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Invest in your future: How to save your way out of employment vulnerability

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Allianz Research

Content

Executive Summary

Arne Holzhausen
Head of Insurance, Wealth & ESG Research
arne.holzhausen@allianz.com

Patricia Pelayo-Romero
Senior Economist, Insurance & ESG
patricia.pelayo-romero@allianz.com

Kathrin Stoffel
Economist, Insurance & Wealth
kathrin.stoffel@allianz.com

Melania Mora Tomas
Research Assistant
melania.tomas@allianz.com

- **There is no question that GenAI will lead to a profound change in the way we work.** Around half of all jobs in developed countries are affected by AI in one way or another. Looking at individual jobs, it is striking that it is creative, non-routine jobs – such as writing, medical diagnosis or programming – that are most likely to be transformed by the use of AI, if not replaced. The risk of job loss is highest in the service sector and among younger workers.

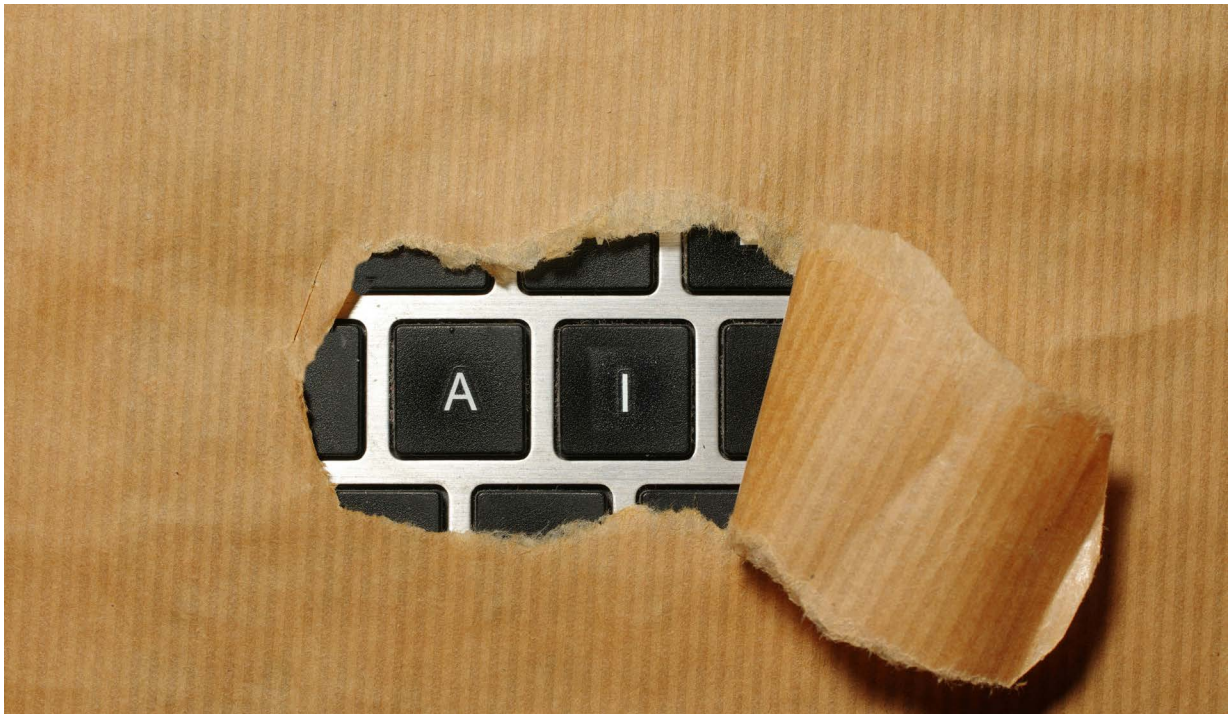
- **Solow's famous dictum that computers are everywhere – except in productivity statistics – no longer applies to AI – but only in the US.** Even among small businesses, 40% use AI tools. Not surprisingly, the impact of AI is most evident in the US information sector: while employment is falling, output is rising sharply. In other US service sectors, such as finance or professional and business services, the picture is less clear, but here too there are significant increases in output and at least stable employment.

- **Meanwhile, Europe is lagging behind.** It is too early to determine if AI has impacted productivity growth in Europe. This growing gap between the US and Europe is hardly surprising, given that Europe is lagging behind in AI adoption. Last year, only 13.5% of all companies reported using AI technologies. This low prevalence explains the different effects of AI on employment. When only a few companies use AI, they are likely to benefit from increased demand for their products – for early adopters, AI is an important competitive differentiator. However, this advantage disappears with widespread use of AI technologies. In the second stage, productivity effects are no longer masked by demand changes, and the expected decline in employment becomes visible. It is likely that this will soon be the case in Europe. AI-driven labor vulnerabilities should therefore be addressed before AI transforms labor markets.

- **Besides reskilling, another lever that can be used to strengthen the resilience of the labor market to AI-related disruptions is encouraging participation in capital income.** Even workers with higher education levels – who should all be in the top half of the income and wealth distribution – have a lot of catching up to do when it comes to return-oriented investment decisions. When looking at portfolio structure, we find that more than half of financial assets are held in bank deposits – even in the top wealth deciles.

- **The potential gains from a simple asset shift are huge.** For example, if the sixth decile was to shift half of its bank deposits into higher-yielding assets such as shares, bonds and investment funds, it would generate a higher return of around EUR10,300 over the next ten years – without taking into account the savings generated during this period. In the ninth decile, this excess return from a one-off shift would be EUR27,550. In terms of disposable income, this would be an increase of +18% and +31%, respectively, compared to an unchanged portfolio structure. But the positive effect extends beyond individuals. Together, these four wealth deciles have bank deposits totaling EUR4.1trn. A shift towards capital markets would give a huge boost to the European project of a Capital Markets Union.

- **The widespread use of AI will create dislocation along the way, making it all the more urgent to build financial resilience.** The potential labor market effects could further increase polarization and undermine the social fabric. Repairing the social contract is therefore a mammoth task for the years ahead. The guiding principle should not be alimentation but resilience, the ability to bounce back after setbacks. The ultimate goal is to reduce inequality, not with handouts, but by strengthening the capabilities of each individual. This includes greater employee ownership and participation in capital income. The idea is that people will make AI work for them and generate an additional income stream. With the right (tax) incentives, it is undoubtedly possible to turn more employees into shareholders and thus strengthen their financial resilience in the coming times of disruption.



GenAI will transform the workplace

Since the launch of ChatGPT in 2022, GenAI has rapidly gained prominence, offering near-human conversation and complex task-solving abilities. While it was well-received in the social and economic spheres, the promise of automation rekindled concerns about the labor displacement that arises with revolutionary technological advancements. Even before the surge of AI, automation had been a focus of labor market research. A seminal study revealed that 47% of 702 US occupations were at high risk of automation, particularly in transportation and unskilled production sectors. This study highlighted the potential for job displacement due to automation, setting a benchmark for further research on technology's impact on labor markets.[1] Another scenario purports that AI's ability to foster sustainable practices and create new entrepreneurial opportunities could have a more nuanced effect on the labor market, but job creation because of AI has been elusive.

Workers' engagement and utilization of AI tools create a potential for complementarity in employment, suggesting that AI can work alongside human labor to enhance productivity and innovation. However, technically, AI and automation differ fundamentally. AI mimics human decision-making and learns through machine and deep learning, enabling it to adapt and tackle complex issues like speech and image recognition. Automation, in contrast, operates on pre-set rules and is generally non-adaptive, best suited for more straightforward, repetitive tasks. While AI prioritizes adaptability and intelligence, automation centers on executing fixed, predetermined tasks.

AI demands highly skilled roles like data scientists and will transform industries such as healthcare and finance, potentially creating new job types. However, it also sets a high entry barrier. These factors prevent workers from entering the market, especially those needing more technical expertise in new job types. Conversely, automation mainly impacts low-skilled, repetitive jobs, leading to job declines in areas like manufacturing. Thus, AI can act as a labor substitute or a labor complement to varying degrees. However, AI's influence on labor is still in its early stage.

