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Allianz Research

GenAI in the insurance industry: Divine coincidence for human capital

Executive Summary



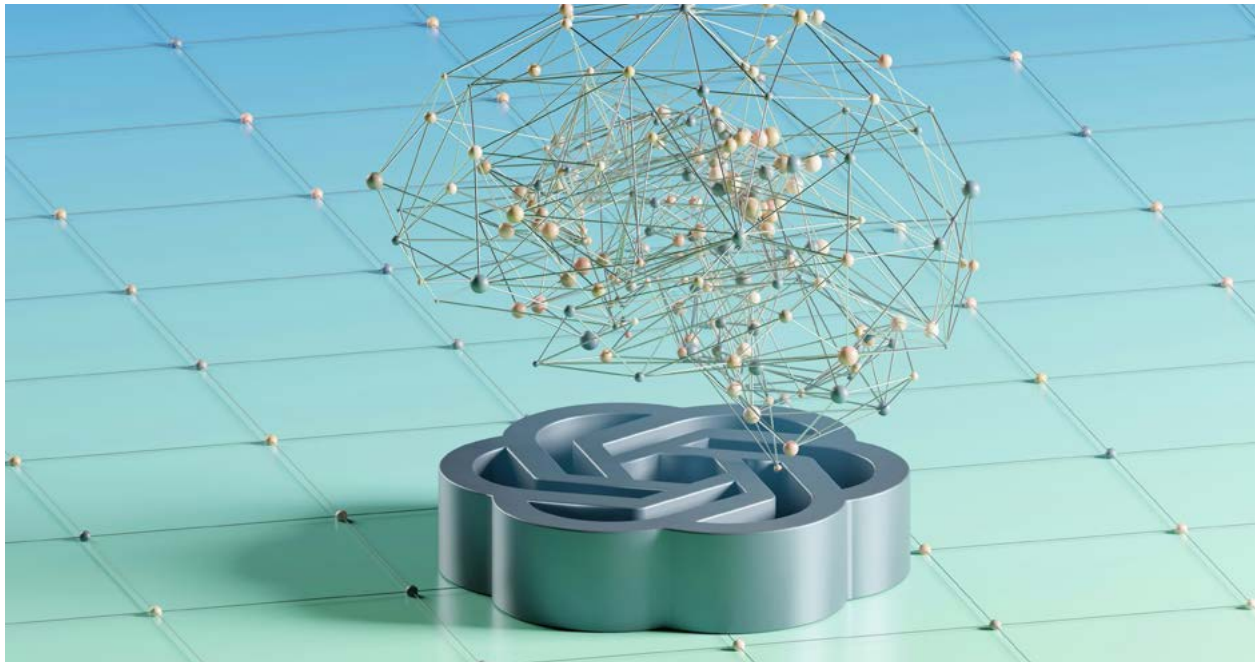
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- **Who's afraid of GenAI? While experts predict substantial positive economic effects from the rise of generative artificial intelligence, public sentiment is not so optimistic.** In our survey of over 6,000 people in Austria, France, Germany, Italy, Poland and Spain, 36% expressed concerns over the risks presented by AI, with 46% expecting AI to cut the number of jobs available (vs. 33% who expect AI to increase the number of jobs available). More worryingly, more than half of all respondents (51%) believed that the skills gap and inequality could widen as AI uptake expands across industries, with the smart getting smarter and the rest being left behind. Just 21% of all respondents were optimistic about the benefits of AI for their economies.
- **But we find that fears of AI causing a massive labor dislocation in the insurance industry are overblown.** As a data-driven industry like few others, the insurance industry in particular has significant potential for automation and productivity enhancement. AI applications can complement and augment employees' skills and are likely to improve efficiency, customer satisfaction and fraud detection. This could lead to labor reductions but economic models suggest only a modest correlation between productivity gains and labor reductions in the insurance sector: a 0.622% increase in productivity would yield only a 1% decrease in labor.
- **In fact, the timing of the advance of AI seems to be fortunate.** It coincides with demographic shifts, i.e. aging populations and shrinking labor forces, which could lead to labor shortages in many sectors, including insurance. By increasing productivity and automating routine tasks, AI could help the industry combat this looming challenge.
- **As AI adoption increases, balancing innovation with regulation will be crucial.** While many advocate for strict AI regulation to prevent harm, others emphasize the need to maintain competitiveness. Policymakers and industry leaders must navigate these challenges to harness AI's potential while addressing societal concerns.





Who's afraid of GenAI?

Over the last decade, the way we work has undergone a deep transformation, from the focus on diversity, equity and inclusion (DEI) to the shift from traditional career stereotypes to the prioritization of life-long learning and reskilling, to name a few. The pandemic also kicked off a remote-work revolution that has proved almost impossible to reverse. Now, with the promise of increased productivity brought on by generative artificial intelligence (GenAI), the burning question is, what will be the future of the labor market?

