Analysis

Healthy markets, healthy growth:
Dynamics, market power and misallocation in the Dutch business sector

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Healthy markets, healthy growth: dynamics, market power and misallocation in the Dutch business sector

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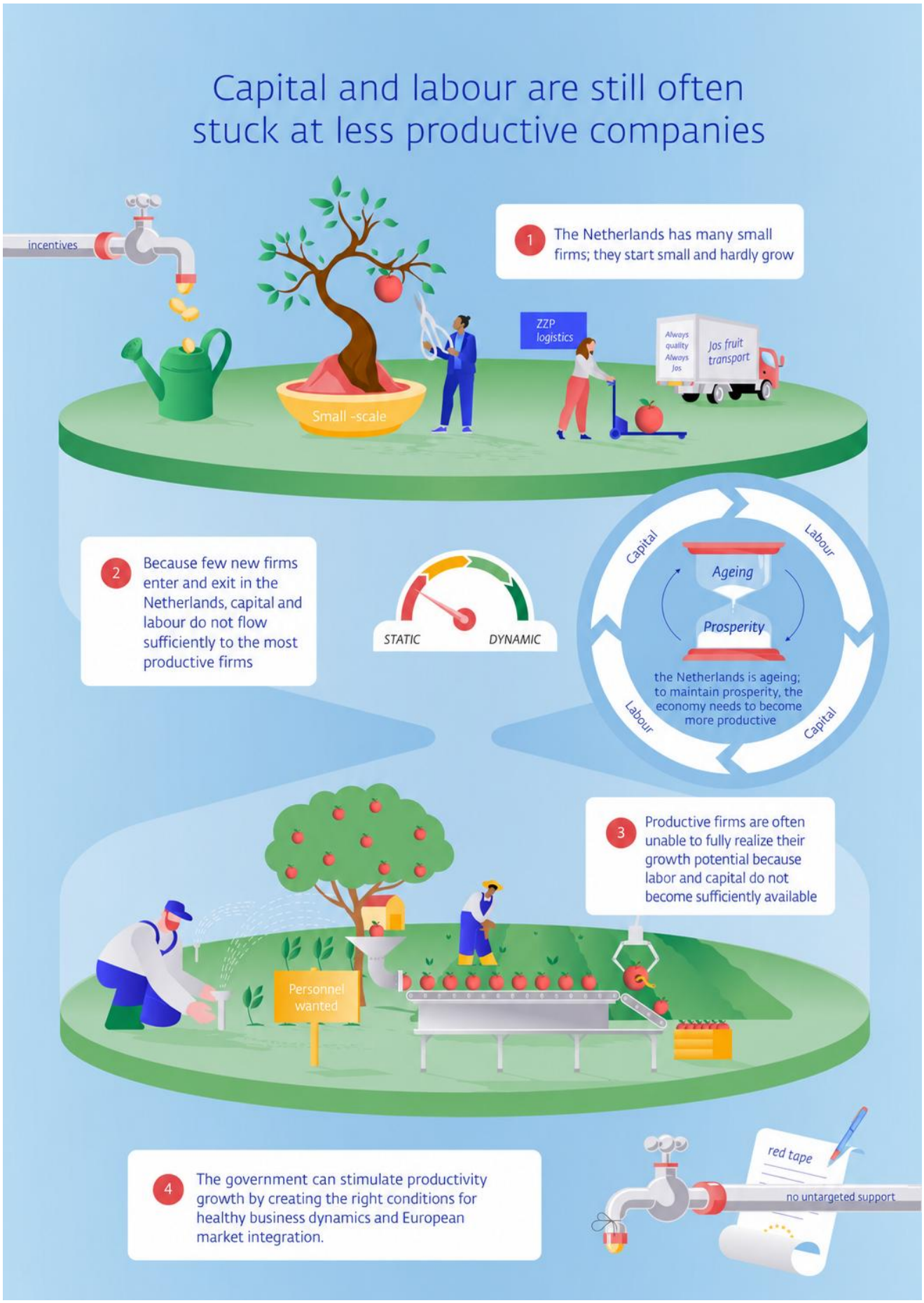

Capital and labour are still often stuck at less productive companies
incentives
1 The Netherlands has many small firms; they start small and hardly grow
Small -scale
ZZP logistics
Always quality Always Jos
Jos fruit transport
2 Because few new firms enter and exit in the Netherlands, capital and labour do not flow sufficiently to the most productive firms
STATIC
DYNAMIC
Capital
Labour
Ageing
Prosperity
the Netherlands is ageing; to maintain prosperity, the economy needs to become more productive
Labour
Capital
3 Productive firms are often unable to fully realize their growth potential because labor and capital do not become sufficiently available
Personnel wanted
4 The government can stimulate productivity growth by creating the right conditions for healthy business dynamics and European market integration.
red tape
no untargeted support

Summary

Higher productivity growth is needed to keep economic growth in the Netherlands on track. Because of population ageing, labour supply in the Netherlands is growing only to a limited extent. As a result, economic growth is becoming increasingly dependent on productivity growth: more value added per hour worked. At the same time, productivity growth in the Netherlands, as in many other Western countries, has declined in recent decades.

This analysis therefore focuses on three dimensions that determine productivity growth: business dynamics, market power and the allocation of capital and labour. Together, these factors largely determine the extent to which resources shift towards more productive firms and thereby contribute to productivity growth. When entry remains limited and competitive pressure weakens, production factors shift less quickly towards the most productive firms. This hampers the process of creative destruction, in which low-productivity activities make way for more productive uses. These mechanisms can reinforce one another, for example when market power further impedes entry and slows the reallocation of resources.

In the Netherlands, limited business dynamics are a brake on productivity growth. A relatively large number of low-productivity firms remain active for a long time, meaning that capital and labour are released less quickly for more productive uses. Our estimates of misallocation indicate that firms are, on average, larger than would be appropriate on the basis of their productivity. This suggests that the problem lies not only in limited scaling up, but also in the lack of scaling down and exit by firms.

The low level of business dynamics is mainly determined by very small firms that barely scale up. In the Netherlands, relatively few firms are created and relatively few are discontinued. The vast majority of entrants are firms without employees. These firms generally grow very little and remain active for a relatively long time, creating a large group of small, low-productivity firms. This pattern has been visible for some time and appears to be structural. In this respect, the Netherlands differs from many other European countries. This seems to be related to a combination of factors, including the strong orientation towards services, incentives from the tax system, and the design of labour market institutions and contract forms.

At the same time, scaling up in the Netherlands is possible for firms that already have some scale at the time of entry. Firms that already have employees when they are founded grow quickly on average and, in terms of their pace of growth, are among the leading group in Europe. This suggests that the Dutch business climate does not in itself hinder further growth. The bottleneck is therefore less about the growth capacity of firms and more about the large share of firms that start very small and then barely scale up.

The weaker domestic business dynamics in the Netherlands are not accompanied by an increase in firms' market power. Low business dynamics may be associated with increasing market power among incumbent firms, which can have negative consequences for innovation, productivity and growth. Market power is often measured using market concentration and markups: the ratio between the selling price and the cost of producing an additional unit. Apart from cyclical fluctuations, both market concentration and markups have remained relatively stable in most industries over the past fifteen years. This is related to the fact that entry and exit mainly occur among very small firms, while shifts in market shares and concentration

mainly take place among existing, larger firms. An increase in domestic market concentration does not necessarily have exclusively negative effects. In internationally competitive industries, higher market concentration is often associated with selection and economies of scale, without markups increasing.

Government policy can promote productivity growth by strengthening the conditions for healthy business dynamics; Europe has an important role to play in this regard. For the Netherlands, this is particularly relevant in the services sector, which accounts for a large share of the economy and where business dynamics lag behind most strongly. It is precisely in these industries that firms are still often hindered from operating across borders by differences in national regulation, for example in the areas of insolvency law, labour market rules, and quality and entry requirements. Further deepening of the European internal capital market can give firms more opportunities to scale and grow, thereby contributing to higher productivity growth. This is particularly relevant for firms with scaling potential and opportunities to operate across borders. At national level, it is useful to examine whether insolvency law and labour market law unintentionally hinder the entry and exit of firms, causing capital and labour to shift less quickly towards more productive firms.

Caution is required when government policy goes beyond strengthening generic framework conditions. Support measures, subsidies and tax measures can provide temporary help or encourage desired behaviour. When used for a prolonged period or in an untargeted manner, however, there is a risk that firms with limited productivity are also kept alive, putting the economy's future growth potential under pressure. The support packages during the coronavirus pandemic illustrate this trade-off: during this period, the misallocation of capital and labour rose sharply and has not yet fully returned to its pre-pandemic level. Other government measures, such as tax advantages for self-employed workers without employees and small firms, can also hinder the efficient use of production factors. For self-employed workers without employees, enforcement against false self-employment is also important.

1. Dutch business dynamics are low

Business dynamics determine how quickly capital and labour shift towards productive activities and thereby contribute to productivity growth. The economic literature shows that productivity differences between countries are linked not only to the growth of existing firms, but also to the extent to which capital and labour shift towards more productive firms through entry, growth and selection. New firms can bring innovation and competitive pressure, successful firms can scale up, and weaker firms can shrink or disappear. If this process slows, capital and labour remain tied up for longer in less productive firms and productivity growth declines (Bartelsman et al., 2013 and Hsieh and Klenow, 2009).

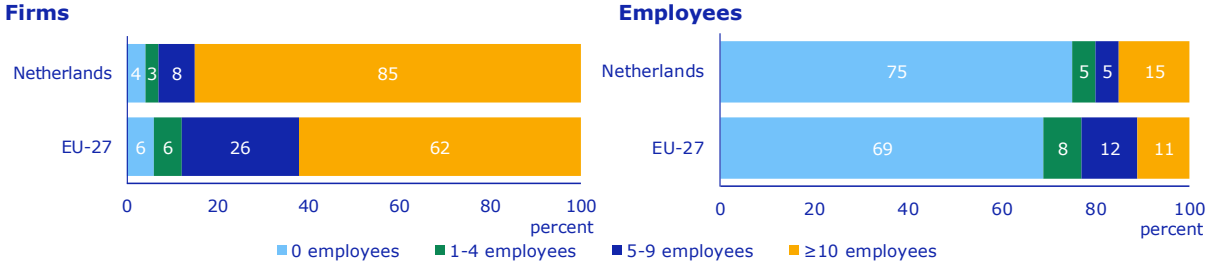
This chapter maps business dynamics in the Netherlands and places them in a European perspective. A distinction is made between external dynamics, such as firm entry and exit, and internal dynamics, which refer to growth within existing firms. This is consistent with the broader literature on growth and creative destruction (Aghion and Howitt, 1992; Mokyr, 2017; and Aghion et al., 2021).

1.1 External dynamics are relatively low and declining

The Netherlands has many firms without employees, but the employment base rests to a large extent on a small group of large firms. This analysis focuses on the relevant market sector, because business dynamics, market power and misallocation are economically meaningful and policy-relevant there.[1] In 2023, the relevant market sector comprised 2.3 million firms. Together, these firms employed 8.7 million people and generated EUR 696 billion in value added. In terms of numbers, the market sector is dominated by very small firms. As many as 85% of firms have no employees, compared with 62% in the EU-27 (Figure 1). At the same time, employment is highly concentrated in a relatively small group of large, longer-established firms: firms with 10 or more employees account for only 4% of all firms in the Netherlands, but for 75% of all workers (EU-27: 6% of all firms and 69% of workers).

[1] In non-market sectors, prices, entry, and scale are often institutionally determined, which makes indicators such as labour productivity, markups, markdowns, and misallocation less informative. Following CBS, CPB and DNB (2017), Kok (2024), and Hoeberichts et al. (2025), we analyse the so-called relevant market sector. This comprises the total economy excluding the industries of mining and quarrying (B), financial services (K), real estate activities (L), and the public sectors of public administration (O), education (P), and healthcare (Q).