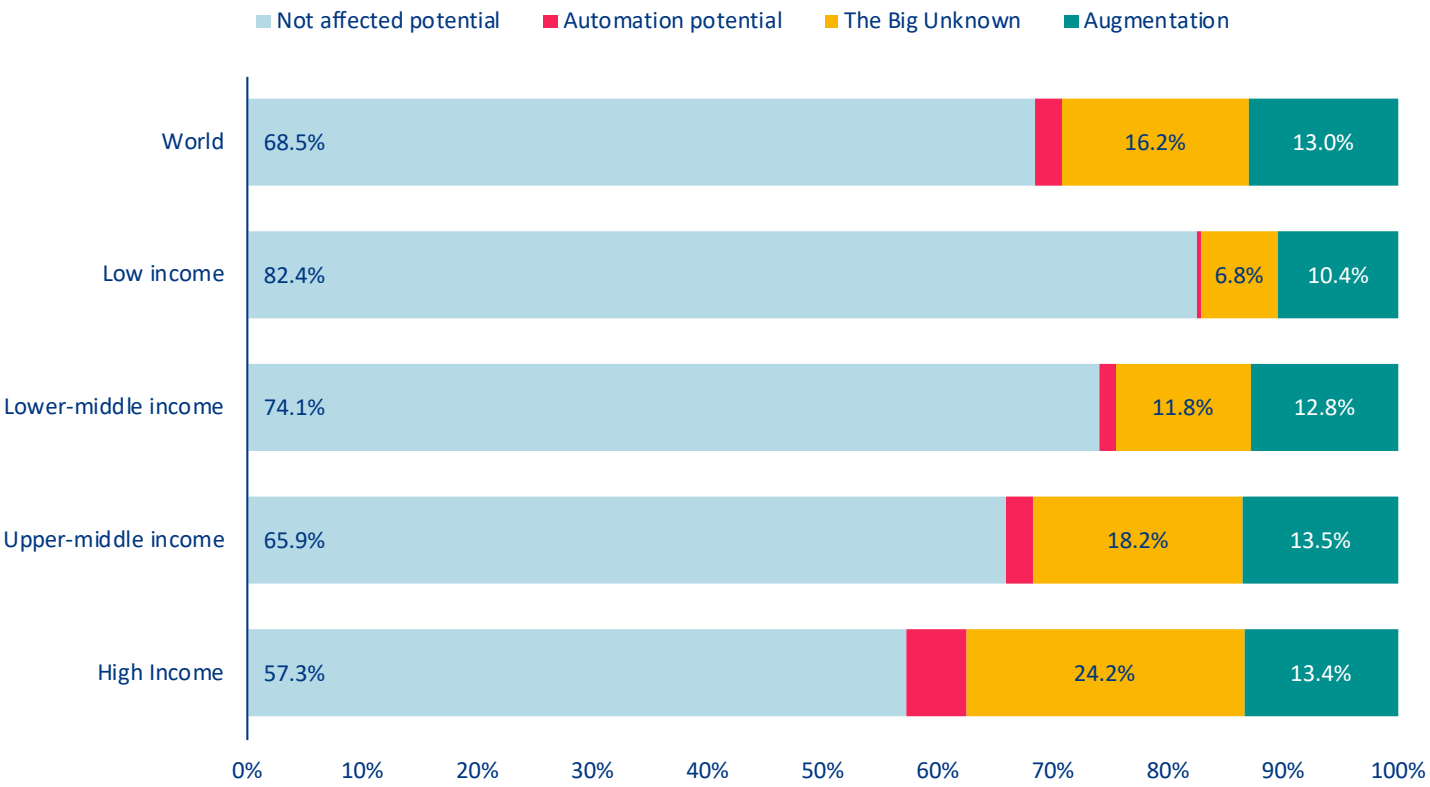
[1] Frey and Osborne (2017)

According to Goldman Sachs, the adoption of GenAI will lead to a +7% increase in global GDP and a +1.5% increase in productivity per year in the US over the next decade. McKinsey forecasters predict that GenAI will give the global economy a more substantial boost of between EUR16trn and EUR24trn. Others are more skeptical. The Nobel Prize-winning economist Daron Acemoglu predicts only a +0.66% increase in total factor productivity over 10 years.[2]

While there are still differing views at the macro level, there is no question that GenAI will lead to a profound change in the way we work. Around half of all jobs in developed countries are affected by AI in one way or another (Figure 1). Looking at individual jobs, it is striking that it is creative, non-routine jobs – such as writing, medical diagnosis or programming – that are most likely to be transformed by the use of AI, and potentially even replaced.

It is projected that demand for workers in STEM-related, healthcare and other high-skill professions would rise while demand for occupations such as office workers, production workers and customer service representatives, which typically have higher degrees of task-overlaps with GenAI capabilities, would decline. By 2030, at a midpoint adoption scenario, up to 30% of current hours worked could be automated, accelerated by GenAI (Figure 2). For example, Goldman Sachs predicts that 300mn full-time jobs will be replaced by AI. The risk of job loss is highest in the service sector and among younger workers.

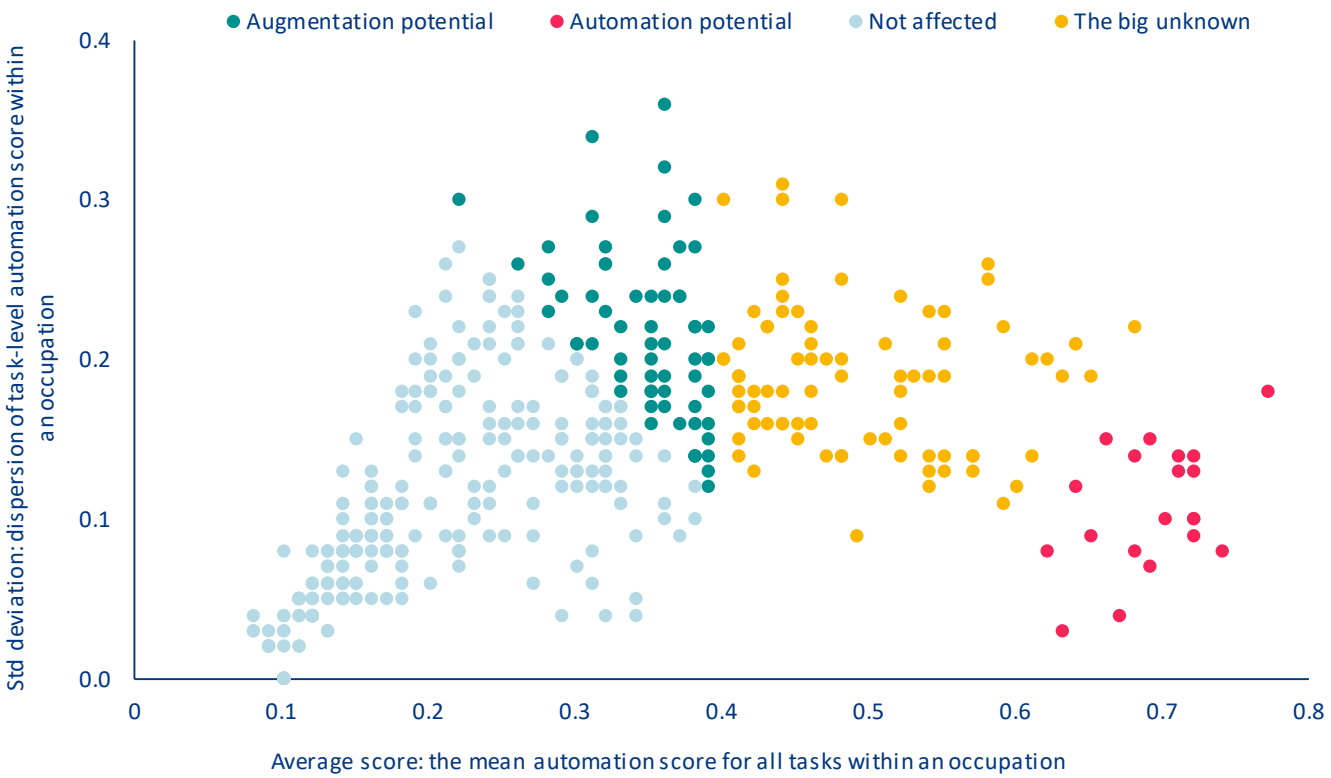
Figure 1: Percentage of occupations potentially affected by GenAI by country-income groups



Sources: ILO, Allianz Research

[2] Acemoglu, D. (2024). The Simple Macroeconomics of AI. MIT.

