Annual report 2019

DeNederlandscheBank

EUROSYSTEEM

De Nederlandsche Bank N.V.
Annual report 2019

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Note
The original Annual Report, including the financial statements, was prepared in Dutch. In the event of discrepancies between the Dutch version and this English translation, the Dutch version prevails.

Gross domestic product (GDP), used to express quantities in some tables and charts, is GDP at market price unless stated otherwise.

Legend
0 (0.0) = the figure is less than half of the rounding used or nil
blank = a figure cannot logically occur or the data are not reported (to DNB)
- = data unavailable

Rounding
Figures may not add up due to automatic rounding per series. As figures are rounded for each table, the individual tables do not always fully reconcile.

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New world, new choices

As we cross the threshold of a new decade, we find ourselves in a world that is a fundamentally different place from what it was ten years ago. Whereas the Netherlands was mired in the doldrums between two recessions at the time, more recent years have seen robust economic growth. Thanks to prudent fiscal policy, among other things, the economic fundamentals are sound and unemployment rates are low. However, the outbreak of coronavirus causes great uncertainty as well as a profound economic setback. Moreover, despite a lengthy period of economic growth, the ECB's most pressing concern is too low, rather than too high, inflation. Interest rates have dipped below zero over the last decade: a phenomenon that was long held to be highly unlikely, if not utterly impossible. Disregarding the consequences of coronavirus, long-term growth prospects are subdued due to the ageing population and lagging labour productivity growth. For decades, international trends had been characterised by trade liberalisation and ever deeper and more intense economic interconnectedness. Now, however, in view of various trade conflicts and of course Brexit, it seems as if an enormous switch has been thrown, reversing these trends. At the same time, the pace of technological development continues to accelerate, with digital tools and media quickly becoming integral to everyday life. Above all, we are seeing a growing recognition worldwide that climate change is an issue that affects us all, and one that calls for a swift and effective response. Not only are many of these phenomena and changes quite drastic in and of themselves, but they also interact and influence each other. For example, lower labour productivity growth puts pressure on interest rates, but long-term low interest rates may also have an adverse effect on labour productivity development. Furthermore, the wheels of international cooperation are turning more slowly today, which is complicating efforts to forge a global approach to the climate challenge facing us. It is precisely because all these phenomena and changes are interconnected that we are compelled to give fundamental thought to how we can best adapt to the new reality, and to how we should go about ensuring a sustainable and resilient economy and structural prosperity in the new decade.

The Dutch economy

There are few places where the difference between 2010 and 2020 is as evident as in public finances. Thanks to significant policy efforts, a growing economy and reduced interest charges, a budget deficit of over 5% of gross domestic product (GDP) has turned into a small surplus. Public debt has been falling for several years. In 2019 this reached a level of 49% of GDP, well below the European threshold value of 60% of GDP, meaning further consolidation of public finances is unnecessary. Instead, attention may be focused on mitigating humanitarian and economic damage which may result from the outbreak of coronavirus. This may be done through targeted support measures for households and companies, including guarantee schemes. In the longer term, it remains necessary to ensure that public finances are robust enough to avoid cutbacks in a future economic downturn. The challenge is to strike a new balance between being prudent and stimulating economic growth.

The Dutch housing market also encountered highs and lows between 2010 and the year under review. House prices were still falling in 2010. From their nadir in mid-2013, they have since risen by 40% on average. The Dutch housing market is characterised not only by major price fluctuations, but also by high mortgage debt, significant levels of wealth accumulation through home ownership and a very small commercial rental segment. The current situation is the result of years of actively encouraging people to own their own homes through mortgage interest relief, lenient underwriting standards and other measures. The financial crisis laid bare the risks associated with such policies. Volatile prices combined with high debt ratios turned out to be an important driver of changes in the asset position of households, and consequently their consumption. Underwater mortgages also had a braking effect on labour mobility. This situation on the housing market means the Netherlands is considerably more sensitive to cyclical fluctuations than its surrounding countries. The recent policy of reducing fiscal incentives for home ownership is therefore a positive one, and it would be wise to take a consequential yet gradual approach to phasing them out. The Netherlands would benefit from a larger rental market than is currently the case, and moreover one that is more finely attuned to the nation’s housing needs. First and foremost, a greater supply of homes is needed in the mid-price rental segment. This will encourage mobility away from social housing, giving prospective buyers greater scope to save toward their first purchased home. This is precisely where the emphasis should be in the years to come, especially when it comes to new home construction.

On the labour market, the sharp fall in unemployment after the financial crisis was accompanied by a further increase in the number of self-employed persons and workers on flexible contracts. Approximately three million people now make up this “flexible layer” on the labour market, which is more than one third of the total workforce. Some individuals deliberately opt for a flexible contract, for example because they find it easier to combine this kind of work with their personal situation (care for a loved one, children at home etc.) or for entrepreneurship. Moreover, flexible contracts can make it easier for start-ups to grow and create jobs. However, flexible contracts also entail the risk of less investment in permanent education and other forms of training. They also mean that more and more people are not protected by the social safety net. As a result, income fluctuations have a more immediate and pronounced impact on consumption, which makes the economy as a whole more volatile. This makes it crucial to re-examine the balance between regular and flexible employment. It is up to individuals themselves to decide on the structure of their employment, but their choice should not be distorted by differences in taxation and social protection as is currently the case. Self-employed individuals pay less tax than regular employees, even if they do exactly the same work. The downside is that self-employed individuals are not covered by social insurance schemes. Furthermore, temporary and on-demand workers carry a particular appeal for employers, because there is generally no risk of having to continue to pay wages during illness. Although the government has taken a worthy initiative to limit such differences, the current playing field is still not level yet, as highlighted by the Commission on the Regulation of Work, better known as the Borstlap Commission.

The imbalances on the housing and labour markets make plain the need for tax system reform. The current system has been in place since 2002, and its complexity has only increased through the years, e.g. through the integration of taxes and the various allowances that citizens may be eligible for. This excessive complexity is to the detriment of implementation, as evidenced by the recent problems in relation to the childcare allowance. It also leads to distorted choices. For example, majority shareholder-directors currently tend to borrow money from their own companies (EUR 58 billion in 2017) rather than paying out dividends, as this is more attractive for tax purposes. Such arrangements entail a risk of delayed taxation, or even no taxation at all. A simpler tax system is therefore preferable: one that mitigates the differences between regular and flexible employment, home ownership and rental, and other savings and investment options. Taxation remains an appropriate means for pricing externalities such as pollution. A new tax system could be used to do more to reduce harmful greenhouse gas emissions, for instance.

We have seen over the past decade how vulnerable our pension system is to interest rate movements. The funding ratios of pension funds have been volatile and have generally fallen sharply on balance. The pension accord concluded last year by the government and the social partners provides a perspective for a more future-proof pension system. The current low interest rates make implementation a challenge, however. On the one hand, the low interest rates make it easier to abolish the system of uniform accrual and uniform contribution rates; on the other hand, the low funding ratios reduce the scope for funds to mitigate transition effects when switching to a new system. At the same time, the low interest rates have made the same transition more urgent than ever. This means it is crucial for all parties to implement the accord.

Payment systems are evolving rapidly, and the Netherlands is no stranger to these developments. More and more of our payments are taking place electronically, and payment apps are making it easier and easier to transfer funds from one account to another. The introduction of instant payments means that money is available in the recipient's account within seconds. FinTech companies are also innovating, for example by taking advantage of the opportunities offered by the revised Payment Services Directive (PSD2). In addition, Brexit has compelled a number of FinTechs to choose Amsterdam as their base of operations. The payment market is also appealing to BigTechs such as Apple, Facebook and Google. This gives rise to a range of questions, for example on whether these parties have too much market power and whether they should be subject to supervision. In addition, we are investigating the potential of digital money issued by a central bank at the European level. As the use of cash continues to decline, such digital currency may be a means to ensure that money, issued and backed by a central bank, is kept in circulation. Despite all these innovations and modern contrivances, cash is not going anywhere any time soon. It is a risk-free means of payment that guarantees privacy, and it enables those in society who are less tech-savvy to manage their own finances. Moreover, cash provides a fall-back option for payments when payment terminals and other PIN-based systems go down. Naturally, the public must continue to have access to ATMs, and cash must continue to enjoy widespread acceptance as a means of payment.

The international context

The global economy has recovered robustly since the financial crisis. Growth has slowed since 2018, however, with the slowdown intensifying in 2019. This is partly due to the current, more mature phase of the economic cycle: capacity limits exist in several countries, leaving little room for catching up. Growth has also been depressed because of the continued global uncertainty caused by Brexit, the trade conflict between the United States and China and other factors. Despite the cautiously positive developments over recent months, renewed protectionist sentiment continues to pose a significant threat to the global economy. In the shorter term, there are also the consequences of the coronavirus outbreak. At the time of writing, too little information was available on the magnitude and duration of the outbreak to quantify its effects in any meaningful way, but the outbreak is certain to harm the global economy substantially.

The weakening of the world economy has not left the euro area untouched. Economic growth weakened from 1.9% in 2018 to 1.2% in 2019, the industrial sector being hit particularly hard. Economic prospects in the euro area are very uncertain and depend on the duration and intensity of the coronavirus outbreak. We need to be prepared for a sharp decline of economic growth as well as inflation, among other things because the situation on financial markets has worsened substantially. Against this background, the ECB has taken additional measures. Monthly net purchases of government and corporate bonds are being increased temporarily and banks are given access to long-term financing more affordably. At the same time the European banking supervisor has temporarily eased capital requirements. These measures will avoid financing costs for households and corporations rising. This will allow governments more time to make decisions regarding targeted measures.

There is only limited room for easing monetary policy further. This has consequences first and foremost for national governments' fiscal policies. Without a more substantial contribution from national fiscal policy, the adjustment burden ensuing from the downturn will fall on households and businesses more squarely than in the past. Therefore, in the current situation it is necessary to let the so-termed stabilisers work fully and take targeted measures for the households and businesses hit hardest. In this context, existing exemption clauses in the Stability and Growth Pact can be used.

Against this backdrop, the ECB will review its monetary strategy in 2020. Much has changed since the last strategy review in 2003. Interest rates have fallen structurally, the institutional structure of EMU has been strengthened and, especially in recent years, it has become clear that the ECB does not always have a handle on inflation. Here too, the changing world of the second decade of the

21st century calls for comprehensive reflection, in this case on how the ECB pursues its mandate. When the effectiveness of monetary policy can no longer be taken for granted, monetary policy's side effects become more pertinent. If interest rates remain low for a long period of time, debts accumulate and the prices of financial assets creep upwards. This translates into risks to financial stability. In addition, low interest rates may induce inefficient enterprises to stay in the market, thus crowding out new entrants, which has a negative impact on productivity growth. This calls for a new vision on the realistic potential of monetary policy: what can it achieve, and what will remain beyond its influence? When assessing the inflation target, it is vital to acknowledge that inflation can only be controlled to a limited degree and to leave sufficient scope to consider policy side effects in the assessment. Finally, attention should focus on the way in which the ECB can contribute to sustainability measures and greening the financial system.

Financial sector

Many of the main challenges in our supervision activities are also related to the long-term low interest rates. Whereas, for example, many insurers have been able to maintain a reasonable level of solvency for a long time thanks to interest rate hedging, it is becoming increasingly vital for them to structurally adapt to the low interest rate environment. They can do so by revisiting their products' yield guarantees to make them more compatible with the low-interest environment and by responding to technological developments. At the same time, insurers' financial structures and risk management procedures need to be solid enough to survive in a long-term, low-interest environment, especially as the low, long-term interest rate is currently not yet sufficiently reflected in the supervisory framework (Solvency II). Adjustments to the supervisory framework are therefore needed. This should include taking greater account – at the European level – of the market interest rate in the valuation of long-term liabilities. The aim is to reduce the volatility of capital requirements, while, on balance, keeping them at approximately the same level.

