financial services union

STRONGER TOGETHER

Discussion Paper:
Impact of AI on Financial Services Sector Workforce

Research to be carried out by TASC on behalf of the Financial Services Union

Introduction

TASC is conducting research for the FSU to understand the impact of AI on workers in financial services and fintech. Below is an initial discussion of the context. We will be sending out a survey in June to members to develop an understanding of how AI is perceived and understood in terms of its impact on the quality of work and jobs, as well as customer experience. The survey will also ask about expectations of employers in terms of support for the transition and job retention and the role members believe the state should be playing in terms of protecting workers and use of AI.

Executive summary

Finance has long been on the cutting edge of innovation. As artificial intelligence (AI) becomes more accessible, financial services firms are using these tools to streamline business processes and improve customer experiences. The financial services workforce is particularly exposed to the effects of artificial intelligence because of the industry's focus on quantitative analysis, predictive modeling, and data processing. The explosive growth of large language models, including ChatGPT, offers unprecedented degrees of data analysis and linguistic processing – capabilities that further expose finance workers to job disruption.

While many jobs in financial services are expected to experience augmentation and automation, overall employment and wage predictions are largely positive. The rise of AI will create new roles within the financial sector, likely balancing potential job losses. Amidst these changes, upskilling will be essential to ensure sustainable business growth and reduce skill shortages. Financial services leaders must also address worker concerns related to surveillance and performance management – challenges that could undermine employee morale by threatening the nature of work.

The Growth of AI in Financial Services

Since the 2008 financial crisis, banking institutions have invested significant resources into automating systems to improve services and prevent future crises (Mazzini & Bagni, 2023). From guiding decision-making through powerful data analytics to streamlining the customer experience through Chatbots, AI-powered technologies mark a powerful shift in organizational capacity. A recent European Commission survey found that financial intermediaries and IT and telecommunications firms are the leading users of automated tools for external business activities and internal operations (Mazzini & Bagni, 2023). Financial institutions spend more than any other business type on information and technology and are expected to double their spending on AI by 2027 to $97 billion (Butler, 2020; Kearns, 2023).

Ireland as a FinTech and Digital Finance Leader

A key component in the digital transformation of financial services is the rise of investment in financial technology, also known as FinTech. FinTech, according to the Central Bank of Ireland, describes "the use of technology to deliver financial services and products to consumers," (n.d.). Firms are expanding upon this definition by incorporating technology into reengineering front-, middle-, and back-office operations (Butler, 2020). The Irish government has identified fintech and digital finance as a strong driver of employment in the country. The shift to digital service use during the pandemic, the strength of Irish research centres, and targeted government funding options have all contributed to this growth (Department of Finance, 2023).

Financial services firms play different roles in digitalisation, including (1) start-up companies operating in fintech, and (2) longer-established financial services firms who are digitalising their businesses (IBEC, 2023). While investment in fintech-specific firms declined in 2023, incumbent financial firms continue integrating cutting-edge technologies – including those powered by AI (Nelson & Scally, 2024). As the availability of technology-enabled consumer financial products expands, the distinction between FinTech firms and traditional incumbents is eroding (Nelson & Scally, 2024). According to the Irish Business and Employers Confederation, "Every FS firm in the industry is now a fintech firm" (IBEC, 2023).

Key Applications of AI

Artificial intelligence (AI) tools can help organizational leaders reach these goals by reducing the burden of time-intensive, repetitive tasks. Key technologies driving digital transformation of financial services industry include artificial intelligence (AI), blockchain, smart contracts, quantum computing, cloud innovations, and Internet of Things (IOT) (Butler, 2020). The four most significant AI technologies to financial services include knowledge representation, natural language processing, machine learning, and deep learning. Broad digital transformation based on AI is challenged by limited data access and data quality. As technology evolves into cognitive computing, the digitalization of front-, middle-, and back-office processes is likely to accelerate (Butler, 2020).