Figure 2: How might GenAI impact different occupations



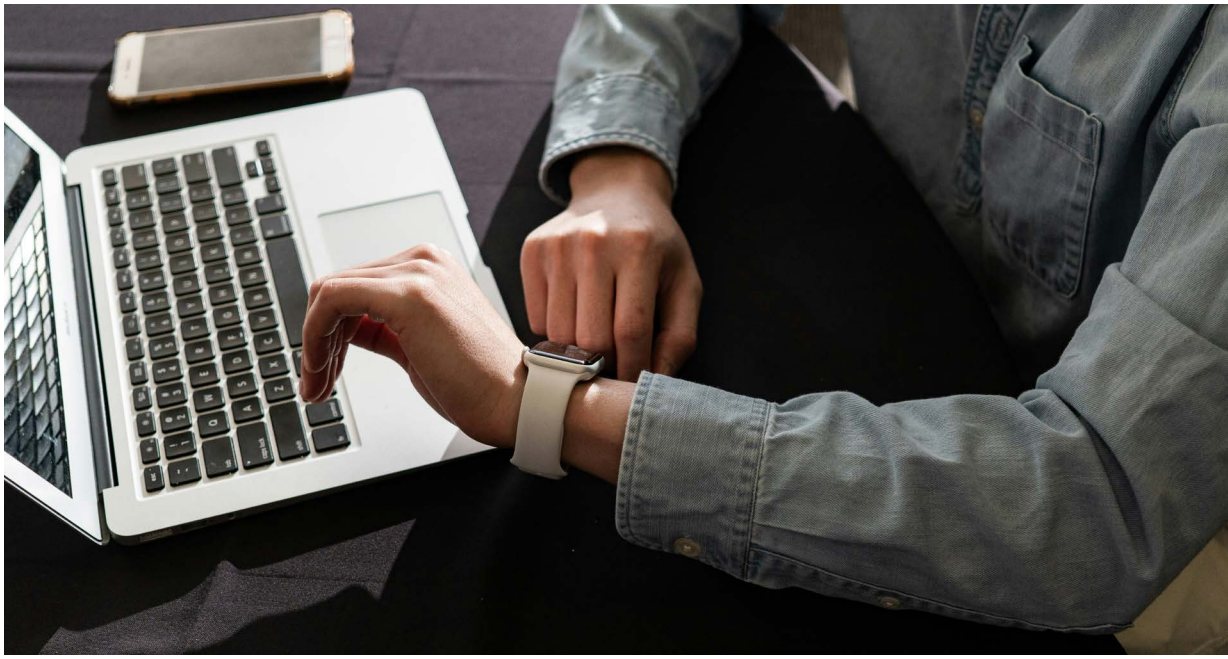
Sources: ILO, Allianz Research

These effects are also likely to put pressure on wages for non-routine and creative jobs. In other words, the skill premium is likely to decline. This could reverse the trend of the 1980s and 1990s, when new technologies and automation led to a large wage gap between well-educated workers, whose skills were in high demand, and less well-educated workers, whose routine jobs fell victim to automation.

In this sense, GenAI could contribute to a certain levelling of wages, leading to greater equality. David Autor and Erik Brynjolfsson, for example, argue along these lines. Autor even hopes that the middle class will be restored if the AI revolution is given the right political framework.[3] And Brynjolfsson believes that GenAI has the potential to bridge the performance and learning gap between high- and low-skilled workers by changing the way workers learn and perform. Using data from 5,179 customer support agents, his recent research shows that access to AI tools increased productivity, as measured by issues resolved per hour, by +14% on average, including a +35% improvement for novice and low-skilled workers, but had minimal impact on experienced and highly skilled workers. Brynjolfsson and his co-authors provide evidence that the AI model spreads the best practices of more skilled workers and helps newer workers move up the experience curve. In addition, they found that AI assistance can improve customer sentiment, increase employee retention and lead to worker learning.[4]

Similarly, research by Shakked Noy and Whitney Zhang from MIT[5] highlights that individuals with less proficient writing skills can significantly enhance the quality of their work by utilizing tools like OpenAI's ChatGPT for drafting tasks, such as press releases and reports. Jonathan Choi and his colleagues[6] found that general-purpose AI tools could notably improve legal work quality, particularly benefiting less talented law students. These findings not only underscore AI's ability to elevate baseline performance but also strengthen Brynjolfssons view of the potential to bridge the gap between high- and low-skilled workers.

[3] Autor, D. (2024). Applying AI to Rebuild Middle Class Jobs. NBER Working Paper 32140.
[4] Brynjolfsson, E. et al. (2023). Generative AI at Work. NBER.
[5] Noy, S. and Zhang, W. (2023), Experimental Evidence on the Productivity Effects of Generative Artificial Intelligence.
[6] Choi, J. H. and Monahan, A. and Schwarcz, D. (2023), Lawyering in the Age of Artificial Intelligence.

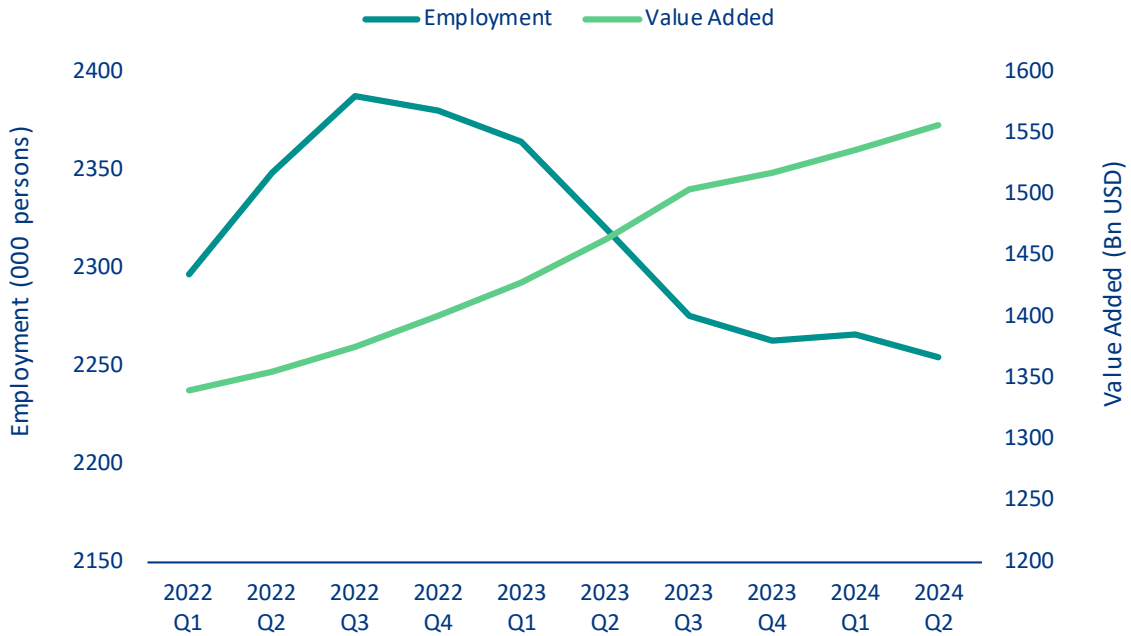


GenAI and productivity

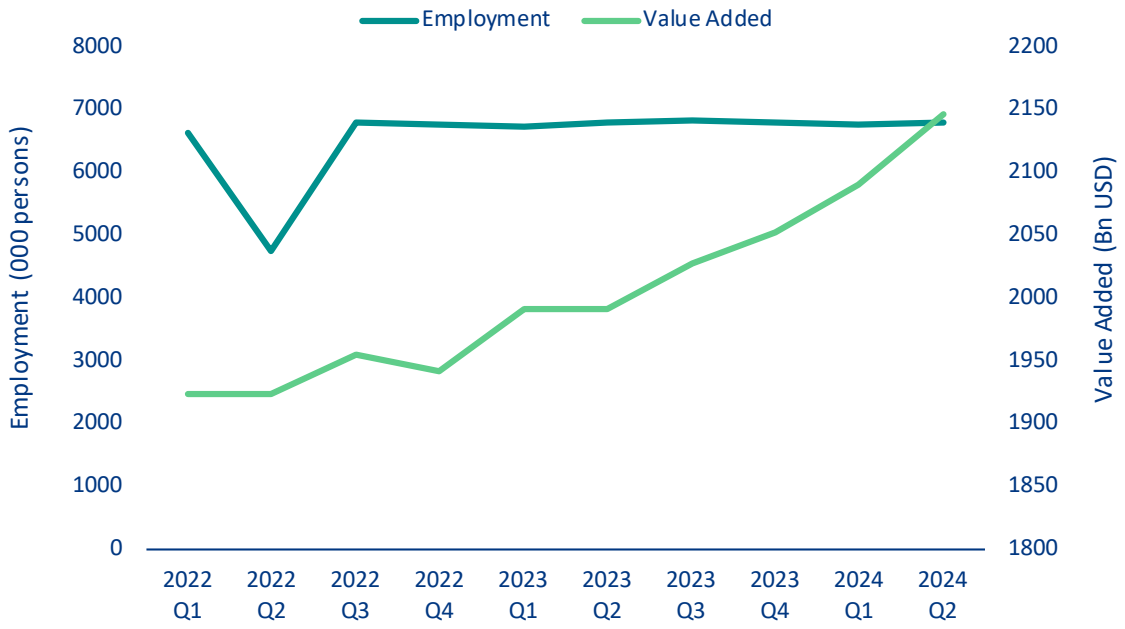
Solow's famous dictum that computers are everywhere – except in productivity statistics – no longer applies to AI. At least not if you look closely. Not surprisingly, the impact of AI is most evident in the information sector: while employment is falling, output is rising sharply. In other service sectors, such as finance or professional and business services, the picture is less clear, but here too there are significant increases in output and at least stable employment (Figure 3).