In banking supervision, it is vital that we continue to embrace the lessons learned from the global financial crisis, which made painfully clear just how great the costs of a banking crisis can be for society. Well-capitalised and profitable banks are less vulnerable in crisis situations. Moreover, in the event of a crisis, they are less likely to reduce lending sharply, which helps to bolster the stability of the economy as a whole. It is therefore very important to fully implement the global commitments on strengthening the capital position of banks, as laid down in the Basel 3.5 accord. This will also contribute to restoring confidence in the European banking sector and will set a good example worldwide. In order to increase the banking sector's resilience in the face of a potential housing market correction, we announced in 2019 our intention to increase the risk weights of mortgage lending for banks. We have also subjected the major Dutch banks, insurers and pension funds to a climate stress test in order to identify and clarify the risks of climate change and the energy transition. The results show that a disruptive energy transition may lead to heavy losses for financial institutions. To guard against this, financial institutions need to integrate the risks of the energy transition into their risk management.

A second lesson from the crisis is that the resolvability of banks must be substantially improved in order to minimise damage to the public interest should a bank get into financial difficulties. This is a work in progress. The resolvability of major Dutch banks is improving steadily. Progress is not taking place at the same pace throughout Europe, however. At DNB, we are committed to a level playing field when it comes to the resolution of failing banks. This is important for market discipline and for ensuring that a bank's shareholders and creditors shoulder the risks, rather than foisting the burden on the taxpayer. We further underpin the credibility of our resolution regime with our reliable deposit guarantee scheme for Dutch banks, which protects savers in the event of a bank's failure by guaranteeing deposits of up to EUR 100,000. The deposit guarantee scheme forms a key pillar of banking confidence. This pillar is effective only if enough people are aware of it, of course. There is room for improvement in this area, and we will be spearheading a campaign to raise awareness about this very important facility.

A third lesson from the crisis concerns the dangers of interconnectedness between governments in the euro area and their domestic banks. During the crisis, these relationships caused considerable problems for both. Little progress has been made in this area. First of all, European banks may still continue to hold unlimited government bonds issued in euros, without having to hold capital against those bonds. This leads to risks that are spread insufficiently, while governments all too easily tend to assume that domestic banks will buy up their debt. It therefore remains desirable to phase out the preferential treatment of sovereign debt, for example by introducing limited capital add-ons for banks holding relatively many government bonds from a single country. Second, little progress has been made on the introduction of a European Deposit Insurance Scheme (EDIS), which will bundle the funding of national deposit guarantee schemes at the European level. Such a scheme would promote stability both in the domestic banking sector and in the relevant national government in the event of a bank failure. Finally, further progress on strengthening the capital market union would make it easier to attract cross-border market financing in Europe, including in the form of equity. This will make it easier to share risk among countries, and dependence on bank financing will decline. It will also further enhance the resilience of the European financial system.

In the Netherlands, more and more light is being shed on the interconnectedness between organised crime and other illegal financial activity, and the formal, lawful economy, underscoring the need for financial institutions to take their gatekeeper responsibilities seriously. As a supervisory authority, we give priority to preventing financial institutions from becoming involved in financial crime. We are taking an increasingly digital, data-driven approach to identifying integrity risks in the financial sector and to assessing institutions' integrity risk management procedures. We do not hesitate to wield our enforcement authority if we detect violations or delays in achieving compliance. Prevention is key, and to this end we organise sessions with the sector and with third parties, and we share good practices on integrity with financial institutions. We also encourage greater collaboration both between private institutions as well as between public and private parties (including exploring the potential of joint transaction monitoring by banks). In view of the cross-border nature of money laundering and the different ways in which anti-money laundering supervision is organised in the EU Member States, the Netherlands is committed to working with partners throughout Europe to create a thoroughly equipped European supervisory authority that will work closely together with the national authorities.

Conclusion

As we enter a new decade, the world is a different place than it was ten years ago. Naturally, the choices we make in economic policy should reflect these changes. Many of the precise details of the desired policy are not immediately clear, but the overall contours can be readily identified. In the short term, combating the coronavirus and mitigating the economic consequences of the virus outbreak deserve priority. Structurally, at the national level, the focus needs to be on growth potential, the tax system, the housing market, the labour market, the pension system and fiscal policy. At the international level, the monetary policy in the euro area is being reviewed, and it would be wise to subject the European fiscal rules to a more comprehensive review. In addition, further efforts are needed to unravel the sometimes labyrinthine and often unhealthy relationships between national governments and domestic banks. At the very heart of this process is the need to adjust to the new reality of low interest rates and structurally lower economic growth, along with the increasingly limited potential of monetary policy to solve our problems in times of economic downturn. Last but not least, dealing effectively with climate change is a challenge facing us at both the national and international levels. Finding answers to the resulting policy questions calls for an open attitude and the willingness to explore new avenues. For the Netherlands, the coming year, in which we are preparing for national elections and a new government, offers an excellent opportunity to do exactly that: to engage one another in dialogue about the new choices we need to make in response to the challenges of the new world in which we live.

1 Learning to live with low interest rates

Interest rates fell to record low levels in the year under review, especially on long-term loans. For example, the interest rate on 10-year Dutch government loans stood at -0.5% in August 2019. The extremely low interest rates are a phenomenon that affects everyone, whether we are borrowing or saving, whether we are buying or already own a home, and whether we are working or have already retired.

Low interest rates stimulate economic growth, with benefits both for individuals and businesses. These benefits get redistributed, however, when interest rates fall: a homeowner, for example, may encounter an advantage, while an individual who is saving for retirement may not be so lucky. This redistribution may lead to tensions, as the advantages and disadvantages do not necessarily even out.

In addition, the side effects of low interest rates become more pronounced the longer rates remain low. If it is very cheap to borrow money, then people and businesses run the risk of going too deep into debt. The business models of financial institutions also come under pressure over time. Moreover, low interest rates drive up the price of houses and other assets such as shares, with an increasing risk of a sudden price slide.

When such side effects become more pronounced, monetary policy gradually loses some of its effectiveness. This shifting balance between growing disadvantages and declining benefits constitutes a complex issue facing the European Central Bank (ECB), underscoring the importance of the monetary strategy review that the ECB embarked on in 2020.

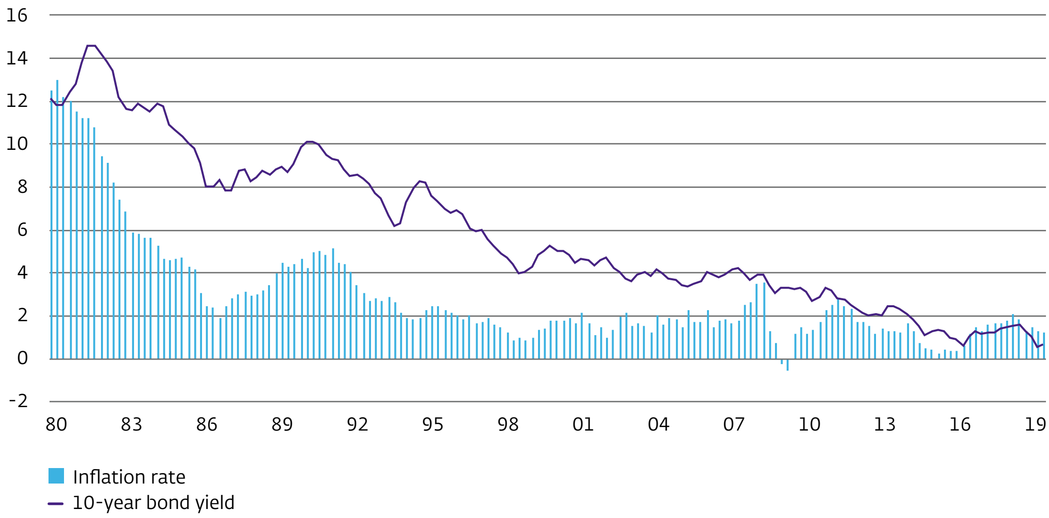
Here in the Netherlands, too, low interest rates present various challenges. The pension system and the housing market in particular are under pressure, each in their own way. Low interest rates are also having various implications for the government budget. This means that we will need to look for a new approach in these policy areas as we adapt to this new reality. We must all learn to live with low interest rates for the foreseeable future.

Macroeconomic background

Interest rates in the euro area have reached historic lows and are expected to remain there for some time. The lion's share of the drop in interest rates in developed countries is linked to the sharp decline in inflation since the 1980s (see Figure 1) and to factors on which central banks have little or no direct influence. These include trends such as population ageing, which has resulted in greater savings and asset holdings by households and businesses worldwide, and subdued investment. These changes are expected to keep the equilibrium interest rate low. This is the interest rate at which the supply and demand of capital are in balance. The current low equilibrium interest rate is therefore not a temporary phenomenon, but part of a new reality.

Figure 1 Interest and inflation rates in developed countries (G7) since 1980

Quarterly figures, unweighted averages; percentages



Population ageing and increased life expectancy have instilled in people around the globe a greater propensity to save. As people age, they feel more compelled to put money aside for retirement. Older members of the workforce are particularly likely to save, as they tend to have the means to do so. The share of the population in this category is relatively large in many countries, which means total savings have increased. The trend of population ageing is set to continue, meaning it will contribute to keeping interest rates low in the coming years.

Interest rates are also low due to a lower rate of growth in the global economy. Global economic growth has declined due to lower rates of population and productivity growth. Population growth has been slowing for several decades, and is estimated to slow even further as the 21st century progresses. This trend will result in a less rapid increase in the number of people in employment, thus reducing the pace of economic growth. The slowdown of productivity growth has been most pronounced since the 2008-2009 financial crisis, which hit banks hard in their primary role: raising deposits and lending to productive firms. As a result, the banking crisis is one of the causes of the slowdown of productivity growth among firms, and its negative impact has persisted for some time . It is currently uncertain whether technological developments will increase productivity in the near future. The impact of climate change is equally uncertain: it has the potential to slow down productivity growth as production factors become stressed and the costs associated with the energy transition begin to mount.

A third factor driving the current low interest rates is subdued investment. This is linked to lower public investment as a result of austerity measures following the financial crisis and increased uncertainty among firms. At the same time, the composition of the global economy is changing: traditional industries are becoming less dominant in many local economies, while the services sector is gaining prominence.

The services sector is also less capital-intensive thanks to digitalisation. In other words, it requires less sizeable investment to keep the sector ticking over. Finally, the advent of new technologies has led to lower prices for machinery and other equipment. This is yet another factor that has contributed to reduced investment.

ECB's monetary policy has been highly accommodative in order to stimulate inflation, resulting in a further decline in interest rates. Since the financial crisis, the ECB has used new instruments such as a public sector purchase programme in order to increase its influence on bond yields. The combination of macro-economic factors and the accommodative monetary policy of the ECB has resulted in long-term interest rates dipping below 0% in several euro area countries over the past year, which is lower than previously assumed possible. The ECB's accommodative monetary policy stance has boosted the economy in the euro area, thus preventing even lower levels of inflation. Still, the ECB has not yet managed to increase euro area inflation to the target level of below but close to 2%. This indicates that, while it is possible to influence inflation, steering inflation remains a tall order.