Experts believe GenAI will have truly transformative implications for our economies, boosting growth substantially. For example, Goldman Sachs expects that the adoption of GenAI will boost global GDP by +7% (around EUR7trn) and lead to an annual productivity gain of +1.5% in the US over the next decade. McKinsey predicts that GenAI will produce an even more substantive boost of EUR16trn-EUR 24trn for the global economy.¹

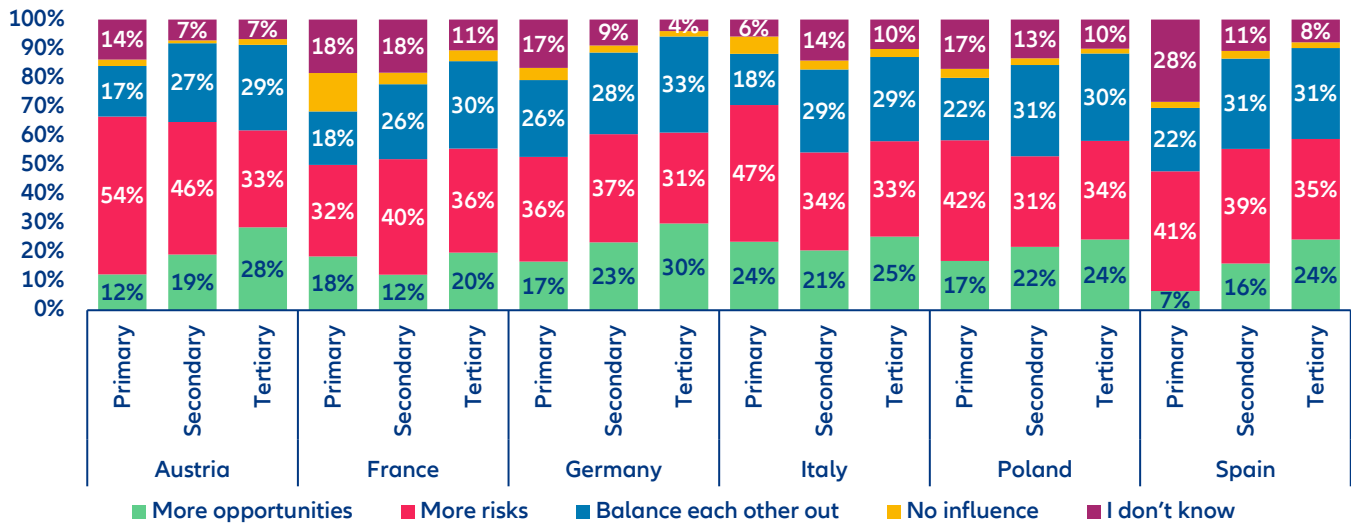
Yet, the public remains much less optimistic. Earlier this year, we asked over 6,000 people in six European countries (Austria, France, Germany, Italy, Poland and Spain) about the potential impact of AI on their economies, jobs and wages.² Most of them (36%) believed that AI would bring about more risks than opportunities, while 29% believed the risks and opportunities would balance each other out. Just 21% were more optimistic, believing that AI would bring about benefits for their economies. The optimism of our respondents was positively correlated with their education level, meaning that the higher their reported education level was, the more likely they were to believe in the positive developments AI would bring to their economies. But even among the well-educated respondents, skepticism prevails (Figure 1).

¹ Acemoglu, D. (2024). The Simple Macroeconomics of AI. MIT. Link: <https://economics.mit.edu/sites/default/files/2024-04/The%20Simple%20Macroeconomics%20of%20AI.pdf>

² Allianz Pulse 2024: What unites and separates the demos of Europe

Figure 1: Who's afraid of AI?

In your opinion, how will AI affect the economy of [your country]? Will AI awake more chances or more risks in the economy?