Figure 3: Employment and value added in selected US sectors

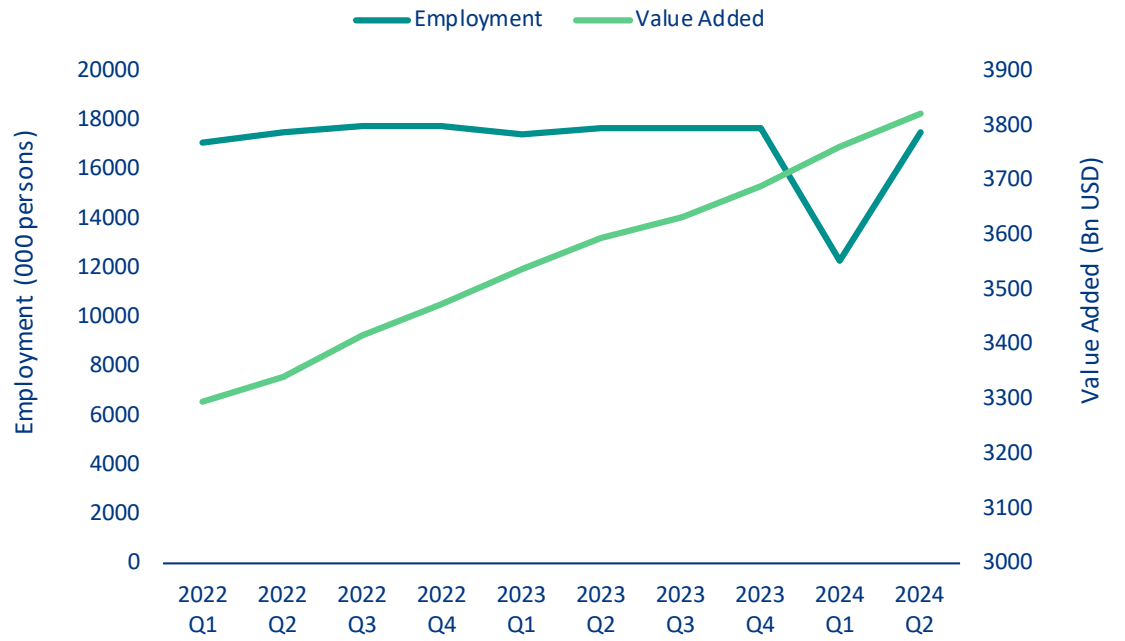
Information sector



Financial sector



Professional and business services sector

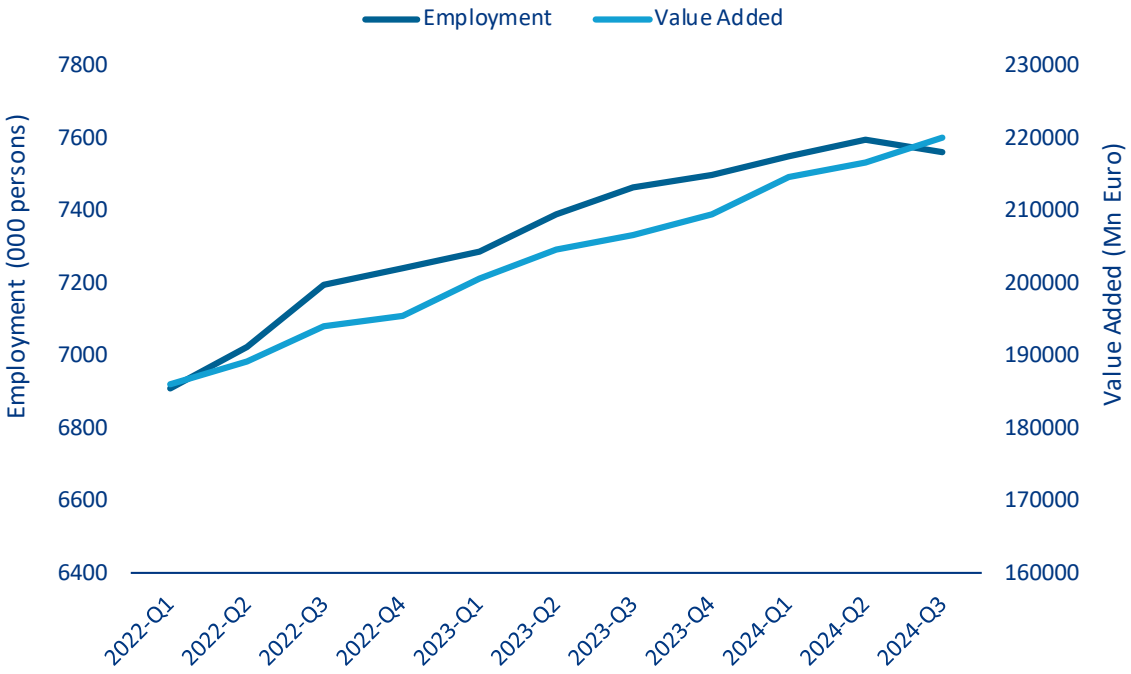


Sources: BEA, Allianz Research

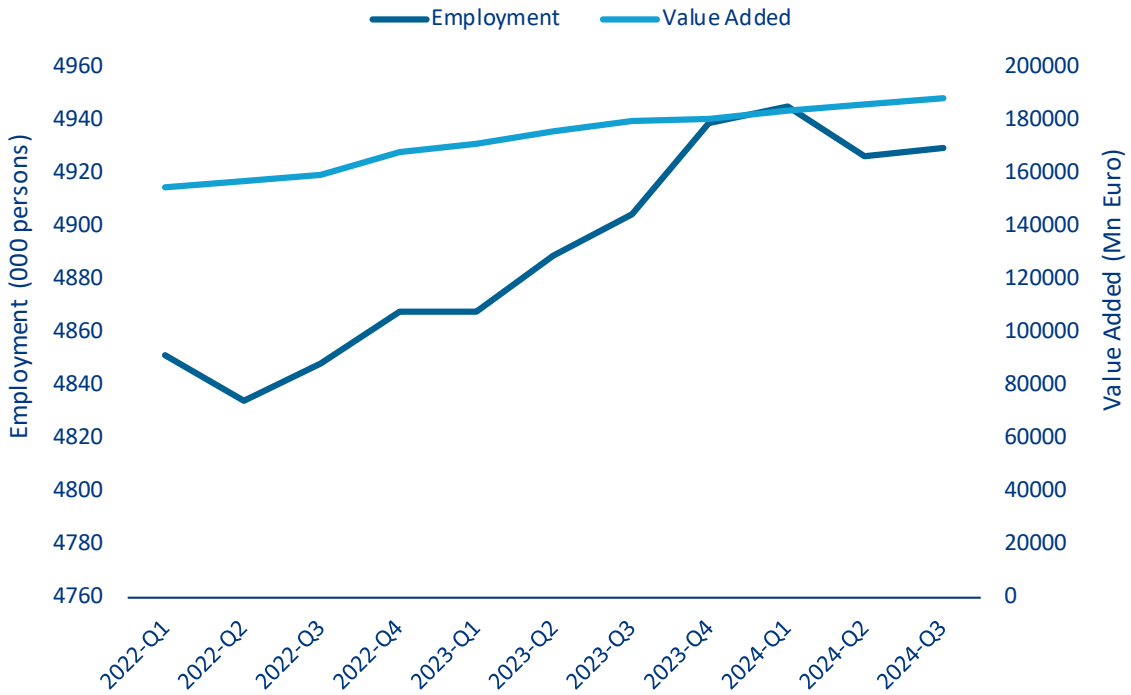
In Europe, however, the picture is very different. Not only is output growth in individual sectors much more modest – due to the poor economic situation – but it is also accompanied by an increase in employment. There is no sign of productivity growth from AI yet. (Figure 4)

