by both digital transformation and demographic change. Workforce analytics, which utilises data and AI to improve personnel decisions, offers a promising tool to help firms recruit, retain, and develop talent. Yet despite its potential, the legal framework surrounding data use – especially under the GDPR and the new AI Act – creates uncertainty for employers. This paper explores how liberal policy approaches can unlock innovation in workforce analytics while upholding fundamental rights. It calls for pragmatic reforms such as regulatory sandboxes, clear consent rules, and flexible risk-based oversight. The goal is not to shield work from technology, but to equip it for the future. By removing legal and institutional barriers, the EU can turn workforce analytics from a compliance burden into a driver of growth, fairness, and competitiveness.

1.The rise of data-driven HR

The ‘Moneyball’ revolution in baseball – where the Oakland Athletics used data analytics to build a winning team despite a tight budget – offers a powerful analogy for today’s labour market. Billy Beane’s strategy of selecting players based on statistics rather than intuition reshaped talent evaluation.

This data-driven approach has since inspired HR professionals and labour economists worldwide¹.

Figure 1



In the workplace, ‘workforce analytics’ - also called HR analytics² or people

1 P.L. CARON, R. GELY, What law schools can learn from Billy Beane and the Oakland Athletics, 82 TEX. L. REV. 1483, 1552 (2004);

2 J.H. MERLER, J.W. BOUDREAU, (2017) An evidence-based review of HR Analytics, in The International Journal of Human Resource Management, 28:1, 6, now available at <https://doi.org/>, that referred the label to the report InfoWorld del 1999. Cedar Creston 2006 HCM Survey, 9th Edition, 2006, in <http://www.cedarcreststone.com/>; L. BASSI (2011), Raging debates in HR Analytics, in People & Strategy, 34, 14–18; M. HERIC (2018), HR’s New Digital Mandate, in Bain & Company, 2–4, available at https://www.bain.com/contentassets/3dea09cc27fd426abfb35f9caa0e97dc/bain_brief_-_hrs_new_digital_mandate.pdf, accessed 8 august 2023; T.H. DAVENPORT, J. HARRIS, J.

analytics³ - refers to the use of big data and AI tools to improve hiring, performance management, and employee retention. Major companies like Google and Procter & Gamble pioneered these techniques in the early 2000s, demonstrating how analytics can generate strategic value in human capital management⁴.

Figure 2

Role of Workforce Data in Decision Making

Select from the list below the one description that best describes the extent to which workforce-related data plays a role in the decision-making style of your organization.

11%

We rarely use data to inform workforce decisions.

40%

We use data reactively—typically via ad hoc reporting—to inform only critical workforce decisions.

26%

We use data proactively—typically via operational reporting.

15%

We analyze our workforce proactively—typically via dashboards and visuals that are up to date and available on demand.

9%

We analyze and make proactive predictions about our workforce—typically via dashboards and visuals that contain predictive analytics.

As automation reshapes work, skills such as adaptability and problem-solving become more valuable than the time spent on the job. Companies able to

SHAPIRO (2010), Competing on Talent Analytics, in Harvard Business Review, 88, 52-8, 150 ss.; E.T. ALBERT (2019), AI in Talent Acquisition: A Review of AI-Applications Used in Recruitment and Selection, in 18 Strategic HR Review, 215–218.

3 E. GRACE, How Google is using people analytics to completely reinvent HR, in <https://www.peoplehum.com/>, accessed august 8, 2023;

4 S. TILOTTAMA, M. SNIGDHA, Workforce analytics: increasing managerial efficiency in human resource, in Intern. Journal of Scientific & Technology Research, 9, 1, January 2020, 3260; IBM Global Service Report 2009, in www.ibm.com

identify and retain high performers gain a crucial competitive edge. Yet many still rely on intuition rather than evidence in HR decisions. That's now changing: more businesses are embracing analytics to make fairer, more effective talent decisions. Workforce analytics is no longer a back-office tool – it's becoming central to aligning people strategy with business success.