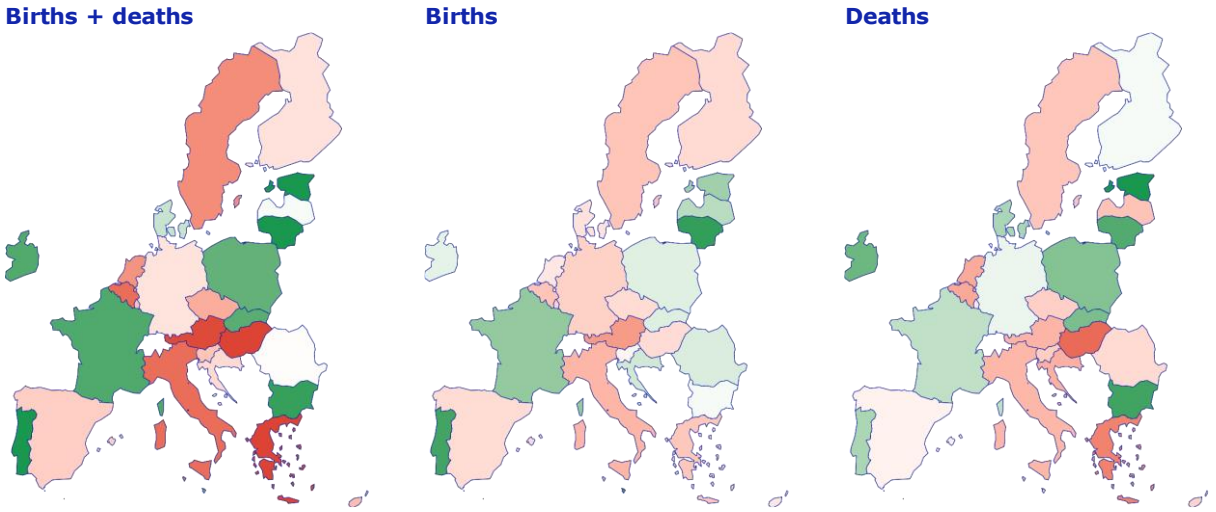
Figure 1. Structure of existing firms, by size class
Distribution of firms and workers by firm size (in employees), relevant market sector, 2023.



Source: Eurostat, DNB calculations.
Note: The left-hand panel shows the share of firms by size class for the Netherlands and the EU-27. The right-hand panel shows the share of workers. Both are expressed as a percentage of the total number of firms and the total number of workers, respectively (see legend for size classes).

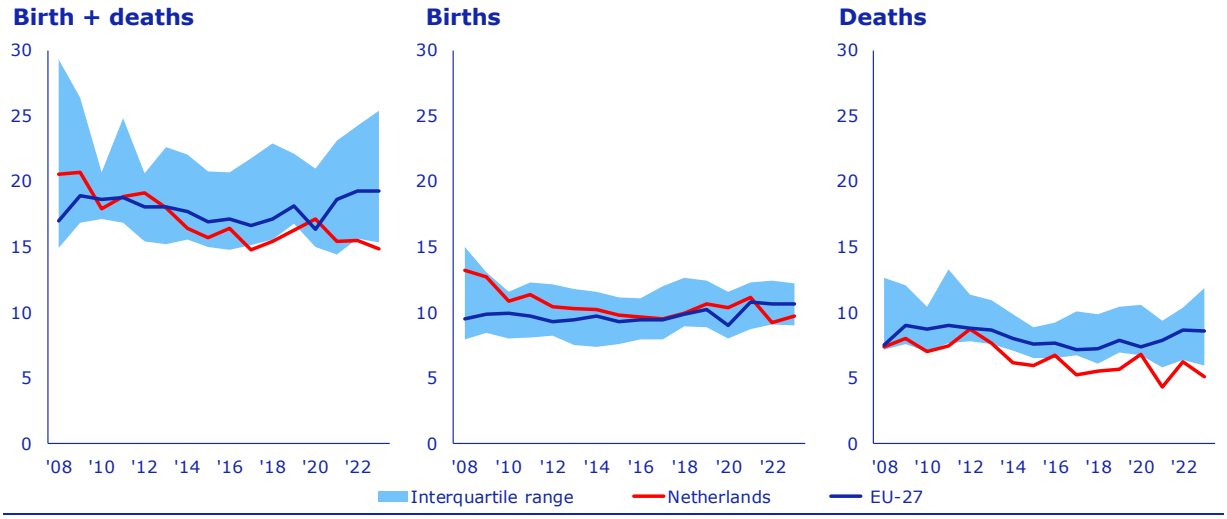
Entry and exit of new firms are low in the Netherlands. In a European perspective, the birth and death rates of firms in the Netherlands are low (Figure 2). The Dutch market is therefore stable, but not very renewing, in contrast to countries such as Ireland, France, Portugal, Poland and the Baltic states, where many firms are created and also disappear again. Adema et al. (2025) also show that business dynamics in the Netherlands have declined. Figure 3 shows that the decline in dynamics is also visible in other European countries. Compared with the average across EU countries, business dynamics in the Netherlands declined more strongly until around 2014. Since then, the business birth rate has been around the unweighted EU median, while the business death rate belongs to the bottom quartile within the EU. From a European perspective, the Netherlands therefore stands out above all because of its low business death rate.

Figure 2. Business churn, birth and death rates
As a percentage of the total number of firms, relative to the EU-27, relevant market sector, 2023.



Source: Eurostat, DNB calculations.
Note: The left-hand panel shows, for each EU-27 country, the sum of business births and deaths (churn), expressed as a percentage of the total number of firms. The middle and right-hand panels show business births and business deaths separately, also as a percentage of the total number of firms. The outcomes are shown as a heatmap, with a colour scale from green (high percentage) to red (low percentage). The blue shaded rectangle shows the unweighted EU-27 average and the percentage for the Netherlands (NL); the figure in parentheses indicates the position of the Netherlands within the EU-27, ranked from high to low.

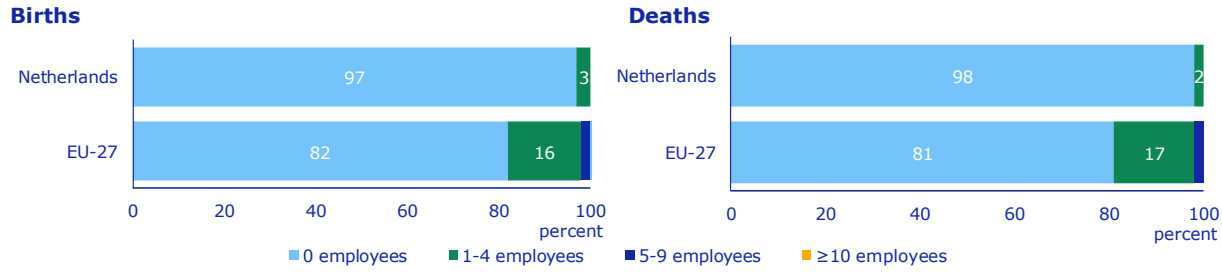
Figure 3. Development of business birth and death-rates
As a percentage of the total number of firms, relevant market sector.



Source: Eurostat, DNB calculations.
Note: The left-hand panel shows, for the EU-27, the sum of business births and deaths, expressed as a percentage of the total number of firms. The middle panel shows the number of business births and the right-hand panel the number of business deaths, both also expressed as a percentage of the total number of firms. The light-blue area shows the interquartile range within the EU-27 (25th-75th percentile). The blue line shows the EU-27 average; the red line shows the Netherlands.

The limited external dynamics are driven by micro-firms. External business dynamics, measured as the entry and exit of firms, are highly concentrated among small firms in the Netherlands (Figure 4). As many as 97% of new firms start without employees (EU-27: 82%). Business deaths, although at a much lower level, also relate almost exclusively to this group: 98% of discontinued firms are firms without employees (EU-27: 81%). This directly matches the picture for existing firms: the Netherlands has many firms without employees, and this group is also responsible for most of the inflow and outflow. In this respect, the Netherlands differs from many other European countries. This is likely related to tax incentives for the self-employed and to labour law (Jansen, 2021).

Figure 4. Business births and deaths, by size class
As a percentage of the total number of firms, relevant market sector, 2023.



Source: Eurostat, DNB calculations.
Note: The left-hand panel shows the share of business births by size class for the Netherlands and the EU-27. The right-hand panel shows the share of business deaths by size class. Both are expressed as a percentage of the total number of firms (see legend for size classes).

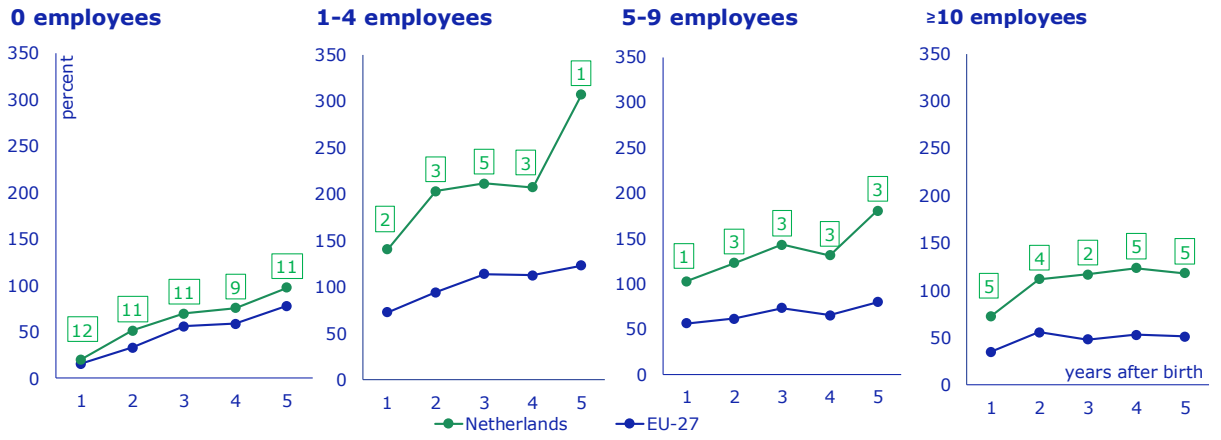
For firms, hiring a self-employed worker without employees or a small firm can in some cases be cheaper and more flexible than hiring personnel. This is because hiring self-employed workers or small firms usually entails fewer obligations regarding social contributions, sickness and dismissal. At the same time, tax advantages for self-employed workers and small firms, such as the self-employed person's

allowance, the SME profit exemption or the differentiated corporate tax rate, can make working without, or with only few, employees attractive. For these self-employed workers and small firms, growing into an employer often also means taking on substantial fixed obligations, such as dismissal protection and continued wage payment during sickness. This can make the step from self-employed worker to employer less attractive and slow further growth. Against this background, the strong growth of the Dutch services sector also played a role. Because work in that sector can relatively easily be organised in separate assignments or temporary projects, especially in sectors such as construction, healthcare, business services and ICT, demand for flexible labour increased.

1.2 Internal dynamics are higher for start-ups with employees

Internal dynamics, measured as firms' growth after entry, are relatively high in the Netherlands for firms that start with employees. Internal dynamics concern growth within existing firms: which firms manage to scale up, and which remain small. In contrast to external dynamics, the Netherlands scores highly in a European perspective when it comes to internal business dynamics. The Netherlands is near the top of the ranking for the growth of firms with employees. Five years after entry, firms that had employees at the start are, on average, among the European top three when measured by growth in the number of employees (Figure 5).

Figure 5. Growth in the number of persons employed after business birth
As a percentage relative to the year of birth, relevant market sector, 2023.



Source: Eurostat, DNB calculations.
Note: The figure shows the average percentage growth in the number of persons employed at newly created firms since entry for the Netherlands (green line) and the EU-27 average (blue line), broken down by size class at entry. From left to right, firms are distinguished as having 0 employees, 1 to 4 employees, 5 to 9 employees, and 10 or more employees. The green numbers at the Dutch observations indicate, for each year and indicator, the position of the Netherlands within the EU-27, ranked from high to low.

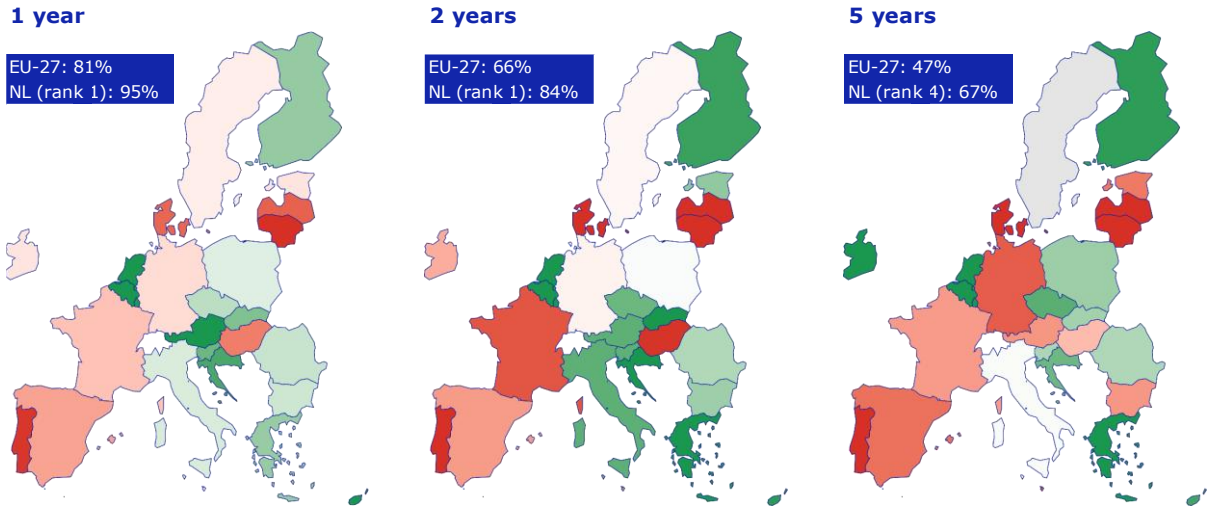
This growth pattern points to a relatively healthy selection process. Freeman et al. (2021) show that relatively low-productivity entrants are more likely to exit within the first years ("up-or-out"), meaning that the measured growth of the remaining group is partly a composition effect. The observed strong growth of surviving start-ups therefore reflects both further growth among surviving firms and the fact that weak growers drop out relatively quickly.