Figure 4: Employment and value added in selected EU-27 sectors

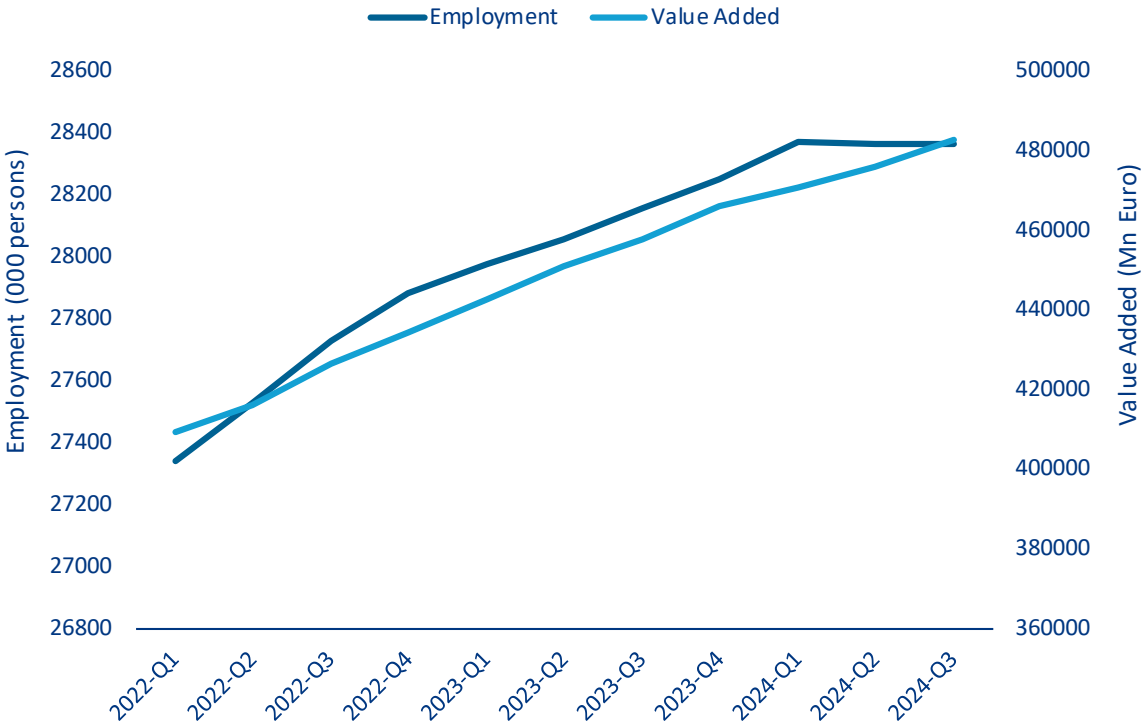
Information and communication sector



Financial sector



Professional, scientific and technical activities; administrative and support service activities



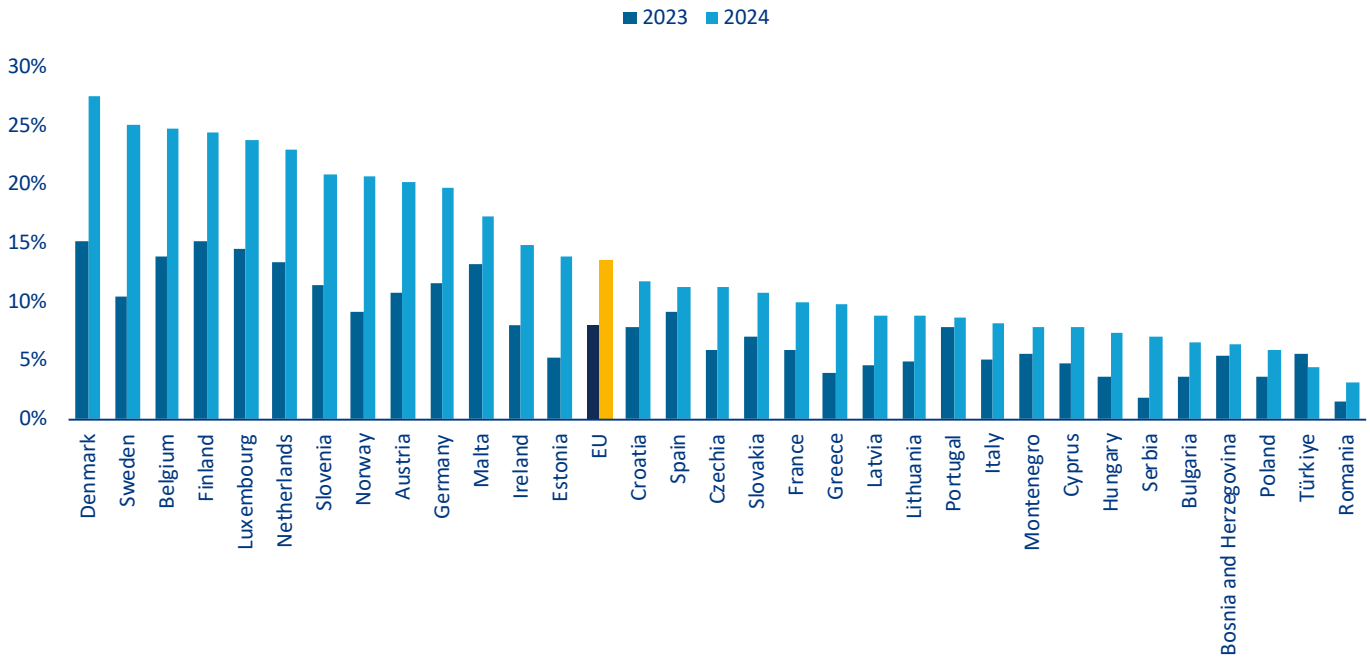
Sources: Eurostat, Allianz Research

This discrepancy between the US and Europe is hardly surprising, given that Europe is lagging behind in the adoption of AI, while being at the forefront of AI regulation. Last year, only 13.5% of companies reported using AI technologies (Figure 5). Compared to 2023, however, this still represents an increase of almost +70%. And among large companies, the rate is significantly higher at 41.2%. In the US, however, even small business reach this rate.[7] Overall, however, AI is still in its infancy in Europe.

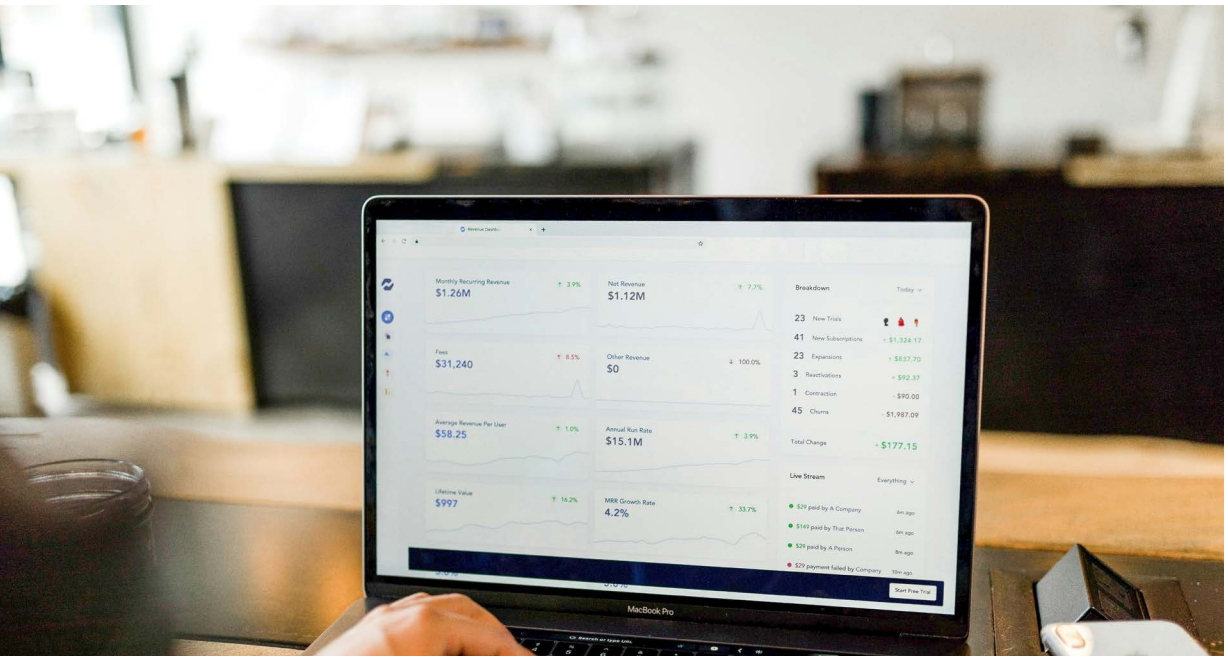
This low prevalence explains the different effects of AI on employment. When only a few companies use AI, they are likely to benefit from increased demand for their products due to improved features and customer service or more targeted marketing. For early adopters, AI is an important competitive differentiator. Of course, this advantage disappears with widespread use of AI technologies. In the second phase, productivity effects are no longer masked by demand effects, and the expected decline in employment becomes visible. It is likely that this will soon be the case in Europe.

[7] U.S. Chamber of Commerce Technology Engagement Center (2024), The impact of technology on U.S. small business.

Figure 5: Percentage of enterprises using AI technologies by EU country



Sources: Eurostat, Allianz Research



The case for capital income

For households that have money to save, portfolio rebalancing towards earning more capital income may be a way to combat the risks of labor displacement caused by AI. The starting point is simpler than in the past. On the one hand, lower wage inequality is in itself a positive development. It should contribute to greater acceptance of AI technologies, unlike during the previous wave of automation when job losses led to rising inequality. On the other hand, the fact that it is mainly higher-skilled workers who are affected opens up more options for action. Reskilling this group should not be too difficult.