2. Workforce Analytics and the Liberal Tradition

Liberalism in its economic and political dimensions is premised on the empowerment of individuals to make autonomous choices within open, competitive systems. Workforce analytics, when deployed under fair and transparent conditions, aligns with this vision by enhancing access to opportunity, improving transparency in hiring, and enabling mobility across fragmented labour markets. Moreover, liberalism champions adaptability over central planning. In a context of rapid technological change, rigid or risk-averse regulation may entrench institutional inertia and limit both individual and entrepreneurial responsiveness. By contrast, a liberal framework encourages experimentation within guardrails – trusting that informed actors, supported by rights-based protections, can better navigate dynamic environments than prescriptive, top-down mandates. This section explores how workforce analytics, rightly regulated, can serve these ends: not only by increasing efficiency, but by reinforcing the conditions for personal agency and social mobility in Europe's digital economy.

3. Why workforce analytics matters

Identifying and developing talent is among the top concerns of global executives, as confirmed by a 2014 Harvard Business Review survey. As businesses struggle to recruit and retain key staff, there's a growing recognition that data – not intuition – should guide decisions on hiring, promotion, and employee development. From a liberal standpoint, this shift toward data-driven decisions enhances transparency, reduces the influence of arbitrary or biased judgment, and empowers individuals to be evaluated on measurable contributions rather than social connections or subjective impressions. In this way, workforce analytics becomes not just a management tool, but a vehicle for economic justice and equal opportunity – principles central to an open society.

Figure 3

Workforce Concerns

From the list below, select the top three most important concerns your company has about its workforce today.



This shift comes amid demographic challenges. In ageing economies, labour shortages are becoming structural⁵. Workforce analytics provides a strategic

5 S. TILOTTAMA, M. SNIGDHA, Workforce analytics: increasing managerial efficiency

response by helping employers find, evaluate, and retain high-performing individuals. Yet collecting data is not enough. Without systems that act on insights – through tools, policies, or incentives – analytics risks being underused.

Companies that combine analytics with digital HR systems and performance-based incentives report significant productivity gains

Studies show that most large firms still underutilise these tools. A Fortune 1000 survey of 2014⁶ found only 15% of companies considered analytics central to their HR strategy, and fewer than one-third used automated systems. This rate rose to 22% in 2023-2024⁷. The gap is often due to limited resources, internal expertise, or fragmented data systems.

When implemented properly, however, the impact is transformative. Companies that combine analytics with digital HR systems and

performance-based incentives report significant productivity gains⁸.

in human resource, cit., 3262;

6 S. FALLETTA, In search of HR intelligence: Evidence-based HR Analytics practices in high performing companies, in *People & Strategy*, 2014, 36, 28–37.

7 'HR.com's State of People Analytics 2023-24', available at <https://www.crunchr.com/app/uploads/2023/10/HRdotcom-Crunchr-State-of-HR-Report.pdf>, accessed on August 4, 2025. The survey was run from June to July 2023 and gathered 268 responses from HR professionals in virtually every industry vertical. Respondents were from all over the world with the majority from the United States.

8 S. ARAL, E. BRYNJOLFSSON, L. WU, Three-way complementarities: Performance Pay, human resource analytics, and information technology, in *Management Science*, 2012, 58, 913–931; D. ANGRAVE, A. CHARLWOOD, I. KIRKPATRICK, M. LAWRENCE, M. STUART, HR and analytics: Why HR is set to fail the big data challenge, in *Human Resource Management Journal*, 2016, 26, 1–11, now available at <https://doi.org/>

These tools enable better decision-making, targeted incentives, and more effective performance evaluations.

While basic administrative tasks – like attendance tracking – are among the first use cases, the real value lies in strategic decisions. For small firms, analytics can reduce administrative burdens. For all organisations, it enables more accurate, fair, and data-driven decisions.

One key benefit is improving how companies assess potential. Hiring still depends too much on CVs and first impressions, which fail to capture soft skills like resilience or teamwork. Yet in today's collaborative, fast-changing workplaces, these traits matter as much as technical know-how. Workforce analytics offers new methods to evaluate such dimensions, helping reduce bias and strengthen HR outcomes⁹.