Information Systems and Regulatory Technology professor at University College Cork Tom Butler outlines likely use cases for AI in the financial services sector: (Butler, 2020)

• Advice (products and services)
• Robotic process automation
• Risk alerts and compliance monitoring
• Automated speech and writing (for accessibility and content access)
• Descriptive analytics

- Diagnostic analytics
- Predictive analytics
- Smart contracts

Credit sanctioning is among the most discussed applications of AI in financial services. Traditionally, credit scoring processes have relied on the time-consuming, subjective, and error-prone human evaluation of creditworthiness. AI tools can leverage machine learning to automate credit evaluation, theoretically improving accuracy, efficiency, and fairness (Noriega et. al., 2023). These predictive benefits do bring substantial downsides including potential opacity, errors, discrimination, unfair exclusion from credit, and lack of explainability (Mazzini & Bagni, 2023). As a result, the EU identified credit scoring processes as "high risk" uses of AI in the EU AI Act – a demarcation that will have a major impact on their use going forward (Parente, 2024).

GenAI as an emerging disruptor

Generative AI (GenAI) is developing at a remarkable pace and the launch of Large Language Models (LLMs) has the potential to create significant shifts in global economies and labour markets (WEF, 2023b; Eloundou, 2023). Compared to previous generations of AI, LLMs have particularly impressive data processing and linguistic capabilities (Council of the European Union General Secretariat, 2023). Recent studies on the impact of GenAI and LLMs have identified finance as one of the most high-exposure industries, along with law and marketing research (Daugherty et al., 2023; SHRM, 2024).

Launched in November 2022, ChatGPT has quickly built a large user base. Initially, media coverage of the well–known LLM application focused on job displacement, but narratives have shifted to emphasize privacy concerns and job creation – illustrating the complex, fast-changing considerations driving AI policymaking (Shook & Daugherty, 2024).

GenAI is going to have a significant impact on the day-to-day operations of finance workers because of its ability to streamline essential occupational tasks, like analyzing market trends and creating predictive models. AI can also facilitate efficient compliance checks – a task that currently incorporates auditors, compliance officers, and lawyers (SHRM, 2024). Hedge funds, long-time first movers in technological innovation, have been quick to embrace GenAI. Nearly half of funds with $250 billion in total assets use ChatGPT professionally, with two-thirds of those using it to write marketing reports and summarize documents (Kearns, 2023).

Historical Challenges in AI Integration: Biased Decision Making

Scholars have widely identified encoded biases as a challenge to AI integration into the financial services sector. While financial firms are increasingly relying upon AI tools for their promise of accuracy and effectiveness, unintentionally encoded biases can replicate social ills (Kordzadeh & Ghasemaghaei, 2021). AI systems may seem like neutral arbiters, but instances of algorithmic bias illustrate the need for consistent auditing and oversight.

ORGANIZATIONAL BENEFITS AND RISKS OF AI-INTEGRATION

Increased Productivity

AI adoption has the potential to bolster labor productivity across sectors, including in finance. Academic studies broadly find that AI adoption boosts worker productivity, though the degree of impact is under debate (Lane & Saint-Martin, 2021; Briggs & Kodnani, 2023). As AI applications take over repetitive, mundane tasks, workers will likely dedicate some of their newly freed-up time towards activities that increase firm output (Briggs & Kodnani, 2023). Companies broadly agree with these studies: nearly 70% of employers reported that AI has contributed to moderate or significant productivity gains (Berryhill et. al., 2019). Finance workers who use AI also report positive outcomes: 79% say that AI has improved their performance and 63% say it has improved their enjoyment of their job (Lane et. al., 2023). However, male workers and workers with a university degree were more likely to have positive experiences with AI than other groups (Lane & Saint-Martin, 2021; Lane et. al., 2023).

Workplace Inclusion

AI tools could offer significant benefits to workers with disabilities, according to employers, by complementing their skills and making it easier to gain employment. 46% of finance employers said that AI would help workers with disabilities, compared to 8% who said it would harm them (Lane et. al., 2023). For example, workers with dyslexia could benefit from improved speech recognition technologies. Due to the equity risks AI can pose when integrated poorly, thoughtful digital transitions will be essential towards foster the inclusion of disabled workers (Touzet, 2023).

IMPACT OF ARTIFICIAL INTELLIGENCE ON EMPLOYMENT AND SKILLS

The broad investment by companies into AI is fueling concerns amongst workers: 26% of Irish employees think AI will impact or replace their job in the future. This anxiety is even higher amongst workers in the Irish financial services sector: 38% of whom have similar fears (FRS Recruitment, 2023). While AI is likely to

impact nearly every sector of the Irish labour market, analysts broadly expect that financial services will experience particularly high levels of disruption (Lane et. al., 2023; WEF, 2023a).