Reskilling for AI

In the rapidly evolving landscape of artificial intelligence, the demand for AI-related skills has surged, reflecting a necessity for expertise in both developing and utilizing AI technologies. Online job postings show an increasing frequency of AI-related competencies such as the need for proficiency in programming languages, big data management and data analysis and visualization. Moreover, the implementation of AI within firms is not merely a technical endeavor; it necessitates high-level cognitive abilities, such as creative problem-solving, alongside transversal skills like communication, teamwork and leadership. These skills are also relevant for roles emerging in AI-driven environments, emphasizing the complementary nature of technical and soft skills in fostering successful AI integration.

Table 1: Overview of skills needed in the age of AI

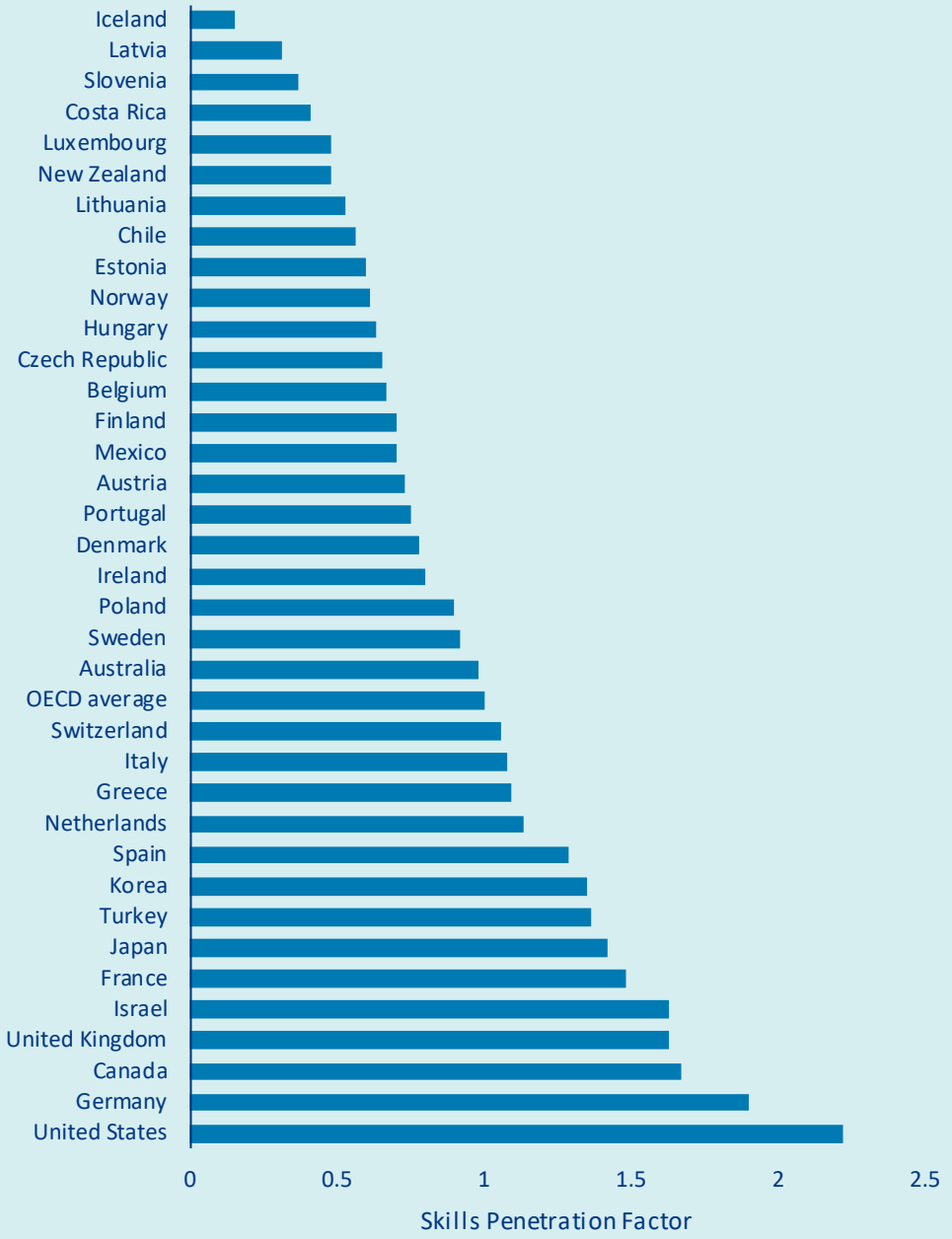
	Type of skill	Examples
Skills to develop and maintain AI systems	Specialized AI skills	General knowledge of AI (such as Machine Learning) Specific knowledge of AI models ("decision trees", "deep learning", "neural network", "random forest", etc), AI tools ("tensorflow", "pytorch", etc) and AI software ("java", "gradle", "galaxy cluster", etc).
	Data science skills	Data analysis Software Programming languages, in particular Python Big data Data visualization Cloud computing
	Other cognitive skills	Creative problem solving
	Transversal skills	Social skills Management skills
Skills to adopt, use and interact with AI applications	Elementary AI knowledge	Principles of machine learning
	Digital skills	Ability to use a computer or a smartphone
	Other cognitive skills	Analytical skills Problem-solving Critical thinking Judgement
	Transversal skills	Creativity Communication Teamwork Multitasking

Sources: OECD, Allianz Research

A shift in skill requirements is visible as firms navigate the complexities of AI adoption. Many organizations have responded by retraining or upskilling their workforce. A study conducted by McKinsey found that companies expect to invest in retraining about a third of their staff to meet the skills gap, complementing this strategy with hiring and outside contracting.

While some enterprises have begun offering AI training, there is still a role for public intervention to address market failures and private barriers to training provision. Public policy could play a pivotal role in promoting diversity within the AI workforce, ensuring that the benefits of AI permeate broader society. By fostering an inclusive and well-trained AI workforce, public initiatives can mitigate the skill gaps and maximize the societal advantages of AI technologies.

Figure 6: AI skills across OECD countries



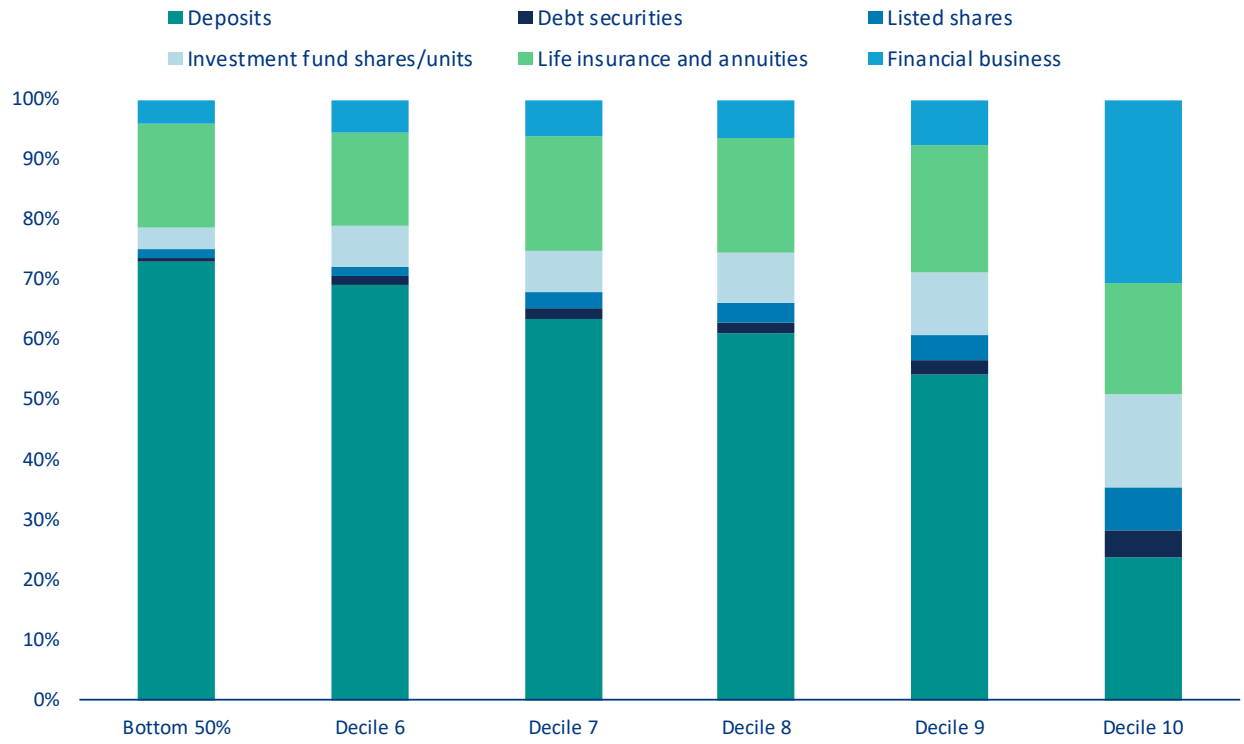
Sources: Oxford economics, Allianz Research

National AI strategies across countries recognize the critical importance of developing these skills. For example, the UK's national AI strategy underscores the importance of research activities to identify the skills necessary for employees to effectively use AI in business settings, aiming to align national skills provision with these needs. Lithuania's strategy highlights vocational training programs specifically designed for workers in occupations at high risk of automation, ensuring they can integrate AI into their current roles rather than retraining for entirely different careers. Spain's approach is notable for its comprehensive training programs, funded through the Recovery, Transformation, and Resilience Plan, which include modules on AI and technological change, catering to various skill levels. Italy's Tax Credit on Training 4.0 supports employees' acquisition of skills related to digital transformation, offering tax credits that vary by company size and prioritize disadvantaged employees. These are just some strategies to illustrate the diverse approaches countries are adopting to anticipate and address the evolving skill demands brought about by AI integration.