This capacity to surface hidden potential is especially significant from a liberal perspective, as it helps overcome barriers rooted in class, race, or educational pedigree. By offering a more objective assessment of individual capabilities, analytics can widen access to employment and upward mobility, making labour markets both more inclusive and more efficient.

4.Data collection and barriers to workforce analytics

Most HR departments already collect basic metrics like attendance or sick leave, but workforce analytics extends far beyond that. It integrates statistics, programming, and data science to build models that predict workforce behaviours¹⁰. This process typically involves five steps: data collection, preparation, cleaning, interpretation, and practical application.

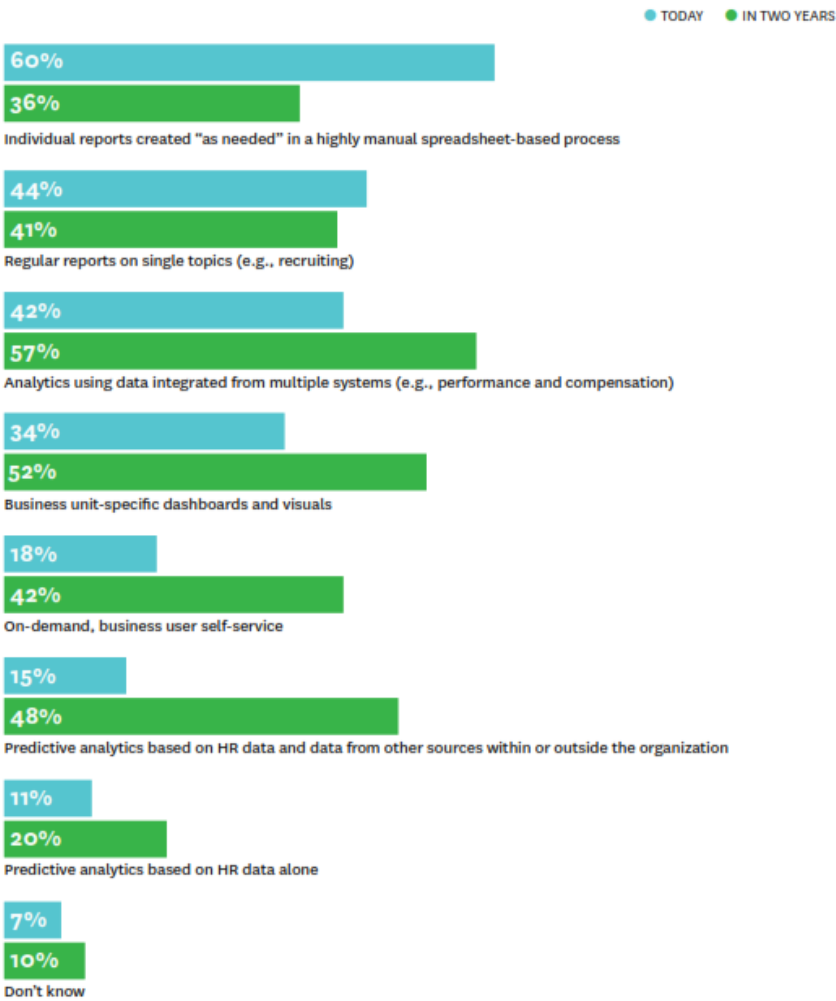
9 M.T. BODIE, M.A. CHERRY, M.L. MCCORMICK, J. TANG, The law and policy of people analytics, in University of Colorado Law Review, 2016, 6, 12.

10 M.T. BODIE, M.A. CHERRY, M.L. MCCORMICK, J. TANG, The law and policy of people analytics, cit., 11.

Figure 4

Workforce Data, Metrics, and Analytics Usage

Which of the following workforce data, metrics, and analytics are in use in your organization today and will be in two years?