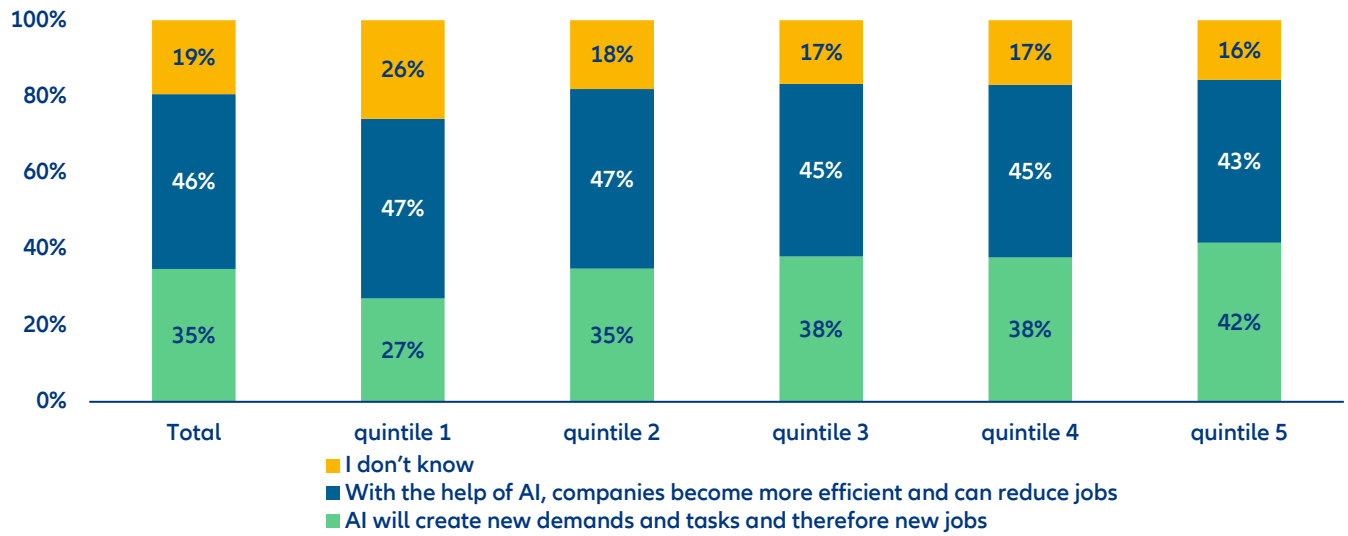
Source: Allianz Research

Respondents were also concerned about the impact of AI on jobs. The IMF expects 60% of jobs to be affected by the GenAI revolution. As AI improves productivity, some of those jobs might be replaced, but new roles will also be created. In fact, data from LinkedIn show that the share of job descriptions mentioning the use of AI has increased more than two-fold in Austria, France, Germany, Italy and Spain since the introduction of ChatGPT in November 2022. At the same time, investment into GenAI tools has skyrocketed: global venture capital investment in the first quarter of 2024 amounted to EUR2.7bn, while the total investment in GenAI for 2023 was around EUR20bn, driven mainly by two tech giants which accounted for three quarters of all investments among them.

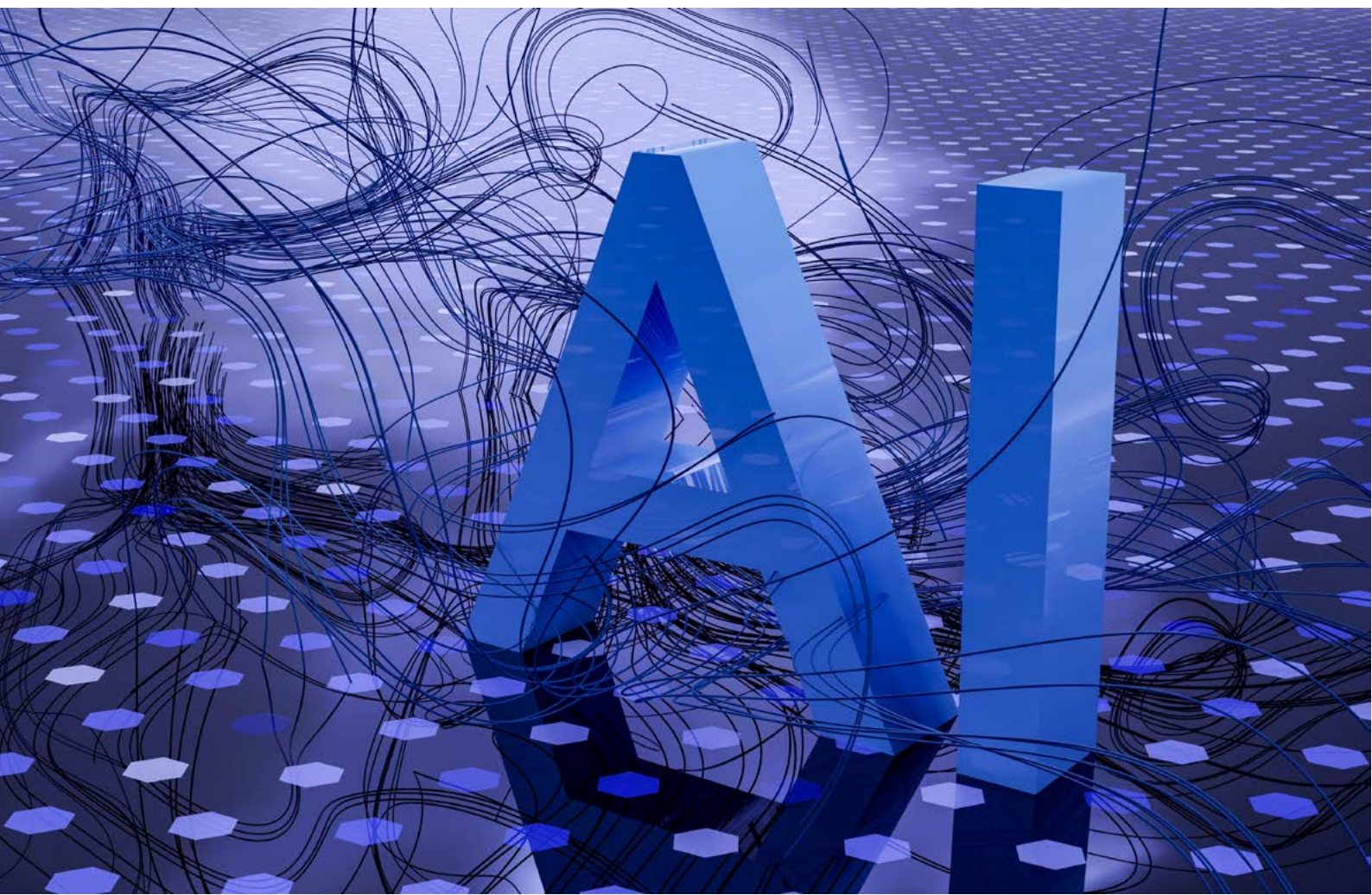
In general, respondents seem to believe that AI will lead to fewer jobs: 46% of our respondents said AI will make workers more efficient, allowing companies to reduce jobs. In comparison, 35% believed that AI would create new demands, tasks and roles. Interestingly, respondents from the lower-income category were more likely to believe that AI will reduce jobs, with only 27% in this group expecting AI to create new jobs. In contrast, 42% of those in the highest income quintile (quintile 5) expect AI to create new jobs (Figure 2).