Encouraging participation in capital income is advisable for two reasons. First, unlike the evolution of wages, AI is not expected to equalize capital income. The high capital investment required to train AI models suggests that capital income will tend to become more concentrated. This should be countered in good time by an active promotion policy that broadens participation in the capital base of society. Second, even the better-educated workers – who should all be in the top half of the income and wealth distribution – have a lot of catching up to do when it comes to return-oriented investment decisions.

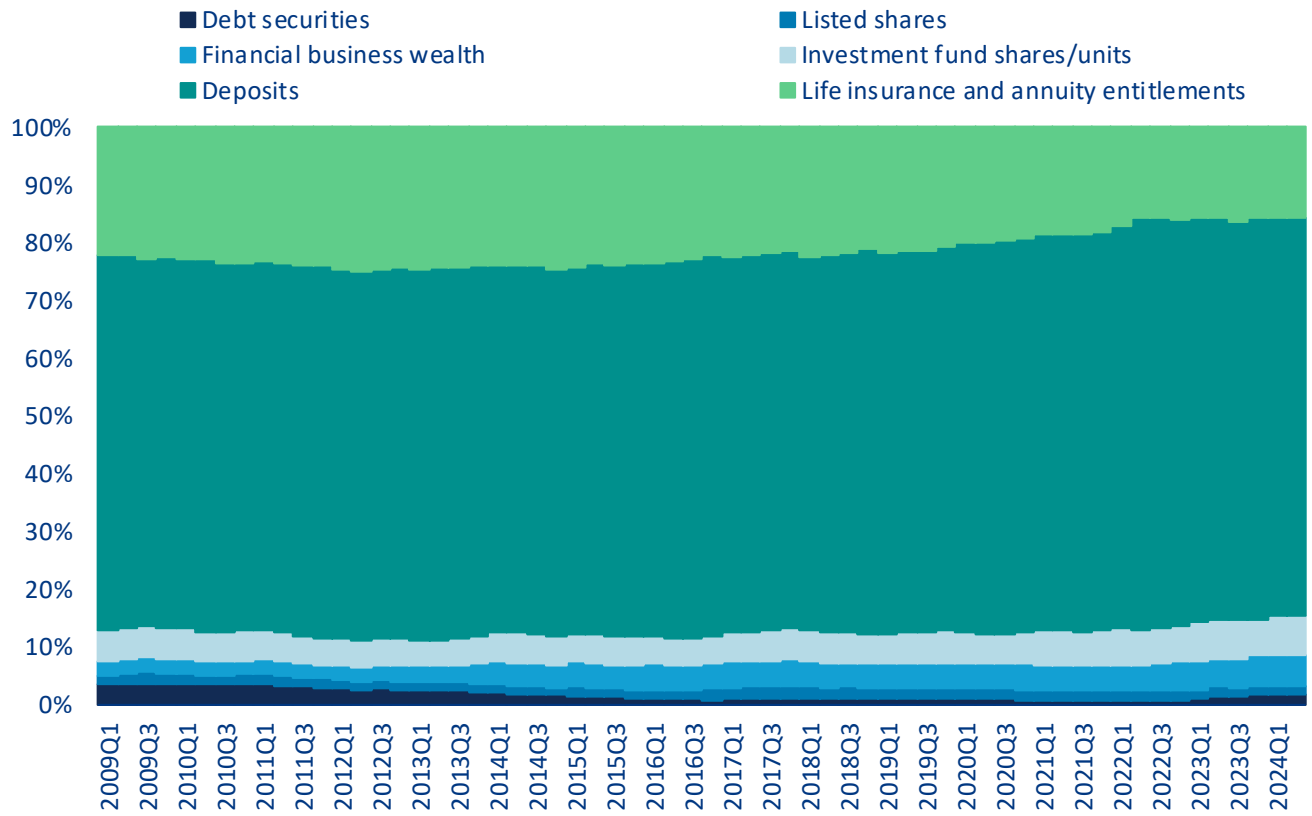
This is reflected in the portfolio structure: even in the top wealth deciles, more than half of financial assets are held in bank deposits. This savings behavior, which is very much focused on security and liquidity, has hardly changed in recent years (Figures 6 and 7). Only the richest decile is an exception as business ownership is the largest item in the financial balance sheet.

Figure 7: Portfolio structure by wealth deciles in the Eurozone



Sources: ECB, Allianz Research

Figure 8: Portfolio structure of the sixth decile in the Eurozone

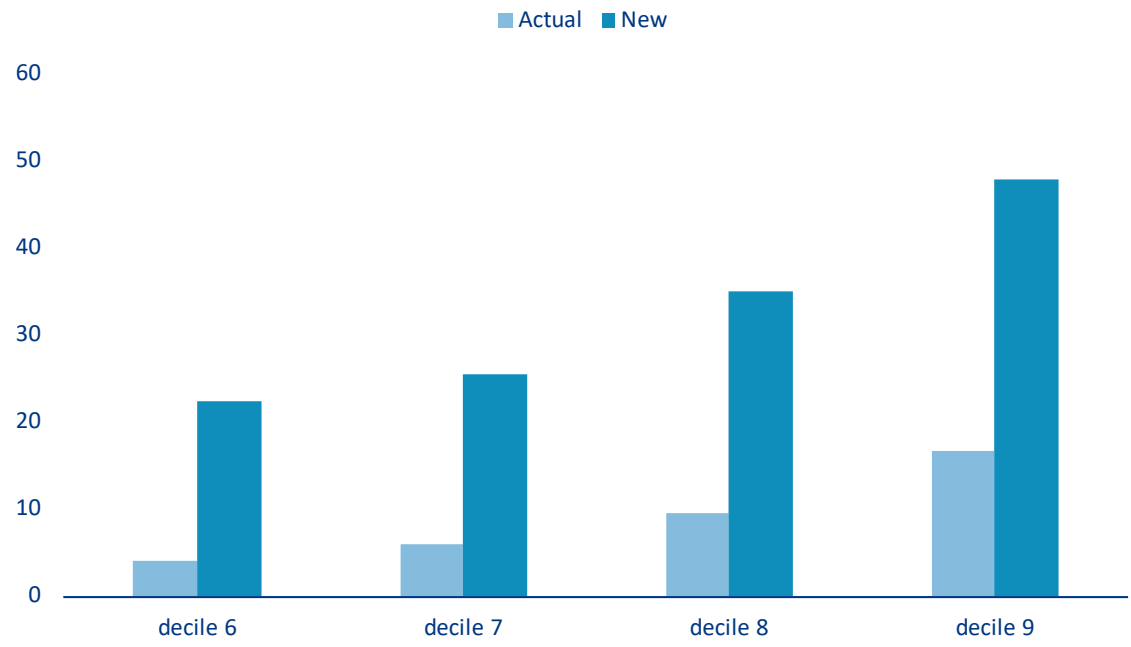


Sources: ECB, Allianz Research

The potential from a simple asset shift is huge. For example, if the sixth decile were to shift half of its bank deposits into higher-yielding assets such as shares, bonds and investment funds, it would generate a higher return of around EUR10,300 over the next ten years – without taking into account the savings generated during this period.[8] In the ninth decile, this excess return from a one-off shift would be EUR27,550. In terms of disposable income, this would be an increase of +18% and +31%, respectively, compared to an unchanged portfolio structure (Figure 8). The savings could be utilized not only for smoothing consumption, but also to invest in re-skilling or starting a business.

[8] This is based on the assumption that 60% of the freed-up funds are invested in the stock market and 20% each in bonds and investment funds. The assumed return on equities is 6%.