Despite different approaches, organisations share a common aim: using data to inform decisions about workplace processes and staff dynamics. Yet implementation remains partial. In 2014, only 15% of companies used automated analytics for HR; by 2023, the figure had risen only modestly to around 22%¹¹. Manual analysis still prevails, often limiting the speed and scope of insights. This underutilisation not only represents a lost opportunity for organisational learning but also undermines individual agency. In a liberal economy, workers should have access to clear, data-informed feedback on their development and performance – enabling more autonomous career choices and reducing dependence on opaque, hierarchical evaluation systems.

A major hurdle is access to relevant data¹². In recruitment, employers usually

11 'HR.com's State of People Analytics 2023-24', cit.;

12 D.G. JYOTIRANJAN HOTA (2023), Workforce Analytics Approach: An Emerging Trend of Workforce Management, in AIMS International, volume 7, now available at https://www.researchgate.net/publication/261173868_Workforce_Analytics_ApproachAn_emerging_Trend_of_Workforce_Management, accessed on September 15; A. LEVENSON (2017), Using workforce analytics to improve strategy execution, in Human Resource Management, now available at <https://onlinelibrary.wiley.com/doi/full/10.1002/hrm.21850>, accessed on September 15, 2023; T.J. LIJE GEORGE (2016), A Study on the Acceptance of HR Analytics in Organisations, in International Journal of Innovative Research and Development, now available at https://www.internationaljournalcorner.com/index.php/ijird_ojs/article/view/136241, accessed on September 15, 2023; ; K.M. WEENA YANCEY M MOMIN, HR Analytics as a Strategic Workforce Planning, in International Journal Of Applied Research, 2015, now available at https://www.researchgate.net/publication/334249234_HR_Analytics_as_a_Strategic_Workforce_Planning, accessed on September 15, 2023; C. ARELLANO, Using people analytics to drive business performance: A case study, in McKinsey Quarterly, 2017, Issue 3, 114-119, now available at <https://www.mckinsey.com/capabilities/quantumblack/our-insights/using-people-analytics-to-drive-business-performance-a-case-study>, accessed on September 15, 2023; Y.K. BHUSHAN KAPOOR (2014), Current and Future Trends in Human Resources Analytics Adoption, in Journal of Cases on Information Technology, now available at <https://>

have little information beyond what's gathered during interviews. Social platforms like LinkedIn have helped bridge this gap, enabling analysis of candidates' job history and career paths. Some firms, like Juniper Networks, use such data to improve hiring strategies and talent tracking.

However, before collecting data, companies must define what they want to measure. Without clear business goals, it's hard to determine what data is useful. This step – translating strategic needs into measurable indicators – is critical and too often overlooked.

Once data is collected, it must be organised and cleaned to become actionable¹³. Known as data mining, this process uses automated tools to detect patterns and correlations in large datasets. But quantifying 'talent' remains difficult. Qualities like creativity or empathy rarely show up in spreadsheets.