Figure 2: Who can see the bright side of AI?

In your opinion, how will AI affect the labor market of [your country]? Will AI become a job killer or job creator? Share of respondents, in %



Source: Allianz Research



Most of our respondents (51%) also believe that the skills gap and inequality could widen with AI, with the pessimism increasing with age. But even among the younger respondents the view that GenAI will sharpen disparities clearly prevails: respondents clearly fear that the smart would get smarter while the rest will be left behind (Figure 3).

However, research from academics such as Erik Brynjolfsson, one of the leading researchers in the digital economy, suggests that GenAI could actually bridge the performance and learning gap between high- and low-skilled workers. Using data from 5,179 customer support agents, Brynjolfsson and his team found that

access to AI tools increases productivity (measured by issues resolved per hour) by 14% on average, including a 35% improvement for novice and low-skilled workers, albeit with minimal impact on experienced and highly skilled workers. Brynjolfsson and his co-authors provide evidence that the AI model disseminates the best practices of more able workers and helps newer workers move down the experience curve. Additionally, they found that AI assistance improves customer sentiment, increases employee retention and may lead to worker learning.³ Therefore, the adoption of GenAI should have a levelling effect on wages, at least within individual companies.

Figure 3: Who will benefit from AI?

In your opinion, how will AI affect the wages in [your country]? Will AI increase or decrease income inequality? Share of respondents, in %



Source: Allianz Research







³ Brynjolfsson, E. et al. (2023). Generative AI at Work. NBER. Link: <https://danielle-li.github.io/assets/docs/GenerativeAIatWork.pdf>



AI and the insurance industry

As a data-driven industry like few others, insurance could benefit from a wide variety of AI applications and use cases in that could drive up productivity. For example, predictive analysis could support marketing strategies, with personalized outreach through new channels. Real-time analysis and big-data analytics could enhance product development and enable usage-based insurance and risk-detection services. Automated processes and tailored product recommendations could enhance sales and distribution. Enhanced engagement would improve customer service and policy administration, leading to expedited assessment and settlement of claims, as well as improved fraud detection, and in turn to fairer and more cost-effective insurance. All this would ultimately lead to greater customer satisfaction, increased efficiency and potentially new revenue streams (Table 1).

Table 1: Use cases of artificial intelligence across the insurance value chain.

	Marketing 	Product Development 	Sales & Distribution 	Underwriting 	Customer service & policy administration 	Claims management 
Use cases	<ul style="list-style-type: none"> · Predictive analytics · Automated demand analysis 	<ul style="list-style-type: none"> · Analytics of customer preferences · Product innovation 	<ul style="list-style-type: none"> · Tailored product advice · Sales process automation 	<ul style="list-style-type: none"> · Image analysis · Natural language processing (NLP) 	<ul style="list-style-type: none"> · Predictive analysis · Voice recognition · NLP · Risk prevention and mitigation 	<ul style="list-style-type: none"> · Prediction of claims patterns · Image recognition · Anomaly/fraud detection
Benefits	<ul style="list-style-type: none"> · New marketing channels · Tailored outreach 	<ul style="list-style-type: none"> · Accurate pricing · Tailored products · Rapid product adjustment 	<ul style="list-style-type: none"> · Reducing sales costs, this enhancing affordability 	<ul style="list-style-type: none"> · Improved quality/speed of risk analysis including complex risks 	<ul style="list-style-type: none"> · Personalized service · Improved customer engagement · Increased resilience of insureds 	<ul style="list-style-type: none"> · Accurate claims assessments · Fraud reduction · Faster responses

Sources: The Geneva Association, adapted from Eling et al. and Accenture, Allianz Research

Key in reaping these gains is not to replace employees by AI tools but using AI to complement and augment their skills. This requires massive investments in re-skilling, keeping employees in the loop and preparing them for new kinds of work. First and foremost, AI adoption is not about cost reduction but creating new customer experiences. Increased productivity is a corollary.