The trend of declining inflation is caused by factors that are largely beyond the control of central banks. These include higher rates of digitalisation, increased globalisation and flexibilisation of the labour market. Due to the influence of these trends, inflation now seems to be less responsive to fluctuations in economic growth than in the past. However, a closer analysis suggests that factors related to the state of the economy, hence including monetary policy, still have an impact on prices of products and production factors. This can be seen, for example, in accelerating wage growth due to shortages on the labour market.

Impact on financial markets and governments

The effects of low interest rates are clearly visible on the financial markets. The fall in interest rates has led to a significant increase in share and bond prices in recent years, making it more attractive for companies to issue these securities. Governments and larger companies pay very low or even negative interest rates. This is also related to the significantly increased demand for safe assets worldwide.

Looking ahead, lower interest rates mean that investors will achieve lower returns in the future. In order to maintain past rates of return, investors tend to take greater risks. This will cause the prices of financial products in various markets to rise, which may result in imbalances. These risks will continue to grow as long as interest rates remain low.

14 **Governments benefit from low interest rates.** As interest rates fall, interest payments on sovereign debt also drop, which provides room for lowering – distortionary – taxes or initiating new public spending. At the same time, with low interest rates it is more effective for government to stabilise the economy with additional fiscal spending in a downturn as the effect of higher levels of public spending will not be counteracted by an increase in interest rates. Such an increase of rates could can act as a brake on private expenditure. Effective fiscal policy requires governments to have sufficient reserves to increase spending in time of economic downturn. Seen in this light, the persistently high levels of public debt in some euro area countries are worrisome. In the Netherlands, public debt has fallen sharply in recent years (below 50% of GDP at the end of the year under review).

Impact on banks

Banks initially benefit from a favourable economic climate and falling interest rates. In this climate with low borrowing rates, banks are more likely to issue new loans to consumers and businesses, and moreover to offer lower interest rates. This makes it easier for borrowers to service their debts, resulting in higher borrowing volumes and reduced losses for banks.

If the current climate of low interest rates persists, banks will see their interest margins and possibly also their profits come under pressure. This may be the case, for example, when banks do not pass on negative interest rates to retail savers. The level of interest is just one factor; another factor is the difference between the interest rates that banks pay for shorter-term funding and the interest they receive on loans with longer maturities. If this difference shrinks, banks will see their interest income fall.

Currently, banks are not passing on the negative market rates to retail savers. There is little public support for negative rates on retail savings. Moreover, savers may feel compelled to withdraw their savings when faced with negative interest rates. Banks will thus likely see negative rates for retail savings as a bridge too far. However, several banks are now passing on negative rates to their high-deposit customers. To the extent that banks do not resort to negative interest rates on savings, savings deposits become relatively expensive. They can offset this by reducing interest rates on business loans and mortgages to a lesser extent than the fall in market rates, or they can lend more. Competition on the mortgage lending market, however, raises the question of whether banks will be able to maintain their interest income and to what extent.

The business models of many European banks are also under pressure from high costs, investment in IT, anti-money laundering measures and competition from new market players. These factors, in combination with low interest rates, compel banks to accelerate adjustments to their business models. For example, banks can increase activities that generate higher commissions, or lower costs by means of digitalisation. In some European countries, reducing excess capacity through mergers and acquisitions can help to lower costs. In the Netherlands, however, the scope for consolidation is limited.

Impact on pension funds

The Dutch pension system has a solid reputation internationally. There are a number of reasons for this. Firstly, the compulsory element of the system ensures that a large proportion of the population builds up pension rights. Secondly, combined with the AOW state pension scheme, retirement income in relation to salary earned – known as the replacement ratio – is higher in the Netherlands than in many other countries. As a result, the number of older people living in poverty is relatively low in the Netherlands. Seen in this light, the system's solid reputation is justified.

That said, the Dutch pension system has proved to be vulnerable in light of the increase in life expectancy and the decline in interest rates. Higher life expectancy means that pension benefits must paid out over a longer period of time. In addition, pension accrual has become significantly more expensive due to lower interest rates (see Box 1). Funding ratios showed sizeable declines in the last decade, in particular following the financial crisis. The return on assets of many pension funds in 2019 were reasonable, which to a degree helped to stabilise funding ratios. However, funding ratios have certainly not recovered (see Figure 2), and interest rate fluctuations in 2019 once again showed the how sensitive the pension system is to interest rate changes.

Box 1 Why have low interest rates caused funding ratios to deteriorate?

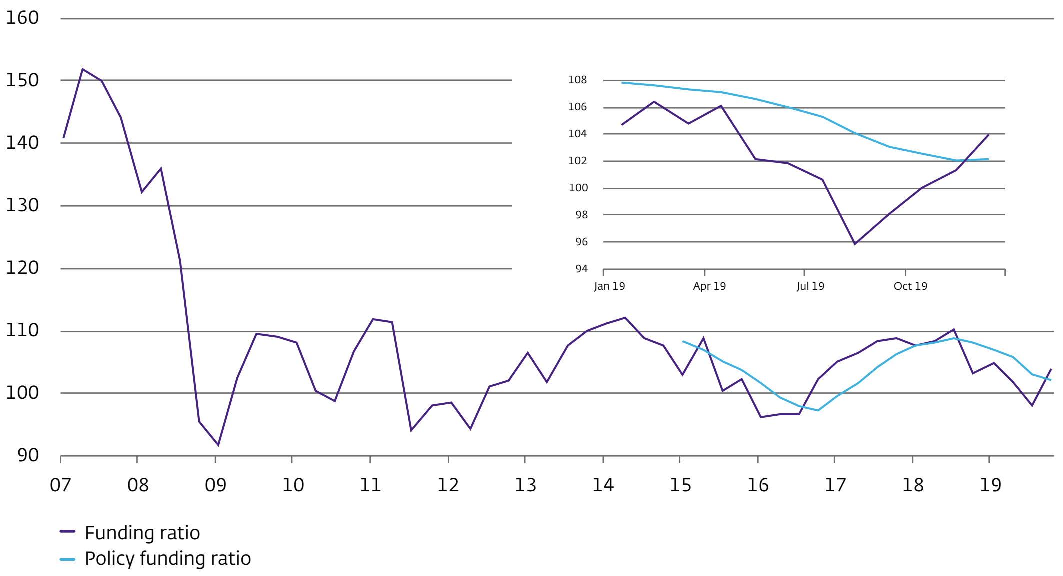
Lower interest rates affect both the assets and liabilities of pension funds. The lower rates have caused bonds and shares (assets) to increase substantially in value. At the same time, a pension fund must also hold more reserves to meet its commitments (liabilities). Whereas in 2010 – when the interest rate was considerably higher than now – EUR 69 had to be retained for each EUR 100 to be paid 10 years into the future, this had increased to EUR 97 by year-end 2019.

The drop in interest rates has caused liabilities to grow faster than assets. As a result, the funding ratio – the ratio of assets to liabilities – has declined. It should be noted that there are marked differences between individual pension funds. The impact of lower interest rates on funding ratios depends on a variety of factors, including the choices made by pension funds, particularly as regards the degree of interest rate hedging. Choices affecting pension contributions also have an influence on the financial position of pension funds.

Given its increased flexibility, the labour market is best served with an amended pension system. Labour market flexibilisation has resulted in a sizeable group of employees and self-employed individuals that are confronted with interruptions in their pension accrual. This is problematic since under the current system, younger and older employees pay the same contribution despite the fact that the return on investment of contributions of younger employees will be larger. As a result, younger employees pay relatively high contributions compared to the pension entitlement they receive. This effect is irrelevant when employees continue to participate in the pension system throughout their working lives. However, if an individual becomes self-employed at some point, they will contribute too much on balance. This makes the system prone to criticism. Abolishing this system of uniform accrual and uniform contribution rates would ensure that the pension system is better attuned to the realities of the new labour market. It would also be beneficial to extend the coverage of the pension system to fill in the gaps. Ultimately, a good pension is important for all employees.

Figure 2 Pension fund funding ratios

Percentages



Notes: The figure shows the funding ratio and policy funding ratio (since the introduction in 2015). The policy funding ratio is the twelve-month average funding ratio

The pension agreement concluded last year by the government and the social partners provides the perspective for a more future-proof pension system. Under the agreement the system of uniform accrual and uniform contribution rates is abolished and a new pension contract is introduced. The introduction of life cycle investment strategies implies that investment risks are better aligned with the risks younger and older employees are able and willing to bear. Ultimately, the aim is to improve the system's transparency and align investments better with the life cycle of employees, while preserving the benefits of risk sharing and collective investments.

The current low interest rates make implementing the pension agreement a challenge. When interest rates are low, the effect of relatively low and high contribution of older and younger employees, respectively, is less pronounced. In principle, this should make it easier to abolish the system of uniform accrual and uniform contribution rates. However, lower interest rates lead to lower funding ratios, meaning funds have less room to mitigate the effect of a transition to a new system. In the agreement's detailed implementation, it is important to prevent specific groups of participants from being considerably worse off as a result of the transition.

In the implementation phase, it is crucial that all parties continue to work together. This means concrete steps must be taken towards a system that is more resilient to interest rate fluctuations and better attuned to the labour market, also to bolster confidence in the pension system. So far, the parties have been working together constructively. It is important that this continues in the implementation phase.

Impact on insurers

Low interest rates are also putting the squeeze on the business model of life insurers, especially due to the impact on products with long maturities. To ensure profitability, insurers need to sell new life insurance policies with relatively high premiums. These products have become less and less attractive to customers, however, due to changes in tax legislation and because of the high premium levels. As a result, relatively few new life insurance products have been sold in recent years. Moreover, without expanding their risk profile, it is becoming increasingly difficult for insurers to obtain a return on invested premiums that will cover their future commitments. This pressure on business models has resulted in a swelling wave of mergers and acquisitions, now also involving non-traditional actors such as private equity funds.

The low interest rates are particularly problematic for life insurers in distress. The economic value of insurance liabilities has increased as a result of lower interest rates. Dutch insurance firms are relatively more vulnerable to a drop in interest rates compared to their peers elsewhere in Europe due to a higher concentration of long-term life insurance products. The drop in interest rates is only partly reflected in the supervisory solvency ratios, which have fallen less dramatically than market ratios. The difference between these ratios is particularly problematic in the event of liquidation or transfer of insurance-products. In these cases, the market-based valuation is relevant, and losses for customers may be unavoidable. To make it easier for customers to compare the financial position of insurance firms in Europe, it would be desirable to introduce a more realistic calculation-method for long-term liabilities, without increasing capital requirements. Furthermore, life insurers need to improve their buffers and continue cutting costs.