But firms without employees barely grow, even though they account for the bulk of firm births. Dutch firms without employees grow at roughly a comparable level to the European average (rank 11 within the EU-27 after five years). It should be borne in mind, however, that this growth takes place from

a very limited initial size. High growth percentages do not automatically translate into substantial scaling up. Five years after entry, a start-up without employees has on average only 1.2 workers, despite high percentage growth. Firms without employees in the Netherlands are therefore mainly a legal form in which one person performs labour independently, and they only rarely grow into firms with several employees. In many cases, therefore, this is not innovative entrepreneurship, even though that form of entrepreneurship is a source of growth (Akcigit et al., 2025).

The survival rate of start-ups in the Netherlands is among the highest in Europe. In line with the limited exit rate, Dutch firms remain active for a relatively long time, even when employment does not scale up. Growth therefore mainly takes place through gradual scaling up over a longer life phase, and less through selection via entry and exit. In 2023, the Netherlands had the highest survival rates for firms after one and two years. After five years, the Netherlands ranks fourth, and the survival rate is 21 percentage points higher than the EU-27 average (Figure 6).

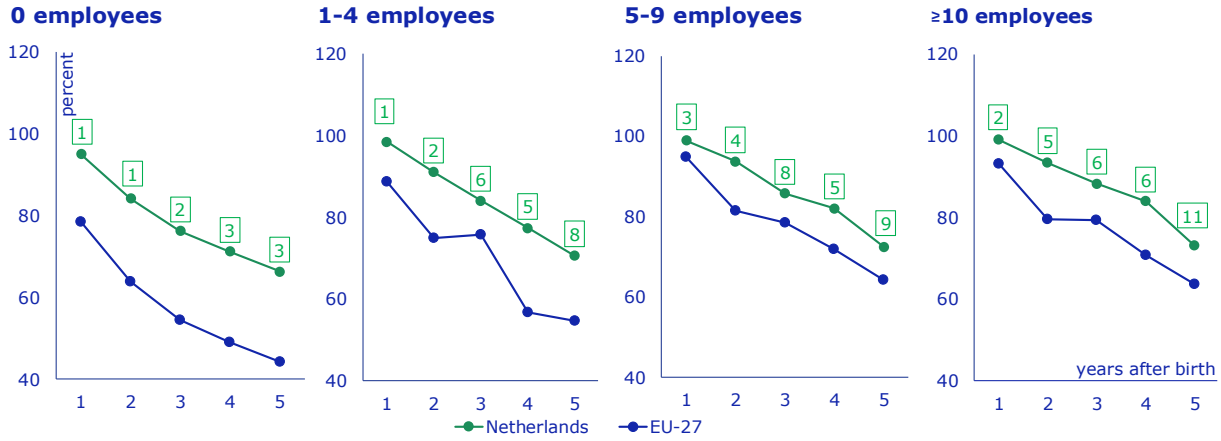
Figure 6. Survival rate of business births after 1, 2 and 5 years
As a percentage of the number of business births, relative to the EU-27, relevant market sector, 2023.



Source: Eurostat, DNB calculations.
Note: The left-hand panel shows, for each EU-27 country, the percentage of firms still active one year after entry, expressed as a percentage of the number of start-ups at time 0 (the survival rate). The middle and right-hand panels show the survival rate after two and five years, respectively. The outcomes are shown as a heatmap, with a colour scale from green (high percentage) to red (low percentage). The blue shaded rectangle shows the unweighted EU-27 average and the percentage for the Netherlands (NL); the figure in parentheses indicates the position of the Netherlands within the EU-27, ranked from high to low.

The Netherlands has a relatively high survival rate for start-ups without employees. In the Netherlands, the survival rate of start-ups is strongly related to initial size: the larger the firm, the greater the probability that it survives. This applies both in the Netherlands and in Europe (Figure 7). The survival rate of start-ups without employees is about 13 percentage points higher in the Netherlands after five years than the EU average. These relatively high survival rates among start-ups are not a recent phenomenon in the Netherlands. Even before the COVID pandemic, they were clearly higher than in other EU countries, especially among start-ups without employees.

Figure 7. Survival rate of business births, by size class
As a percentage of the number of business births, relative to the EU-27, relevant market sector, 2023.



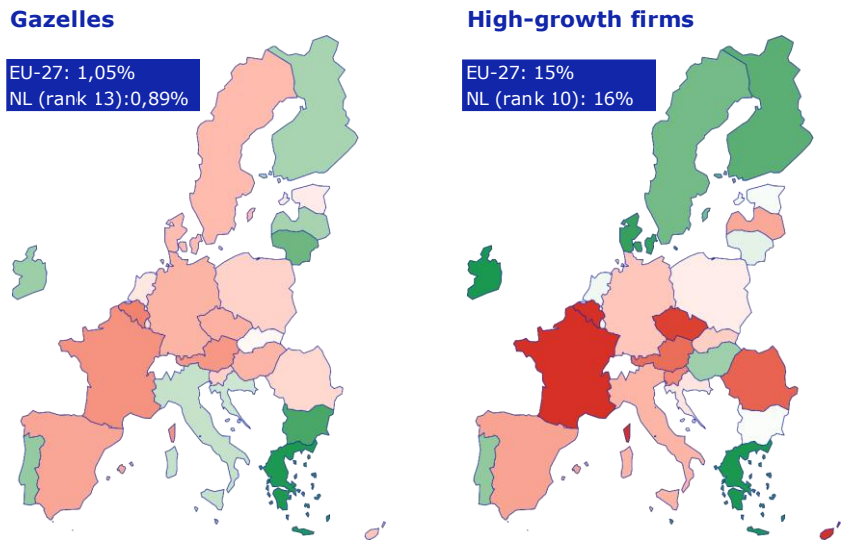
Source: Eurostat, DNB calculations.
Note: The figure shows the survival rate of newly created firms in the years after entry for the Netherlands (green line) and the EU-27 average (blue line), broken down by size class at entry. From left to right, firms are distinguished as having 0 employees, 1 to 4 employees, 5 to 9 employees, and 10 or more employees. The green numbers at the Dutch observations indicate, for each year and indicator, the position of the Netherlands within the EU-27, ranked from high to low.

On balance, Dutch business dynamics among start-ups are mainly determined by firms without employees that barely scale up and remain active for a relatively long time. The relevant market sector is highly fragmented: a large share of entry and exit takes place among very small firms, while employment and growth are concentrated in a relatively small group of larger firms. External dynamics are limited, mainly because of the low death rate and the large share of one-person businesses among start-ups. At the same time, firms that start with employees show above-average internal dynamics, and firms that once pass the threshold of ten employees grow relatively quickly. Dynamics among start-ups in the Netherlands are therefore mainly characterised by high survival and gradual scaling up. Selection and reallocation through entry and exit play a more limited role.

At the same time, the percentage of fast-growing existing firms in the Netherlands is around the European average. The share of young high-growth firms (Gazelles) in the Netherlands is around the European average (Figure 8). In the Baltic states, Portugal, Finland and Greece, the growth of these Gazelles is clearly higher. The Netherlands also has an average share of so-called high-growth firms. In addition to Gazelles, this group also includes firms older than five years. Once Dutch firms have reached the threshold of ten employees, they therefore grow relatively quickly. In the Netherlands, however, relatively few firms reach this threshold because they often start very small.

Figure 8. High-growth firms: Gazelles and high-growth enterprises

As a percentage of the total number of firms, relevant market economy, 2023.



Source: Eurostat, DNB calculations.
Note: The right-hand panel shows, for each EU-27 country, the number of high-growth firms as a percentage of the total number of firms. A high-growth firm is a firm with average annual growth in the number of employees of more than 10% over a three-year period (t-3 to t) and at least 10 employees in t-3. The left-hand panel shows, for each EU-27 country, the number of Gazelles as a percentage of the total number of firms. The outcomes are shown as a heatmap, with a colour scale from green (high percentage) to red (low percentage). The blue shaded rectangle shows the unweighted EU-27 average and the percentage for the Netherlands (NL); the figure in parentheses indicates the position of the Netherlands within the EU-27, ranked from high to low.

Although the conditions for growth are present, a very large share of start-ups remains small. The Netherlands' middle position regarding high-growth firms implies that the conditions for further growth are in place. This is also evident from earlier policy evaluations of entrepreneurship and innovation policy, which conclude that the Netherlands has a broad set of instruments addressing recognised market failures, such as knowledge spillovers in innovation and financing constraints for firms (De Jong et al., 2025; Ministry of Finance, 2024). At the same time, the limited further growth of start-ups without employees indicates that policy aimed at start-ups and renewal has only a limited effect on structural dynamics.

This pattern is related to institutional incentives that make small-scale entrepreneurship relatively attractive. Evaluations show that tax advantages for self-employed workers and small firms are only modestly effective in stimulating entrepreneurship with clear social value added. In practice, tax schemes mainly provide generic incentives for self-employment (Witteman et al., 2017; Schwartz et al., 2024; and Ministry of Finance, 2015). It is consistently concluded that these schemes more often function as income support than as a driver of firm growth, investment or innovation. Because the schemes also distort choices in the labour market, caution is warranted. The choice for self-employment is not driven solely by efficiency and personal preferences, but also by tax incentives. In that light, the ongoing reduction of the self-employed person's allowance is a sensible step.

1.3 The Netherlands has moderate business dynamics in a European perspective

Total dynamics can be described using two indicators. The first dimension is external dynamics: the degree of market access and selection, measured by the birth rate, the death rate and the turnover rate of firms. The second dimension is internal dynamics: the ability to scale up within the market, measured by the share of high-growth firms and the average growth of start-ups after one and five years. Box 1 explains the construction of the indicator.

In countries including Germany, Belgium, Italy and Spain, business dynamics are rigid. Figure 9 shows the relationship between internal and external business dynamics in the relevant market sector for each EU-27 country. In the bottom-left of Figure 9 are countries that can be characterised as rigid markets; both external and internal dynamics are relatively low. In these countries, the turnover rate is limited: there is little entry and exit, and existing firms scale up only to a limited extent. This points to a low degree of reallocation of capital and labour and a market environment that renews itself only slowly. This group includes Belgium, Czechia, Italy and Greece, and to a lesser extent Spain and Germany.

In countries including Estonia, Lithuania, France and Portugal, there is a great deal of entry and exit but limited further growth. In the top-left of Figure 9 are countries that can be characterised as "open market, low growth". Here, entry and exit rates are relatively high, indicating open markets and active selection, but these dynamics do not translate sufficiently into sustained firm growth. Start-ups often do not grow structurally, and the share of high-growth firms remains limited, so many experiments take place without leading to lasting transformation.

Box 1. Construction of indicators for external and internal dynamics

External dynamics

External dynamics measure the degree of market access and selection. They consist of three variables: the birth rate (entry), the death rate (exit) and the turnover rate (entry + exit). Because the turnover rate summarises the total renewal intensity of a market, it is weighted more heavily than the separate inflow and outflow measures. Specifically, the turnover rate receives a weight of 0.5, while entry and exit each receive a weight of 0.25. This choice prevents entry and exit from being counted twice in the composite index, while keeping the core of external dynamics - the extent to which firms enter and leave the market - central. The higher weight assigned to the turnover rate therefore underlines the importance of total market renewal over the individual components.

Internal dynamics

Internal dynamics measure the ability of firms to scale up within the market. They consist of three equally weighted variables: the share of high-growth firms, the average growth of start-ups after one year and the average growth of start-ups after five years. This captures both early market traction and sustained scaling up over a longer period.

Transformation of variables

For each indicator, the average is calculated by country and industry over the selected years (2019-2023), with industries defined as all SBI 1-digit industries within the relevant market sector. These averages form the starting point for the comparison. To dampen outliers and increase comparability, the indicators are normalised on the basis of the distribution within a reference group of EU countries.

The lower and upper bounds of the normalisation are determined for each indicator on the basis of the 5th and 95th percentiles, calculated at the SBI 1-digit level. This aggregation level is used because it is available for all countries and therefore provides a stable and consistent basis for determining the boundaries. Values are then scaled using min-max normalisation and capped so that scores lie between 0 and 1: 0 represents a relatively low position (≤p5), 1 a relatively high position (≥ p95), and 0.5 a middle position within the usual European range. As a result, the quadrant classification reflects relative differences within Europe without extreme values having a disproportionate effect on the outcomes.

