Analysis

The economic impact of AI in the Netherlands

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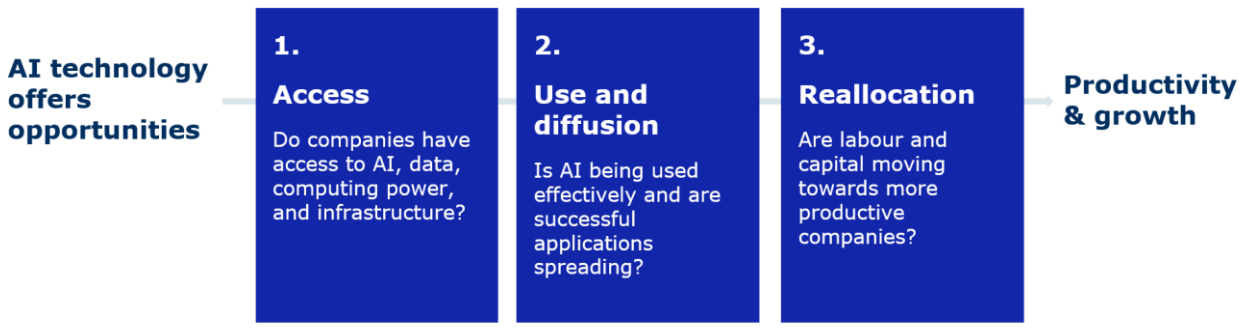
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Executive summary

The economic impact of AI may affect productivity trends, economic growth, the labour market, inflation and monetary policy, and is therefore relevant to DNB. In this analysis we examine the conditions that determine whether the technological potential of AI translates into higher productivity and economic growth in the Netherlands. We discuss the economic mechanisms, the available empirical evidence and policy implications. While it is important that AI is developed and used in a socially responsible way, this analysis does not address this aspect. Likewise, risks to the financial sector and financial stability are not dealt with here.

AI has the potential to make the Dutch economy more productive and prosperous, but its benefits will materialise gradually and will not happen automatically. Internationally, Dutch firms are among the European frontrunners in terms of AI adoption. However, in itself, widespread use does not automatically boost productivity. To take capitalise on the benefits which AI brings, firms need to invest in software, data and skills, and adapt their organisation and work processes. AI has the potential to support employees, automate tasks and facilitate the creation of new products, services and production processes, but this requires investment in software, data, skills and organisational change (Brynjolfsson et al., 2021). Widespread economic benefits arise when successful applications become more widespread and labour and capital can shift to more productive activities (Bartelsman et al., 2013; Hsieh & Klenow, 2009).

For the Netherlands, the greatest economic challenges lie in applying AI, the diffusion of successful applications, and the ability of firms and workers to adapt to technological change. To meet these challenges, the Netherlands need not develop the most advanced AI models itself. The greatest economic benefits lie in integrating AI into work processes, scaling up and rolling out successful applications, and creating scope for labour and capital to shift towards more productive activities. To assess the extent to which these economic benefits are actually being realised, we analyse three interrelated factors: access, adoption and diffusion, and reallocation. We examine, in turn, the access of Dutch firms and institutions to AI models and the required technology and infrastructure; the productive application and diffusion of AI across firms and the economy; and the extent to which labour and capital can shift to more productive applications and firms.



Reliable access to AI is a key prerequisite for economic benefits. High-end AI models are becoming more widely available. At the same time, the development of models, cloud services and specialised microchips is concentrated in a limited number of firms and regions. This means that lasting access to AI on sufficiently attractive terms is not a given for Dutch firms. Our analysis suggests that governments and firms should also consider potential switching costs and continuity risks when selecting AI providers. Open standards, compatible

data and, where appropriate, open models can increase freedom of choice and facilitate switching between providers. If AI applications are critical, firms and institutions must identify dependencies and, where necessary, put in place appropriate fall-back options. European cooperation in the field of computing power, and cloud and data infrastructure can broaden access and increase the range of alternatives, while the Netherlands can build on its strong position in the semiconductor supply chain. This does not require full European self-sufficiency; the aim is to ensure reliable access and sufficient alternatives at crucial points in the AI supply chain.

The Dutch economy is well placed to capitalise on the benefits of AI, but productivity gains also require the diffusion of productive applications. The Dutch digital infrastructure is well developed, the workforce is highly skilled, and the use of AI by firms and employees is growing rapidly. The Netherlands is therefore among the European frontrunners in terms of AI adoption. Large firms and knowledge-intensive sectors are leading the way, while smaller firms and less digitalised sectors are lagging behind. For smaller firms in particular, AI has the potential to make specialist knowledge and support functions more accessible. However, widespread use does not automatically boost productivity. The challenge therefore shifts from adoption to diffusion: economic benefits only materialise once AI is integrated into work processes and when successful applications spread across organisations and are implemented on a larger scale. This requires investment in data, skills, management and organisational change (see, for example, Van Ark, 2026). Smaller firms, in particular, may face constraints in terms of time, expertise and adaptability. Practical knowledge about AI can be shared through industry organisations and knowledge networks. In addition, a better-functioning European single market can help firms recoup their investment across a larger market, thus increasing the scope for scaling up and diffusing successful applications more widely (Letta, 2024; Draghi, 2024).

The impact on employment depends on employers' adoption of AI and the adaptability of workers. This analysis finds that around a quarter of the Dutch workforce are in jobs where AI can speed up the performance of at least half of their tasks. This shows that AI could have a major impact on a significant proportion of the labour market. At the same time, this exposure does not directly indicate its impact on employment. As well as automating tasks, AI can also support workers and help them become more productive. As a result, the nature of work can change without weighing down on employment in the relevant occupations. However, demand for labour may shift, forcing workers to change jobs or sectors. Dutch employees regularly change employers and sectors, but mobility varies between different groups and sectors. Employers and social partners must therefore enable workers to use AI productively and adapt to changing work patterns in good time.

AI generates greater economic value when more productive firms are able to grow and attract funding. Productivity gains at individual firms do not automatically translate into higher productivity for the economy as a whole. Previous studies by DNB and the CPB Netherlands Bureau for Economic Policy Analysis suggest that the Dutch economy is not starting from an ideal position: business dynamics are comparatively low, and labour and capital are not always deployed where they add the most value (Adema et al., 2025; Brouwer & De Winter, 2026). If some firms are able to apply AI more effectively than others, productivity discrepancies may widen further, due to which individual firms' productivity gains have only a limited knock-on effect on the rest of the economy. These findings highlight the importance of providing successful firms with sufficient scope to invest, grow and attract labour and capital. Areas for policy action include barriers to market entry and growth, tax schemes for entrepreneurs that may hinder the efficient allocation of labour and capital, and bottlenecks in the European single market and capital market. A better-functioning single market and broader

access to growth finance can help successful firms to scale up, so that productivity gains have a wider impact on the economy (Letta, 2024; Draghi, 2024).

The economic changes brought about by AI are also having an impact on inflation. Consequences will depend on the timing and scale of the effects on demand and productivity. The global AI investment boom is driving up demand for Dutch chipmaking equipment. In addition, the prices of items such as imported electronics will go up. Furthermore, the construction of data centres and the expansion of energy and grid infrastructure are increasing demand for scarce factors of production. These effects increase price pressures, while (global) productivity gains will subsequently boost output capacity and may help to reduce costs. In addition, AI can help firms process information more quickly and adjust prices more rapidly in response to changing circumstances. The extent of this effect depends in part on the market structure and remains uncertain.

AI makes it more complex to assess the economy and determine the appropriate monetary policy response. Central banks need to assess how AI affects the relationship between supply and demand, the equilibrium interest rate and the pricing process. They must distinguish between the various phases of the AI transition and monitor not only inflation and growth but also productivity, AI investment, labour costs, inflation expectations and changes in pricing.

Making the most of AI takes more than technology

Three factors determine whether AI will boost productivity and economic growth.

Access

The Netherlands need not develop the most advanced AI models itself. Reliable access to high-quality models, data and computing power is more important.

Obstacle: Dependence on a small number of providers.

What can help? European cooperation, access to data and adequate AI infrastructure.



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AI adoption and diffusion

This is where AI yields the greatest economic gains. Firms must integrate AI into their workflows, and successful applications must be widely adopted.

Obstacle: A lack of skills, time, management capacity and knowledge of applications.

What can help? Training, knowledge-sharing and practical support for AI adoption.

Scope for growth and innovation

The economy benefits more from AI when successful firms grow, and labour and capital shift to more productive activities.

Obstacle: Limited labour mobility and weak business dynamism.

What can help? Scope for successful firms to enter the market and grow, greater labour mobility, and the exit of less productive firms.



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1 Access to AI

Access to high-quality AI models, data, cloud infrastructure and computing power is the first prerequisite for realising the economic potential of AI. It is particularly important for Dutch firms to be able to keep pace with global technological developments. To do so, the Netherlands need not develop the most advanced AI models itself. It is, however, important to consider the terms on which Dutch users will have lasting access to the global AI supply chain.