Figure 9: Total increase in financial wealth 2025-2034, as % of 2034 disposable income



Sources: ECB, Allianz Research

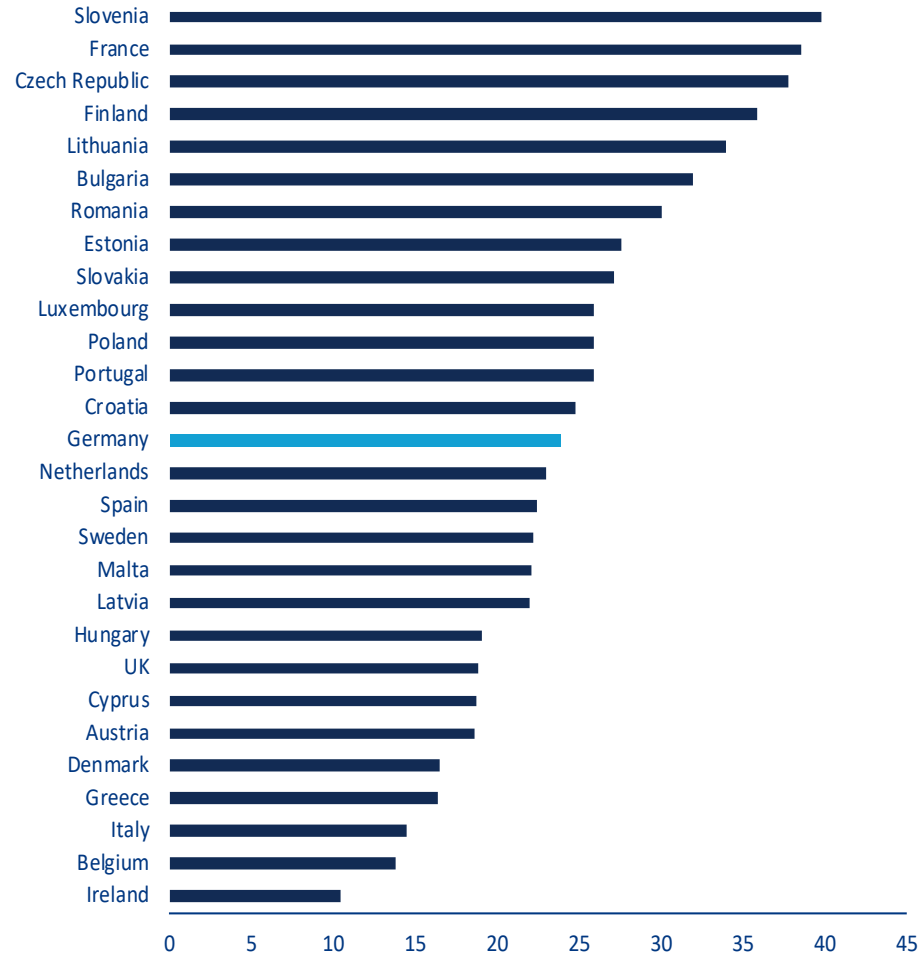
These figures underline the impact that simple portfolio rebalancing can have on financial resilience. But it is not just those affected who benefit. Together, these four wealth deciles have bank deposits totaling EUR4.1trn. A shift towards capital markets would give a huge boost to the European project of a Capital Markets Union.

It is to be hoped that, after years of inaction, politicians will finally devote the necessary attention to this task. The creation of a genuine Savings and Investment Union (the new name of the CMU) is essential to boost EU competitiveness and provide businesses with greater access to finance. At the heart of this Union should be the revitalization of EU equity markets, in particular venture capital (VC) and private equity (PE). This will require a reorientation of savings and investment behavior. Incentives such as tax breaks to encourage private savers to invest in equity markets, together with the strengthening of funded pensions to reorient institutional investors towards equity, are crucial. But the responsibility for fostering an equity culture lies with national governments.

Germany, in particular, needs to address its weak equity culture, for example by introducing robust funded pillars in its pension system. Other initiatives to improve the CMU include simplified regulation (including for IPOs) and reporting requirements, especially in sustainable finance; increasing VC funding by expanding the European Investment Fund (EIF); and promoting convergence of insolvency frameworks through a harmonized "28th regime".

Profit-sharing schemes, which allow employees to invest in their own companies, are another way of strengthening employees' financial reserves and at the same time mobilizing private capital for the necessary investments in green transformation and geostrategic resilience. The prevalence of these schemes varies widely across Europe and their potential is far from exhausted (Figure 10). Increasing tax incentives and simplifying administrative procedures could make these schemes more attractive to employees and employers alike.

Figure 10: Share of firms with profit-sharing schemes, % in 2019



Sources: ECS, French Treasury, Allianz Research

The "2nd Machine Age" (Brynjolfsson and MacAfee) will lead to major upheavals in the labor market. In the long run, an AI-driven economy is very likely to provide more material prosperity for all than today's economy; living conditions and circumstances should even be significantly better. Keynes' famous prediction that people would work only 15 hours a week may finally come true. But there will be dislocation along the way, many workers will lose their jobs, many companies will go bust and many investments will lose their value.

In the meantime, therefore, the widespread use of AI could increase polarization, the real Achilles' heel of Western societies. It could further undermine the social fabric and fuel greater political fragmentation and populism in the future. Repairing the social contract is therefore a mammoth task for the years ahead. Simply relying on more government and social services is certainly not enough – and could even be counterproductive. The antagonism between the so-called establishment and the anti-establishment would only intensify. The guiding principle of a new social contract should not be alimentation but resilience, the ability to bounce back after setbacks. The ultimate goal is to reduce inequality, but not with handouts, but by strengthening the capabilities of each individual. This includes greater employee ownership and participation in capital income. The idea is that people will make AI work for them and generate an additional income stream. With the right (tax) incentives, it is undoubtedly possible to turn more employees into shareholders and thus strengthen their financial resilience in the coming times of disruption.


Our
team

Chief Investment Officer & Chief Economist Allianz SE

Ludovic Subran
ludovic.subran@allianz.com

Head of Economic Research Allianz Trade

Ana Boata
ana.boata@allianz-trade.com

Head of Insurance, Wealth & ESG Research Allianz SE

Arne Holzhausen
arne.holzhausen@allianz.com

Macroeconomic Research

Lluis Dalmau
Economist for Africa & Middle East
lluis.dalmau@allianz-trade.com

Maxime Darmet Cucchiarini
Senior Economist for UK, US & France
maxime.darmet@allianz-trade.com

Jasmin Gröschl
Senior Economist for Europe
jasmin.groeschl@allianz.com

Françoise Huang
Senior Economist for Asia Pacific
francoise.huang@allianz-trade.com

Maddalena Martini
Senior Economist for Italy, Greece & Benelux
maddalena.martini@allianz.com

Luca Moneta
Senior Economist for Emerging Markets
luca.moneta@allianz-trade.com

Corporate Research

Ano Kuhanathan
Head of Corporate Research
ano.kuhanathan@allianz-trade.com

Guillaume Dejean
Senior Sector Advisor
guillaume.dejean@allianz-trade.com

Maria Latorre
Sector Advisor, B2B
maria.latorre@allianz-trade.com

Maxime Lemerle
Lead Advisor, Insolvency Research
maxime.lemerle@allianz-trade.com

Sivagaminathan Sivasubramanian
ESG and Data Analyst
sivagaminathan.sivasubramanian@allianz-trade.com

Capital Markets Research

Jordi Basco Carrera
Lead Investment Strategist
jordi.basco_carrera@allianz.com

Bjoern Griesbach
Senior Investment Strategist & Eurozone Economist
bjoern.griesbach@allianz.com

Yao Lu
Investment Strategist
yao.lu@allianz.com

Insurance, Wealth and ESG Research

Michaela Grimm
Senior Economist, Demography & Social Protection
michaela.grimm@allianz.com

Patrick Hoffmann
Economist, ESG & AI
patrick.hoffmann@allianz.com

Hazem Krichene
Senior Economist, Climate
hazem.krichene@allianz.com

Patricia Pelayo-Romero
Senior Economist, Insurance & ESG
patricia.pelayo-romero@allianz.com

Kathrin Stoffel
Economist, Insurance & Wealth
kathrin.stoffel@allianz.com

Markus Zimmer
Senior Economist, ESG
markus.zimmer@allianz.com

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Director of Publications
Ludovic Subran, Chief Investment Officer & Chief Economist
Allianz Research
Phone +49 89 3800 7859

Allianz Group Economic Research
https://www.allianz.com/en/economic_research
http://www.allianz-trade.com/economic-research
Königinstraße 28 | 80802 Munich | Germany
allianz.research@allianz.com

@allianz

allianz

Allianz Trade Economic Research
http://www.allianz-trade.com/economic-research
1 Place des Saisons | 92048 Paris-La-Défense Cedex | France

@allianz-trade

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