Classification of high-tech and low-tech industry and services

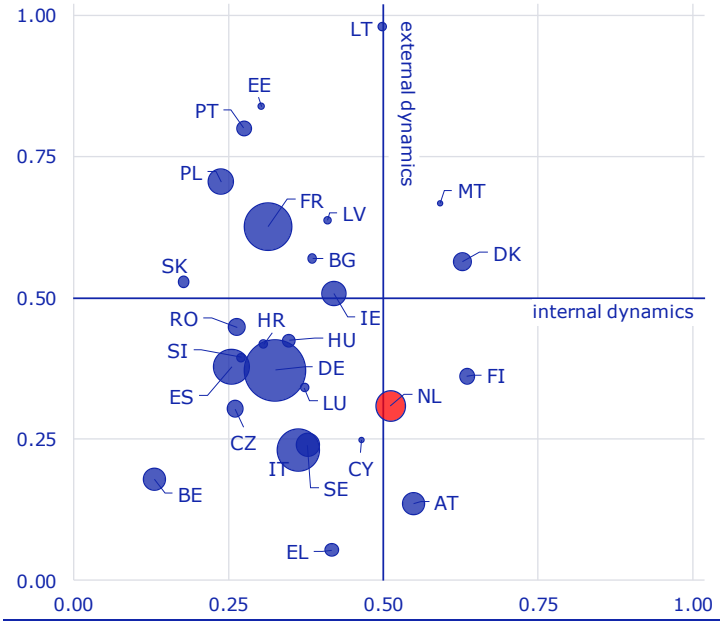
The Eurostat classification is used to delineate high-tech and low-tech industry and services (Eurostat, 2024). Eurostat classifies industrial sectors on the basis of technological and R&D intensity. Services are classified on the basis of the share of tertiary-educated workers within industries.

Within industry, Eurostat distinguishes four technology classes: high-technology, medium-high-technology, medium-low-technology and low-technology. In this analysis, high-tech industry is defined as industries falling under high-technology and medium-high-technology (SBI codes 20-21 and 26-30). Low-tech industry comprises industries falling under medium-low-technology and low-technology (SBI codes 10-19, 22-25 and 31-32). Within the services sector, Eurostat distinguishes, among other categories, high-tech knowledge-intensive services and less knowledge-intensive market services. These categories are used respectively as measures of high-tech services (SBI codes 59-63 and 72) and low-tech services (SBI codes 45-47, 49, 52, 55-56, 68, 77, 79, 81-82 and 95).

Countries such as the Netherlands, Finland, Sweden and Austria have relatively closed markets, but scaling up does take place within existing firms. In these countries, external dynamics are relatively low, while there is clear scaling up within existing firms. Dynamics are concentrated within a limited group of firms that successfully grow further. This may point to strong economies of scale, but possibly also to entry barriers that make the market less open to new entrants. Internal dynamics in the Netherlands are average to slightly above average. Dutch start-ups with one or more workers do grow relatively quickly, but this is partly offset by the very moderate growth of the large group of starting one-person businesses and a middle-ranking position regarding high-growth firms.

Denmark, Malta and Latvia have the healthiest dynamics in Europe. In these countries, in the top-right of Figure 9, a high degree of entry and exit goes hand in hand with a relatively large share of high-growth firms and sustained further growth of start-ups. Market dynamics genuinely translate here into scaling up among successful firms and into clear shifts of capital and labour towards fast-growing firms, which characterises this quadrant as a relatively healthy form of business dynamics.

Figure 9. Internal and and external business dynamics
Scaled from 0 to 1, relevant market sector, average 2019-2023.



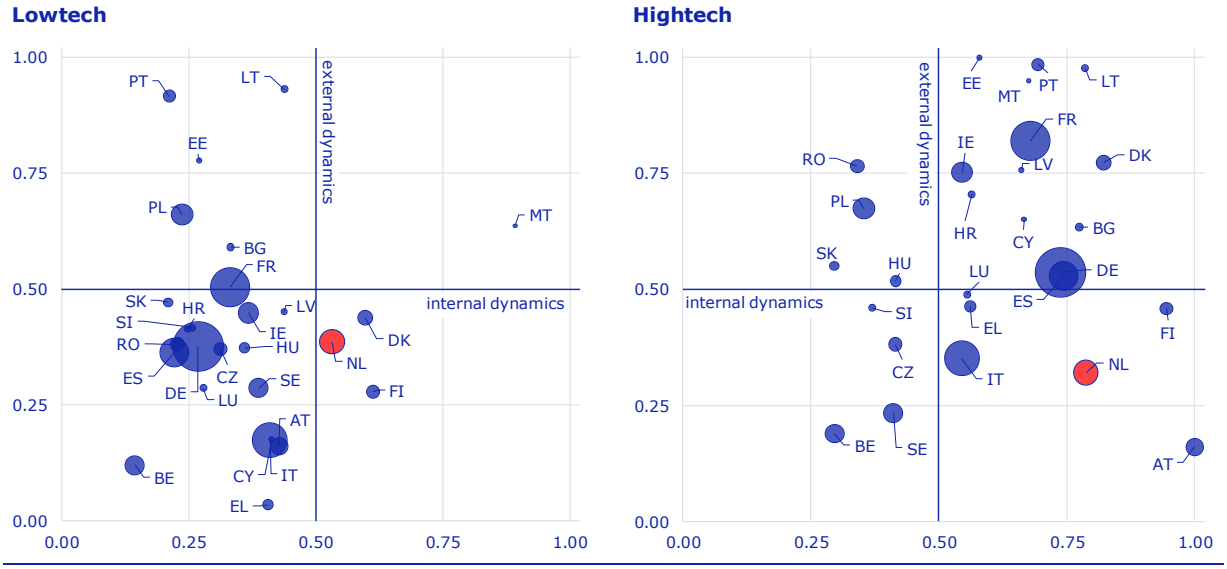
Source: Eurostat, DNB calculations.
Note: Internal and external business dynamics on a scale from 0 to 1 (see Box 1 for an explanation). The size of the circles indicates the country's relative share in value added within the EU-27; the Netherlands is shown in red. The country codes used are: AT (Austria), BE (Belgium), BG (Bulgaria), CY (Cyprus), CZ (Czechia), DE (Germany), DK (Denmark), EE (Estonia), EL (Greece), ES (Spain), FI (Finland), FR (France), HR (Croatia), HU (Hungary), IE (Ireland), IT (Italy), LT (Lithuania), LU (Luxembourg), LV (Latvia), MT (Malta), NL (Netherlands), PL (Poland), PT (Portugal), RO (Romania), SE (Sweden), SI (Slovenia) and SK (Slovakia).

In low-tech services, many EU countries are characterised by a combination of limited market movement and little scaling up. Figure 10 shows that a large share of countries is located below and to the left of the EU average, pointing to low entry and exit and a limited ability of firms to grow further (see Box 1 for an explanation of the classification into high-tech and low-tech services and industry). Business dynamics often remain stuck in small-scale activity here, with limited shifts of capital and labour between firms and little structural renewal. Where external dynamics are higher in some countries, they usually do not translate sufficiently into sustained growth, because start-ups and high-growth firms play only a limited role. These outcomes are consistent with the broader discussion that growth and renewal in Europe lag behind mainly in less knowledge-intensive services, where economies of scale and technological breakthroughs are more limited.

In high-tech services, many countries show healthy dynamics, but in the Netherlands external dynamics are relatively low. Many countries are located in the top-right of Figure 10, where relatively high entry and exit coincide with a larger share of high-growth firms and sustained further growth of start-ups. This indicates a stronger interaction between experimentation and scaling up. In the Netherlands, by contrast, scaling up coincides with relatively closed market dynamics. This is relevant in light of recent policy reports, which emphasise that Europe, and the Netherlands as well, are losing ground relative to other parts of the world precisely in high-tech and AI-driven services (see, among others, Draghi, 2024; Letta, 2024;

and Wennink, 2025). Entry and exit in the services sector are therefore low across a broad front and are not confined to either the low-tech or the high-tech services sector. The Baltic states perform remarkably well and do show healthy dynamics.

Figure 10. Internal and external business dynamics in the services sector
Scaled from 0 to 1, relevant market sector, average 2019-2023.

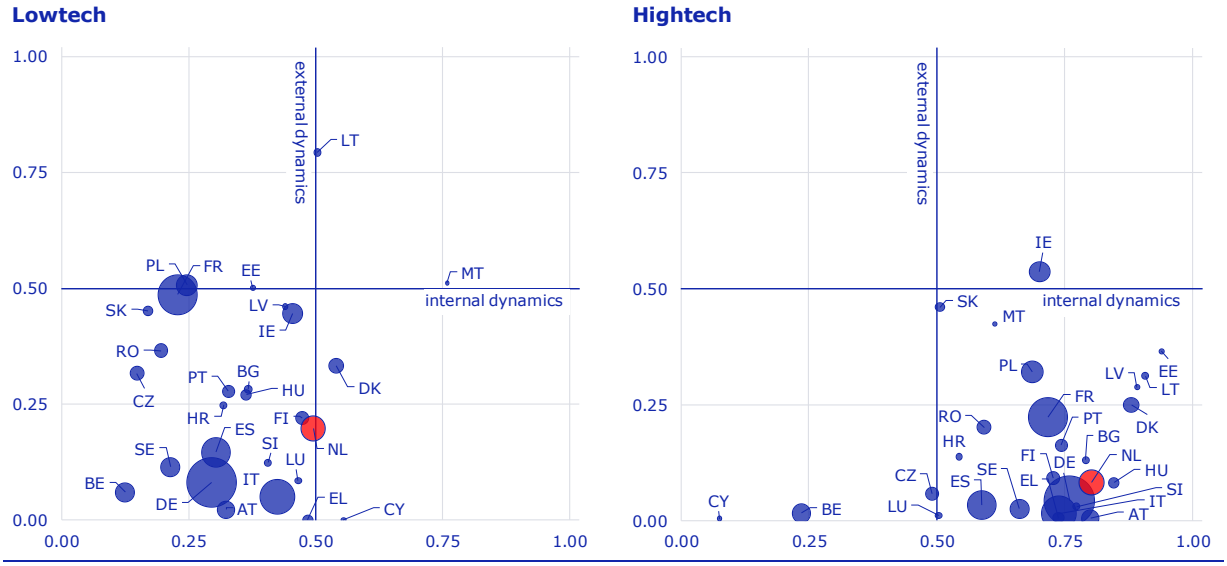


Source: Eurostat, DNB calculations.
Note: Internal and external business dynamics on a scale from 0 to 1, averaged over 2019-2023. The left-hand panel shows internal and external dynamics for the high-tech services sector, the right-hand panel for the low-tech services sector. For an explanation of the 0-1 scaling and the definitions of the high-tech and low-tech services sector, see Box 1. The size of the circles indicates the country's relative share in value added within the EU-27; the Netherlands is shown in red. The country codes used are: AT (Austria), BE (Belgium), BG (Bulgaria), CY (Cyprus), CZ (Czechia), DE (Germany), DK (Denmark), EE (Estonia), EL (Greece), ES (Spain), FI (Finland), FR (France), HR (Croatia), HU (Hungary), IE (Ireland), IT (Italy), LT (Lithuania), LU (Luxembourg), LV (Latvia), MT (Malta), NL (Netherlands), PL (Poland), PT (Portugal), RO (Romania), SE (Sweden), SI (Slovenia) and SK (Slovakia).

Dynamics in low-tech industry are often rigid and are therefore comparable to low-tech services in the EU. Figure 11 shows that most EU countries are located to the left of the EU average for internal dynamics, often combined with low external dynamics. This points to strongly rigid business dynamics. There is a stable firm population in which capital and labour shift only to a limited extent towards more productive firms, and the production structure renews itself only slowly. Where external dynamics are higher in some countries, the effect on scaling up remains limited. Entry and exit there do not automatically coincide with a higher level of internal dynamics.

High-tech industry has higher internal dynamics on average, but here too renewal through new firms is very limited. In the right-hand panel of Figure 11, many countries cluster to the right of the EU average for internal dynamics, pointing to a relatively strong ability to scale up within existing firms. At the same time, external dynamics remain limited in many cases, suggesting that growth mainly takes place within an established group of firms. One possible explanation is that high entry barriers, economies of scale and knowledge intensity in high-tech industry limit the inflow of new firms. International competition therefore translates mainly into scaling up and restructuring within existing firms, leading to a combination of high internal but limited external dynamics.

Figuur 11. Internal and external business dynamics in industry
Scaled from 0 to 1, relevant market sector, average 2019-2023.