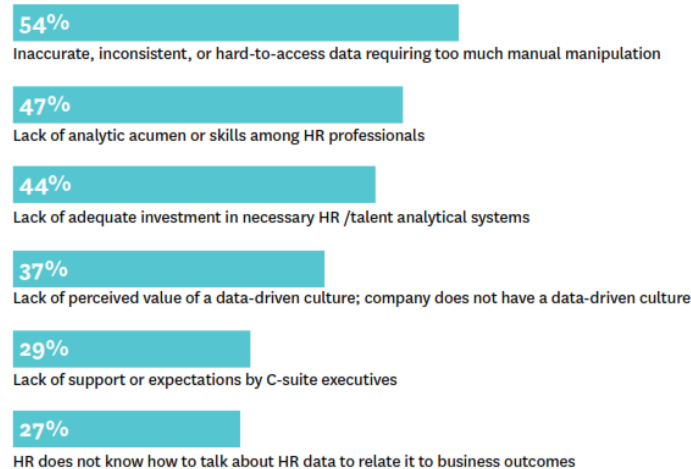
www.researchgate.net/publication/276001400_Current_and_Future_Trends_in_Human_Resources_Analytics_Adoption, accessed on September 15, 2023; J. BINTLIFF-RITCHIE, Realizing the Full Potential of Workforce Analytics, in Industry Whitepaper, now available at https://www.phillyshrm.org/wp-content/uploads/2015/01/RealizingPotential_Whitepaper_FINAL.pdf, accessed on September 15, 2023; M.O. FRED (2017), Workforce Analytics the Prospect of Human Resource, in IOSR Journal of Business and Management, now available at <https://www.iosrjournals.org/iosr-jbm/papers/Vol19-issue11/Version-5/B1911050813.pdf>, accessed on September 15, 2023; D.G. HANDA (2014), Human Resource (hr) Analytics: Emerging trend in Human Resource Management (hrm), in CLEAR International Journal of Research in Commerce & Management, Vol. 5 Issue 6, 59-62; J. HOTA (2013), Workforce Analytics Approach: An Emerging Trend of Workforce Management, in AIMS International Journal, 7(3), 167-179, available at https://www.researchgate.net/publication/261173868_Workforce_Analytics_ApproachAn_emerging_Trend_of_Workforce_Management, accessed on September 15, 2023;

13 B. CUSTERS, Data Dilemmas in the information society: introduction and overview, cit., 10.

Figure 5

Biggest Obstacles to Achieving Better Use Of Data, Metrics, and Analysis

What are the three biggest obstacles to achieving better use of data, metrics, and predictive analysis by HR and talent management professionals in your organization?



To evaluate soft skills, some firms use gamified recruitment tools – digital games that simulate work challenges to assess traits like adaptability or focus. Games like Wasabi Waiter or Balloon Brigade aim to provide more dynamic insights than interviews alone. Personality tests are also common, offering profiles of behaviour and motivation. Still, these tools require careful interpretation and robust underlying models¹⁴.

Perhaps the most revealing insights come from real work behaviours: participation in meetings, internal messaging, and platform usage patterns. These digital traces can reflect productivity, stress, and collaboration. When analysed ethically, they can help companies support employees while improving performance.

5.Legal context: GDPR, AI Act, and analytics regulation.

The growing use of digital technologies in recruitment and workforce

14 M.T. BODIE, M.A. CHERRY, M.L. MCCORMICK, J. TANG, The law and policy of people analytics, cit., 11.

management has transformed how skills are matched to labour demand¹⁵. Reputation-based systems and algorithmic tools are increasingly shaping hiring decisions across the EU. Workforce analytics contributes to two public policy goals: forecasting future skill needs and monitoring workers' evolving competencies to support reskilling and adaptability.

This shift occurs within the broader emergence of a data-driven economy, where personal data has become a critical asset. As a result, European regulators have expressed growing concern about privacy, fairness, and accountability¹⁶. The EU's approach – rooted in fundamental rights – seeks to balance innovation with protection through instruments such as the General Data Protection Regulation (GDPR) and the forthcoming AI Act.

The GDPR (Regulation 2016/679) is central to regulating data use in employment. It sets strict rules on profiling, automated decision-making, and consent. Article 22 grants individuals the right not to be subject to decisions based solely on automated processing, especially where such decisions significantly affect them (e.g., job offers or rejections). Even when algorithms are used to assist decisions, meaningful human involvement is required for compliance.

Exceptions exist under Article 22(2) when the automated decision is necessary for a contract, authorised by law, or based on explicit consent¹⁷. However, consent is rarely valid in employment contexts due to the imbalance of power between employers and job seekers, as clarified in Recital 43 GDPR. Therefore, the contractual necessity clause is the most relevant basis – applicable only when no less intrusive alternative exists.

The European Data Protection Supervisor (EDPS) and the European

15 E. DAGNINO, S. SPATTINI, *Evoluzione del mercato dell'incontro tra domanda e offerta di lavoro all'epoca della disintermediazione e dell'uso delle piattaforme tecnologiche*, in Bollettino ADAPT.