1.1 Available AI models

The range of AI models is growing rapidly, and high-quality models are becoming more widely available. A small number of US and Chinese technology firms are leading the way in the development of cutting-edge models. As well as the models from these major providers, there are cheaper alternatives available, the quality of which is only slightly inferior. Many of these are open models: their underlying technology is (partly) available for use and customisation (Figure 1). For Dutch users, this means greater choice and potentially less reliance on a single provider: firms can use models themselves or via a European service provider, adapt them to their own applications and data, and switch providers more easily should prices or terms of use change. The availability of high-quality open models can therefore reduce costs and lower barriers to adoption, and makes it less necessary to develop a state-of-the-art model in the Netherlands (Stanford HAI, 2026; Epoch AI, 2026).

The costs associated with using AI have also fallen sharply in recent years. More efficient models, more powerful microchips and increasing competition, including from Chinese providers, have led to sharp falls in prices (Financial Times, 2026). As a result, AI models are now available to many firms at a lower cost than they were a few years ago.

1.2 The global AI supply chain

AI services reach users via an internationally organised chain of models, cloud platforms, data centres and specialised microchips. These links are closely intertwined, both technically and financially. The terms on which firms can use AI are determined in part by model developers, cloud infrastructure providers and hardware suppliers (Frost et al., 2026). AI models may become increasingly widely available and affordable to users, while dependencies higher up the chain continue to exist. User accessibility and the vulnerability of the underlying chain are therefore not the same thing.

In virtually every stage of this supply chain, supply is concentrated among a small number of firms. The development of advanced models requires significant investment in data, specialist staff and computing power. The cloud market is also dominated by a handful of major providers, including Microsoft Azure, Amazon Web Services and Google Cloud. Furthermore, model developers and cloud firms are often linked to one another both financially and technologically. Concentration is not necessarily an economic problem, as economies of scale can lower costs and speed up technological developments in these technology-intensive markets. Vulnerabilities arises when a few providers occupy key positions in the supply chain, users have little scope to switch providers at short notice, and access may be disrupted. Whether competitive pressures are maintained in the longer run depends in part on the scope which users have to switch providers. Where switching providers is difficult or where crucial infrastructure is controlled by just a few parties, providers can exert significant influence over prices, quality, technical standards, functionality and terms of use (Stanford HAI, 2026; Frost et al., 2026).

Figure 1 Open models trail closed models

Performance of the best closed and open AI models according to the Epoch AI index.

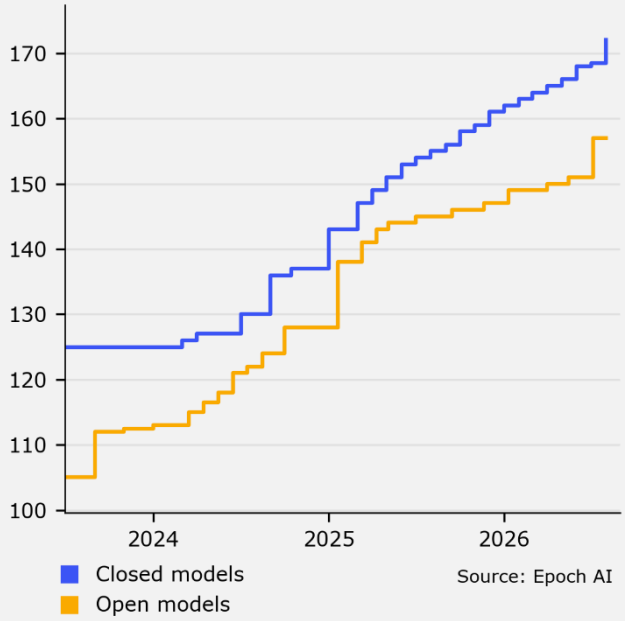
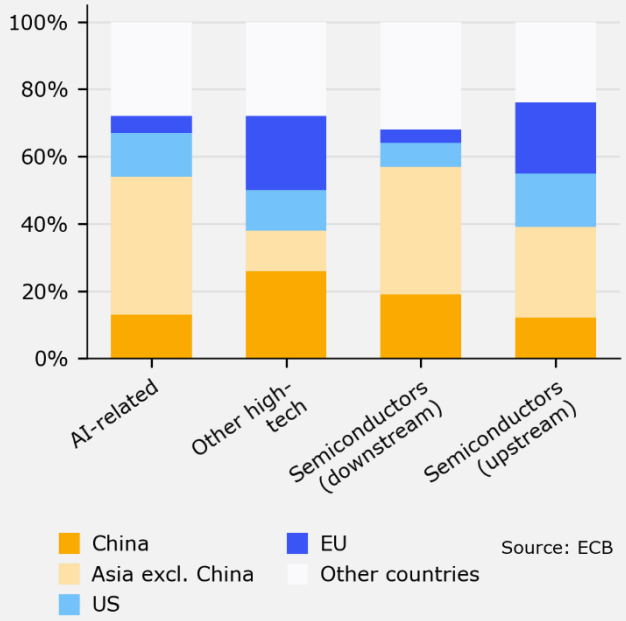


Figure 2 Europe exports comparatively few AI products

Regional shares in global exports of AI-related products, 2025.



The AI sector is also highly concentrated geographically. The United States and China dominate the development of AI models and account for a large proportion of cloud and data centre capacity (Stanford HAI, 2026). Europe's limited share in exports of AI-related products illustrates this geographical concentration (Figure 2). When it comes to specialised AI hardware, there are only a handful of firms worldwide that are indispensable, such as Nvidia for microchip design and TSMC for manufacturing. Concentration is particularly a source of vulnerability when it coincides with a central position in the supply chain and limited scope for switching to other providers or technologies in the short term. A previous DNB study into global production chains shows that it is precisely such concentrated and hard-to-replace links that can cause disruptions to spread widely throughout the economy (Bonam et al., 2026). Through ASML, the Netherlands occupies a strategic position in the global semiconductor supply chain. This strengthens Europe's position within one key link in the chain, but does not guarantee access to models, cloud services or microchip manufacturing elsewhere in the chain.

European cooperation can improve access to AI infrastructure, but it does not preclude dependence on providers outside Europe. Reducing dependence also requires sufficient data storage and computing capacity, cloud services and well-functioning data infrastructures at European level, so that firms, research organisations and governments can share and utilise data for AI applications. However, the scope for expanding this capacity in the Netherlands is limited by the high electricity consumption of data centres and the current grid congestion. This underlines the importance of a European approach, whereby the Netherlands has access to computing and data storage capacity without this having to be provided entirely within its national borders. Investment in a coherent European AI infrastructure could increase users' freedom of choice and reduce dependence on a small number of non-European providers. However, the AI supply chain as a whole remains heavily dependent on non-European firms, output capacity and investment (Frost et al., 2026). Accordingly, for Dutch users, the main vulnerability lies in their dependence on a small number of firms and regions that control crucial links in the supply chain.

Data are also a factor in how effectively firms can utilise AI and what range of options is available to them when choosing between providers. As AI becomes more deeply integrated into business processes, business data, software and work processes also become more closely tied to specific providers. Firms must be able to transfer this data when switching to another provider (Farboodi and Veldkamp, 2026). Provider-specific data characteristics and technical interfaces can complicate this and make firms dependent on a single cloud or AI provider (Opara-Martins, Sahandi and Tian, 2016). Where data and applications can be exchanged and transferred more easily between systems, the costs of switching decrease. This increases users' freedom of choice and boosts competition between providers.

1.3 Policy implications

When selecting AI providers, governments and firms must also take switching costs and continuity risks into account. The cheapest AI solution is not always the most cost-effective in the long run. When selecting a provider, it is therefore important to assess how easily data and applications can be migrated and whether the same service can be purchased from another provider. Open standards, compatible data and, where appropriate, open models can increase freedom of choice and facilitate switching between providers. This reduces the risk that organisations will, in the long term, face dependencies that limit their continuity.

For critical AI applications, it must be determined which dependencies are acceptable, and fall-back options must be put in place where necessary. European firms and institutions must be able to continue operating when service providers change their commercial terms or when geopolitical tensions disrupt access (DNB and AFM, 2025). Dependencies become a particular source of vulnerability when users are reliant on a small number of providers for a crucial function which are difficult to replace. Strategic autonomy therefore means ensuring, at European level, reliable access, freedom of choice and sufficient alternatives at key stages of the supply chain. Additional efforts must be made to put alternatives in place in those parts of the chain where disruptions could have major consequences for society and where users have limited fall-back options. When doing so, Europe can build on the each Member State's strong points, rather than each one developing its own resources at every stage (Mehlbaum, Heerma van Voss and De Leeuw, 2026). The required fall-back options must be commensurate with the importance of the application and the consequences of a failure. This is consistent with the European policy agenda on competitiveness, innovation and strategic autonomy (European Commission, 2025).