Source: Eurostat, DNB calculations.
Note: Internal and external business dynamics on a scale from 0 to 1, averaged over 2019-2023. The left-hand panel shows internal and external dynamics for high-tech industry, the right-hand panel for low-tech industry. For an explanation of the 0-1 scaling and the definitions of high-tech and low-tech industry, see Box 1. The size of the circles indicates the country's relative share in value added within the EU-27; the Netherlands is shown in red. The country codes used are: AT (Austria), BE (Belgium), BG (Bulgaria), CY (Cyprus), CZ (Czechia), DE (Germany), DK (Denmark), EE (Estonia), EL (Greece), ES (Spain), FI (Finland), FR (France), HR (Croatia), HU (Hungary), IE (Ireland), IT (Italy), LT (Lithuania), LU (Luxembourg), LV (Latvia), MT (Malta), NL (Netherlands), PL (Poland), PT (Portugal), RO (Romania), SE (Sweden), SI (Slovenia) and SK (Slovakia).

In Europe, healthy business dynamics are found mainly in high-tech services, while they are largely absent in industry, including in the Netherlands. In industry, external dynamics remain very limited: both entry and exit are low, including in technologically intensive segments. At the same time, both existing firms and recently established firms show that they are capable of growing and scaling up within the market. The core of the problem therefore does not primarily lie in a lack of entrepreneurship or growth capacity, but in the weak functioning of the selection and replacement process. The mechanism of creative destruction appears insufficiently powerful: existing firms barely leave the market, leaving reallocation limited. This diagnosis applies in particular to the Netherlands, where dynamics in both services and industry mainly come from the growth of existing firms. More renewal by new and fast-growing players is therefore essential in order to create room, also in high-tech industry, for structural reallocation and lasting productivity growth.[2]

[2] The appendix to this analysis presents the dynamics by country for all industries (at the SBI 1-digit level)..

2. Market concentration has increased slightly, markups are stable

Low business dynamics are often linked in the literature to increasing market power and declining competitive pressure. When entry is limited and market positions are challenged less often, this can lead to higher concentration, higher markups and ultimately lower productivity growth. These mechanisms play a central role in the international debate on market power and macroeconomic outcomes (De Loecker et al., 2020 and Diez et al., 2018).

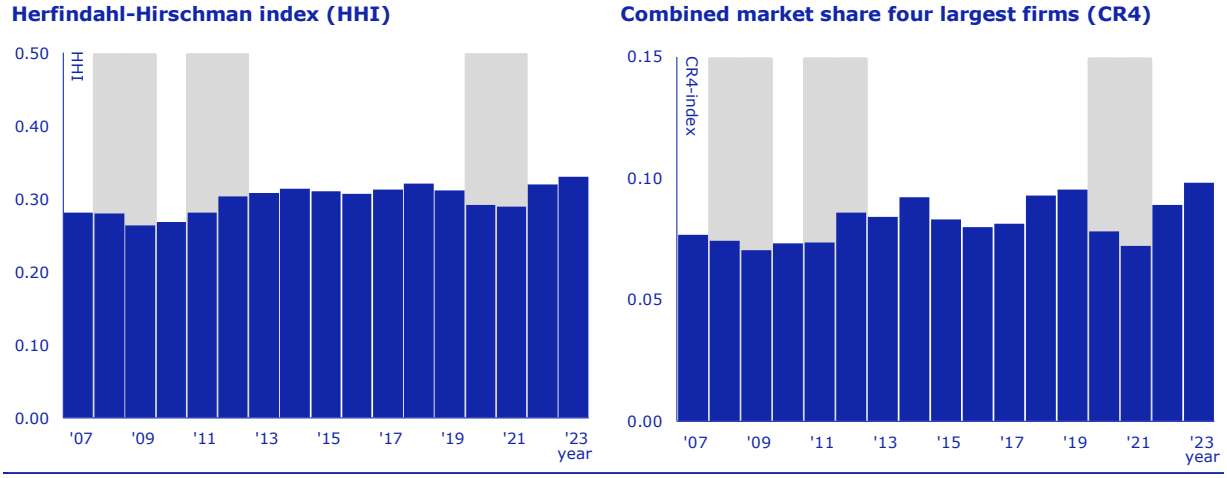
This chapter examines the extent to which these patterns are also visible in the Netherlands. By analysing developments in market concentration, markups and the relationship between them, it assesses whether the relatively low business dynamics in the Netherlands are accompanied by rising market power, or instead coincide with other dynamic mechanisms, such as the redistribution of market share under competitive pressure.

2.1 Market concentration is rising in the Netherlands

Since 2007, market concentration in the Netherlands has increased slightly. This is shown by the two concentration measures used: the combined market share of the four largest firms (CR4) and the Herfindahl-Hirschman Index (HHI), which is calculated as the sum of the squared market shares of all firms. The CR4 and HHI range between 0 and 1. The closer the value is to 1, the more concentrated the market. Figure 12 shows the two market-power measures. The CR4 in the market sector increased from 0.28 to 0.33 over 2007-2023. Over the same period, the weighted average HHI also increased, from 0.08 to 0.10. These outcomes are in line with recent findings by the Netherlands Authority for Consumers and Markets for the period 2011-2023, although the underlying methodology differs slightly (Netherlands Authority for Consumers and Markets, 2026).[3]

[3] In contrast to the Netherlands Authority for Consumers & Markets (ACM), we observe only Dutch private and public limited liability companies (BVs and NVs) and consider only firms with more than two employees. Owing to the use of NFO data, concentration is measured at the enterprise-group level, which may comprise multiple business units (although the vast majority of firms consist of a single business unit). The ACM measures concentration at the business-unit level. Finally, we compute concentration measures at a more detailed industry level (SBI 3). These factors lead to higher levels of the concentration measures compared with those reported by the ACM).

Figure 12. Markt concentration in the Netherlands
Indices (between 0 and 1), weighted average, relevant market sector.

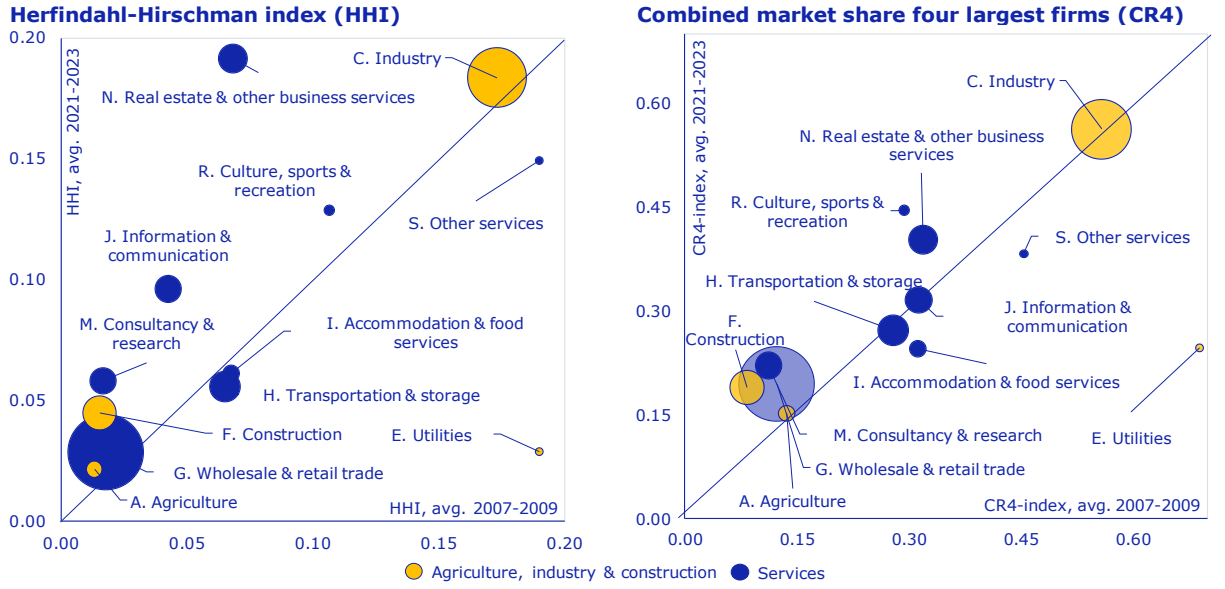


Source: Microdata Statistics Netherlands, DNB calculations.
Note: The shaded areas mark recession periods: the financial crisis (2008-2009), the EU debt crisis (2011-2012) and the COVID pandemic (2020-2021). The Herfindahl-Hirschman Index (HHI) is calculated as the sum of the squared market shares of all firms within an industry. The CR4 measure refers to the combined market shares of the four largest firms within an industry. Both concentration measures are weighted by firm turnover.

At industry level, market concentration is particularly high in manufacturing, rental and leasing of movable property and other business services, and culture, sports and recreation.[4] Figure 13 shows the average market concentration of the different industries for the years 2007-2009 versus 2021-2023. Market concentration is calculated at a detailed industry level (SBI 3-digit) in order to delineate the domestic market as well as possible. For readability, the outcomes are presented at a higher and more transparent level (SBI 1-digit). The totals at this level are calculated by weighting the underlying industries by turnover. Within manufacturing, market concentration is particularly high in the manufacture of electrical equipment, the electrotechnical industry, and the motor-vehicle and trailer industry. Several highly concentrated service industries are also visible, such as rental and leasing of real estate and other business services, especially in the travel industry, and the culture, sports and recreation sector, especially lotteries and gambling. Between 2007-2009 and 2021-2023, market concentration changed only slightly in most industries. Exceptions are other services, utilities and, to a lesser extent, accommodation and food services, where market concentration declined.

[4] Business units within an enterprise group may be active in different industries. The enterprise group is assigned to the industry of the business unit that employs the largest number of workers. In some cases, however, this leads to incorrect industry classifications and distorted concentration indicators. For this reason, turnover for enterprise groups with more than one business unit is capped at the 99th percentile of turnover within the assigned industry. While this method generally corrects erroneous outliers, in a small number of cases it results in an underestimation of market concentration.

Figure 13. Market concentration in the Netherlands, by industry
Indices (between 0 and 1), weighted average, relevant market sector.



Source: Microdata Statistics Netherlands, DNB calculations.
Note: The Herfindahl-Hirschman Index (HHI) is calculated as the sum of the squared market shares of all firms within an industry. The CR4 measure refers to the combined market shares of the four largest firms within an industry. Both concentration measures are weighted by firm turnover. For readability, the HHI scale in the chart is limited to [0.00; 0.20]; for S. Other services and E. Utilities, the HHI index in 2007-2009 averaged 0.32 and 0.64, respectively. The CR4 scale is limited to [0.0; 0.7], while the CR4 for E. Utilities averaged 0.86 in 2007-2009. The size of the circles indicates the industry's relative share in turnover in the Netherlands.

The increase in market concentration in the Netherlands is relatively modest compared with developments abroad. Research shows that market concentration is increasing in both the United States and the EU (see for example Bajgar et al., 2025; Amiti and Heise, 2025; Calligaris et al., 2024b; and Bighelli et al., 2023). There are, however, differences in the pace of increase, with market concentration rising faster in the United States and Canada than in the EU (Bajgar et al., 2025). From an international perspective, the increase in market concentration in the Netherlands is relatively modest, although comparisons are made somewhat more difficult by differences in methodology and data (see Box 2).

The level of market concentration is also low compared with other European countries. Calligaris et al. (2024b) find, for a number of European countries, an average CR4 (unweighted) of more than 0.4 for industries where competition takes place at national level, measured using a mix of SBI 3-digit and SBI 2-digit industry levels. In the Netherlands, the concentration level for these industries is around 0.3. This means that the top four firms together have more than 10 percentage points less market share than the EU average. For industries that compete at European or global level, making a comparison is more difficult (see Box 2).

Box 2. Measurement problems in market concentration

Measuring market concentration is difficult because of market-definition problems. In this study, market concentration is measured on the basis of turnover shares of firms established in the Netherlands within an industry (SBI 3-digit) at national level. This delineation has limitations. If firms mainly compete with foreign suppliers, measured market concentration may be too high. If there is only local or regional, rather than national, competition, market power may instead be underestimated. In addition, an industry classification usually does not coincide perfectly with the relevant market for a product or service and any substitutes (ACM, 2026 and Shapiro, 2018). When this study refers to market concentration, it therefore strictly refers to the concentration of economic activity within a narrowly defined industry, and not necessarily to the definition of the relevant market in the competition-law sense.

International comparisons of market concentration are difficult and must be interpreted with caution. Differences in methodology and data play a role, but so too does the inevitable imperfect definition of markets. A classification at the national industry level may, in small open economies such as the Netherlands, relatively often lead to an overestimation of market concentration compared with larger countries, because a larger part of competition takes place across the border (De Ridder, 2025). In addition, changing international competition can distort comparability over time. Amiti and Heise (2025), for example, show that the rise in market concentration in the United States is mitigated when the increase in imports is taken into account. Calligaris et al. (2024a) distinguish industries by the level at which firms compete: national, European or global.