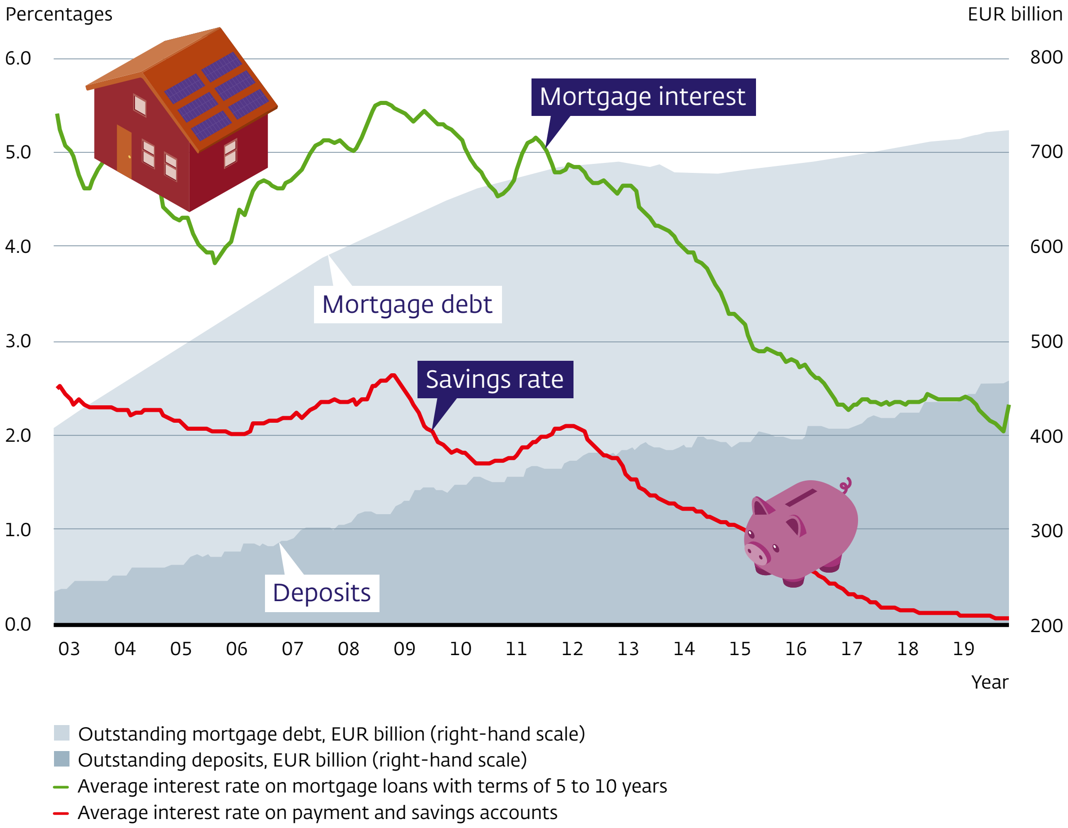
Effects on the housing market

Lower interest rates have contributed to a sharp rise in house prices in many countries in the euro area. Lower mortgage interest rates make it possible for households to borrow more without seeing their monthly payment go up. Investors who buy houses for letting are also willing to pay more, given the lower expected returns on other types of investments. Average house prices in the Netherlands are now 40% higher than in 2013.

18 **Rising house prices bolster confidence in the housing market, but there are also disadvantages.** For example, the current generation of first-time buyers do not necessarily benefit from lower interest payments, because they have to pay a substantially higher price when buying a house. This means they need a bigger mortgage to finance a home, making it more difficult for this group to get a foot in the door, given the current lending standards. This can give rise to a dichotomy: on the one hand there are established households that have owned a home for some time and thus benefit from rising house prices, and, on the other hand, there are younger households that find it increasingly difficult to buy a house, and that therefore remain reliant on a tight rental market.

The economy is more sensitive to developments in the housing market when mortgage debts are high. If households have high levels of mortgage debt, their financial flexibility decreases when house prices slide because their mortgages are more likely to go 'under water'. The relationship between house prices and spending levels is relatively strong in the Netherlands. This is partly a result of relatively high mortgage debt levels. Against the background of rising house prices, the European Systemic Risk Board has recommended that several European countries, including the Netherlands, take measures to mitigate the risks to the housing market.

Financial variables of Dutch households



A key measure for limiting the risks and disadvantages associated with low interest rates is to reduce the favourable tax treatment of home ownership and mortgage debt. Mortgage interest relief and low taxes on the value of private homes drive house prices higher. Therefore, an owner-occupied home should be taxed more in line with other assets. Low interest rates and rising housing prices make this a good time to reduce the favourable tax treatment further. Such measures may also help to address the dichotomy between homeowners and renters. In addition, it is important to make loan standards more stringent to reduce the risks associated with high mortgage debt both for households and for society as a whole.

Impact on households

Low interest rates can have both a positive and a negative effect on households. The ECB has lowered interest rates to encourage borrowing and spending, and to discourage saving. As households, businesses and governments spend less on interest payments, they have more money for consumption and investment, which is good for economic growth and job creation. Moreover, many assets – including real estate and investments – have increased significantly in value as a result of low interest rates.

On the other hand, interest rates on savings accounts are close to zero, and inflation has outstripped any increases in retirements benefits, with pension rights being reduced in some cases. These developments may give people a reason to set aside a larger share of their income for later. Thus far, the ratio between savings and income has been relatively stable, however.

A significant positive effect of lower interest rates for many households is that the lower rates have accelerated economic growth. This means more jobs and higher wages, and thus a boost to household income.

Economic policy in a low interest environment

The low interest rate gives rise to challenges in various policy areas. First of all, the ECB will regularly have to weigh the growth-promoting effects of its accommodative monetary policy against the side effects. The factors that underlie this careful consideration are constantly evolving and changing. For example, the growth-promoting effects of the monetary policy are likely to be smaller when the economy is operating at almost full capacity than in times of crisis. The side effects also different over time. As of now, house and share prices have been rising for several years, pressure on business models of financial institutions has increased, and financial risks have accumulated. Moreover, a situation should be avoided where monetary policy hampers productivity growth by sustaining non-productive business activities. Finally, there are limits to how much interest rates can be lowered, as is illustrated by the public debate on negative rates on retail savings. The ECB has embarked on a comprehensive review of its monetary strategy, which will take into account these issues.

With monetary policy closer to its limits, the importance of action in other policy areas increases. A structural boost to economic growth can only be achieved by means of economic reforms. In many countries in the euro area, this will mean reforms on the labour market and the product and service markets, for example. Reforms could also include removing barriers to innovation and competition. Not only do low interest rate pose challenges, but they also create scope for compensating for the pain of reforms and for investments that will make the economy more future-proof, such as investment in digitalisation and the energy transition.

We are facing policy questions in the Netherlands, too. Every single household is confronted, either directly or indirectly, with the impact of low interest rates. Declining interest rates inevitably have redistribution effects. For example, home owners benefit from low interest rates while those with savings have a disadvantage. A large drop in interest rates leads to significant redistribution effects, and sustained significantly lower interest rates leads to a greater and longer-lasting redistribution effects. This can create tensions as the sum of positive and negative effects is not equal for everyone: an employed homeowner will generally encounter less of a burden from lower interest rates than a retired individual living in a rented dwelling.

The foregoing is an important insight for government policy. It will not be possible to return to a world of high interest rates any time soon, not least because the current low interest rates are attributable to ECB's monetary policy to a limited extent only. This means that the government will need to focus on striking a new balance. In doing so, the government should take into account the interests of the groups most profoundly impacted by low interest rates, if possible. With regard to the housing market, where first-time buyers find themselves at a disadvantage due to high house prices, we must ask whether government policy has been contributing to house price increases, and whether redesigning policy could lessen this effect. As far as the pension system is concerned, this means that we must take account of the influence of low interest rates on pension benefits, and we must ask whether we can effectuate an equitable transition towards a pension system in which interest rates have a less profound impact on pension benefits. With regard to the government budget, we must be aware of what it means when monetary policy can no longer serve as a stability mechanism in the event of economic shocks, and we must ask whether there are any other ways to address this shortcoming.

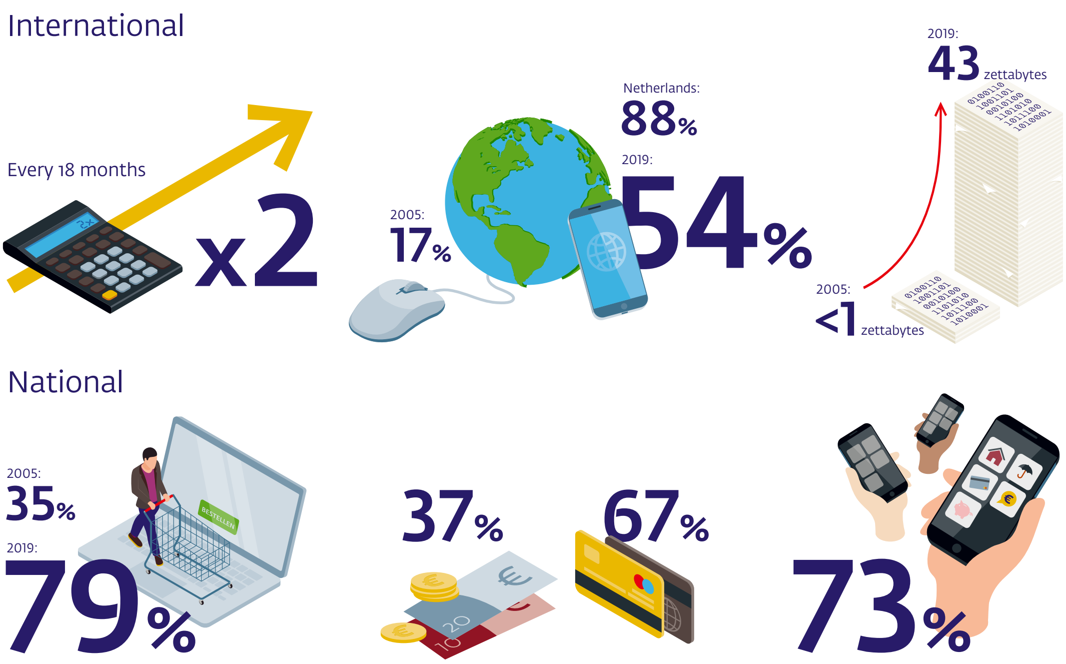
Many of these questions have already been dealt with in the past. However, the likelihood that interest rates will remain low for years to come lends a new sense of urgency to these considerations.

2 The financial sector and DNB go digital

Society is digitalising at a fast pace, and this is also changing the financial landscape. Digitalisation offers many new opportunities, such as helping to remove barriers to market access, promoting diversity in the financial sector, enabling new products and services, catering to the changing needs of consumers and making operational processes more efficient. It also brings new challenges, not in the least due to the growing importance of data. How can we strike the right balance between mitigating risks, and promoting innovation and associated opportunities? How can we, as a society, protect our privacy in a data-focused world? As national borders are increasingly blurred by digitalisation, cooperation with other authorities within and outside the Netherlands will become more important. We also need to engage in more intensive dialogue with the sector to monitor new developments and facilitate the opportunities that digitalisation offers. Moreover, the digitalisation of our own activities will help us to adequately respond to the challenges of innovation.

A changing financial landscape

Technology is advancing and data use is increasing. The processing power of computers has doubled every 18 months in the past few decades. This means that the processing power of today's smartphones equals that of the fastest supercomputers of the 1990s. In the future, quantum computers may offer even more advanced technological opportunities.



Today, 54% of the world population is connected to the internet, compared to a mere 17% in 2005. At 88%, the percentage for the Dutch population is well above this average. The rise of the smartphone and high-speed mobile internet strongly contribute to worldwide connectivity. New opportunities emerge with the expansion of computing power and growing connectivity, such as outsourcing to the cloud and the rise of artificial intelligence (AI). Distributed ledger technology (DLT) offers new methods for sharing data and fully automated execution of agreements between parties through smart contracts. These developments are accompanied by accelerating amounts of data that are being generated at a global scale.