Key considerations facing financial services workers include:

• Job displacement and impact on wages
• Emergence of large language models, including ChatGPT
• Changing nature of work
• Worker dignity

Job Displacement and Task Augmentation

The labour market impact of AI is a consistent point of interest amongst scholars. Being a relatively new technology, there is limited empirical evidence on the long-term impact of AI on the labor market. Initially, academic research supported worker anxiety: a widely cited study from Frey and Osborne (2013, 2017) suggested that nearly half of jobs in advanced economies could be displaced. However, a growing body of literature suggests that these fears were overblown. According to more recent findings, just 16% of EU jobs are at risk of displacement from AI (McGuinness et al, 2021). While AI will replace some jobs, new roles will likely offset these losses (McGuinness et al, 2021). Emerging positions include AI model and prompt engineers, interface and interaction designers, AI content creators, data curators and trainers, and ethics and governance specialists (WEF, 2023b).

Despite overall optimistic assessments, scholars and industry experts have widely acknowledged financial services industry employment as being especially exposed to automation and augmentation (Department for Education, 2023; WEF, 2023b). Financial services heavily incorporate quantitative analysis and predictive modeling – tasks at which the next wave of AI is particularly adept. Worker attitudes are reflecting this exposure: while most finance workers are not worried that AI will replace their jobs, they do face higher levels of displacement anxiety than workers in other industries (Lane et. al., 2023). One study reported that 38% of Irish employees working in banking and finance are concerned that AI could have an impact on their job (FRS Recruitment, 2023).

Disruptive Impact of LLMs

Large language models – with their advanced analytics and linguistic processing capacities – will have a major impact on the financial services labour market. The tasks with the highest likelihood for exposure are routine or involve elementary analysis, including clerical activities and data analysis. The WEF finds that the tasks most likely to be automated now and in the next five years is information and data processing (WEF, 2023b). Other tasks likely to experience automation include risk management, reporting, and human resources (Lane et. Al., 2023).

Studies broadly anticipate that LLMs will drastically impact the working hours within sector, projecting that roughly 50-70% of tasks will experience automation or augmentation (Daugherty et. al., 2023; WEF, 2023b). This risk can be quite severe: insurance underwriters could have 100% of their tasks augmented, according to the World Economic Forum. (See Table 2) (WEF, 2023b).

LLMs present various operational benefits, but accuracy challenges threaten to undermine their overall effectiveness. One of these critical issues is "hallucination" where models generate plausible but factually inaccurate information (Eloundou et. Al., 2023). In 2023, a lawyer faced criticism for using ChatGPT to prepare legal briefs after it was found that the LLM included fake cases in its response (Acres, 2023). Firms using LLMs must ensure adequate employee oversight to eliminate the dissemination of hallucinated information.

Table 2

Positions Most Likely Experience Automation or Augmentation ranked by exposure, by Branch of Financial Services

Financial services and capital markets	Insurance and pensions management
Tellers	Insurance underwriters
Loan interviewers and clerks processing clerks	Insurance claims and policy
Personal financial advisers	Insurance sales agents
Securities, commodities, and financial services sales agents	Management analysts
First-line supervisors or office and administrative support workers	First-line supervisors or office and administrative support workers
Loan officers	Software developers
Financial managers	Customer service representatives
Sales representatives, wholesale and manufacturing	General and operations managers
Customer service representatives	Office clerks, general
General and operation managers	Claims adjusters, examiners and investigators

Impact on Wages

Early literature does not demonstrate a significant impact of AI on wages (Lane & Saint-Martin, 2021; Albanesi, 2023). However, finance workers believe that AI will ultimately decrease wages. This trend, coupled with assertions that AI will boost productivity, suggests that workers do not expect to see increases in output reflected in their wages (Lane et. Al., 2023).

High-risk Groups

Unlike previous waves of automation, which largely affected workers in the male-dominated manufacturing industry, AI and LLMs will disrupt workers of all skill levels through a phenomenon known as "Collar Blind Automation" (Kaplan, 2016; Milanovic, 2024). However, literature largely reaffirms that workers with high levels of educations attainment are likely better positioned to use AI to complement their own labour, boost productivity, and reap the benefits of AI (Lane et. al., 2023). These findings are fueling concerns that AI could entrench existing equity challenges facing financial services firms. A recent study finds that women hold only 25% of senior management positions in financial firms, roles that are broadly considered to have the lowest risk of AI replacement. Instead, women are overrepresented in clerical work which faces higher risks of AI automation and augmentation (UNESCO/OECD/IDB, 2022). Notably, women also face higher levels of employment anxiety than their male counterparts (Lane et. al., 2023).