The Dutch government should contribute to investment in AI infrastructure and agreements on access at European level as far as possible. The Netherlands does not have the scale or physical space to build up resources independently across all parts of the AI chain. European initiatives for shared computing capacity and cloud and data infrastructure can broaden access for firms and research organisations and increase the range of options available to them. As Europe does not need to build up its own resources at every stage of the supply chain, the Netherlands can contribute by drawing on its strong position in the semiconductor supply chain. The Dutch ecosystem is internationally strong in areas such as chipmaking equipment (Draghi, 2024; Wennink, 2025). At European level, for example, Draghi mentions expanding computing capacity through EuroHPC and further developing European AI and cloud capacity (Draghi, 2024). European capabilities, too, remain dependent on non-European specialised microchips, models and technology. The aim is therefore to improve access and increase the number of alternatives at key stages.

2 Adoption and diffusion

AI adoption is not enough. Its economic benefits depend on the extent to which firms and workers apply the technology productively. AI must be scaled up, linked to data and software, and integrated into work processes and the organisation as a whole. This requires additional investment in skills, management and organisational capital. The Netherlands is in a favourable position, and AI adoption is growing rapidly. While the figures primarily reflect adoption and diffusion, the intensity of AI use, integration into business processes and productivity gains achieved can vary significantly between firms and sectors.

2.1 A good starting position

The economic benefits of AI are realised when firms use the technology, apply it effectively and integrate it into their business operations. The diffusion of AI across firms and applications therefore forms a key link between technological innovation and productivity growth. Diffusion of novel technologies is typically a gradual process, accelerating as uncertainty decreases, knowledge spreads and the expected benefits outweigh the costs, before eventually levelling off. In the literature, this is often described as an S-curve (Griliches, 1957; Mansfield, 1961; Hall and Khan, 2003). With a general-purpose technology such as AI, the speed of adoption depends on the interplay between improvements in the technology and innovations at the firms that use it. This requires not only the diffusion of the technology itself, but also of knowledge about productive applications, alongside investment in software and data, skills, management, organisational capital and reorganisation of work processes (Bresnahan and Trajtenberg, 1995; Jovanovic and Rousseau, 2005; Bresnahan, Brynjolfsson and Hitt, 2002).

The Netherlands is well placed to make use of AI. The IMF's AI Preparedness Index highlights a well-developed digital infrastructure, a highly skilled workforce, capacity for innovation and an institutional framework that supports AI adoption (IMF, 2024). In addition, the Netherlands has a relatively high proportion of knowledge-intensive services, where much of the work involves processing, analysing, producing and communicating information. It is precisely in these tasks that AI can be widely applied. This means that the Netherlands has the key conditions in place to benefit from AI.

Dutch firms and employees are among the European frontrunners in terms of AI adoption. The proportion of Dutch firms using AI is high and rose sharply between 2024 and 2025 (Eurostat, 2026; Figure 3). Adoption is also on the rise among employees in the Netherlands. Bick et al. (2026) estimate that just over a third of Dutch employees use generative AI for work. AI is mainly used for information processing, text generation, summarising, programming and other cognitive tasks. Large firms are leading the way, while smaller firms are lagging behind (Statistics Netherlands, 2025; Eurostat, 2026). Furthermore, AI adoption varies considerably across different sectors (Van Moock and Van Rooij, 2026): the information and communication sector and the specialist business services sector lead the way, while it is lower in sectors such as construction, transport and hospitality (Figure 6). Some sectors with large workforces, such as retail and healthcare, make relatively little use of AI.

The current pattern of AI adoption broadly mirrors the diffusion of earlier digital technologies. Knowledge-intensive sectors led the way then, while differences in skills, management, absorptive capacity and additional investment were partly linked to differences in adoption and productivity gains (Bresnahan, Brynjolfsson and Hitt, 2002; Griffith, Redding and Van Reenen, 2004; Van Ark, O'Mahony and Timmer, 2008). A high proportion of users (adoption) does not necessarily mean that AI is deeply integrated into business processes (diffusion) or that it is already boosting productivity. The Netherlands is probably no longer at the

beginning of the S-curve, nor has it reached the stage where AI is widely integrated into business processes (diffusion) and is making a demonstrable contribution to productivity growth. The challenge therefore shifts from adoption to diffusion – scaling up successful applications and organisational integration.

Smaller firms in particular still have some catching up to do, while AI could potentially could be a real game changer for them in particular. Cloud platforms and off-the-shelf software allow them to apply AI without having to make substantial investment in proprietary models or infrastructure. This brings specialist knowledge, analyses and support functions within reach, enabling scarce staff to devote more time to tasks that have more added value. AI diffusion is not just about the technology itself, but also about disseminating knowledge about AI and its practical, productive applications. Firms can learn from the experiences of pioneers, providers, trade associations, labour mobility and professional networks (World Bank, 2026).

2.2 Scaling up and integrating AI

Productivity gains could increase further if firms scale up their use of successful AI applications and integrate them into their business operations. Scaling up is about broadening the scope of adoption, where more employees are deploying effective applications for more tasks and across more business units. Integration refers to deepening adoption, where AI is linked to business data, existing software and work processes. Many firms use AI, but that does not necessarily mean that it is deeply integrated into their business processes. Individual applications can already save time or improve quality, but if firms scale up their use of these applications and integrate them effectively into their organisation and work processes, the benefits will have a greater impact on business performance (World Bank, 2026).

Figure 3 Dutch firms are leading the way in Europe in terms of AI adoption

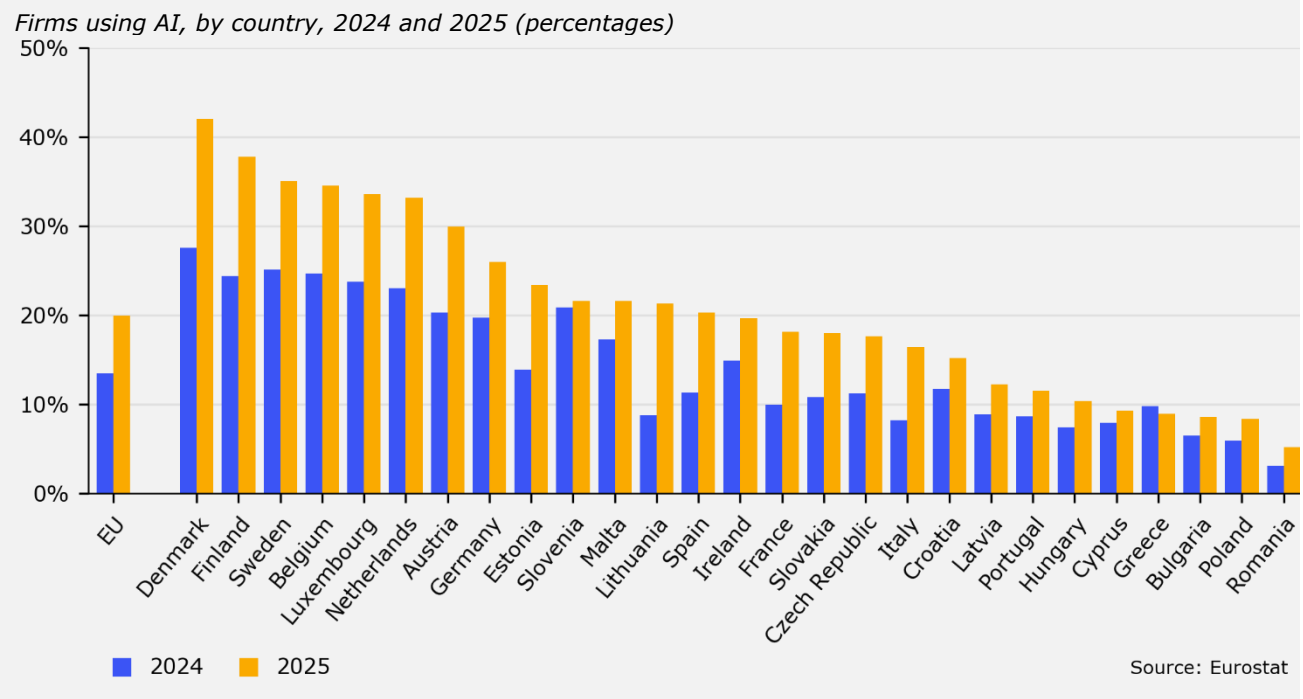


Figure 4 Employer support is linked to greater use of AI by employees

AI usage and reported time savings by type of employer support.

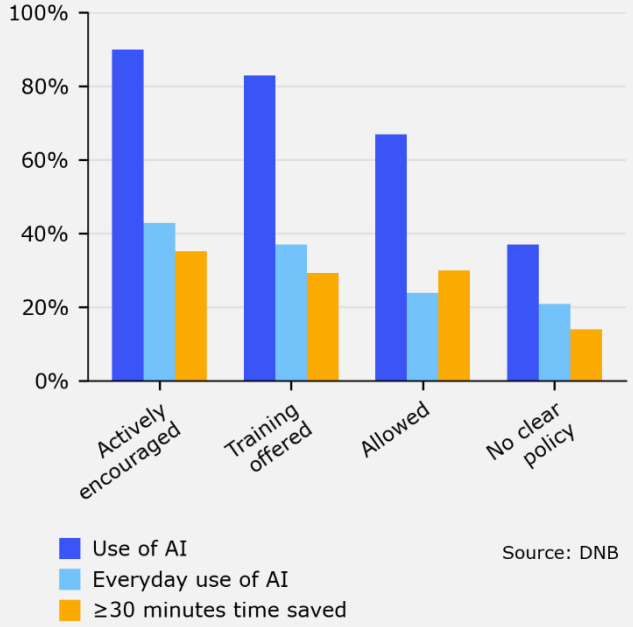


Figure 5 Small firms are less likely to use AI

Proportion of firms using AI, by firm size.