An increase in market concentration does not automatically indicate an increase in market power. Although higher concentration is often associated with market power and may lead, among other things, to entry barriers, switching barriers, high prices, less innovation and suboptimal production levels, this is not always the case (Bresnahan and Reiss, 1991). Because of economies of scale, a certain degree of market concentration can even be efficient and lead to lower prices for consumers, without firms thereby achieving structurally higher profits. Even within well-defined markets, market concentration therefore does not necessarily indicate limited competition. Competitive pressure can be strong precisely among a small number of large players (Shapiro, 2018 and Demsetz, 1973). An illustrative example is the dairy industry: despite the dominance of a few large players, margins are relatively low. This is related to the homogeneous nature of the product and the high degree of price transparency, which promotes price competition.

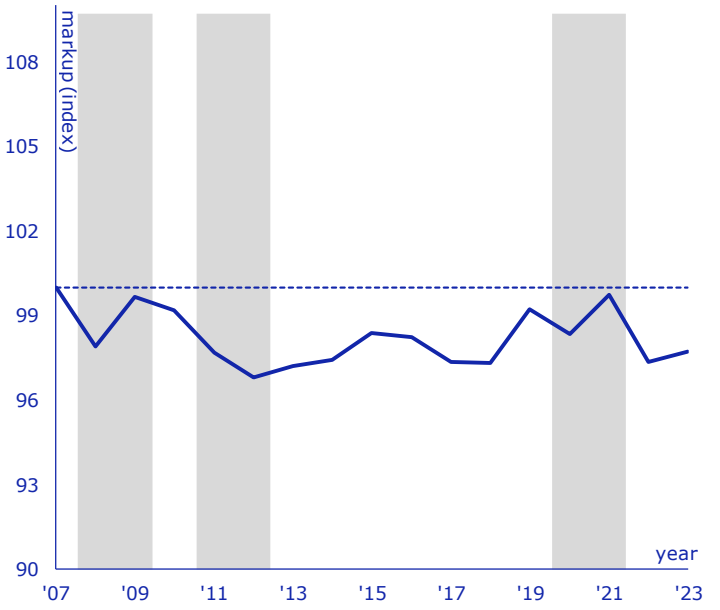
2.2 Markups have been relatively stable for years

In the Netherlands, markup developments are stable and the level is moderate. The markup reflects the ratio between the selling price and the marginal cost of a product: a markup of 1 means that prices exactly cover marginal costs, while a higher markup indicates price-setting above marginal cost. This may indicate market power, but may also reflect fixed costs that need to be covered (Berry et al., 2019). Our preferred method for estimating markups follows Van Heuvelen et al. (2019) and is based on earlier work by Olley and Pakes (1996) for production-function estimation and De Loecker and Warzynski (2012) for measuring the markup. According to this method, the average markup between 2007 and 2023 was relatively stable, with slight fluctuations around 1.08. This level is moderate in an international perspective and does not point to exceptionally high margins.[5] However, caution is required when

[5] An alternative estimation method proposed by De Loecker et al. (2026) yields a higher level, with an average markup of around 1.16. This level is also moderate by international standards. According to this method, markups have increased slightly

interpreting and internationally comparing absolute levels, since these depend strongly on the chosen method, data and sector structure and are sensitive to measurement error (Raval, 2023 and De Ridder et al., 2026). Since growth rates can be estimated more accurately, this analysis focuses on the development of markups over time.[6]

Figure 14. Markups in the Netherlands
Index (2007=100), weighted average, relevant market sector.



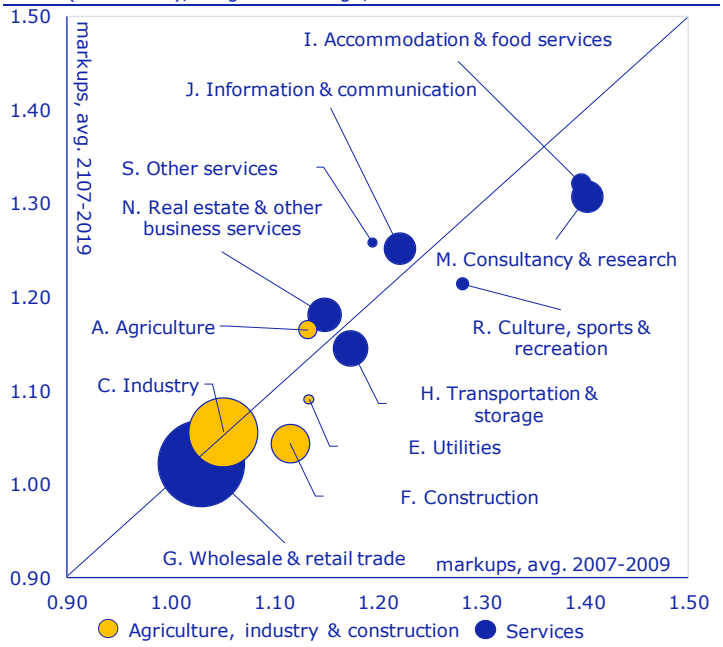
Source: Microdata Statistics Netherlands, DNB calculations.
Note: Shaded areas indicate recessions: the financial crisis (2008-2009), the EU debt crisis (2011-2012) and the COVID pandemic (2020-2021). The blue horizontal dotted line crosses the y-axis at 100. The blue line shows the average weighted markup. The markup is calculated according to the method of De Loecker and Warzynski (2012). See the appendix for more details.

Markups are highest in accommodation and food services, consultancy and research, and other services, despite a slight decline relative to 2007-2009. Figure 15 shows markup developments by industry, comparing the average weighted markup in 2021-2023 with that in 2007-2009. Markups are calculated at industry level (SBI 3-digit). Figure 15 shows in particular that some service industries have relatively high markups, although these have declined slightly compared with 2007-2009. In wholesale and retail trade and in manufacturing, markups are generally lower. This may be related to the more homogeneous nature of products and the relatively strong international competition in these sectors.

since 2012, which is in line with earlier findings by the Netherlands Authority for Consumers & Markets (2026). Nevertheless, even under this method the increase remains very limited. For more information on the method used to calculate markups, see the appendix to this analysis.

6 Although the production-function approach may not yield a pure estimate of levels, the estimates of growth rates remain unbiased. This is because the output elasticity is assumed to be constant and time-invariant biases drop out when taking differences. For this reason, this analysis focuses on the evolution of markups. See De Ridder et al. (2026) for an extensive discussion of the possibility of estimating markups using revenue data.

Figure 15. Markups in the Netherlands, by industry
Index (2007=100), weighted average, relevant market sector.



Source: Microdata Statistics Netherlands, DNB calculations.
Note: Markups are calculated according to the method of De Loecker and Warzynski (2012). The size of the circles indicates the industry's relative share in turnover in the Netherlands. See the appendix for more details.

Markup developments in the Netherlands differ from those in the United States and, though to a lesser extent, the European Union. Whereas a pronounced and long-lasting increase in markups is reported for the United States (De Loecker et al., 2020 and Autor et al., 2020), and a moderate increase is found for many EU countries (including Licchetta and Mattozzi, 2026; Calligaris et al., 2024c; and Diez et al., 2018), average weighted markups in the Netherlands remain largely stable over 2007-2023. This suggests that the underlying market dynamics in the Netherlands differ from those in other advanced economies.

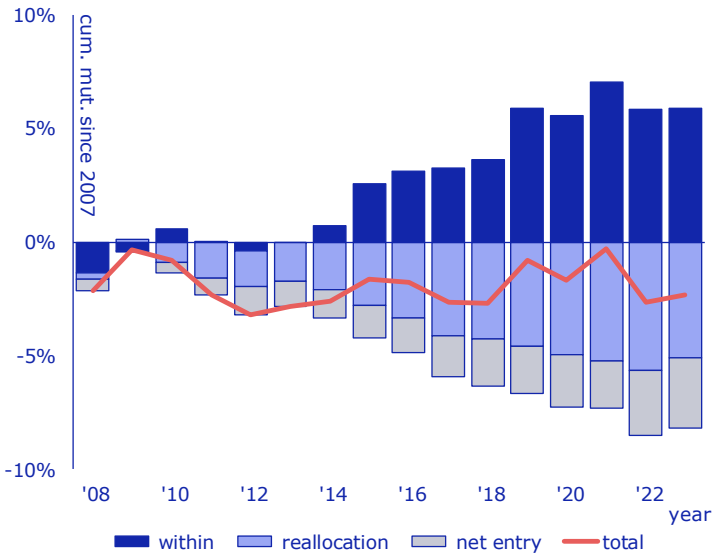
2.3 Stable markups through redistribution of market shares

The increase in markups in the Netherlands remains limited because of shifts in market shares between existing firms. Figure 16 shows a decomposition of the markup for the market sector in the Netherlands (De Loecker et al., 2020). The change in the average markup is decomposed into a within effect (changes within firms), a reallocation effect (shifts in market shares) and a net entry effect (the contribution of entry and exit).[7] This decomposition shows that a slight increase in markups within firms (the within effect) is largely offset by a shift of market share towards firms with relatively low markups (the reallocation effect). The effect of entry and exit (the net entry effect) on the average markup is, on average, limited.

[7] This concerns the entry and exit of firms in the sample. Exit does not necessarily have to result from closure or bankruptcy.

This pattern is consistent with the broader picture of Dutch business dynamics. Entry and exit are concentrated mainly among very small firms with limited economic weight, while changes in market shares and concentration mainly take place among existing, larger firms. As a result, low dynamics at the bottom of the firm distribution have only a limited effect on the development of market concentration and market power. This is consistent with the earlier finding that external dynamics in the Netherlands are relatively low, while the growth of existing firms (internal dynamics) is around the EU average.

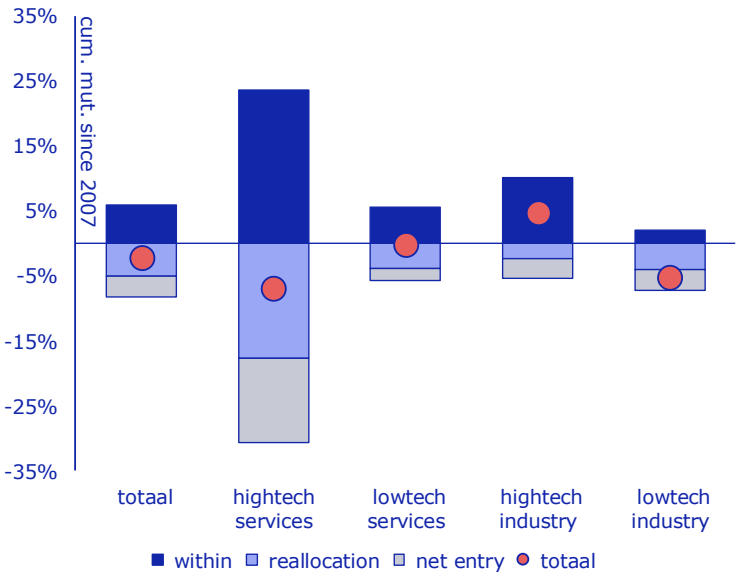
Figure 16. Decomposition of markups, total
Cumulative change since 2007 (in %), relevant market sector.



Source: Microdata Statistics Netherlands, DNB calculations.
Note: The decomposition of markups is calculated according to the method of De Loecker et al. (2020). The level of markups is calculated according to the method of De Loecker and Warzynski (2012). See the appendix for more details.

The same mechanism is visible within high-tech industries as well, in contrast to the United States. For the United States, Autor et al. (2020) and De Loecker et al. (2020) show that the increase in markups is mainly driven by a rising market share of larger, especially technology, firms. This so-called superstar effect, whereby technology firms with high markups take an increasingly dominant position, is not visible in the Dutch data. Figure 17 shows that markups within Dutch high-tech firms (the within effect) do rise more strongly than in low-tech industries, but also that this increase is largely offset by a redistribution of market share towards existing firms with lower markups. This is particularly visible in high-tech services: despite a sharp increase in markups of existing firms (around 23 percent), the average markup declines slightly because existing firms with lower markups gain market share (the reallocation effect) and because exiting firms have higher markups than entering firms (net entry).

Figure 17. Decomposition of markups, high- vs. lowtech
Cumulative change since 2007 (in %), relevant market sector.



Source: Microdata Statistics Netherlands, DNB calculations.
Note: The decomposition of markups is calculated according to the method of De Loecker et al. (2020). The level of markups is calculated according to the method of De Loecker and Warzynski (2012). See the appendix for more details.