But this will be a huge challenge. So far, not many companies seem to have managed new technologies in that way, as evidenced by the macro data: Despite the digital transformations of the last few decades, overall labor productivity has been flatlining in Western Europe since before the pandemic. To measure productivity in the insurance industry specifically, we take gross written premiums in euros for the total market (life, health, and property and casualty) per number of employees in the insurance industry in our selected economies, using data from the CEDEFOP (European Centre for the Development of Vocational Training) and our annual Allianz Global Insurance Report⁴. We find that labor productivity has risen in all countries when comparing 2010 to the end of 2023, but the increase has been more marked in Germany, Spain and Austria than in Italy, Poland and Spain (Figure 4). Looking ahead, using the labor forecasts

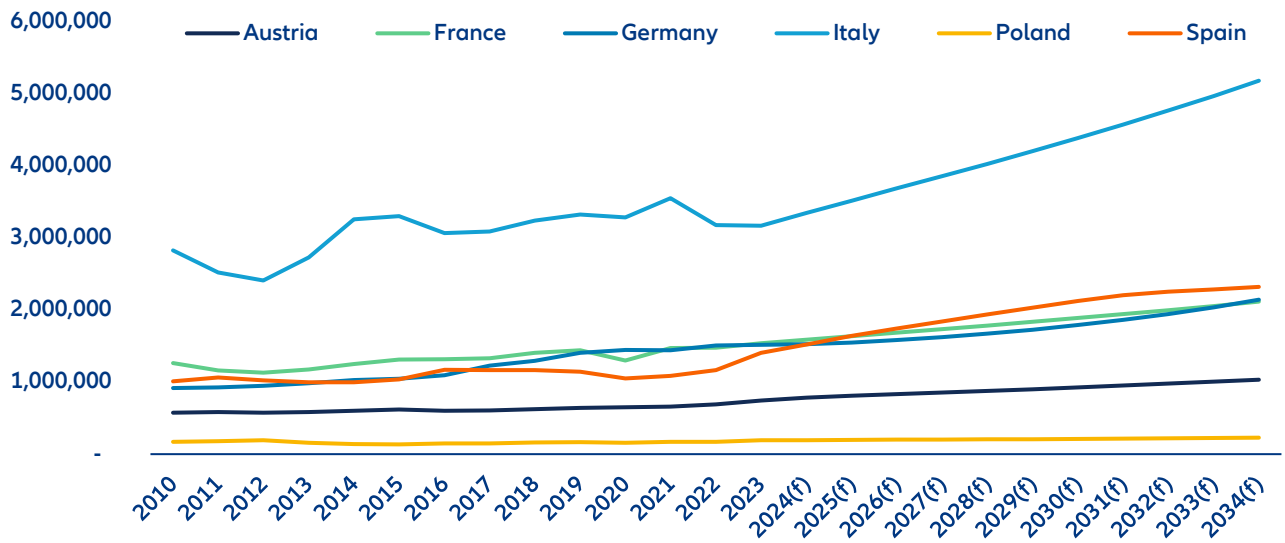
from the CEDEFOP and our own insurance outlook, we expect insurance market productivity growth in general to accelerate, with southern European countries to outpace the growth of their northern neighbors. This is in part the result of our forecast models which predict a recovery of life markets, driven by higher rates, slightly benefiting the southern European markets that were hit hard during the previous decade of ultra-low yields. Then, when assessing how the increased productivity prompted by GenAI technologies could affect the labor market (see Appendix 2 for methodology), we find that a 0.622% increase in productivity would yield a 1% decrease in labor to keep the insurance output as gross written premium stable.

However, it is worth keeping in mind that the estimates of productivity growth from AI could be exaggerated, based on early evidence of easy-to-learn tasks. Some of the future effects will come from hard-to-learn tasks, where there are many context-dependent factors affecting decision-making and no objective outcome measures from which to learn successful performance. Consequently, the economist Daron Acemoglu predicts that the total factor productivity gains over the next 10 years could be more modest at less than 0.55%.

⁴ Allianz Global Insurance Report 2024: Transformative years ahead for the insurance sector.