Younger workers, who are also less likely to occupy management positions, also face distinct challenges from AI. On Wall Street, several banks are currently testing tools that could easily replicate the work typically done by entry-level analysts (Copeland, 2024). This development illustrates the impact that AI can have not just on an existing role, but on an overall career trajectory.

Workforce Considerations: Information Technology

Information technology – with its focus on data processing and management – is likely to experience AI-related disruptions. Studies broadly identify IT as one of the most exposed industries and job functions, along with finance (WEF, 2023b). 32% of job functions face a high risk of automation. The IT-related job functions most likely to be automated include Computer Network Support Specialists, Software Quality Assurance Analysts and Testers, Network and Computer Systems Administrators, and Computer Systems Analysts. A larger share of IT-related jobs with experience AI-driven augmentation (41%). Job functions likely to experience change include Database Architects, Database Administrators, Web Developers, and Computer Programmers. The growth of AI will also necessitate the growth of new jobs, including those with clear IT ties such as data curators and trainers, interface designers, and AI model engineers (WEF, 2023b).

These developments coincide with the overall IT skill shortage facing Ireland. While automation could relieve labour shortages in areas such as information security and web development, the shortage of IT professionals is likely to continue impacting financial firms across the country (Morgan McKinley Recruitment, 2024; SHRM, 2024) .

Workforce Considerations: FinTech

A recent survey of Irish FinTech firms demonstrates an optimistic employment outlook. Both smaller, FinTech-specific firms and larger incumbents believe their overall headcount will increase over the next three years (IBEC, 2023). Firms of all sizes also claimed that poor government support for innovation stymied growth. Start-ups, however, were more likely to cite labour shortages and funding challenges as key growth challenges (IBEC, 2023). Ireland's strong fintech ecosystem is demonstrating slowing financial investment, creating some concern that this warm outlook may falter in the coming months (Scally & Nelson, 2024).

Employment surveys have not addressed the specific automation/augmentation exposures facing workers in FinTech start-ups specifically. However, the high exposure levels associated with financial and IT roles suggest that FinTech employees will experience disruption.

The Importance of Upskilling

As AI integration disrupts the skills needed within the financial services sector, workers will need to adapt their skills to the changing labour market. The World Economic Forum predicts that just 58% of the skills currently needed in the global financial services workplace will remain the same over the next five years (WEF, 2023a). To meet these changing needs, organizations are prioritizing on-the-job training and coaching and internal training departments. Finance firms are also more likely than other companies to rely on licensed training from professional associations (WEF, 2023a). The focus of reskilling efforts is likely to include analytical thinking, AI and big data, and creative thinking (WEF, 2023a).

IMPACT OF ARTIFICIAL INTELLIGENCE ON THE WORKPLACE

Employers are increasingly using AI to streamline the everyday operations of operating a company. Human resources departments are increasingly adopting automated tools to inform decisions related to hiring, performance, and employee management. However, this trend presents many ethical issues related to equity and the nature of work.

AI-Related Data Collection and Surveillance

The COVID-19 pandemic and shift to remote work accelerated employer use of automated technologies to increase worker surveillance. There are various tools used to monitor employees, including keystroke logging, webcams, phone and login data, and emotion-detecting badges (Joint Committee on Enterprise, Trade and Employment, 2023).

While there has always been some level of employer surveillance of employees, AI-powered tools present new privacy challenges. Under GDPR, employee monitoring must be necessary, legitimate, and proportionate. Employers must also be transparent about what AI they are using it, when they are using it, why they are using it, and how it might impact employees (Ryan & Crowley, 2024). Despite these requirements, many financial services employees are unsure if they are under surveillance. A recent survey from the Financial Services Union found that more than half of Irish financial services employees were uncertain if their work computers or even home computers were monitored (FSU, 2023).

Worker surveillance – especially using programs fueled by AI – undermines morale and creates psychosocial risks for workers. The FSU survey found that most financial services employees felt that surveillance indicated a lack of trust by their employer (60%) and believed that the use of surveillance erodes trust (60%). Data management is also a concern: just one quarter of respondents trusted how their organisation used their data (FSU, 2023). In some cases, employer surveillance creates a stressor that ultimately reduces overall workplace wellbeing (van de Broek, 2018).