Large firms in the Netherlands have lower markups on average than small firms. The relationship between a firm's market share and its markup is negative in the Netherlands. This differs sharply from the United States, where the superstar effect means that large firms have higher markups on balance. A lower average markup among large firms is striking, but not unusual in Europe. For the Netherlands, this was previously established by the Netherlands Authority for Consumers and Markets (2026); for Germany by Mertens and Mottironi (2025); and Licchetta and Mattozzi (2026) find a similar result for a sample of European firms. It is possible that most Dutch firms can only obtain a large market share with a low markup, or that because of economies of scale it is optimal to expand sales by applying a lower markup. It is also possible that larger firms operate in competitive international markets, where they can apply a lower markup than in the domestic market, while smaller firms operate in niche markets with relatively high margins.

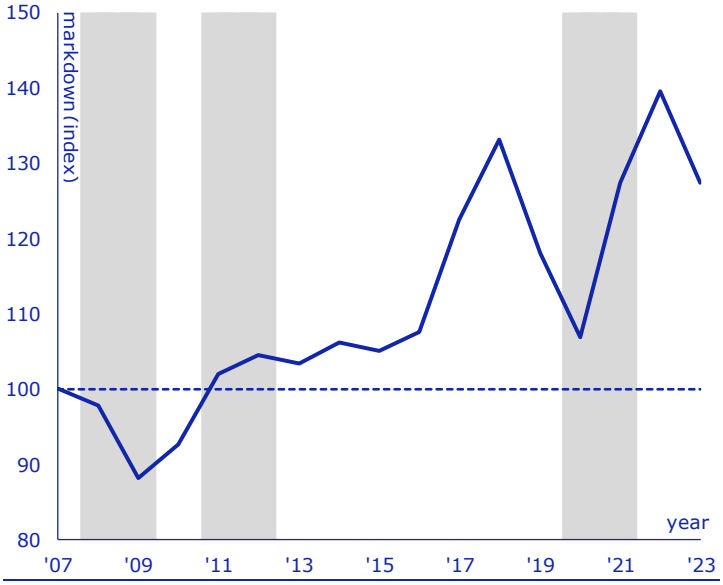
2.4 Profitability has increased, partly because of higher wage markdowns

Despite stable markups, firms' net profit margins have increased. Rising profitability, measured as net profit as a percentage of net turnover, alongside a more or less stable ratio between selling price and marginal costs, suggests that firms have managed to reduce non-marginal costs as a percentage of turnover. These may include fixed costs, such as the cost of capital. The share of the weighted average observed capital costs in total costs declined from 4.8% to 4.3% over 2007-2023 and can therefore explain

the increase in the net profit margin from 8.1% to 9.9% only in part. Moreover, other fixed costs may have increased.[8]

Another explanation that has recently received much research attention is a larger wage markdown. This appears to play a larger role behind the increase in Dutch profit margins.[9] The wage markdown, or markdown on labour, is calculated as the ratio between the marginal product of labour and the wage rate. While a high markup may indicate market power in the product market, a high markdown indicates market power in the input market, in this case the labour market. A markdown greater than one means that the firm pays the worker less than his or her marginal value added. Figure 18 shows the development of the markdown. Since 2007, the markdown has increased by 27 percent, with a peak in 2022 and a slight decline in 2023. Alongside the increase in the markdown, the net profit margin also rose sharply.

Figure 18. Markdowns in the Netherlands
Index (2007=100), weighted average, relevant market sector.



Source: Microdata Statistics Netherlands, DNB calculations.
Note: Shaded areas indicate recessions: the financial crisis (2008-2009), the EU debt crisis (2011-2012) and the COVID pandemic (2020-2021). The blue horizontal dotted line crosses the y-axis at 100. The blue line shows the average weighted markdown. The markdown is calculated according to the method of Yeh et al. (2022). See the appendix for more details.

The observed increase in markdowns is consistent with several trends that have weakened the bargaining power of Dutch workers in recent decades. It is plausible, for example, that declining trade union membership and globalisation, and hence the possibility of offshoring, have weakened the position of workers in developed countries (Abraham et al., 2009; Elsby et al., 2013; and Krueger, 2018). In the Netherlands too, trade union membership as a percentage of workers has fallen sharply in recent decades (CBS, 2025). Colciago et al. (2020) argue that the increase in turnover concentration in the

[8] For other fixed costs, such as overhead costs, we do not have firm-level data. De Loecker et al. (2020) show that the share of overhead costs has exhibited an upward trend in the United States. De Ridder (2024) shows that the share of total fixed costs has increased since 1995 in both the United States and France, and links this development to the rise in intangible assets. In both studies, the observed increase flattens out around 2005–2010 and may even reverse into a decline.

[9] Markdowns are calculated following the method of Yeh et al. (2022), correcting for quadratic adjustment costs. Olley and Pakes (1996) is followed to estimate the output elasticity of labour, which is required for the calculation of markdowns.

Netherlands has contributed to a higher markdown because large firms have more purchasing power. This is consistent with similar findings for other countries (Azar et al., 2022 and Bassanini et al., 2026). On the other hand, workers may also have become more mobile because search costs have fallen as a result of technological improvements such as the internet (Karabarbounis, 2024). For the Netherlands, however, Adema et al. (2025) find declining job dynamics. It is also possible that non-financial working conditions have come to play a more important role. Barrero et al. (2022) and Bagga et al. (2025), for example, argue that since the pandemic workers have attached greater value to opportunities to work from home, which may have dampened average wage growth because firms offering such opportunities allowed wages to grow less strongly.[10] Finally, the rising markdown is also consistent with the declining labour income share in the Netherlands (Van Moock and Hebbink, 2026).

Our results suggest that large firms in the Netherlands compensate for a lower markup with a higher markdown. This pattern is consistent with recent findings in the literature. Mertens and Mottironi (2025), for example, show for Germany that lower markups at large firms coincide with higher markdowns, and Ren and Zhang (2025) find a similar result for the United States. In the Netherlands too, the relationship between firm size and markup is clearly negative, while the relationship between firm size and markdown is positive. This suggests that large firms realise their profitability to a greater extent through purchasing power in the labour market than small firms do. The purchasing power of large firms may partly stem from non-financial working conditions for employees that are associated with firm size.

2.5 Concentration and markups are not unambiguously related

In the Netherlands, an increase in concentration is associated with a decline in the average markup in internationally competitive industries. This is a fairly robust finding in a regression analysis carried out by us (see the appendix to this analysis for more details). In open industries, an increase in domestic market concentration may not be a sign of increased market power, but rather the result of international competition. Competitive pressure drives the least productive firms out of the market and shifts market share to larger firms that operate more efficiently, partly because of economies of scale. As an industry becomes more shielded from international competition, higher concentration no longer coincides with lower markups; in almost closed sectors, the relationship even reverses. This suggests that concentration increases here are less often the result of competitive reallocation and more often related to structural factors such as entry restrictions or local market power.

A comparable relationship has previously been found for the United States in the 1990s and for Europe after the financial crisis. According to Covarrubias et al. (2020), before 2000, when market concentration in the United States was relatively low, the increase in concentration was mainly caused by more competition, higher investment in intangible assets and rising productivity growth among market leaders. This led to positive concentration effects. After 2000, the negative effects dominated, probably because entry became more difficult due to the more dominant position that market leaders had acquired in winner-takes-all markets. Bighelli et al. (2023) argue that the EU has mainly benefited from positive concentration effects over the past decade. The increase in concentration led to productivity gains, while markups remained constant. Well-functioning competition policy may have contributed to the fact that the

[10] In addition to non-financial benefits that are relatively inexpensive for employers (such as reputation/image, offering opportunities to work from home, and perceived job security), there are also non-financial benefits that are closer to wages and are directly linked to the amount of labour supplied, such as personal training budgets. If over time employee compensation has shifted toward such components, this may also lead to an increase in the estimated markdown. In that case, this does not directly reflect buyer power.

effects of concentration in Europe more often turn out favourably. According to Gutierrez and Philippon (2019), competition policy in the EU has been tightened, while enforcement in the United States has weakened. In an environment with weak competition policy, large firms have more room to abuse their dominant market position.

Increasing market concentration is therefore not sufficient in itself to establish competition problems. The economic meaning of concentration depends on the market environment in which it arises. In open, internationally competitive sectors, higher concentration can reflect well-functioning competition and productivity growth, while in sheltered sectors or sectors where concentration is already very high, the same development may indeed give rise to concerns about market power. This suggests that the key productivity question in the Netherlands lies less in rising market power among incumbent firms and more in whether capital and labour shift quickly enough towards more productive firms.

3. More efficient use of production factors increases welfare

Business dynamics contribute to productivity growth when capital and labour shift from less productive to more productive firms. This redistribution of resources takes place through firm entry and exit, but also through the growth and contraction of existing firms. If dynamics decline, capital and labour remain deployed for longer in low-productivity firms and productivity gains remain unused. A large literature shows that such misallocation can lead to substantial welfare losses (Hsieh and Klenow, 2009; Restuccia and Rogerson, 2008). Differences in market power and wage formation play a role here: diverging markups and markdowns influence incentives for the use of capital and labour and can mean that production factors do not end up with the most productive firms. Higher market concentration can also slow this process by reducing competitive pressure.

This chapter shows how large the problem of a less efficient use of capital and labour is in the Netherlands and how it has developed over time. It also discusses the relationship with the developments in business dynamics and market power described above. In this way, productivity developments in the Netherlands are viewed from the perspective of whether people and resources end up with the firms that can use them most productively, not only from the growth of individual firms, but precisely from the shifting of resources within the economy.

3.1 Misallocation in the Netherlands stable until the COVID pandemic

In the Dutch economy, capital and labour do not always end up with the firms that can use them most productively. This phenomenon is called misallocation. Misallocation occurs when workers, machines or investment are stuck at relatively less productive firms, while more productive firms have too little of these resources. In that case, part of the economy's potential remains unused because resources are not deployed where they yield the most.

Our estimates suggest that total factor productivity in the Netherlands could have been higher over 2007-2023 if capital and labour had flowed more quickly and consistently towards the most productive firms. In practice, misallocation may be related to various factors, such as constraints on the growth of well-performing firms, relatively slow scaling down or exit by structurally weak firms, or insufficient competition. When these processes proceed slowly, capital and labour remain tied up for longer than necessary in less productive firms.

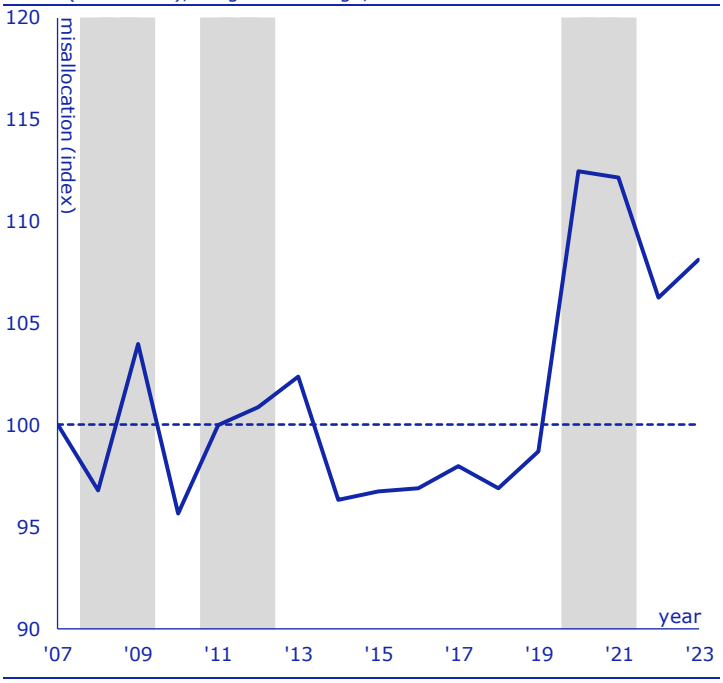
At the same time, caution is required when interpreting the results. The model used by us (Hsieh and Klenow, 2009), for example, assumes that all differences in the returns to capital and labour are the result of distortions in the capital and labour markets. In practice, however, measurement errors and simplifications in the model also play a role (David and Venkateswaran, 2019; Bils et al., 2021; Bun and De Winter, 2022; and Bun et al., 2023). The estimates therefore mainly provide an indication of possible

welfare gains in the Netherlands, and caution is required when interpreting the precise magnitude. More details on the model used are included in the appendix to this analysis.

Until the COVID pandemic, misallocation in the Netherlands remained fairly stable on balance. Figure 19 shows the development over 2007-2023, with recessions indicated by shaded areas. During the financial crisis and the subsequent European debt crisis, misallocation increased, but in the years that followed it repeatedly fell back to roughly the pre-crisis level. As a result, misallocation in 2019 was almost at the same level as in 2007. The COVID pandemic (2020-2021) is an exception. In 2020 and 2021, misallocation rose sharply, and in 2023 it was still around 8 percent higher than in 2007. A likely explanation is that the government's extensive support measures, such as wage subsidies, tax deferrals and credit guarantees, dampened the economic shock in the short term, but at the same time temporarily disrupted the normal process of adjustment and selection. As a result, less productive firms were able to continue existing for longer, and capital and labour were more often than usual deployed at firms with lower productivity.