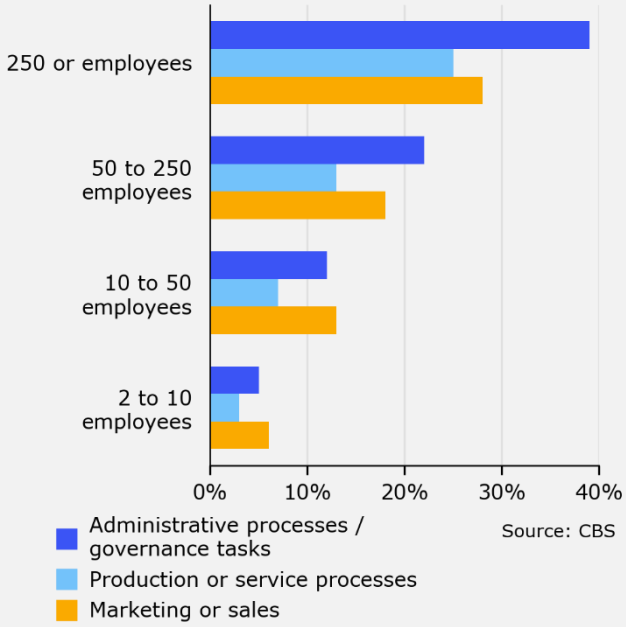
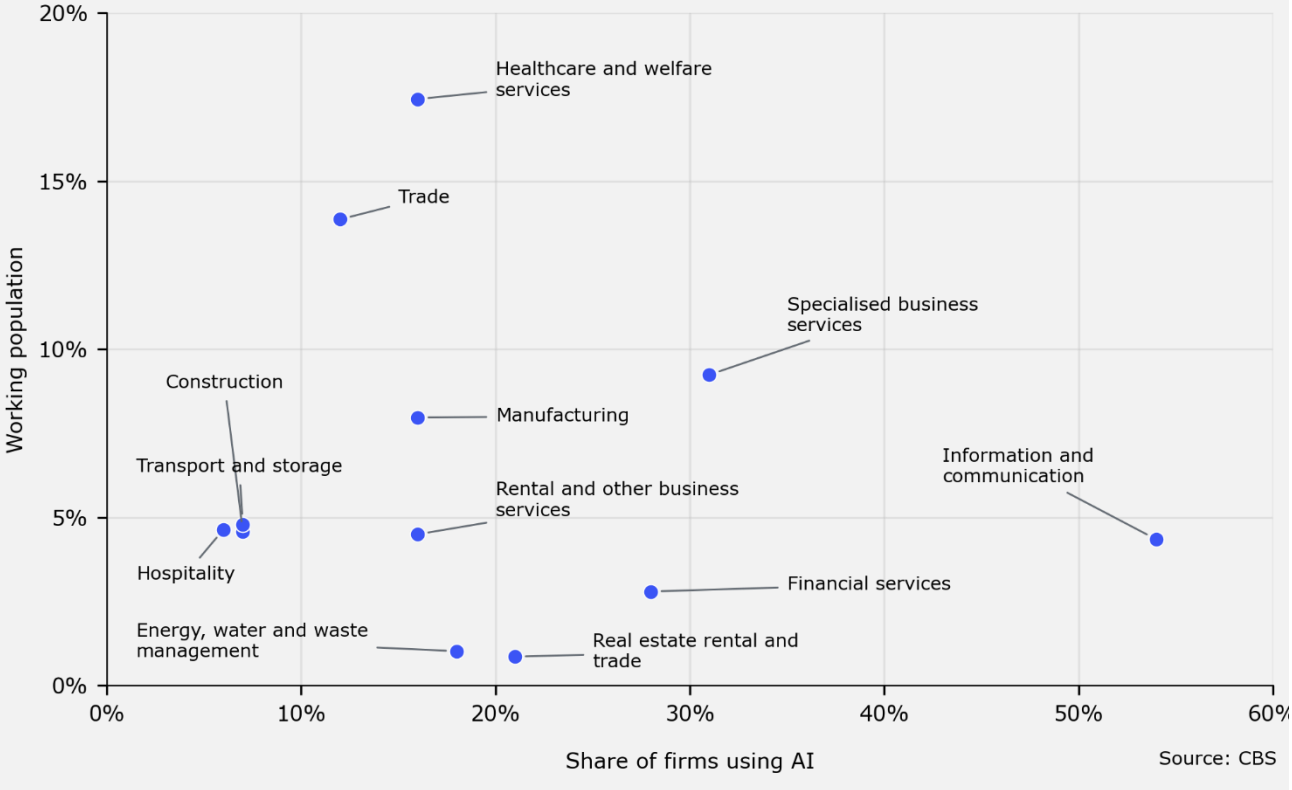


Figure 6 AI usage varies significantly across different sectors

AI usage and share of employment by sector, 2025



Management and organisational capital are prerequisites for both scaling up and integrating AI applications (Van Ark, 2026). Firms must select suitable applications, link them to specific business issues, organise their data, train staff and manage risks. In addition, process improvement, clear accountability and agreements on responsible use are required. This organisational challenge requires management resources, technical knowledge and time, and is, on average, more significant for smaller firms (World Bank, 2026). Bick et al. (2026) and our own analyses based on the DNB Household Survey (2025) show that employees are using AI more frequently and more intensively, and are more likely to report time savings when employers actively support its use, for example by developing in-house applications and offering training (Figure 4). This points to a link between employer policies and the actual use of AI, but does not yet indicate any demonstrable productivity gains for firms. The available data mainly measure adoption, employer policies and reported time savings; they provide only limited insight into the extent to which AI is integrated into work processes and what benefits this brings to business productivity.

To use AI productively, additional investment is needed in data, software, staff training and the redesign of work processes. This investment takes time and money, and the benefits will come later. In the literature, this is known as the productivity J curve (Brynjolfsson, Rock and Syverson, 2021). The combination of high start-up costs, uncertain returns and a delay in realising the benefits may lead firms to be reluctant to make such investment, particularly when they have limited time, expertise or management resources. This seems particularly relevant for smaller firms, which use AI less frequently and have less scope to trial new applications, scale up their use and integrate them into their organisation. Figure 5 does indeed show that, in the Netherlands, larger firms use AI more frequently and across a wider range of business units. However, this difference in usage does not in itself indicate the extent of the productivity gains achieved by firms. Even large firms may face a considerable integration challenge.

Time saved on individual tasks provides some insight into the economic benefits of AI. Experimental studies have found gains in efficiency and quality in areas including customer service, programming and writing tasks (Brynjolfsson, Li and Raymond, 2025; Peng et al., 2023; Noy and Zhang, 2023). Whether such gains contribute to the firm's productivity depends on how the freed-up resources are utilised. Firms can increase output, improve quality, develop new products, assign employees to different tasks or reduce the workforce.

2.3 Policy implications

The further diffusion of AI requires additional investment in skills, business data, management and work processes. This investment is primarily the responsibility of firms: they are best placed to assess which applications are productive within their organisation. However, high start-up costs, uncertain returns and a long payback period can act as a brake on investment, particularly for smaller firms. This is in line with the productivity J curve: firms typically have to invest first before productivity gains become apparent. When it comes to training, there is an additional specific issue: the benefits do not always accrue entirely to the employer who makes the investment, for example when employees change jobs.

Industry organisations, research organisations and knowledge networks can help SMEs to share and apply practical knowledge about AI. Having access to AI technology does not necessarily mean that firms know which applications will work within their processes and what organisational changes are required. Experiences with successful AI applications do not spread automatically between firms. Demonstration projects, implementation advice and the sharing of practical experience can help to lower this knowledge barrier. The

government can support knowledge transfer when the benefits extend beyond the participating firms. Wennink's (2025) proposal for regional productivity centres offers a starting point for this.

European market integration is needed to promote upscaling and widespread adoption of AI applications. The payback period for investment depends in part on the size of the market in which firms can offer their applications. Differences in regulations, technical standards and data access can complicate cross-border implementation and limit firms' ability to recoup their investment. This is in line with the analyses by Letta (2024), Draghi (2024) and Van Ark (2026), which identify market fragmentation as a major barrier to innovation, diffusion, productivity growth and competitiveness. The Dutch government can help to lower these barriers to cross-border diffusion by aligning its policies with European frameworks wherever possible and exercise caution when imposing any additional national requirements. It should always consider whether the intended public interest outweighs any potential obstacles to cross-border application. A better-functioning single market can thus accelerate the diffusion of successful AI applications, enabling productivity gains to be felt more quickly and more widely across the economy.