Recruitment

AI-powered software can simplify recruitment by screening CVs, scheduling interviews, and screening applicants. Bias is a major concern in this application, however. AI systems are training using existing data which can inadvertently amplify pre-existing biases, especially in workplaces already lacking diversity. The danger of using AI to streamline recruitment practices was illustrated in 2014 when Amazon had to stop using an AI recruitment tool that prioritized male applicants. Ethnic minorities and workers with certain disabilities could also face unfair discrimination due to AI systems that analyze facial expressions during interviews (Ryan & Crowley, 2024).

Performance Review and the Erosion of Managerial Functions

Employers are increasingly using AI to review employees' performance, particularly in roles where 'real-time' performance data is readily available. As technology matures, some systems use historical data to forecast future productivity (Ryan & Crowley, 2024). These data-driven evaluations are concerning given their ability

to inform firing decisions. As rapidly changing market conditions have led to large-scale layoffs, many employers have turned to technologies to streamline decision-making (Lazar & Yorke, 2023). Analysts are concerned that this shift in responsibility is undermining the relationships between workers and managers, the stability of which is essential to reducing work-related stress (OSHA, 2022).

This automated approach to performance management is not popular: 57% of finance workers supported a ban on AI-generated firing decisions while just under half of workers supported a ban on AI-generated promotion decisions (Lane et. al., 2023).

PATHS FORWARD: THE EU AI ACT AND THE IMPORTANCE OF DIALOGUE

EU AI Act

Adopted early in 2024, the EU AI Act could impact how financial services firms proceed with AI integration. The Act's only explicit mention of financial services is in the identification of creditworthiness assessments and insurance risk assessments as "high-risk" AI use cases. Labelling under the Act's risk-based approach obligates more stringent requirements (Deloitte, 2024; Parente, 2024). The AI Act also introduces requirements for general purpose AI systems including LLMs and GenAI – both of which are already in use at many financial services firms (Parente, 2024). The EU AI Act will continue operating alongside other aspects of the European data strategy, including the Data Act, Data Governance Act, GDPR, and the proposed Financial Data Access regulation, to shape the future of the finance sector (Parente, 2024).

Employer-Employee Collaboration

As employers in the financial services sector navigate this rapidly evolving technology and policy landscape, worker consultation can facilitate digital transformation. Strong discourse with worker representatives can help organisations find innovative solutions by identifying the daily challenges facing employees. As a result, employers can more effectively target wage adjustments, training, and other staff needs (Lane et. al., 2023).

Over 60% of financial services employers in Ireland consulted workers or worker representatives regarding the use of new technology according to an OECD survey, outpacing the overall average of 43%. Employers with worker representation, including trade unions, were also more likely to have worker consultations (56%) (Lane et. al., 2023). Workers in companies who engaged in consultation are more likely to report positive effects of AI on their performance and working conditions (Lane et. al., 2023). Skills and training are the most discussed topics in

consultations, reflecting larger research trends identifying the potential of AI to disrupt necessary skills in financial services (Lane et. al., 2023).

Given these positive attitudes, companies should continue engaging with workers and trade unions. This collaborative approach can ensure positive outcomes for workers, employers, and consumers of Ireland's financial services industry.

References

Acres, T. (2023) *Lawyers used chatgpt to help with a case - it backfired massively, Sky News.* Available at: https://news.sky.com/story/lawyers-fined-after-citing-bogus-cases-from-chatgpt-research-12908318

Albanesi, S. et al. (2023) *Reports of AI ending human labour may be greatly exaggerated, European Central Bank.* Available at: https://www.ecb.europa.eu/press/research-publications/resbull/2023/html/ecb.rb231128~0a16e73d87.en.html (Accessed: 30 April 2024).

Berryhill, J., et al. (2019), "Hello, World: Artificial intelligence and its use in the public sector", OECD Working Papers on Public Governance, No. 36, OECD Publishing, Paris, https://doi.org/10.1787/726fd39d-en.

Briggs, J. and Kodnani, D. (2023) *The potentially large effects of artificial intelligence on economic growth, Goldman Sachs Publishing.* Available at: https://www.gspublishing.com/content/research/en/reports/2023/03/27/d64e052b-0f6e-45d7-967b-d7be35fabd16.html.

Butler, T. (2020) 'What's next in the digital transformation of financial industry?', *IT Professional,* 22(1), pp. 29–33. doi:10.1109/mitp.2019.2963490.