16 H. ABRAHA (2023), *Regulating algorithmic employment decisions through data protection law* 14(2) Eur. Lab. L. J. 172

17 H. PARVIAINEN (2022), *Can algorithmic recruitment systems lawfully utilise automated decision-making in the EU?* 13(2) Eur. Lab. L. J. 225–248, <https://doi.org/10.1177/20319525221093815>;

Parliament have both recognised the risks posed by big data and AI¹⁸. These include discrimination, opacity, and the erosion of individual autonomy. Key documents – such as EDPS Opinions 7/2015 and 8/2016 and the Parliament’s 2017 resolution on big data – emphasise the need for clear safeguards, human oversight, and transparent logic in data-driven systems¹⁹.

The Court of Justice of the European Union (CJEU) recently clarified that Article 22(1) constitutes a general prohibition – not a right that must be invoked by the data subject. Any exception must be narrowly interpreted, and robust safeguards are mandatory, including the right to obtain human intervention and to contest decisions²⁰.

In the context of recruitment, algorithmic systems must not fully replace human evaluation. If a company uses an AI tool to pre-screen candidates, but a human makes the final decision based on additional factors, the process may comply. However, any superficial or symbolic human oversight is insufficient.

The practical implication is that most fully automated recruitment tools – without significant human involvement or clear necessity – are not GDPR-compliant. Employers may use analytics to support decision-making, but automation must not exclude human judgment or infringe on rights. In liberal democracies, technological governance must reinforce – not erode – autonomy and informed consent. Rather than treating human oversight as a box-checking formality, legal frameworks should aim to empower individuals with actionable explanations and

18 Kelly-Lyth, A. (2021). Challenging biased hiring algorithms. *Oxford Journal of Legal Studies*, available at <https://ssrn.com/abstract=3744248>, accessed on august 5, 2025;

19 A. ALOISI, E. GRAMANO (2019), *Artificial Intelligence Is Watching You at Work: Digital Surveillance, Employee Monitoring, and Regulatory Issues in the EU Context*, cit., 95; M. OTTO (2019), *Workforce Analytics v. Fundamental Rights Protection in the EU in the Age of Big Data*, cit., 389;

20 M. BRKAN (2019), *Do algorithms rule the world? Algorithmic decision-making and data protection in the framework of the GDPR and beyond*, 27 *Int. J. L. Inf. Technol.* 91, 93–94.

recourse, enabling them to contest unjust outcomes and understand the rationale behind algorithmic assessments. Transparency, in this context, is a precondition of personal freedom.

The forthcoming AI Act introduces an additional layer of regulation, classifying AI systems used in employment and recruitment as 'high-risk'. This classification triggers mandatory requirements for transparency, data governance, human oversight, and accuracy. While necessary to prevent harm, this may increase compliance burdens – particularly for SMEs.

Taken together, the GDPR and AI Act reflect the EU's commitment to protecting rights in the digital age. However, a rigid interpretation of these rules may inhibit the responsible use of workforce analytics. To support innovation while ensuring fairness, enforcement should promote clarity and proportionality. Regulatory sandboxes, sectoral guidelines, and a risk-based approach could help employers use analytics ethically – without legal uncertainty.

6.The AI Act and its impact on workforce regulation

The European Union's AI Act, adopted in May 2024, introduces a risk-based framework to regulate artificial intelligence. It categorises AI systems into four tiers: unacceptable, high, limited, and minimal risk. Unacceptable systems – such as those exploiting vulnerable users or enabling public authority social scoring – are banned. High-risk systems, including many used in employment, are permitted only under strict conditions.

AI tools used for recruitment, performance evaluation, promotions, dismissals, or task assignments are explicitly classified as high-risk. These applications can directly affect individuals' rights, job opportunities, and livelihoods. As such, they must undergo rigorous compliance checks before being placed on the EU market. Requirements include data quality standards, transparency, documentation, human oversight, and technical robustness.

Crucially, workforce analytics systems fall under this high-risk category. They are not prohibited, but employers must meet legal obligations to ensure lawful deployment. Many of these compliance requirements reflect existing best practices and align with international standards, offering some flexibility for implementation.