3 Reallocation

Productivity gains at individual firms do not automatically translate into significant gains for the economy as a whole. Some firms manage to save more time with AI than others. As a result, differences in productivity between firms may widen. To translate these differences into higher productivity for the economy as a whole, labour and capital must be able to shift towards more productive uses. Productive firms must be able to grow and invest, even at the expense of less productive firms – this is how the reallocation process works. The Dutch economy is not in an entirely favourable position for reallocation of productivity. A previous DNB study highlights relatively low rates of business entry and exit, and suggests that labour and capital are being deployed less efficiently, particularly within the services sector (Brouwer & De Winter, 2026). The CPB Netherlands Bureau for Economic Policy Analysis also notes that business and labour market dynamics have slowed while productivity differences between firms have increased (Adema et al., 2025). This means labour and capital cannot shift freely towards the most productive uses. Consequently, productivity gains at individual firms do not automatically translate fully into higher productivity for the economy as a whole. AI could make the need to eliminate these frictions more pressing if it widens productivity discrepancies between firms.

3.1 Labour

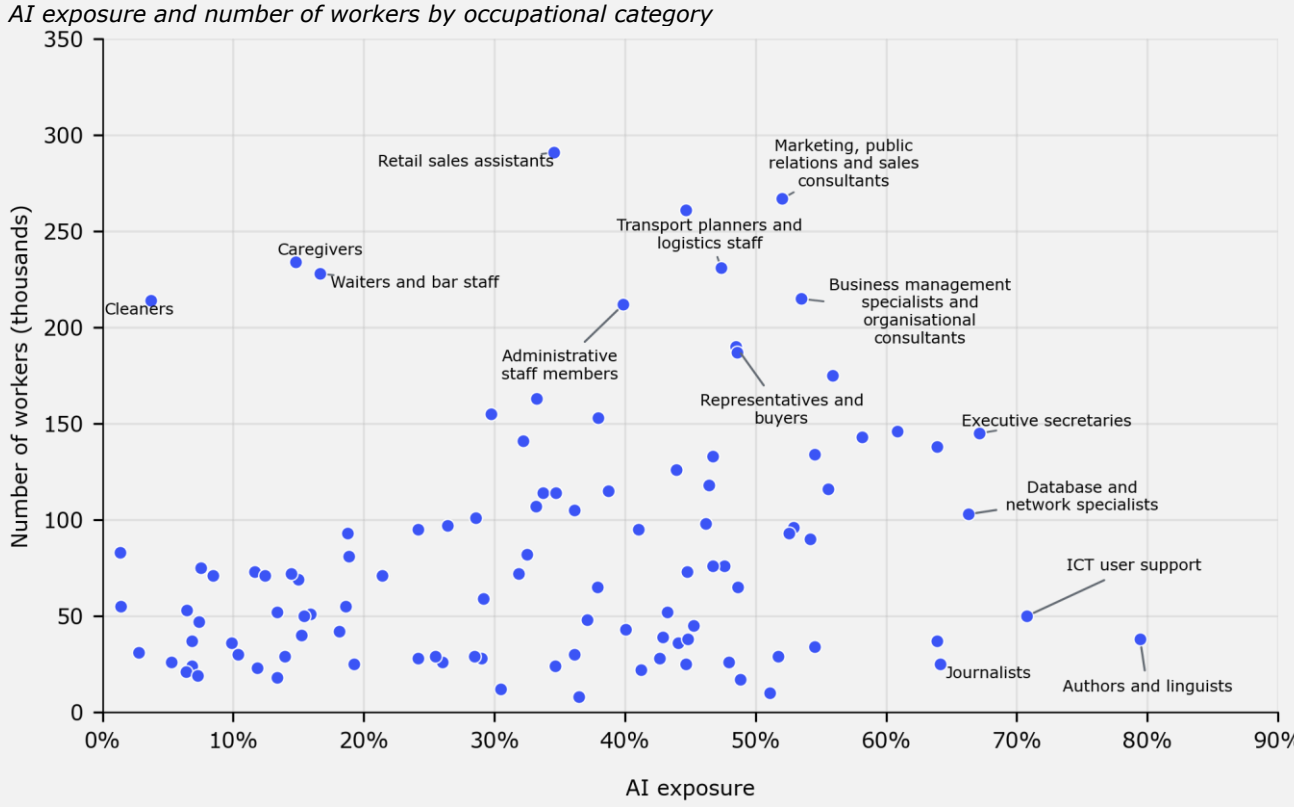
AI can change the nature of work and, as a result, the demand for certain tasks and skills. Jobs consist of various tasks, such as routine administrative tasks, communication-related tasks and more complex analysis (Autor, 2013). AI can automate some of these tasks while supporting employees with others (automation versus augmentation; Autor, 2015). AI exposure metrics identify the occupations in which AI could, from a technical perspective, influence a comparatively large proportion of the tasks. They therefore only measure the potential of AI, rather than its actual use or its impact on employment (Felten et al., 2021; Eloundou et al., 2024).

A significant proportion of the Dutch workforce are in jobs with a high level of exposure to AI. According to these metrics, around a quarter of the workforce are in jobs where AI can speed up the performance of at least half of their tasks. If the threshold is set at 40% of tasks, this amounts to around half of the workforce. Graduates of higher professional education (HBO) and university programmes are relatively well represented in high-exposure occupations: they account for 62% of those working in these occupations, while making up 45% of the total workforce. Occupations involving the processing, analysis or production of information score particularly highly, such as software developers, accountants and policy advisers. Figure 7 shows that both the size and the AI exposure of occupational category vary considerably: cleaners and carers are large groups with a low score.

High exposure to AI does not mean that jobs will disappear. These metrics shows where AI can support or automate tasks, but does not predict what will happen to employment. This depends, among other things, on how firms deploy AI, adapt their work processes and develop new tasks and roles (Autor, 2015; Acemoglu, 2025). For many workers, AI will primarily change the nature of their work: existing tasks will shift and new ones will emerge, without the need to switch to a different occupation. However, adaptation can also take the form of mobility between jobs and occupations when the demand for certain skills changes, or of shifts in labour between sectors when AI makes some activities more productive than others. It is uncertain what the overall impact of these developments will be on employment. As well as automation, AI can also make workers more productive, thereby generating new economic activity and creating additional demand for labour (Autor and Salomons, 2018). In some occupations, this may even lead to an increase in labour demand. There are still few quantitative indicators for changes within existing jobs. When it comes to mobility between employers, occupations and sectors, labour market data do provide some insight into the labour market's adaptability.

Figure 7 Knowledge-intensive occupations are more exposed to AI

AI exposure and number of workers by occupational category



Source: DNB based on CBS and Eloundou et al. (2024)

The figure shows, for each occupational category, the number of workers and the extent to which their tasks are exposed to AI. The employment figures are taken from CBS StatLine and relate to the second quarter of 2026. The exposure measure is based on Eloundou et al. (2024) and refers to the average of the two β-measures. A higher score indicates a greater proportion of tasks for which AI can technically speed up their execution. The measure does not predict actual AI usage or its impact on employment.

Current labour mobility provides some insight into the adaptability of the Dutch labour market. Every year, 17% of workers change employers. Of those who changed jobs between 2024 and 2025, 57% also changed sector (Volkerink et al., 2026). A significant proportion of those changing jobs therefore already move to a different sector (Figure 8). This is relevant when AI shifts the demand for labour across sectors and occupations. However, the level of mobility is unevenly distributed: young people move around more than older workers (Figure 9). These findings suggest that the Dutch labour market possesses a certain degree of adaptability. At the same time, they primarily provide an insight into mobility in a 'business-as-usual' scenario. They do not show the extent to which workers are able to adapt when AI leads to major shifts in the demand for skills, occupations or sectors. Internationally, the Netherlands' job-to-job mobility is around the European and OECD average, with higher mobility in various Anglo-Saxon and Scandinavian countries (Volkerink et al., 2026).

Figure 8 Fluctuations vary greatly by sector

Job changers moving to a different sector, by sector of origin, as a percentage.