Central Bank of Ireland (no date) *What is 'Fintech' and how is it changing financial products?, Central Bank of Ireland.* Available at: https://www.centralbank.ie/consumer-hub/explainers/what-is-fintech-and-how-is-it-changing-financial-products (Accessed: 08 May 2024).

Copeland, R. (2024) *The worst part of a wall street career may be coming to an end, The New York Times.* Available at: https://www.nytimes.com/2024/04/10/business/investment-banking-jobs-artificial-intelligence.html (Accessed: 30 April 2024).

Council of the European Union General Secretariat (2023) *ChatGPT in the public sector – overhyped or overlooked?, European Union.* Available at: https://www.consilium.europa.eu/media/63818/art-paper-chatgpt-in-the-public-sector-overhyped-or-overlooked-24-april-2023_ext.pdf

Deloitte (2024) *EU AI act adopted by the Parliament: What's the impact for financial institutions?, Deloitte.* Available at: https://www.deloitte.com/lu/en/Industries/investment-management/perspectives/european-artificial-intelligence-act-adopted-parliament.html

Department for Education (2023) *The impact of AI on UK jobs and training, GOV.UK.* Available at: https://www.gov.uk/government/publications/the-impact-of-ai-on-uk-jobs-and-training.

Department of Finance (2023) *Update to Ireland for finance strategy - Action Plan 2023, gov.* Available at: https://www.gov.ie/en/publication/95989-update-to-ireland-for-finance-strategy-action-plan-2023/ .

Daugherty, P. et al. (2023) *A new era of generative AI for everyone, Accenture.* Available at: https://www.accenture.com/sg-en/insights/technology/generative-ai?c=acn_glb_ generativeai-lacio_13630027&n=otc_0523.

Eloundou, T. et al. (2023) 'GPTs are GPTs: An Early Look at the Labor Market Impact Potential of Large Language Models', *Stanford Digital Economy Lab* [Preprint].

Frey, C.B. and Osborne, M.A. (2017) 'The future of employment: How susceptible are jobs to computerisation?', *Technological Forecasting and Social Change*, 114, pp. 254–280. doi:10.1016/j.techfore.2016.08.019.

FRS Recruitment (2023) *FRS Recruitment Employment Insights Report 2023, FRS Recruitment.* Available at: https://blog.frsrecruitment.com/articles/frs-recruitment-employment-insights-report-2023.

FSU (2023) *Employee Experiences of Technological Surveillance in Financial Services, Financial Services Union.* Available at: https://www.fsunion.org/assets/files/pdf/fsu_ul_ technology_work_and_skills.pdf

Georgieff, A. and Hyee, R. (2022) 'Artificial Intelligence and Employment: New cross-country evidence', *Frontiers in Artificial Intelligence, 5.* doi:10.3389/frai.2022.832736.

IBEC (2023) *Ireland's Fintech Future, Financial Services Ireland.* Available at: https://www. ibec.ie/-/media/documents/connect-and-learn/industries/financial-services-leasing-and-professional-services/financial-services-ireland/2023/irelands-fintech-future-report.pdf .

Joint Committee on Enterprise, Trade and Employment (2023) *Report on artificial intelligence in the Workplace, Houses of the Oireachtas.* Available at: https://data. oireachtas.ie/ie/oireachtas/committee/dail/33/joint_committee_on_enterprise_trade_ and_employment/reports/2023/2023-10-26_report-on-artificial-intelligence-in-the-workplace_en.pdf

Kearns, J. (2023) *AI's reverberations across finance, International Monetary Fund.* Available at: https://www.imf.org/en/Publications/fandd/issues/2023/12/AI-reverberations-across-finance-Kearns.

Kordzadeh, N., & Ghasemaghaei, M. (2022). Algorithmic bias: review, synthesis, and future research directions. European Journal of Information Systems, 31(3), 388–409. https://doi. org/10.1080/0960085X.2021.1927212

Lane, M. and A. Saint-Martin (2021), "The impact of Artificial Intelligence on the labour market: What do we know so far?", *OECD Social, Employment and Migration Working Papers,* No. 256, OECD Publishing, Paris, https://doi.org/10.1787/7c895724-en.

Lane, M., Williams, M. and Broecke, S. (2023) 'The impact of AI on the workplace: Main findings from the OECD AI surveys of employers and workers', *OECD Social, Employment and Migration Working Papers* [Preprint]. doi:10.1787/ea0a0fe1-en.