Figure 4: Better times ahead

Gross written premiums in EUR, as a ratio of employees in insurance companies



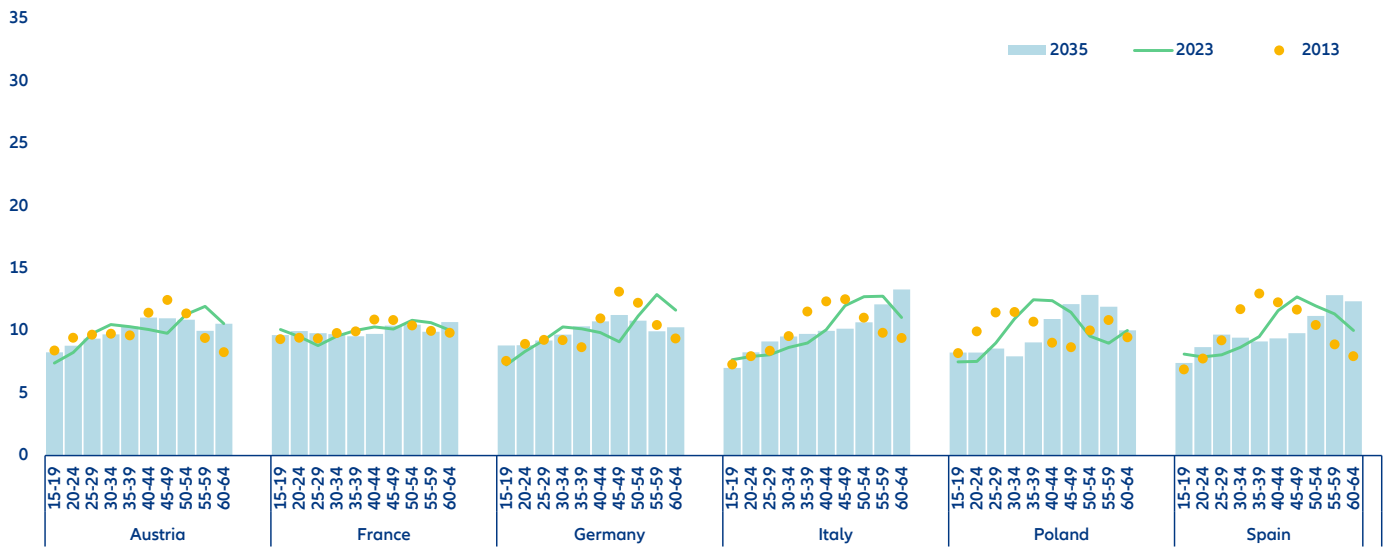
Sources: CEDEFOP, Allianz Research

Finally, AI could also help the insurance industry, among others, face the looming challenge of a shrinking workforce amid aging populations (Figure 5). Our previous research has shown that the working age population in the EU-27 will shrink by 20% until 2050. Italy, Spain and Germany will be hit even harder by demographic change. Banking on migration alone would require inflows of between 100,000 and 500,000 working migrants per year in the four largest economies alone.⁵ Against this backdrop, the acceleration and adoption of automating tools in the EU could free up some of the labor force to reskill towards industries that will need more workers, such as healthcare, STEM-related professions and other high-skill roles.

⁵ [European labor markets: Migration matters](#)

Figure 5a: The shrinking middle

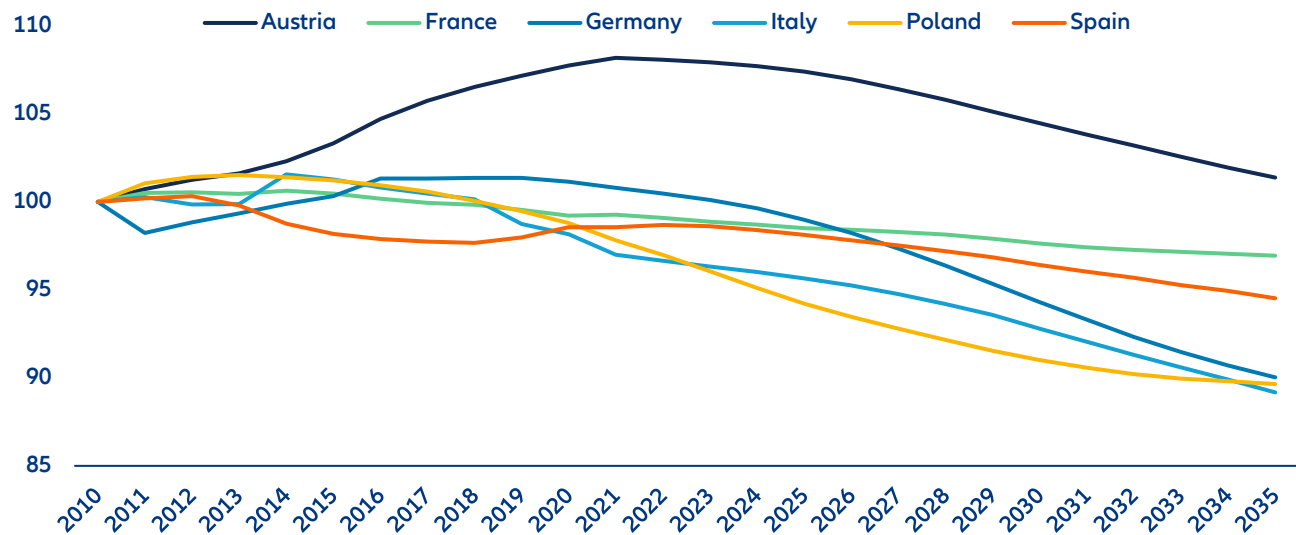
Working-age population (15+) by age group, share of total in %