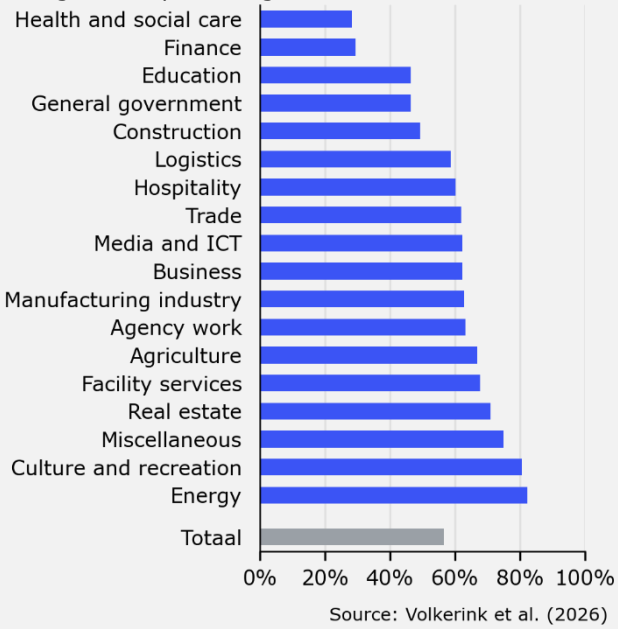
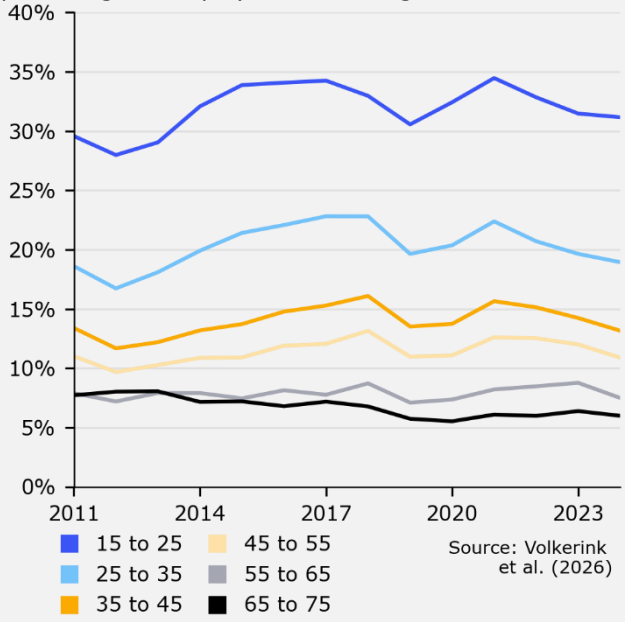


Figure 9 Young people change jobs more often

Annual job-to-job mobility, by age, 2011–2024, as a percentage of employees in each age bracket.



A move to a different job depends not only on labour mobility, but also on the match between skills and available jobs. Job seekers find it easier to find work in occupations for which their existing skills are sufficient (Goos et al., 2019). However, in the event of an automation shock, various occupations and workers are simultaneously exposed to the same change. It is precisely in occupations that are better well suited to their skills that job seekers may find it more difficult to find work (Dabed et al., 2025). Labour mobility may therefore require investment in new skills.

If a job change is not voluntary, the costs for employees can be considerable. Dutch research into such labour market transitions finds an average loss of around 9% of annual income over a five-year period, mainly due to periods of unemployment (Bessen et al., 2025). The losses are greater for older and medium-skilled workers, and for those employed by smaller firms. These are not measured effects of AI, but they illustrate why reallocation can be costly for individual workers, even if the economy as a whole becomes more productive.

Changes in labour demand may also affect the prospects of new entrants. Firms can adjust their workforce by taking on fewer people, without making existing employees redundant. As a result, shifts in labour demand can become apparent relatively quickly in the employment prospects of young people. Initial evidence of this has been found in the United States and the Netherlands for occupations with high exposure to AI (Brynjolfsson, Chandar, et al., 2025; Groenewegen et al., 2026). However, other studies paint a less clear-cut picture, and cyclical developments may also play a role (Salomons and Van den Berge, 2026; Cnossen, 2026).

3.2 Labour – policy implications

Employers and social partners have an important role to play in helping workers use AI productively and adjust to changing working practices. The impact of AI on the labour market is not predetermined, but depends, for example, on whether employers choose to use AI to replace workers (automation) or to support them (augmentation). Employers and employees therefore have a say in how AI affects the labour market through the choices they make regarding how they apply AI in work processes and roles. It therefore makes

sense to equip workers to use AI productively within their current roles and to provide support when changes in labour demand make a move to different work necessary.

Sector-wide agreements can help to provide support with training and changes to roles resulting from AI. Many workers will have to learn how to use AI within their existing occupation. Employers must therefore involve them at an early stage in decisions about which tasks are to be supported or automated using AI, what skills are required for this, and how the resources thus freed up are to be utilised. This is in line with the Social and Economic Council of the Netherlands's recommendation to link technological and social innovation and to make the introduction of AI part of collective bargaining negotiations (SER, 2025). Employers have an incentive to invest in skills when they expect productivity gains, but costs, a lack of time and uncertainty about the returns can hold back such investment. Where such barriers occur, sector-specific agreements and joint training schemes can provide a solution, particularly for smaller employers with less time, know-how and resources.

When a move to a different job becomes foreseeable, timely support can help to minimise the costs for employees. Workers must be able to change jobs when demand for their roles or occupation declines. Skills mismatches, the costs of changing jobs, or employees' uncertainty about the nature of new roles and their suitability for them can hinder this. These barriers play a major role when occupations undergo significant changes or even disappear, forcing workers to switch to a completely different line of work. As loss of income mainly occurs when workers are out of work for some time following redundancy, support must focus on finding a new job and transitioning to it. Employers and social partners can build on existing facilities and make targeted use of training, career guidance and job placement services for workers in occupations and sectors where labour demand is effectively changing.

3.3 Firms

Productivity gains in firms have a greater knock-on effect on the economy if firms that make productivity gains are able to grow (Bartelsman et al., 2013). Firms vary in their ability to apply AI productively, partly due to differences in data, skills and organisation. This can lead to differences in productivity between firms, or cause such differences to increase. The extent to which these differences also contribute to macroeconomic productivity growth depends on the scope for successful firms to invest, grow and gain market share. Labour mobility plays a key role in this process. When AI leads to changes in roles, occupations and sectors, workers must be able to adapt, and more productive firms must be able to attract the workers they need to expand. Productivity growth at the macro level therefore requires not only adaptation within jobs, but also sufficient mobility between employers, occupations and sectors.

Business dynamics are one of the factors that determine whether more productive firms can attract the labour and capital needed to scale up. Market entry and growth create scope for new ways of working and strengthen competition. Furthermore, growth, downsizing and market exit can ensure that labour and capital shift to firms that utilise them more productively. Expected returns and competition can stimulate investment and growth. By contrast, market power and barriers to entry can thwart the growth of challengers (Edmond et al., 2023), and limited access to funding can hamper investment (Midrigan & Xu, 2014). Regulatory frameworks and fragmented markets can also hinder upscaling. When these adjustments are hindered, labour and capital remain tied up for longer in less productive firms, and some of the potential productivity gains fail to feed through to the economy as a whole.

In principle, AI can facilitate market entry and thereby strengthen business dynamics. Generative AI can automate tasks and support entrepreneurs in areas where they lack expertise, thereby potentially lowering barriers to entry (Calvino et al., 2025). Bena, Bian and Giannetti (2026) find that, following the diffusion of generative AI, there has been a sharper rise in the number of start-ups in US sectors of industry that are more exposed. The increase is concentrated among firms with fewer employees at the time of their establishment, and new firms are setting up in a wider variety of locations. These findings are consistent with lower barriers to entry, but do not yet provide evidence that AI also leads to greater market entry and successful growth in the Netherlands.

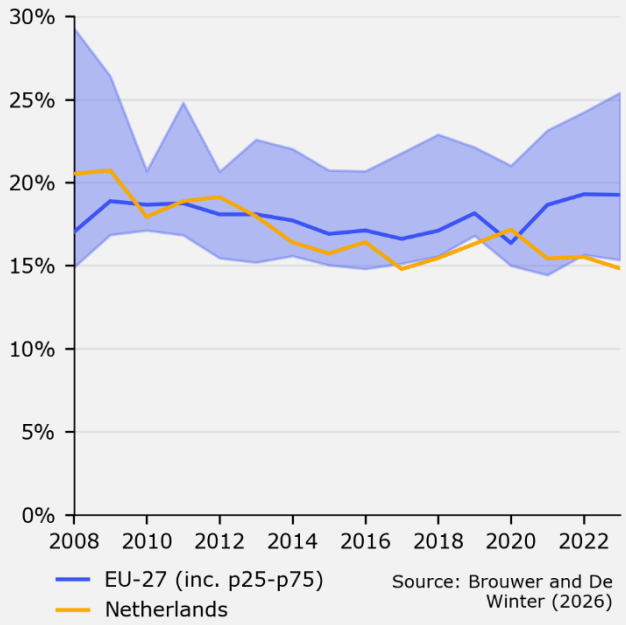
Research by both the CPB Netherlands Bureau for Economic Policy Analysis and DNB points to limited business dynamics in the Netherlands (Adema et al., 2025; Brouwer & De Winter, 2026). Both the number of business start-ups and the number of business closures in the Netherlands are lower than in many other European countries (Figure 10). The lion's share of these entries and exits are firms with no staff, which generally experience limited growth and contribute relatively little to employment and output. By contrast, firms that already have employees when they are set up continue to grow at a relatively strong rate (Figure 11). However, as most firms start out without any employees, this is a relatively small category.