Digitalisation is driven by technological progress, but also by consumer expectations regarding the speed, convenience and costs of services. Today's consumers can quickly and easily order goods and services online with the click of a button or even via voice command. Logistics are increasingly optimised, and product offerings are tailored to consumers' needs with the help of AI and data analysis solutions. At the same time, these developments are changing consumers' behaviour and expectations. The share of consumers making online purchases is steadily increasing. For example, 79% of Dutch consumers said that they made an online purchase in 2019, against 35% in 2005. Payments are also changing due to the rapid growth of peer-to-peer payment options and mobile payment solutions such as Apple Pay. Consumers expect more from financial service providers, including their own banks, insurers and equity trading platforms, when it comes to user-friendliness and the smoothness of the customer journey. Meanwhile, apps have become the main means of customer contact for all of these service providers, and most interactions are now fully digital. Financial services providers must make every effort to maintain and strengthen the relationship with their customers.

Digitalisation changes the financial landscape and boosts the development of new products and services. Examples of new products and services include peer-to-peer insurance, online banks, crowd funding and cryptos. An estimated 73% of Dutch consumers uses innovative financial services (FinTech) such as new payment and insurance solutions. This percentage is significantly higher in the Netherlands compared with many other industrialised countries. FinTech solutions are also used to automate existing operational processes. For example, AI can be used to finetune insurance processes such as claims management and pricing (InsurTech). Compliance is yet another area where the use of technological solutions is on the rise, including for the implementation of anti-money laundering controls (RegTech).

New products and services are also shaped by regulatory changes. The Payment Services Directive (PSD2) is a prime example of this development. This Directive allows licensed third parties to access the payment account details of customers who have authorised them to do so. Fintechs are developing services to help organisations streamline their accounting records and to provide consumers with an overview of their account information at multiple banks. Other examples include the Electronic Money Directive (EMD), which enables money to be stored electronically, and the proposed European Crowdfunding directive. In a digitalising world, financial service providers increasingly depend on non-financial rules and regulations in designing their services, such as the General Data Protection Regulation and competition rules. Supervisory authorities and legislative bodies must work together to balance multiple public interests, such as innovation, stability, privacy and competition.

Digitalisation introduces new players on the financial market. Start-ups are entering almost all segments of the financial services markets with innovative, streamlined business models, and try to create new markets with their advanced products. While this is positive in terms of diversity, it could also be a threat to incumbent parties. These respond by joining forces with the newcomers, or by launching their own start-ups with comparable solutions. The potential entrance of BigTech players such as Facebook, Apple, Google, WeChatPay and AliPay on the financial markets is a much more significant development. These BigTechs have so far mainly offered payment services. However, they may well start to offer a broader range of regulated financial services in the future, including insurance and loans, as they currently do in Asia. For that, they could use different business models. Some are seeking partnerships, such as Apple's Apple Pay, whereas others are building their own infrastructures, such as Facebook's Libra.

All these changes are putting the business models of existing financial service providers under pressure. They are responding to the challenges of digitalisation by investing in FinTech and joining forces with third parties to develop new and innovative services. Although they adopt an increasingly IT- and data-driven approach, their legacy IT infrastructures must still be maintained next to new systems. This can hamper their agility. Good examples of new technological opportunities to cater to the changing needs of consumers include instant payments, which enable real-time payments, and mobile peer-to-peer payment options. Banks, insurers and other financial institutions are becoming increasingly aware of the value of their data, and are investing in technologies that will enable them to leverage the data. This has an impact on their business models, since it changes their contact with customers and results in increasing levels of outsourcing and partnerships.

Cooperation and dialogue

The digitalisation of the financial landscape creates new opportunities as well as new risks, and raises a number of fundamental questions. The rise of AI has sparked ethical debates on the risk of bias and the extent to which AI may be applied to predict and steer people's behaviour. Sound risk management becomes more complex when algorithms are taking independent and sometimes inexplicable decisions. And then there is the ongoing debate about the future of money and the payment system as a public service. The plans to launch Libra, developed by a consortium led by

Facebook, have accelerated this debate, and a globally accepted digital coin may well be a reality in the near future. As key cloud service providers, BigTechs are playing an increasingly important role in financial service providers' IT infrastructures. This trend can also be observed outside the financial sector. Due to the rising prominence of these parties, risks now seem to be shifting towards non-regulated parties.

The importance of data is growing, and so are the risks. Data is increasingly important to supervised institutions, which makes them more vulnerable to poor data quality and deficient data protection. After all, incorrect data may lead to faulty decision-making and risk estimates, and incorrect use of data may have severe consequences for public confidence in a financial institution. The growing dependence on data also makes institutions increasingly vulnerable to cyberattacks, which are becoming ever more sophisticated. Financial services providers must duly consider consumer preferences with respect to the use of financial data, as public confidence in financial institutions could be undermined by use that conflicts with consumer preferences. It is therefore increasingly important that institutions have well-designed data systems.

An effective response to these risks calls for international cooperation. As digitalisation progresses, national borders are becoming less and less relevant in financial services provision. For example, it is not always clear to customers where a bank or crypto trading platform is actually based. Cyberthreats frequently originate from across the border. That is why we are working together at the international level on a joint approach to issues and trends that are not confined to the Netherlands. The international policy developments in the area of stablecoins, which are privately issued cryptos designed to minimise price volatility, serve to illustrate this. Their design and international nature makes them vulnerable to risks such as bank runs and money laundering. Despite their name, their value can still be volatile, which means they are not "stable". And unless they are widely accepted in society, they hardly qualify as "coins" either. An appropriate regulatory framework can only be effective at an international level. This is why we are actively contributing to the design of a regulatory framework in international organisations such as the Financial Stability Board (FSB).

In addition, we contribute internationally to the fundamental issues raised by digitalisation, such as the possibility of creating a central bank digital currency (CBDC). We want to promote the continued availability of a public form of money. Cash still fulfils this role, but given the decrease in the use of cash this may be set to change in the future. This trend has long been ongoing and appears to be of a structural nature. CBDC could provide the desired policy options to protect the balance between public and private forms of money and safeguard the exchangeability between private and public money. We therefore have a positive attitude towards CBDC in principle. The objectives, the framework conditions and the draft for CBDC are addressed in a DNB study (forthcoming). It will contribute to the international debate, which is also gaining momentum within the ECB.

Digitalisation requires more cooperation with non-financial authorities, particularly with respect to data. The changes brought about by digitalisation not only transcend national borders, but also strengthen the interconnectedness between different authorities. The growing importance of data for supervised institutions also has privacy implications, and raises questions about concentrations of data at a small number of large operators. We cooperate with the Dutch Data Protection Authority (Autoriteit Persoonsgegevens – AP) to ensure compliance with the requirements of PSD2 concerning access to, and the security of, payment data. Protecting privacy is essential in order to maintain confidence in the financial sector. Almost three quarters of all respondents in a recent DNB study said their confidence would deteriorate significantly if their bank account data fell into the hands of unauthorised third parties. The rise of BigTech operators creates concerns about competition, and about their growing market power in the payment system and infrastructure services markets, including cloud computing. While these concerns are in the competition authorities' domain, they are also relevant to our prudential supervision.

In addition to effective supervision of risks, we want to create sufficient room for innovation. This is a delicate balance. Innovation requires room to experiment. This may conflict with our task to limit risks in the financial sector and to ensure a secure financial landscape. Furthermore, innovation often progresses much faster than the time needed to draft new laws and regulations. Legislative processes may take years to complete, which means there is a risk that current rules and regulations do not take sufficient account of the latest developments and unintentionally impede innovation. This requires us to focus on the underlying objectives, rather than specific technical standards, in the application of laws and regulations.

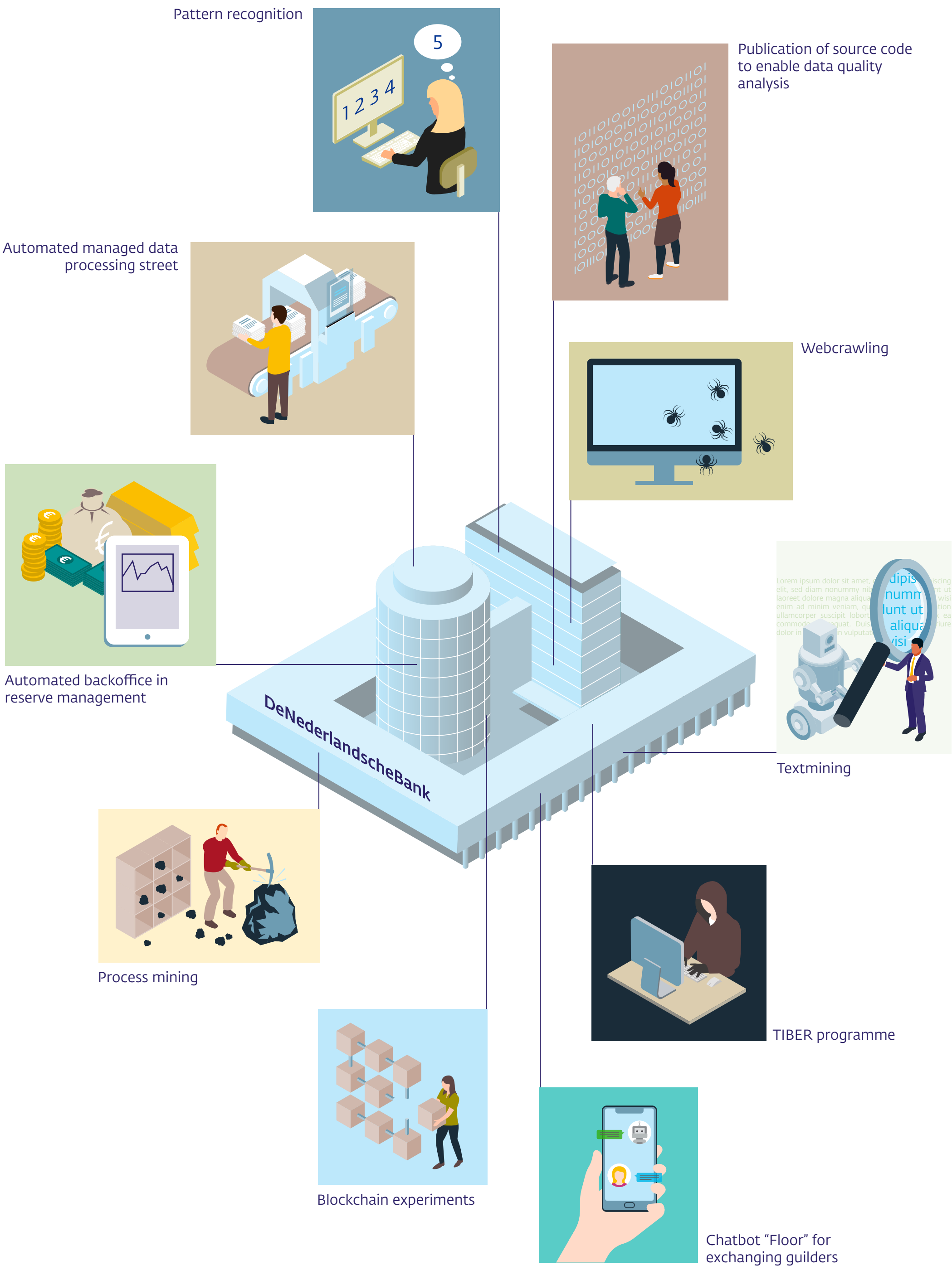
We seek to engage in dialogue with the sector, to learn from each other and to accommodate innovation. For example, we have started a dialogue on the responsible application of AI technologies. In addition, we have developed applications that insurers can use to improve the quality of their data. These applications are open-source, which means our working methods are transparent and allow interested parties to make proposals for adjustments. Another example is our TIBER cybersecurity programme, through which we conduct hack tests that allow us and the supervised institutions to gain a clear picture of the latest cyberthreats and the measures that can be taken to counter them. The InnovationHub also contributes to the dialogue. This joint initiative was set up by the AFM and DNB to answer market parties' questions about our supervision of innovative concepts. Over 650 questions have been answered since its launch in 2016, and this has yielded valuable information that we use to draft or adjust policy. Together with other supervisory authorities (ACM, AFM, AP) and the sector we organise the annual "FinTech Meets the Regulators" conference to discuss relevant developments. This also contributes to the dialogue. Last but not least, as a partner in the National Forum on the Payment System (NFPS) we work to prevent the elderly and low-literate from being excluded in society due to digitalisation.