The AI Act mandates that data used to train high-risk systems must be accurate, representative, and relevant to the EU context. This is essential to avoid biased outputs, especially when systems are trained on datasets developed outside Europe. Proper annotation, labelling, and bias mitigation are necessary steps. Article ten specifically outlines these obligations, highlighting the need for contextual sensitivity in data design and validation. From a liberal market standpoint, high-quality, bias-mitigated data also promotes fair competition. Startups and SMEs are less likely to survive if commercial success depends on opaque systems with unknown discriminatory risks. Liberalism demands both fair rules of competition and equal access to innovation, which requires that data standards not become de facto monopolies in the hands of dominant actors.

The Act also reinforces the importance of meaningful human oversight. Algorithmic decisions cannot be entirely opaque. Users must understand how and why AI systems reach specific conclusions – especially in hiring or performance-related decisions. When management tools are outsourced or proprietary, the lack of transparency increases the risk of arbitrary or discriminatory outcomes.

Although some tools – like systems used for scheduling or bonuses – are not explicitly listed as high-risk, they may still significantly affect employment conditions. A cautious approach would treat all AI tools influencing the employment relationship as high-risk, ensuring stronger protections.

Scholars stress the need for coherence between the AI Act and core EU labour rights, including non-discrimination, safe working environments, freedom of association, and the right to employee consultation. These rights must not be undermined by algorithmic decision-making.

Finally, growing evidence suggests that algorithmic management can harm workers' well-being. Constant monitoring, automated task assignment, and a lack of managerial discretion can lead to increased stress and burnout. These risks often go undetected but have serious consequences for employee health and job satisfaction.

In sum, the AI Act represents a landmark step in regulating the use of AI in the workplace. It provides a legal structure that balances innovation with

fundamental rights. For workforce analytics to be legitimate in the EU, it must comply with this framework – ensuring that human dignity, fairness, and transparency remain at the core of digital labour management.

7. Algorithmic management and collective bargaining

The rise of automation and algorithmic management is reshaping both individual and collective labour dynamics. As digital systems increasingly assume traditional managerial tasks, they disrupt how workers interact with employers, potentially weakening spaces for dialogue, negotiation, and collective representation.

One of the main risks posed by algorithmic management is the displacement of human decision-makers with non-negotiating systems. Algorithms – unlike people – do not engage in dialogue, do not participate in negotiations, and do not recognise workers' rights²¹. This dynamic threatens the fundamental right to collective bargaining, as protected by both European and international labour law²².

21 E. ALES (2022), *The impact of automatization on Digitalization on Work Relations*, cit., 42; The legislation violated should include: International Labour Organization (ILO) Convention 98 of 1949 on the Right to Organize and Collective Bargaining, Convention 154 of 1981 on Collective Bargaining, and Article 6 of the Revised European Social Charter. Additionally, Article 28 of the Charter of Fundamental Rights of the European Union (CFREU) also upholds this right.

22 The analysis is by E. ALES, *The impact of automatization on Digitalization on Work Relations*, in T. GYULAVÁRI, E. MENEGATTI (2022) (edited by), *Decent work in the Digital Age: European and comparative perspectives*, Hart p., 19; on the same topic see also C. STYLOGIANNIS (2023), *The effective application of the right to collective bargaining for self-employed (platform) workers: 'Not such an easy task' Special Issue Contributions*, in *European Labour Law Journal*, 14(4), 494; I. SENATORI, *EU Law and Digitalization of Employment relations*, in T. GYULAVÁRI, E. MENEGATTI (2022) (edited by), *Decent work in the Digital Age: European and comparative perspectives*, Hart p., 57; A. PERULLI, T. TREU (eds), *The Future of Work: Labour Law and Labour Market Regulation in the Digital Era* (Alphen aan den Rijn, Kluwer Law International, 2020, 191; G. BIRGILLITO, M. BIRGILLITO (2018) *Algorithms and ratings: tools to manage labour relations*.