The distribution of labour and capital across existing firms is also important. When these factors of production do not end up in the firms where they generate the most value, this constitutes a misallocation (Hsieh & Klenow, 2009). Brouwer and De Winter (2026) find that the measured misallocation increased significantly during the COVID-19 pandemic. According to their analysis, the size of many firms differs from what would be expected based on their productivity. Among smaller firms in particular, a comparatively large number are, by this measure, larger than is efficient. These findings suggest that labour and capital in the Netherlands do not automatically move towards more productive firms. Both the low dynamics in the business sector and the evidence of misallocation suggest that labour and capital do not always end up where they add the most value. These findings suggest that we should be cautious about assuming that productivity gains automatically have a broad impact on the economy.

Reallocation takes place not only between firms, but also between sectors of industry. If AI boosts productivity more in some sectors than in others, relative costs and prices in those sectors tend to fall. How output and employment develop from there will depend on the extent to which demand responds to this fall in prices. If demand increases only modestly, a more productive sector can produce more with less labour, and employment may shift towards sectors where productivity growth is lower, such as healthcare, education and personal services (Ngai and Pissarides, 2007; OECD, 2024).

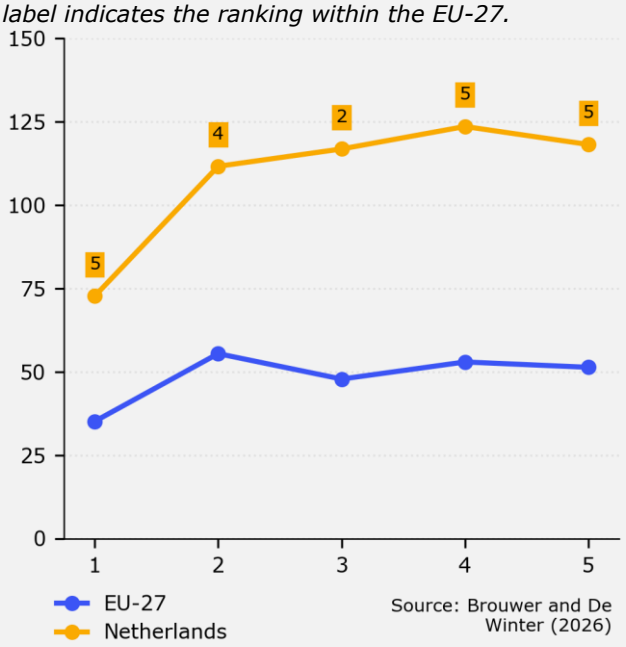
Figure 10 Business dynamics in the Netherlands are relatively low

Trends in business start-ups and closures in the Netherlands and the EU-27.



Dutch start-ups with staff are growing comparatively strongly

Growth in the number of people in employment, measured over one to five years after establishment, among firms starting out with staff, in the Netherlands and the EU-27, as a percentage. The label indicates the ranking within the EU-27.



3.4 Firms – policy implications

The Dutch government should create scope for firms to enter the market and grow, and ensure that its policies do not unnecessarily hinder downsizing and exit. The economic benefits of AI depend not only on productivity gains within firms, but also on the extent to which labour and capital can be reallocated to more productive uses. If some firms are able to apply AI more effectively than others, productivity discrepancies may widen further. This highlights the importance of business dynamics: successful firms must be able to invest, grow and gain market share, while less productive activities must be able to downsize or disappear. The low dynamics of Dutch firms could dampen the broader economic benefits of AI. A concrete area for policy action is, on the one hand, to prevent labour and capital from remaining unnecessarily tied up in less productive activities, and, on the other hand, to help successful firms scale up more quickly. Potential barriers include, among other things, tax schemes for entrepreneurs, inadequate access to growth finance and obstacles within the European single market.

Examine whether tax schemes for entrepreneurs hinder the efficient reallocation of labour and capital. While support measures may facilitate investment and innovation where funding difficulties or knowledge spillover effects give rise to such a need, but long-term or poorly targeted support may slow down the shift towards more productive activities. That shift becomes more important when AI widens the productivity gap between firms. Tax differences between being an employee and being self-employed also influence economic choices. A recent evaluation concludes that, in particular, the self-employed tax relief and the SME profit exemption are broad and untargeted instruments that make only a limited contribution to their objectives regarding employment, investment and innovation (Schwartz et al., 2024). These findings provide grounds for examining the extent to which these schemes hinder the efficient allocation of labour and capital, and whether they should be amended. This issue exists even without AI, but may become more pressing if AI widens the productivity gap between firms.

Lower cross-border barriers and improve access to European funding. Differences in national regulations and standards hamper cross-border activities, particularly in the services sector, and limit the market in which firms can recoup their investment in AI. A better-functioning single market helps productive firms to expand their operations more quickly and on a larger scale. The Netherlands must therefore focus on reducing these disparities and exercise caution when imposing any additional national requirements. Moreover, deepening the European capital market could improve access to growth finance. This increases the scope for productive firms to invest, recruit staff and gain market share. Where AI leads to greater differences in productivity between firms, access to funding may be one of the factors that determine whether these differences translate into higher macroeconomic productivity. This focus is in line with the recommendations made by Letta (2024) and Draghi (2024) for further European market integration.

4 Policy implications

This analysis shows that the chain between AI innovation and productivity growth consists of three parts. Firstly, firms must have ample access to AI; secondly, they must know how to apply it effectively within their work processes; and lastly, labour and capital must be able to shift towards productive uses. Access, adoption and diffusion, and reallocation are therefore successive links in the same economic chain.

The economic constraints and the corresponding policy approaches vary from one link to the next. The policy agenda on AI comprises a combination of specific AI policies and general economic policies that are becoming more pressing as a result of AI. Specific AI policies focus, among other things, on reliable access to digital infrastructure, compatible data and knowledge about productive applications. In addition, broader measures are needed, such as improved knowledge dissemination and labour mobility, reform of tax schemes for entrepreneurs that hinder business dynamics, further integration of the European market and better access to growth finance. These measures are important even without AI, but AI can exacerbate existing bottlenecks. Table 1 summarises the main bottlenecks and corresponding policy approaches.

Table 1 Overview of policy implications

Phase	Impediments	Possible policy options and allocation of roles
Access to AI	Reliance on a small number of global providers at crucial stages of the AI supply chain. High switching costs due to provider-specific data, software and technical interfaces. Limited scale in the Netherlands for the development of AI infrastructure.	**Firms and institutions:** Identify dependencies and put fall-back options in place where necessary. Take switching options into account when selecting providers. **Firms, industry organisations and the government:** promote the use of open standards, interoperability and compatible data to reduce switching costs. **Government:** focus on organising computing, cloud and data infrastructure at European level.
Adoption and diffusion	High start-up costs, uncertain returns and a long payback period for investment. Insufficient knowledge of productive applications and required organisational changes. Management resources and time are scarce, while adaptability is low, particularly in smaller firms. Market fragmentation in Europe limits the scale on which investment can be recouped.	**Firms:** combine investment in technology with investment in skills, business data, software, management and the reorganisation of work processes. **Industry organisations, research institutions and networks:** encourage the sharing of practical knowledge through demonstration projects, implementation advice and the exchange of experiences. **Social partners and industry organisations:** explore joint training facilities in the field of AI. **Government:** facilitate cross-border application by aligning as closely as possible with European frameworks and exercising caution when imposing any additional national requirements.

Reallocation of labour	Skills do not always match changing tasks, roles and occupations. Costs and uncertainty can hinder training and a move to a different type of work. Support may only be provided once a person has lost their job.	**Firms:** involve employees at an early stage in the roll-out of AI and invest in skills development and adaptation within existing roles. **Social partners:** where necessary, reach sector-specific agreements on training, redeployment and the use of AI, for example in collective labour agreements. **Social partners:** organise support, career guidance, training and job placement services in good time before redundancy is unavoidable.
Reallocation of capital and firms	Low business dynamics and barriers to entry, growth, downsizing and exit. Tax schemes can tie up labour and capital in less productive activities. The fragmentation of European markets limits growth opportunities of productive firms. Limited access to growth finance hinders investment and scaling up.	**Government:** create opportunities for market entry and growth, and ensure that policies do not unnecessarily hinder downsizing and exit. **Government:** examine the extent to which tax schemes for entrepreneurs hinder the efficient allocation of labour and capital, and whether amendments are desirable. **Government:** consider how cross-border market barriers within the European single market can be lowered and exercise caution when imposing any additional national requirements. **Government:** focus on the further development of the European capital market, so that productive firms can more easily secure growth finance.

5 Implications for inflation and monetary policy

AI may impact virtually all variables relevant to price stability, including productivity, growth, investment, employment, wages and financial markets. Supply and demand effects do not necessarily occur simultaneously. Investment and optimistic expectations may initially boost demand, while productivity gains will only become apparent down the road. AI can therefore have an inflationary effect in the short term and a disinflationary effect in the medium term.

For central banks, two questions are key: how does AI impact the balance between supply and demand, and how does AI change the pricing process? The answers determine how AI affects potential growth and inflation dynamics. If AI primarily increases output capacity, the economy can grow more rapidly without creating additional inflationary pressures. However, if higher levels of investment and wealth effects resulting from rising asset prices stimulate demand more strongly than they do supply, inflationary pressures may actually increase. Furthermore, AI can both intensify competition and concentrate market power, while algorithmic pricing can alter the pace of price adjustments. This makes the impact of AI relevant not only to growth prospects, but also to the assessment of underlying inflationary pressures and the scope for monetary policy.