Figuur 19. Misallocation in the Netherlands

Index (2007=100), weighted average, relevant market sector.



Source: CBS-microdata, DNB calculations.
Note: Shaded areas indicate recessions: the financial crisis (2008-2009), the EU debt crisis (2011-2012) and the COVID pandemic (2020-2021). The blue line shows the average weighted misallocation. Misallocation calculated according to the method of Hsieh and Klenow (2009). See the appendix for more details.

The speed with which resources are released for more productive use depends not only on market conditions but also on institutional frameworks. After the acute phase of the pandemic, misallocation declines slightly again. This is consistent with the phasing-out of support measures and the resumption of restructuring, growth among productive firms and exit by weaker firms. At the same time, misallocation remains clearly higher than before the pandemic, indicating that the allocation of resources has not yet fully recovered. Temporary support can be economically sensible in an acute crisis, but

institutions and rules concerning restructuring, exit and labour mobility also determine how quickly capital and labour can subsequently shift again towards more productive firms.

Bankruptcy and restructuring rules are crucial for deploying capital and labour productively more quickly. Van Solinge and Soederhuizen (2023) show that more efficient insolvency rules ensure that firms with payment problems are screened more quickly, so that capital remains tied up for less time in weak firms and can be deployed more quickly at more productive firms. The international literature shows that insolvency frameworks in countries such as the Netherlands have improved in recent years, but that this does not automatically lead to rapid reallocation of capital and labour. Especially for small firms, procedures remain relatively complex and costly, allowing capital and labour to remain tied up for longer in firms with a limited productivity contribution (Andre and Demmou, 2023; Adilbish et al., 2025).

The design of the Dutch labour market may also have played a role. The limited reallocation of capital and labour is visible not only among firms but also in job flows. Adema et al. (2025) show that the extent to which jobs are created and destroyed - the so-called job flows - fell from 17 percent in 2007 to 11 percent in 2023. At the same time, labour has more often ended up at less productive firms. On average, workers still move from less productive to more productive firms, but this "upward job ladder" functions relatively weakly in the Netherlands. Labour market rules can influence this. The Danish flexicurity model, for example, is often seen as an important explanation for the relatively healthy business and labour-market dynamics in Denmark. In this model, limited dismissal protection and high job mobility go hand in hand with relatively high but temporary unemployment benefits. This income security is explicitly linked to active labour-market policy, with much attention for training, retraining and guidance into new work. The starting point is that workers can quickly and with support move into more productive jobs, while firms can adjust flexibly to economic changes. This model places high demands on framework conditions: effective matching, timely upskilling and reskilling, and a well-functioning safety net are crucial. If these are absent, flexibility can instead turn into more uncertainty and less investment in skills.

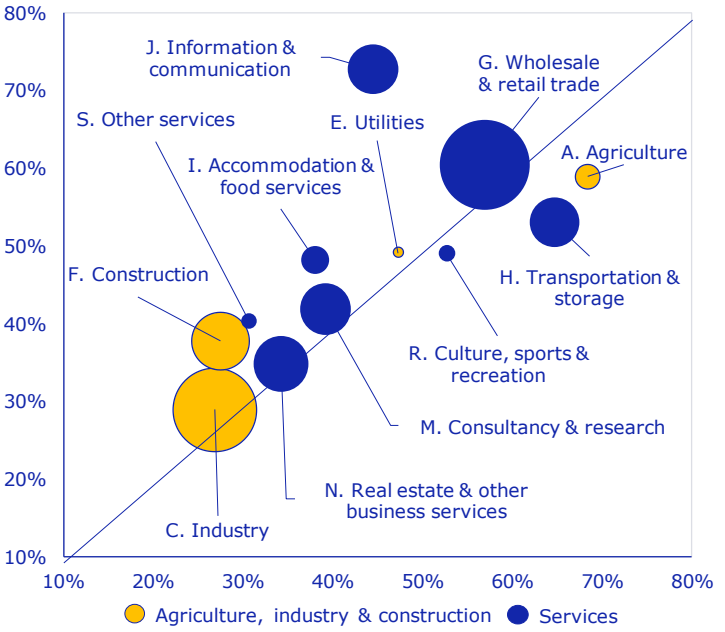
3.2 The development of misallocation differs between industries

Misallocation is relatively largest in the services sector. Figure 20 compares misallocation by industry in 2007 (x-axis) with 2023 (y-axis). Each circle represents an industry; its size reflects its economic weight.[11] Blue denotes services, yellow denotes agriculture, industry and construction. The 45-degree line indicates "no change": above the line means higher misallocation in 2023 (deterioration), below the line lower misallocation (improvement). The development of total misallocation appears to be mainly related to a few large industries that show divergent developments. Within the services sector, there is both deterioration and improvement. Information and communication, for example, lies clearly above the diagonal, while transport and storage and culture, sports and recreation lie below the diagonal. In large service sectors such as wholesale and retail trade, the change is limited. In manufacturing, misallocation remains relatively low and changes little. In agriculture, misallocation declines, while construction shows an increase. The appendix to this analysis contains a more detailed breakdown based on the SBI 2-digit and SBI 3-digit classifications.

[11] Misallocation is calculated at a detailed industry level (SBI 3-digit). For readability, the results are presented only at a higher and more aggregated level (SBI 1-digit).

Figure 20. Misallocation in the Netherlands, by industry

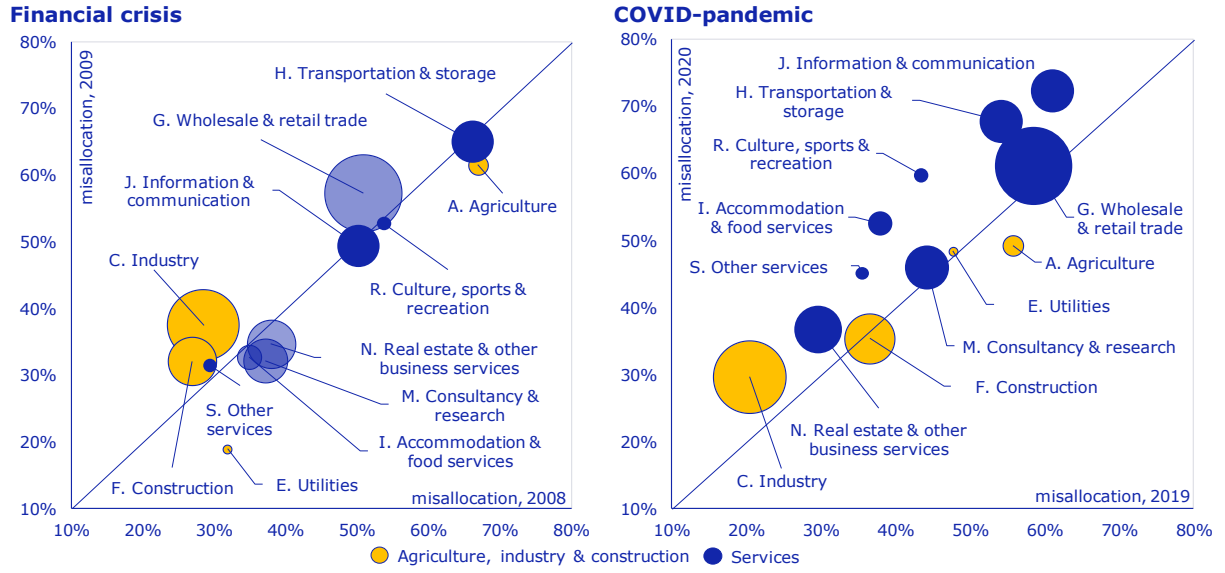
In percent, weighted average, relevant market sector.



Source: Microdata Statistics Netherlands, DNB calculations.
Note: Misallocation calculated according to the method of Hsieh and Klenow (2009). The size of the circles indicates the industry's relative share in value added in the Netherlands. See the appendix for more details.

The development of misallocation at industry level differs clearly between the COVID pandemic and the financial crisis. In the first year of the COVID pandemic, misallocation increased broadly, especially in service sectors, with larger outliers than in the first year of the financial crisis (see Figure 21). Sectors hit hard by the COVID pandemic - such as accommodation and food services, transport and storage, and culture, sports and recreation - shifted most strongly towards higher misallocation. This is related to the nature of government intervention. During the financial crisis, the emphasis was on stabilising the banking system in order to keep the financial system standing. During the COVID pandemic, policy focused on broad macroeconomic stability: protecting incomes, preserving employment and preventing bankruptcies. This prevented much damage in the short term, but at the same time slowed the reallocation process. This is visible in the broad shift towards higher misallocation in 2020: capital and labour more often remained stuck in less productive places. Over time, developments differed by industry. Misallocation rose sharply and remained well above its pre-COVID level especially in accommodation and food services and in the ICT sector, while the effects in transport and storage and in the culture sector were considerably less persistent.

Figure 21. Misallocation in the first year of the financial crisis and the COVID pandemic
As a percentage of total factor productivity under efficient allocation, weighted average, relevant market sector.



Source: Microdata Statistics Netherlands, DNB calculations.
Note: Misallocation calculated according to the method of Hsieh and Klenow (2009). The size of the circles indicates the industry's relative share in value added in the Netherlands. See the appendix for more details.

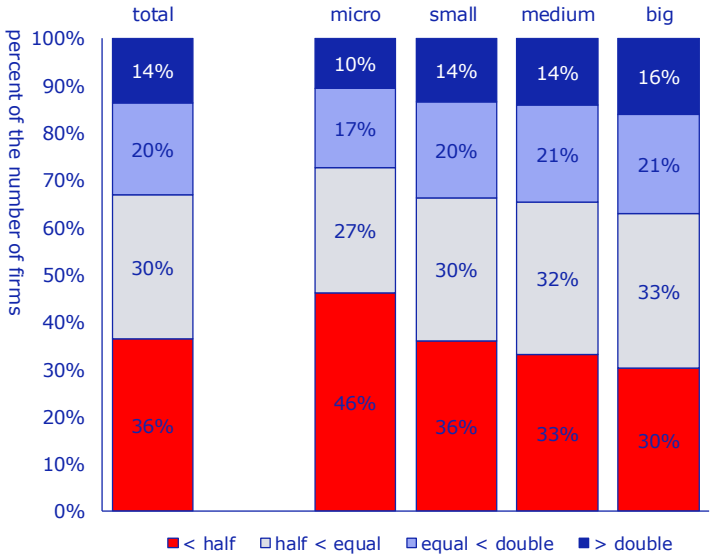
3.3 Misallocation due to a lack of shrinking and scaling firms

Many firms are larger or smaller than would be economically efficient given their productivity. Some firms remain too small to fully exploit their potential, while others attract resources that would generate more elsewhere. Figure 22 shows how large firms actually were in 2023 compared with the size that, according to the misallocation measure, would be most efficient. For this purpose, firms are divided into four size classes on the basis of their value added. The picture that emerges is that many firms - spread across all size classes - are actually too large. If these firms were to shrink, capital and labour would be released for more productive firms, which currently have too few resources. This would increase total productivity.

Especially among small firms, many resources are tied up at firms with low productivity. In all size classes, a substantial share of firms would, according to the measure, function more efficiently if they were smaller, but this share is highest in the micro segment, at 46 percent. This indicates that within this group, relatively much capital and labour is used by firms that generate little return on it. A more efficient use of resources here could mean that firms restructure, scale down activities or ultimately cease operations.

Figure 22. Required adjustment of firm size for efficient allocation

As a percentage of the number of firms, relevant market sector, 2023.



Source: Microdata Statistics Netherlands, DNB calculations.
Note: Firms are classified according to their position in the distribution of value added within the relevant sector. The categories micro, small, medium-sized and large correspond respectively to the first through fourth quartiles of this distribution, calculated according to the method of Hsieh and Klenow (2009). See the appendix for more details.

These findings fit a consistent picture of limited dynamics and sluggish reallocation of resources in the Dutch economy. It was established earlier that very small firms in particular remain active for a long time, barely grow further and that business closures occur relatively infrequently. At the same time, this low level of dynamics is not accompanied by increasing market power: markups remain stable and market concentration increases only modestly. Together, these results indicate that the core of the allocation problem in the Netherlands lies not so much with dominant firms shielding markets, but with a reallocation process that does not work sufficiently well. Capital and labour shift too slowly, through the growth, contraction and selection of firms, from less productive to more productive activities. The analysis of misallocation underlines that especially the lack of scaling down among less productive firms and further growth among more productive firms plays an important role in explaining the observed productivity loss.

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