 We will further intensify our dialogue with the sector. Cooperation and dialogue are essential elements of our Digital Strategy. The newly established innovation forum (iForum), in which the AFM is also involved, will play a key role in shaping the dialogue. In consultation with the sector we are working on a roadmap to explore relevant themes, such as the application of data analysis to strengthen institutions' risk management. We are also proactively looking for opportunities to experiment, in cooperation with the sector, and to digitalise and optimise existing reporting and supervisory processes. This should help to ensure that institutions incur proportionate costs to comply with regulations and meet their reporting obligations.

DNB and digitalisation

Digitalisation is not new for DNB. IT has always played a prominent role in the financial sector, and this has also affected our supervisory work. To illustrate, information technology has for many years played an important role in our processing and analysing of data. The use of data is, however, increasingly important to our work, and we request data from financial institutions in ever greater volumes and detail. Every quarter, we receive hundreds of reports containing hundreds of millions of data points from supervised institutions as well as a broad range of macroeconomic statistical data. To conduct effective supervision, we need to analyse and connect the underlying data in a smart way. That is why we, for example, apply pattern recognition techniques to scan supervisory reports for data errors, significant trends or unusual behaviour, and use web crawlers to chart new financial parties.

However, there is still much to be gained. We have developed an organisation-wide Digital Strategy to leverage the benefits of digitalisation. This will require time and money. We are making investments in our digital portals to enable a faster and more efficient exchange of data with supervised institutions. This will prevent duplicate data requests and will help to improve the quality of the data submitted. In the short term, we want to work towards more data-driven continuous supervision, i.e. real-time supervision, for instance by analysing large files of unstructured data and implementing new analysis techniques. An example of this is process mining, a technique to analyse information from institutions' digital log files that automatically register all events in a specific process. This can help to assess whether institutions are adhering to their own prescribed processes in practice. We are also investing in the digital skills of our staff members and promote an adaptive and flexible working culture with room for creative ideas. All of this will help us to do our work better and more efficiently.

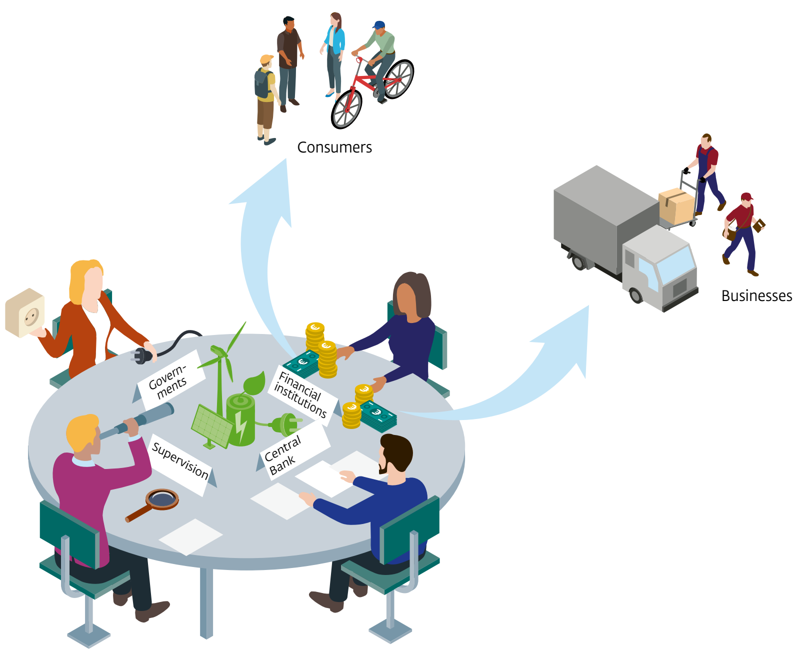

Pattern recognition
5
1 2 3 4
Publication of source code to enable data quality analysis
Automated managed data processing street
Webcrawling
Automated backoffice in reserve management
DeNederlandscheBank
Textmining
Process mining
TIBER programme
Blockchain experiments
Chatbot "Floor" for exchanging guilders

3 Can we please turn down the thermostat?

Tackling climate change is one of the biggest challenges of our time. The earth is heating up and the global climate is changing drastically as a result of human behaviour. The United Nations currently predicts a worldwide temperature rise of 3.2 °C, despite the Paris Agreement's aim to limit this increase to an average of 2 °C. In order to achieve the Paris objective, it is essential to move towards a sustainable global economy much more quickly than is currently the case. The window of opportunity to complete the energy transition is shrinking, as we edge closer and closer to the tipping point where the damage caused by global warming to the planet, human life and the economy becomes irreversible. Moreover, the impact of measures to combat climate change will not be felt for decades to come, which is why the Intergovernmental Panel on Climate Change (IPCC) emphasises that climate change needs to be addressed in a timely manner. In other words, we need to take action right now.

In order to accelerate the energy transition, it is crucial governments, central banks, supervisory authorities and financial institutions take firm and decisive action. All these entities have a specific role to play in achieving a completely climate-neutral economy by 2050 (see Figure 1). As the economy still largely depends on fossil fuels, a fundamental reorientation is called for. With their climate policies, governments are the driving force behind this reorientation. Central banks advise governments on the transition. In addition, the risks posed by climate change also directly impact the balance sheets of central banks.

Figure 1 Energy transition demands decisive action across the board



Supervisory authorities closely monitor the risks involved in the reorientation and indicate how they expect financial institutions to contribute to managing climate risks. The financial sector plays an integral role in the reorientation of the economic system, as it provides businesses and households the financial means needed to complete the transition.

Everything depends on the successful transition of our economic system. This means that, given the high costs of the energy transition, we will be forced to make a number of difficult choices as a society. But making those choices is unavoidable, as the costs of doing nothing are much higher (see Box 1). The economic damage is far greater when we do nothing, and the same transition costs then still need to be incurred at a later stage. But the energy transition is not just about costs. It also offers us opportunities to improve our quality of life and to boost the economy by developing green products and services. In any event, the following actions are crucial to ensuring the success of the transition:

- Governments accelerate the energy transition by properly pricing carbon emissions, cutting subsidies for non-green energy sources, and stimulating and regulating the green finance market.
- Central banks incorporate climate and the wider sustainability risks in their own risk management and investment strategies, while supervisory authorities do the same in their monitoring of financial institutions.
- Financial institutions manage climate risks, help finance the energy transition and are transparent about their climate strategy.

Box 1 Economic impact of climate change

Global warming has a negative long-term impact on the economy. According to a recent IMF study, a temperature deviation of 0.01 °C (compared to the last 50 years) reduces trend growth per capita by an average of 0.05 percentage points per year. Rising temperatures will lead to more frequent and more disruptive natural disasters, causing significant damage to the global economy. But the effects of climate change will not just become apparent in the long term – they are already being felt today. For instance, in 2018 climate change caused extreme weather conditions, which resulted in an economic loss of USD 160 billion worldwide. The average temperature in the Netherlands has increased by 1.9 °C since 1906. This is almost double the average global rise in temperature for that same period, which amounts to 1.0 °C. The impact this has on our environment – and with that, on our economy and the balance sheets of our financial institutions – is profound.

The role of governments

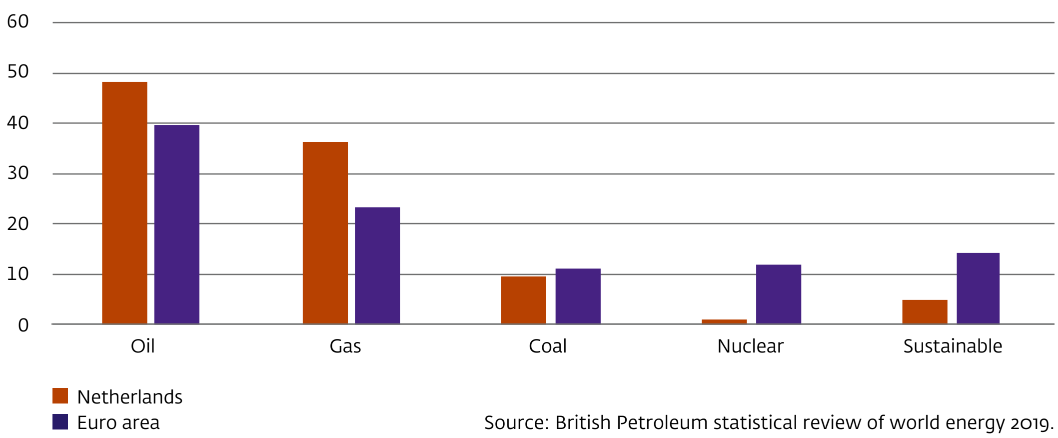
Governments must implement climate change policies in order to accelerate the energy transition. These policies should outline a clear and credible path for the transition to a climate-neutral economy, as this reduces uncertainty and encourages businesses and households to make the necessary investments in sustainability as soon as possible. By doing so, abrupt policy measures later on can be avoided, as can the financial shocks that typically accompany such measures. One way in which governments can help accelerate the energy transition is by pricing carbon emissions, cutting subsidies for non-green energy sources, and stimulating and regulating the green finance market.

This acceleration is necessary in order to achieve the Paris objective of limiting the average global rise in temperature to 2 °C. To ensure a smooth transition, worldwide carbon emissions should already be decreasing. Instead, record-high levels were noted again in 2019. This means that the climate targets and policies that are already in place must be sharpened once again. That is why DNB supports the European Commission's Green Deal proposal to enshrine in law the goals of reaching complete climate neutrality in Europe by 2050, and a carbon reduction of 50-55% by 2030. Making these goals legally binding prevents procrastination and provides certainty to businesses, investors and households.

The Netherlands still has a long way to go as well. The Dutch Climate Agreement, for example, includes a target carbon emissions reduction of 49% by 2030, which is less ambitious than the European Green Deal reduction target. In addition, an analysis by the Netherlands Environmental Assessment Agency shows that we are unlikely to even reach that lower target. Compared to other European countries, the Netherlands is lagging behind in its use of renewable energy (see Figure 2).