Sources: CEDEFOP, Allianz Research

Figure 5b: The shrinking total

Working-age population 25 to 64 years old, index 2010=100



Sources: CEDEFOP, Allianz Research



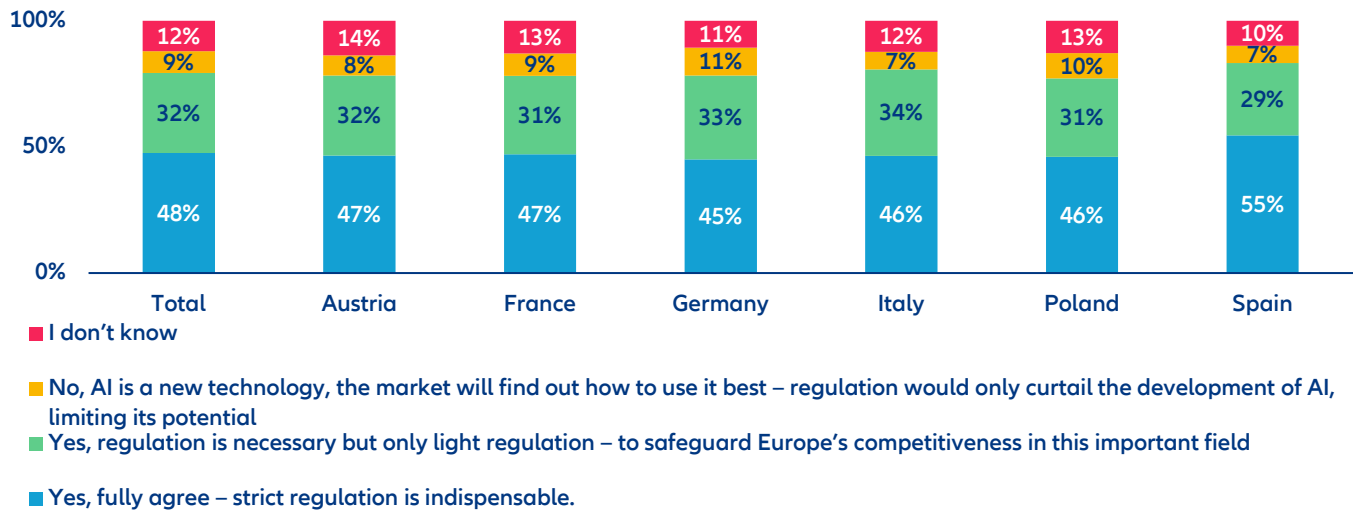
The way forward

It would be naïve to assume that all new technological advances can only increase welfare. In fact, Dan Ariely, a prominent behavioral scientist, purports that GenAI is like a highway: you can go faster, but you can also be stuck in a traffic jam. Some of the new tasks created by AI may indeed bring no competitive advantage if adoption is widespread or they may even have a negative social value if used for deep fakes or internet manipulation. Collingridge's Dilemma states that forecasting technological changes is a two-fold problem. On the one hand, there is an information challenge as impacts cannot be predicted until the technology is extensively developed and widely used. The second is a power issue as once the technology is entrenched in society controlling for it