5.1 The balance between supply and demand

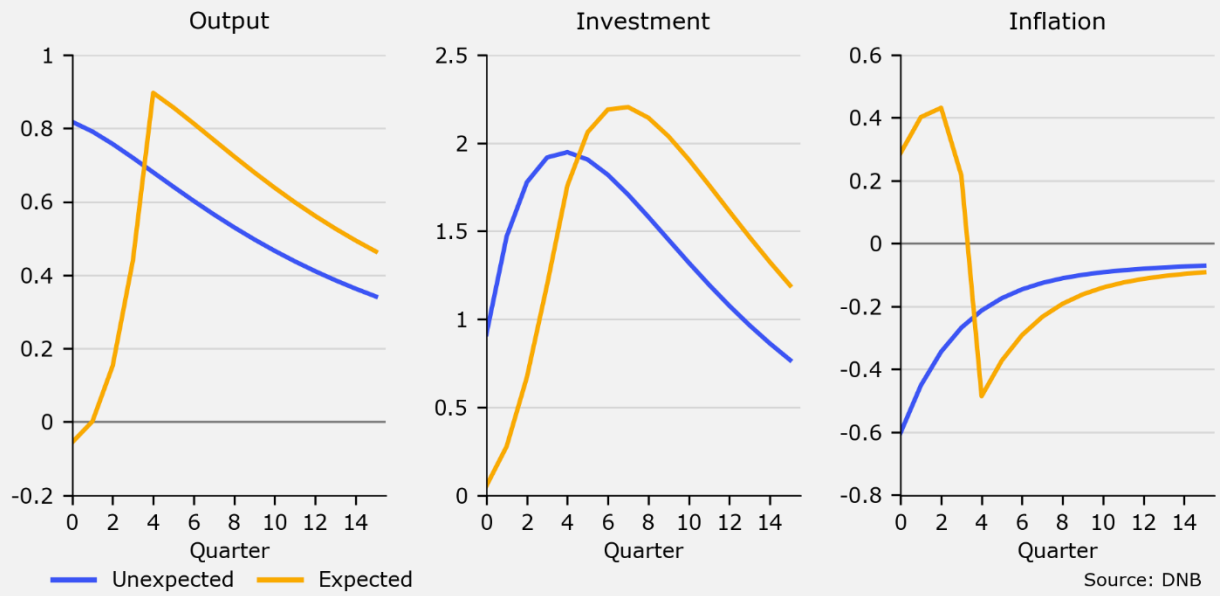
AI's impact in terms of inflation largely depends on the timing of demand and supply effects. New technologies ultimately boost output capacity, but often require substantial investment and organisational changes at the outset. While firms invest in computing power, software and organisational capital, the response from households is typically less clear-cut. Expectations of higher future incomes or wealth can stimulate consumption, whereas uncertainty about job security and future earnings can, on the other hand, push up precautionary saving and depress spending.

The rapid roll-out of AI could lead to additional price pressure in the short term, particularly where productivity gains are already anticipated but have not yet materialised. In anticipation of higher productivity, firms invest in areas such as data centres, microchips and electricity grids. One indication that this surge in demand is already evident can be seen, among other things, in computer prices: these have risen by around 10% in Europe over the past year, following years of price falls, and by as much as 15% in the Netherlands. An internal model analysis illustrates how expectations play a role (Figure 12). If a rise in productivity is expected four quarters ahead, firms bring forward their investment. In the model, households also increase their spending because they expect higher future incomes. As a result, demand rises before supply increases, causing inflation to rise initially.

In the medium term, actual productivity gains will be the deciding factor. If AI increases output capacity, unit cost – and thus inflationary pressure – may fall. Higher productivity may also raise the equilibrium interest rate through stronger demand for investment, although additional precautionary saving may dampen this effect. The model analysis shows that an unexpected rise in productivity immediately triggers a rise in economic activity and a fall in inflation. The timing and expectations therefore determine whether AI has an initial inflationary effect or an immediate disinflationary effect.

Figure 12 Expected productivity gains may initially push up inflation

Model responses of consumption, investment and inflation to an unexpected productivity shock of 1% and an expected shock four quarters ahead.



Simulations using a New Keynesian model for a closed economy. The figure compares an unexpected rise in productivity (a 1% TFP shock) with on that is expected four quarters ahead. In the case of an expected rise, consumption and investment in the model anticipate the expansion of output capacity, causing inflation to rise initially.

However, higher productivity does not automatically lead to lower inflation. Where AI is primarily complementary to labour, productivity, wages and consumption can all rise simultaneously. If AI leads to greater job insecurity, households may actually save more and consume less. The impact on inflation therefore depends, in part, on how the benefits of AI are distributed between labour and capital (Melina & Villa, 2025).

For the euro area and the Netherlands, part of the transmission takes place via other countries. The current wave of investment in AI is heavily concentrated in the United States and parts of Asia. As a result, Europe may experience relatively less pressure from domestic demand, but will have to contend with higher global market prices for microchips, electricity and other AI inputs. In the longer term, imported AI services and productivity gains realised abroad may, in fact, exert downward pressure on prices.

As an open, technology-specialised economy, the Netherlands occupies a special position. The global wave of AI investment is feeding through to the domestic economy via the export chain. For example, demand for Dutch chip-making machines is leading to increased output and investment, but is also putting further strain on the labour and housing markets. This could drive up wages, rents and construction costs. Furthermore, the Netherlands' excellent digital infrastructure makes it an attractive location for data centres. Their construction and the necessary investment in the electricity grid are increasing demand for scarce resources such as labour, land and grid capacity. As a result, the wave of AI investment could push up inflation in the Netherlands in the short term through higher wages, rents, construction costs and the prices of energy and network services.

Table 2 When is AI inflationary?

	Delayed productivity gains	Rapid productivity gains
High expectations	**Demand rises ahead of supply.** Growth initially picks up, driven mainly by investment demand; supply lags behind. Inflation rises initially.	**Synchronised acceleration.** Both demand and supply grow strongly. Growth is strong; inflation is either low or ambiguous, depending on which channel dominates.
Low expectations	**J curve.** Complementary investment and reorganisation take time; growth and measured productivity remain subdued initially. Inflation is ambiguous: weak demand puts downward pressure on inflation, while bottlenecks may exert upward pressure.	**Unexpected surge in supply.** Output capacity is growing faster than demand. Growth rises and inflation falls initially.

5.2 Pricing and inflation dynamics

AI may cause prices to respond more quickly to changes in the economy. By processing demand, cost and competitor data more quickly and automating price adjustments, AI can reduce the cost of pricing. If, as a result, firms adjust their prices more frequently, nominal price rigidities may decrease and inflation may respond more strongly to changes in economic activity. In economic terms, this causes a steeper Phillips curve. This relationship is well-supported in theory and is consistent with empirical research into digitalisation and online pricing (Gorodnichenko et al., 2018; Ari et al., 2023; Auclert et al., 2024). However, direct evidence that AI itself causes more frequent price adjustments is still limited (Adams et al., 2026).

Algorithmic pricing can also change the way firms respond to one another. Algorithms can adjust prices more quickly in line with costs and competitors' prices, which may result in price movements being more closely correlated. At the same time, strategic interactions between algorithms may in fact give rise to new price rigidities or price coordination (Brown and MacKay, 2023; Calvano et al., 2020). The ultimate impact on inflation dynamics therefore depends in part on market structure and may vary from sector to sector.

More flexible pricing can have both advantages and disadvantages in terms of monetary policy. With a steeper Phillips curve, a change in demand feeds through to inflation more quickly, meaning that monetary policy may be able to stabilise inflation with less loss of output and employment. On the other hand, AI-driven pricing can also increase the speed at which cost and supply shocks are passed on to prices, which may make inflation more sensitive to such shocks in the short term. As AI-based pricing becomes more widely adopted, it will therefore become increasingly important to closely monitor changes in the frequency of price adjustments and the impact of different types of shocks (Savagar et al., 2026).

5.3 Implications for monetary policy

AI makes it more complex to assess the economy and determine the appropriate monetary policy response. Strong investment demand and expectations of higher permanent incomes may push up the natural rate of interest. If AI is primarily complementary to labour, output, wages, investment and the natural rate of interest may rise relatively sharply. Conversely, where AI primarily replaces labour, and job insecurity and precautionary saving increase, the natural rate of interest may rise less sharply or even fall (Melina and Villa, 2025). At the same time, AI is increasing uncertainties surrounding potential output and the natural rate of interest. It is uncertain how quickly expected gains in output and income feed through to consumption and investment (Lane, 2026), and to what extent strong growth is driven by higher demand or greater potential output (Aldasoro et al., 2026). Central banks must therefore take into account the various phases of the AI transition and, in addition to inflation and growth, closely monitor productivity, AI investment, labour costs, inflation expectations and changes in pricing (BIS, 2024; Lenzu, 2026).

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