Figure 2 Sustainable energy sources relatively underused in the Netherlands

Composition of energy consumption by source in 2018, in percentages



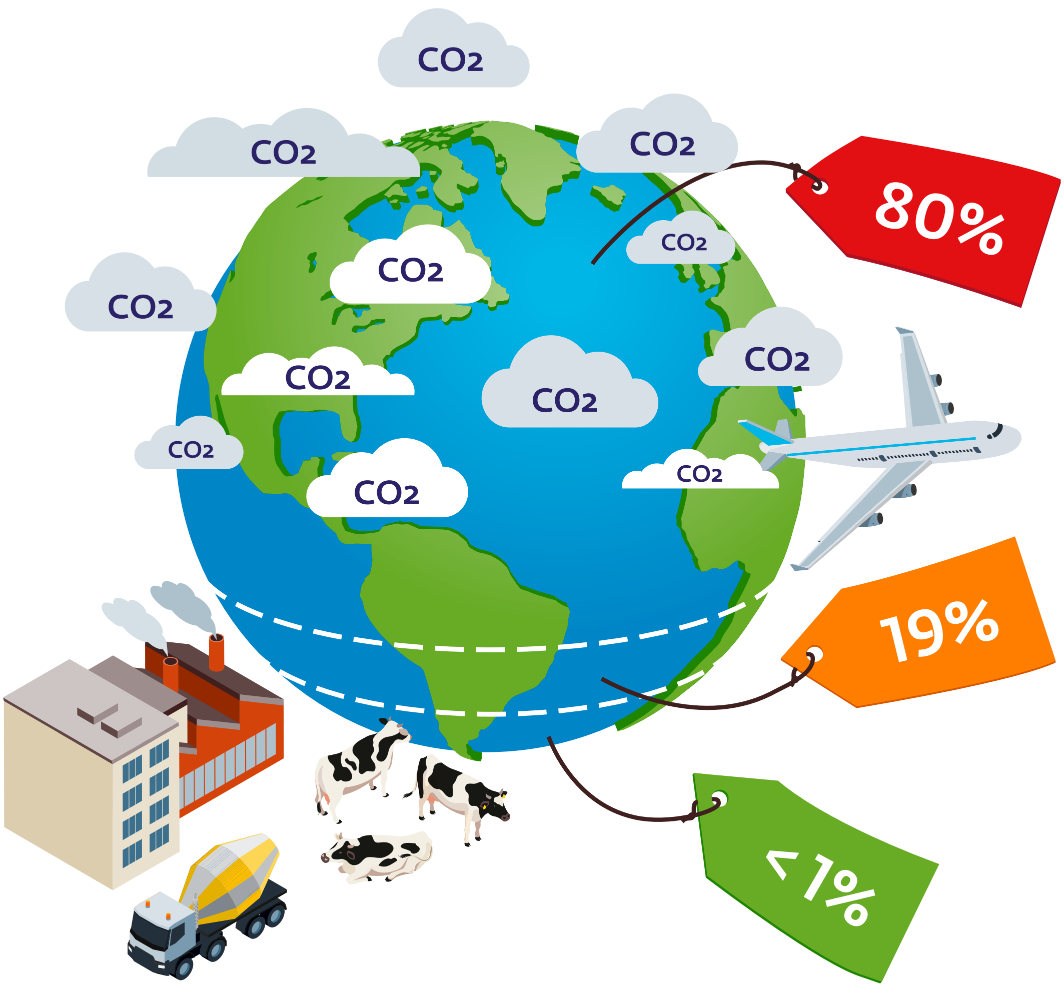
Source: British Petroleum statistical review of world energy 2019.

In addition, the Dutch economy relies heavily on a number of carbon-intensive sectors, such as the petrochemical industry, transportation and greenhouse horticulture. In order to meet the goals of the European Green Deal, the Dutch Climate Agreement must therefore be tightened and amended to include more concrete policy measures.

Governments can help accelerate the energy transition by properly pricing carbon emissions. From an economic perspective, pricing is the most effective means of reducing carbon emissions. A key factor currently slowing down the energy transition is the fact that companies still have insufficient financial incentives to reduce their emissions. It is therefore up to governments to impose proper carbon pricing. An adequate carbon price would at least be equal to the present value of future damages resulting from an additional metric tonne of carbon emissions today.

Figure 3 Global emissions still insufficiently priced

20% is priced, of which only 1% is sufficiently priced

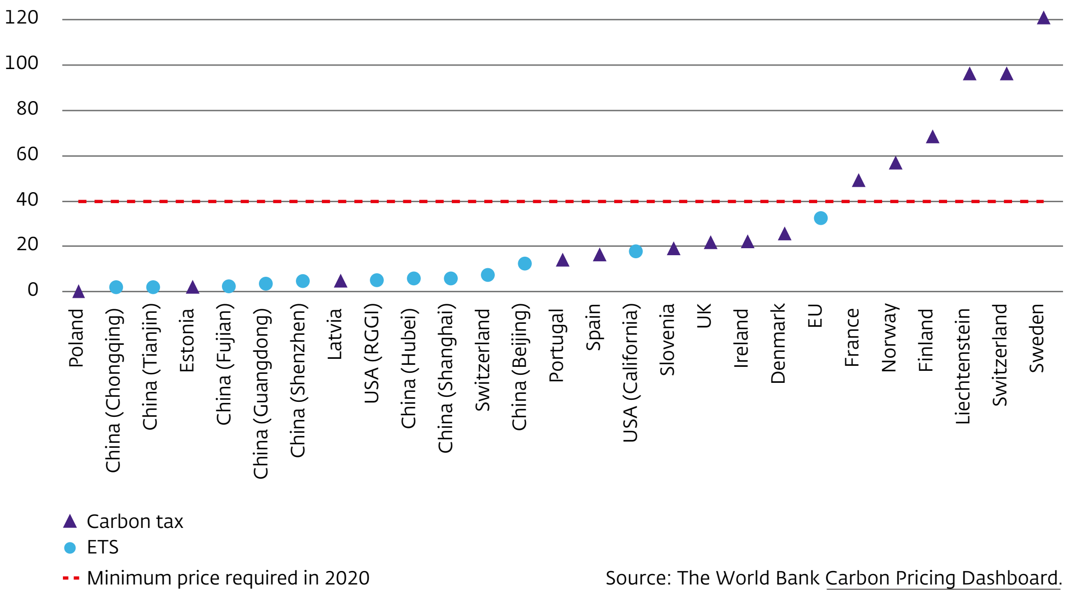


32 Ideally, this price would be high enough to make investing in emission reduction more attractive than buying emission rights. There are two types of direct carbon pricing: the first is a carbon tax, where the carbon price is fixed and the market determines the demand for emission allowances; the second is a carbon-trading system, where the market determines the carbon price and the number of allowances is fixed. In addition, carbon emissions can also be priced indirectly, for example by means of energy and transport taxes. It is also important that fossil fuel subsidies are phased out, and that climate change is given due consideration in the award of any subsidies in future. This will prevent public funding from stimulating behaviour that is harmful to either the climate or the environment.

While global carbon emissions are increasingly being priced, the current efforts in this regard are far from sufficient. Before the Paris Agreement started taking shape, at the end of 2015, there were 38 carbon-pricing systems in place – or in the process of being implemented – worldwide. At the beginning of 2020, this number has grown to 58. Still, despite their large number, these systems only cover 20% of global emissions (see Figure 3). Moreover, half of those emissions are priced below USD 10 per tonne, whereas the World Bank estimates that a price between USD 40 and USD 80 per tonne is necessary to achieve the Paris objectives. Even in the countries with the highest pollution, the carbon-pricing systems cover only a limited number of sectors or regions, with insufficient price levels. China has the highest carbon emissions overall (31.3% of the global total in 2018), followed by the United States (16.8%) and the EU (9.3%, including the UK). In China and the United States, regional carbon-trading systems with relatively low price levels are used (see Figure 4). It should be noted, however, that China is planning to introduce a national trading system later this year.

Figure 4 Carbon prices in Europe, the United States and China

Prices in USD, data from November 2019, minimum required price concerns an estimate by the Worldbank



Source: The World Bank Carbon Pricing Dashboard.

One way in which the EU is pricing emissions is through an emissions trading system (ETS). In addition, a number of European countries, such as France, Portugal and Spain, have also introduced their own national carbon taxes.

The carbon price must be raised, while the scope of the ETS must be widened. Given the fact that climate change is a global problem, carbon pricing should ideally be the same across the board – for every company, in every country. But seeing as global coordination on carbon pricing has yet to materialise, we are calling for appropriate carbon pricing at European level, in addition to an extension of the scope of pricing measures to include all relevant sectors. In this regard, the current European proposal to extend the scope of the ETS is a step in the right direction. Moreover, with a view to the slow pace at which international initiatives are currently materialising, action must be taken at national level as well. In the Netherlands, the government plans to introduce a carbon tax for the industrial sector.

A DNB survey from 2018 showed that the impact of adequate pricing on the Dutch economy can be limited as long as the government uses the additional tax revenue to relieve specific industries. There could even be economic growth if the additional revenue leads to a reduction of other taxes. In any case, it is clear that effective carbon pricing for the Dutch industrial sector, consisting of energy taxation and the ETS, would currently be relatively low compared to other countries. As such, the Dutch government's intention to introduce a carbon tax for the industrial sector is a step in the right direction. Still, it is not enough, given the fact that the emissions of other sectors, such as agriculture, transport and construction – all heavy polluters – are still underpriced. This could be mitigated, for example, by imposing consumer taxes, in the form of a carbon VAT. The benefit of a VAT would be the strong financial incentive it would give consumers to opt for sustainable alternatives. If such a tax were to be imposed, however, due consideration should be given to feasibility in terms of the income effects for vulnerable groups.

Additional policies are needed to prevent heavy-polluting countries from benefiting from more stringent climate policies elsewhere, both within and outside the EU. Within the EU, the ETS causes a so-called waterbed effect (see Box 2): because emission ceilings have been set at European level, additional emission reductions in one country give other countries additional options to increase their emissions. This waterbed effect limits the effectiveness of additional national policies for ETS sectors, such as national carbon taxes for the industrial sector. We estimate that, under the current ETS legislation, roughly 30% to 60% of the emission reductions in the Netherlands resulting from carbon taxes will be cancelled out elsewhere in the EU in the period between 2020 and 2030. Countries should therefore be given more possibilities to cancel ETS allowances entirely if they choose to implement additional climate policy. Additional policies are also needed to prevent European manufacturers from losing market share to heavy-polluting competitors outside the EU. One policy option would be an import tariff that depends on the quantity of emissions – the so-called 'carbon border tax adjustment'. The above-mentioned carbon VAT is also an option. As this form of tax would also apply to imported goods, it would in fact also act as an import tariff.