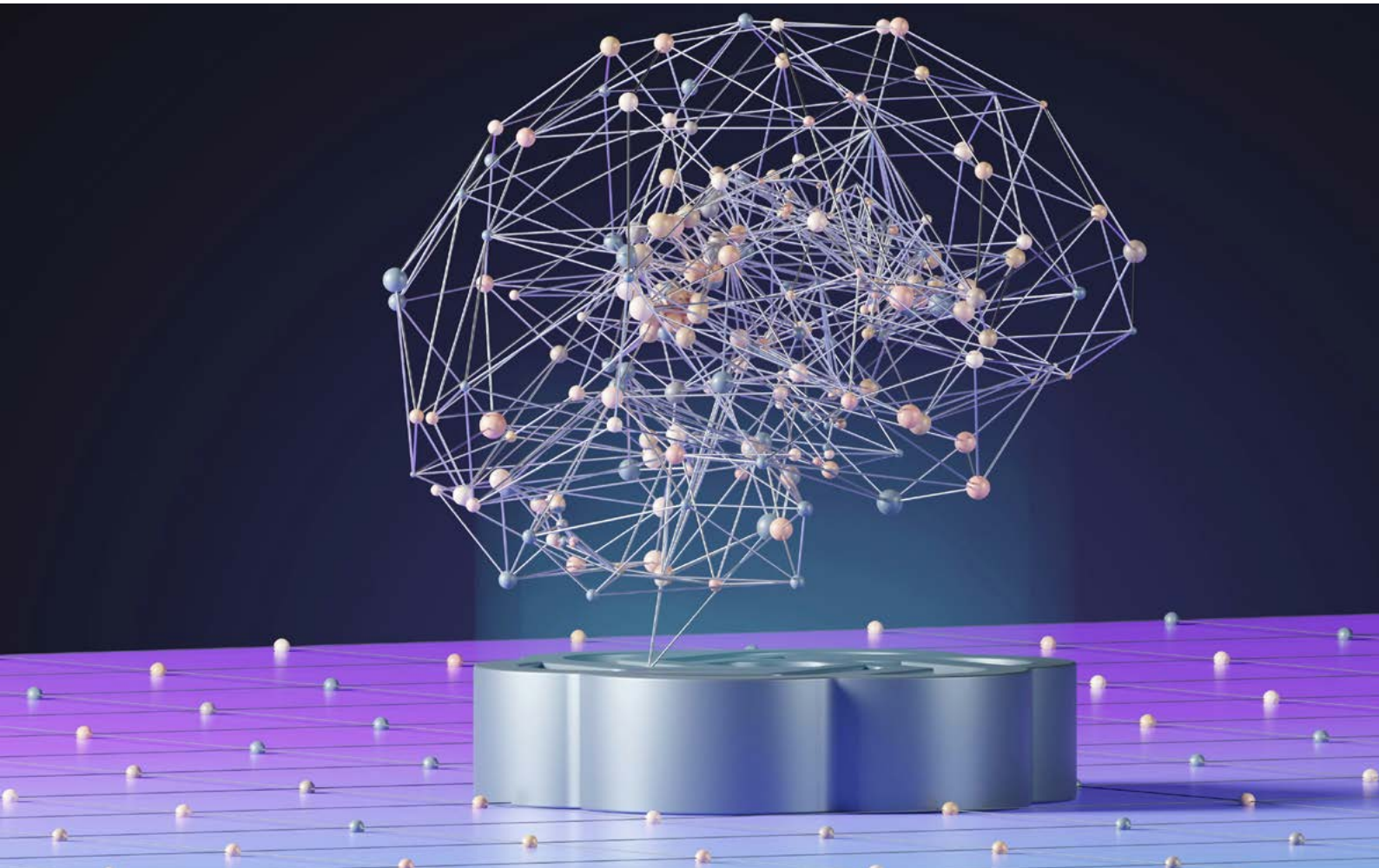
or developing policies to contain it is difficult. Although this might be true, we should at the very least prepare for the known unknowns. 48% of the respondents in our survey believe that strict regulation is indispensable in the wake of the GenAI revolution, while 32% would prepare to safeguard Europe's competitiveness in this important field. This is a delicate balance that policymakers as well as the private sector need to navigate, even more so as less than 10% see a laissez-faire approach as the best way forward. GenAI is too important to leave its development to the tech giants alone (Figure 6).

Figure 6: Who calls the shots in AI?

AI is a general-purpose technology; it can do harm or good. Therefore, governments should strictly regulate it to protect us from harmful applications. Share of respondents, in %



Source: Allianz Research



Appendix 1:

- **Overall responsibility for methods:**
Allianz Research, Allianz SE
- **Planning and drawing the sample:**
Qualtrics
- **Target groups surveyed:**
Austrian resident population, age 18 and over in Austria
French resident population, age 18 and over in France
German resident population, age 18 and over in the Federal Republic of Germany
Italian resident population, age 18 and over in Italy
Polish resident population, age 18 and over in Poland
Spanish resident population, age 18 and over in Spain
- **Number of respondents:**
6,271 persons (1,172 from Austria, 1,020 from France, 1,020 from Germany, 1,021 from Italy, 1,032 from Poland and 1,006 from Spain)
- **Sampling method:** Representative quota sampling :Qualtrics was given quotas for how many people to survey and which criteria to use in selecting respondents. The quotas were distributed in accordance with official statistics among sex, age groups and education.
- **Representativeness:** A comparison with official statistics shows that the survey data on the whole corresponds to the total population age 18 and over in the three countries.
- **Type of survey:** Web-based survey
- **Date of survey execution:** 26 April 2024 to 13 May 2024

Appendix 2:

To assess how an increase in productivity caused by the introduction of augmentation and complementary capabilities with GenAI technologies would affect the labor market, we used a simple a reduced-form fixed effects panel data model under the following specification:

$$\text{Labor}_{it} = \beta_0 + \beta_1 \text{Productivity}_{it} + \beta_2 \text{Wage}_{it} + \beta_3 \text{UnemploymentRate}_{it} + E_{it}$$

Where:

- Labor_{it} is the number of employees in the insurance industry in country i at time t .
- Productivity_{it} is the gross written premium per employee in country i at time t .
- Wage_{it} is the estimated average wages in the insurance industry in country i at time t .
- $\text{UnemploymentRate}_{it}$ is the unemployment rate in country i at time t .
- E is the error term.

Although initially we added the working-age population growth variable to our model specification, it was not statistically significant and we dropped it. The key coefficient we focused on was the coefficient of our measure of labor productivity.

Table 2: Panel data fixed effects regression coefficients

FIXED EFFECTS, in %	
LOG(PRODUCTIVITY)	-0.622
SKILLS	0.004
UNEMPLOYMENT	-0.008
LOG(WAGES)	0.216

Source: Allianz Research

A close-up photograph of several hands of different skin tones stacked on top of each other, resting on the rough bark of a tree trunk. The background is a lush green forest with sunlight filtering through the leaves. The text 'Our team' is overlaid on the image.

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Allianz Research encompasses Allianz Group Economic Research and the Economic Research department of Allianz Trade.

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