Automation may reduce the number of workers in some sectors, shrinking union membership and limiting collective power. Moreover, decisions about hiring, scheduling, evaluation, and dismissal are now often delegated to AI systems that function as opaque ‘black boxes’. In such contexts, maintaining a counterpart that can respond to workers’ concerns becomes essential.

To protect democratic governance at the workplace level, legal frameworks must ensure that workers – through their representatives – have early and meaningful involvement in technological transitions²³. This is especially important with AI, where the effects on working conditions may be significant and irreversible.

Worker participation must be proactive, not reactive. Early involvement allows representatives to influence how technologies are implemented, ensuring that changes benefit both employees and employers. Informed and independent representatives, backed by sectoral unions and equipped with technical expertise, can provide essential oversight and guidance.

Collective bargaining can play a decisive role in governing algorithmic systems. It allows for agreement on key safeguards, such as:

- Regular audits to detect bias
- Clear limits on data collection and access
- Defined procedures for worker feedback and grievance resolution

Such provisions uphold workers’ privacy, ensure fairness, and increase

Proposals to renegotiate labour conditions for platform drivers, in *Labour & Law Issues*, 4(2), C. 25–50. <https://doi.org/10.6092/issn.2421-2695/8798>;

23 A. STOHR (2023), Participation of trade unions in corporate codetermination: Legitimation, economic impacts and legal protection, in *European Labour Law Journal*, 14(4), 652; Z. ADAMS, J. WENCKEBACH, Collective regulation of algorithmic management, in *European Labour Law Journal*, 2023, 14(2), 211; T. D. RUTHERFORD (2021), ‘Negotiate the Algorithm’: Labor Unions, Scale, and Industry 4.0 Experimentation, in T. SCHULZE-CLEVEN, T.E. VACHON, *Revaluing work(ers): toward a democratic and sustainable future*, Labor and Employment Relations Association, 79;

transparency in how decisions are made.

Including workers in the design and deployment of AI tools helps align these technologies with actual job practices. It also increases trust and usability, while promoting more sustainable innovation. When workers have a voice, businesses are more likely to adopt solutions that support long-term productivity and well-being. This co-design process also resonates with liberal pluralism, which values diverse institutional voices and decentralised problem-solving. Rather than imposing rigid standards from above, empowering workplace-level dialogue ensures that innovation reflects real-world needs and respects a balance of interests – a hallmark of a functioning liberal order.

Ultimately, algorithmic management does not have to be a threat. If governed democratically, it can become a tool for improving working life – provided that social dialogue, transparency, and legal accountability remain at the heart of digital transformation.

Conclusion and policy outlook

A liberal policy model ensures that innovation reinforces – not replaces – agency, accountability, and fairness in labour relations.

Workforce analytics can be a strategic lever for innovation and competitiveness in Europe's labour markets. In an ageing society marked by rapid digitalisation, data-driven tools offer a concrete way to reduce mismatches between job supply and demand – enhancing how firms attract, manage, and retain talent.

To achieve this, regulation must strike the right balance. The GDPR and AI Act provide strong rights protections, but they also create compliance burdens – especially for SMEs. Excessive red tape risks slowing down adoption and stifling innovation, even when analytics tools are used ethically and with clear benefits for both employers and workers.

A liberal policy approach should foster a more enabling environment. This means reducing legal uncertainty, encouraging responsible experimentation (e.g., through regulatory sandboxes), and supporting the development of high-quality, bias-aware datasets. Clear, practical standards for algorithmic transparency and explainability must be in place to ensure that trust is built from the outset.

At the same time, innovation must respect democratic values. Worker participation, transparency, and clear governance rules are not optional – they are essential. By involving workers and their representatives in the design and use of analytics systems, employers can align technology with real workplace needs and ensure fairness.

Europe has an opportunity to lead globally with a liberal and pragmatic model: one that protects rights without stifling progress. If workforce analytics are implemented responsibly, they can enhance resilience, promote inclusion, and strengthen the EU's position in the global digital economy.

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