Lazar, W.S. and Yorke, C. (2023) *Watched while working: Use of monitoring and AI in the workplace increases, Reuters.* Available at: https://www.reuters.com/legal/legalindustry/watched-while-working-use-monitoring-ai-workplace-increases-2023-04-25/.

Mazzini, G. and Bagni, F. (2023) 'Considerations on the regulation of AI systems in the financial sector by the AI act', *Frontiers in Artificial Intelligence*, 6. doi:10.3389/frai.2023.1277544.

McGuinness, S., Pouliakas, K. and Redmond, P. (2021) 'Skills-displacing technological change and its impact on jobs: Challenging technological alarmism?', *Economics of Innovation and New Technology,* 32(3), pp. 370–392. doi:10.1080/10438599.2021.1919517.

Milanovic, K. (2024) *Artificial Intelligence and the Labor Market, SciencesPo.* Available at: https://www.sciencespo.fr/women-in-business/en/news/article-artificial-intelligence-and-the-labor-market/

Morgan McKinley Recruitment (2024) *Skills shortage impacting technology growth in Ireland, Morgan McKinley Recruitment.* Available at: https://www.morganmckinley.com/ie/article/skills-shortage-impacting-technology-growth-in-ireland

Nelson, I. and Scally, A. (2024) *Irish fintech investment declined in 2023, KPMG.* Available at: https://kpmg.com/ie/en/home/insights/2024/03/irish-fintech-investment-declined-in-2023.html.

Noriega, J.P., Rivera, L.A. and Herrera, J.A. (2023) 'Machine Learning for Credit Risk Prediction: A systematic literature review', *Data*, 8(11), p. 169. doi:10.3390/data8110169.

OSHA (2022) *Artificial Intelligence for Worker Management: An overview, European Agency for Safety and Health at Work.* Available at: https://osha.europa.eu/en/publications/artificial-intelligence-worker-management-overview (Accessed: 30 April 2024).

Parente, F. (2024) *AI Act and its impacts on the European financial sector, European Insurance and Occupational Pensions Authority.* Available at: https://www.eiopa.europa.eu/publications/ai-act-and-its-impacts-european-financial-sector_en .

PWC (2023) *Global workforce hopes and fears survey 2023, PWC.* Available at: https://www.pwc.com/gx/en/issues/workforce/hopes-and-fears.html

Ryan, E. and Crowley, M. (2024) *Artificial Intelligence and the impact on HR practices, Mason Hayes Curran.* Available at: https://www.mhc.ie/latest/insights/artificial-intelligence-and-the-impact-on-hr-practices (Accessed: 30 April 2024).

Shook, E. and Daugherty, P. (2024) *Work, workforce, workers age of Generative AI report, Accenture.* Available at: https://www.accenture.com/content/dam/accenture/final/accenture-com/document-2/Accenture-Work-Can-Become-Era-Generative-AI.pdf (Accessed: 30 April 2024).

SHRM (2024) *Generative Artificial Intelligence and the Workforce, Society of Human Resources*. Available at: https://shrm-res.cloudinary.com/image/upload/v1706729099/AI/ CPR-230956_Research_Gen-AI-Workplace_FINAL_1.pdf

Touzet, C. (2023), "Using AI to support people with disability in the labour market: Opportunities and challenges", *OECD Artificial Intelligence Papers, No. 7, OECD Publishing, Paris,* https://doi.org/10.1787/008b32b7-en.

van den Broek, E.L. (2018) *Monitoring technology: The 21st Century's pursuit of wellbeing?, European Agency for Safety and Health at Work*. Available at: https://oshwiki.osha. europa.eu/en/themes/monitoring-technology-21st-centurys-pursuit-wellbeing (Accessed: 30 April 2024).

UNESCO/OECD/IDB (2022) 'The effects of AI on the Working Lives of Women', *UNESCO* [Preprint]. doi:10.1787/14e9b92c-en.

World Economic Forum (2023a) *Future of Jobs Report 2023, World Economic Forum.* Available at: https://www.weforum.org/publications/the-future-of-jobs-report-2023/

WEF (2023b) *Jobs of tomorrow: Large language models and jobs, World Economic Forum.* Available at: https://www3.weforum.org/docs/WEF_Jobs_of_Tomorrow_Generative_ AI_2023.pdf

NOTES