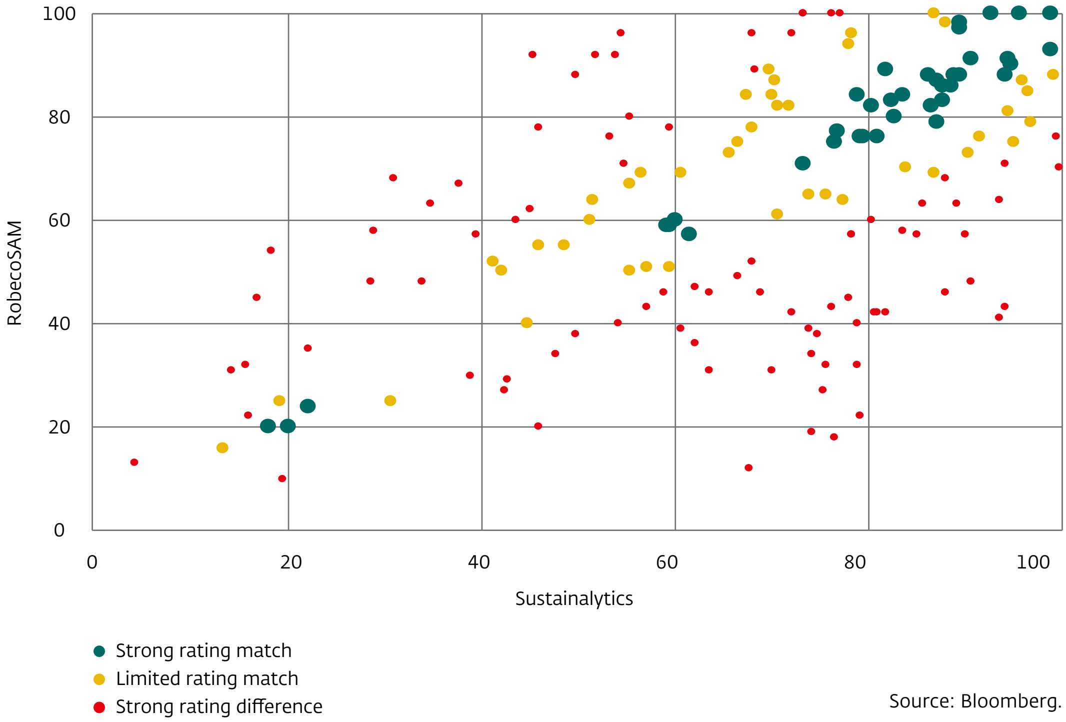
Box 2 The legal waterbed effect

Europe prices carbon emissions by means of an emissions trading system (ETS). For each ETS sector, a total emissions ceiling is set at European level. When a government introduces additional national policies for ETS sectors, other countries are allowed to increase their emissions before the cap is reached. Before the introduction of the market stability reserve (MSR) in 2019, this waterbed effect prevented additional national policies in ETS sectors from having the desired effects at European level. If additional national policies are in place, the MSR can cancel certain allowances and remove them from the market. As this does not constitute a full cancellation, a more limited waterbed effect remains, where reductions in one country still lead to increases elsewhere in the EU.

It is important that governments support the emerging green finance market by developing clear criteria for which activities are 'green', 'grey' and 'brown'. To achieve the Paris objectives, a significant shift of capital from emission-intensive to sustainable investments is required. An important portion of this money should come from financial institutions and the capital market. A key condition in this regard is clarity regarding which activities are considered 'green', 'grey' and 'brown'. These categories can be compared to the energy labels assigned to homes in the European Union, which divide them into different classes according to their energy efficiency. The EU initiatives which are currently in place not only provide investors with this much-needed clarity on the classification of activities, but also on the extent to which companies are willing to invest in sustainability. Because the majority of sustainable investment funds are not so much concerned with making more green investments, as they are with excluding companies that contribute too little to the energy transition. Only a small number of these funds actually have the explicit objective of bringing about a greener economy through so-called impact investing. As a result, the green finance market remains only a fraction of the overall capital market, despite strong growth. Green bonds, for example, make up less than 1% of the market share of the total bond market. By introducing clear criteria and standards, governments can stimulate the market.

Governments must not only stimulate the green finance market, but regulate it as well. At present, despite the availability of general sustainability scores for companies across various markets, comparing these scores remains difficult. The reason for this is that such scores are generated by different suppliers, who use a wide range of definitions and methods to assess sustainability. This applies not only to environmental scores, but also to social and governance scores (see Figure 5). In order to accurately assess returns, risks and sustainability criteria, financial institutions and investors require an ESG system that is better regulated, more transparent and more consistent.

Figure 5 Environmental, social and governance (ESG) ratings differ strongly per supplier



Source: Bloomberg.

DNB's role

As an independent advisor and supervisor, we can be a driving force behind the reorientation of the Dutch economy. In recent years, we have fulfilled this role by setting up the National Platform for Sustainable Finance, in which ministries, supervisory authorities and the financial sector work together on sustainability initiatives. We are also a founding member and currently chair the Network for Greening the Financial System (NGFS). Through the NGFS, central banks and supervisory authorities from around the world are working together to green the financial system, and to encourage financial institutions to contribute to achieving the Paris objectives. One of the network's milestone achievements is the now widespread recognition that climate risks are a source of financial risks. This means that financial institutions must take these risks into account in their risk management, and that climate risks now fall within the remit of supervisory authorities and central banks. The NGFS publishes reports with concrete advice for central banks and supervisory authorities on how to incorporate climate risks in their risk management and in their supervision of the financial sector. The network currently comprises 54 central banks and supervisory authorities and 12 international financial institutions which function as observers. The latter group includes the Basel Committee on Banking Supervision (BCBS) as well as the International Association of

Insurance Supervisors (IAIS). BCBS explores the impact of climate risks on banks, while IAIS concerns itself with the effects on insurers.

In its role as a supervisory authority, DNB encourages financial institutions to mitigate the impact of climate risks. In 2016, we started mapping climate risks for the Dutch financial sector. To do so, we subjected the sector to a climate stress test and conducted an investigation into its exposure to climate-related risks, which led us to conclude that climate change and the energy transition could lead to significant losses. This contributed to our decision to make climate risk management an integral part of our supervision. Concretely, this means that climate risks will be addressed more frequently in supervisory meetings, thematic examinations and the mandatory periodic risk assessments financial institutions carry out themselves. In 2019, we shared our expectations with regard to climate change policy with the institutions under our supervision. While our objective was the same for each organisation, our approach was tailored per sector. For banks, we published a Q&A and a good practices document, in which we explain how climate risk can be incorporated into governance, risk management and reporting. Insurers were also provided a Q&A and a good practices document, containing guidance on how they should factor climate risks into their own risk assessment. For example, we expect insurers to assess the impact of physical risks and transition risks on their balance sheets. For the pension sector, we published a fact sheet containing an overview of all relevant sustainability legislation, in addition to answering frequently asked questions through a newsletter. These included questions on how pension funds should use contingency scenarios and qualitative analyses to make an assessment of the physical risks and the transition risks for specific sectors and investment categories.

Mapping and mitigating climate risks for the financial system is a major challenge. The NGFS is set to publish several documents on this topic in 2020, such as a guide for supervisors and a publication on scenario analysis. It is vital that international regulators develop clear and consistent regulation for mapping and reporting climate risks. This would include, for example, uniform scenarios for calculating the impact of climate policy. We will continue to develop the methodology of the climate stress test and apply it again to the Dutch financial sector. The new-and-improved stress test will also map the climate risks for the real estate sector. In addition, we are currently conducting a climate stress test on our own balance sheet.

The financial sector needs higher-quality sustainability statistics, such as data on investments and disposals as a result of the energy transition, or data on the financial sector's exposure to 'green', 'grey' and 'brown' factors. Here too, governments and public institutions, including central banks, should act as a driving force by collecting, analysing and publishing data on sustainability. In 2020, DNB will be working together with the IMF on developing sustainability statistics. At the same time, it is important that financial and non-financial corporations improve their sustainability reporting. For example, the most impactful financial consequences of climate risks should be clearly reflected in accounting standards, and thus be included in corporations' financial statements as well.

The Sustainability Accounting Standards Board (SASB) and the Task Force on Climate-Related Financial Disclosure (TCFD) are already taking important steps to explicitly include climate risks in external reporting.

In addition to climate risks, our supervision is paying increasing attention to more general sustainability risks as well. We are currently working with the Netherlands Environmental Assessment Agency to assess the exposure of Dutch institutions to the risks associated with loss of biodiversity. So far, this investigation has shown that in 2017, Dutch institutions invested more than EUR 55 billion in shares of companies involved in environmental controversies that were registered in MSCI's ESG Controversies product (© 2019 MSCI ESG Research LLC. Reproduced by permission). Investments like these entail a direct reputational risk. The full results of the study will be published around the summer of 2020. The next step is to give these broader sustainability risks a fixed place in our supervision, similar to how we treat climate risks. Previous research has shown that even though 25 large Dutch banks, insurers and pension funds are particularly exposed to these risks, these financial institutions have not yet sufficiently integrated them into their business operations. For example, they invest EUR 97 billion in shares of companies operating in areas with significant water scarcity and EUR 56 billion in companies dependent on scarce resources.

Central banks are also facing the challenge of incorporating climate risks and broader sustainability risks into the risk management of their own portfolios. We were the first central bank in the world to sign the Principles for Responsible Investing (PRI) in 2019. This requires us to better manage the environmental, social and governance (ESG) risks involved in our own investment activities. We will also report on this. These PRIs do not apply to the monetary portfolios, which are much more substantial than our own investments. The presence of central banks in the financial markets has been growing strongly as a result of the accommodative monetary policy. For these portfolios, we currently rely heavily on credit rating agencies' opinions on how best to control credit risk. But the question is whether these agencies take sufficient account of climate risks. Therefore, we consider it important for the ECB and the national central banks to jointly explore additional measures to manage climate risks. DNB would encourage the ECB to take on a leading role in the pricing of climate risks through the implementation of its monetary policy. In this way, the ECB would contribute to increasing transparency on climate risks in the financial markets. The ECB might also consider promoting transparency by making carbon emission reporting a requirement in its monetary operations and purchase programmes. This transparency is needed not only for the market, but also for the ECB itself, to enable it to properly assess climate risks.

The role of the financial sector

The financial sector provides the financial means that businesses and households need to make the energy transition. In this process, it is important that financial institutions properly assess the impact of climate risks for governments, businesses and households. The financial sector faces two types of financial risks posed by climate change and climate change policy: physical risks and transition risks.

Physical risks for the financial sector arise from increased damage and losses due to natural phenomena, including high temperatures, storms, precipitation, drought and flooding. When these damages are insured, this has a direct impact on insurers' business models and risk management. When these damages are uninsured – and therefore borne by households, businesses or public authorities – this affects financial institutions' exposure to these parties. The second type of risk, transition risk, is the result of the transition to a carbon-neutral economy. Climate policy, technological developments and changing consumer preferences may cause the value of loans and investments in sectors and companies that emit large quantities of carbon dioxide or other greenhouse gases to decrease much faster than previously expected. Underestimating this risk could lead to sudden and significant losses in the financial sector. Such a collapse is what is known as a Minsky moment (see Box 3).

Box 3 Will climate change cause a new Minsky moment?

A Minsky moment is a sudden and significant collapse of asset values, which marks the end of a growth phase in the economy. A new Minsky moment could occur if investors suddenly were to recognise the severity of climate risk, leading to mass disposals of investments that are highly sensitive to the negative impacts of climate change. Policymakers and society both have a vested interest in a gradual adjustment of the financial system in order to avoid a climate-related Minsky moment.

The Dutch financial sector is increasingly aware of climate risks, and it is taking the appropriate steps to mitigate them. For example, many financial institutions have identified which carbon-intensive sectors they have been exposed to. Dutch financial institutions committed themselves to report on the climate impact of their loans and investments, and to reduce this impact. This is an important step, which deserves appreciation. The next step is for financial institutions to encourage their customers to reduce climate risks by reducing their carbon emissions.

DNB expects financial institutions to establish a methodology for measuring, assessing and mitigating climate risks. The financial risks of climate change are a relatively new concern – one that demands we change many of our common practices, such as the methods we use to assess credit risk. Climate change has no precedent, which means we cannot rely solely on historical data to understand its consequences. As such, financial institutions would do well to ensure that climate contingency analyses and stress tests are added to their risk management tools. But we must not focus all our attention on looking ahead; it is also crucial that we take action in the short term, as climate risks are already rearing their heads. One example of such a risk is the tightening of sustainability requirements for the Dutch office market. From 2023 onwards, offices larger than 100 m^2 must have an energy-efficiency rating label of C or higher. This has a direct impact on the rentability of offices with a rating label below C, affecting the creditworthiness of the owners of these premises. We investigated whether banks, insurers and pension funds have made the necessary preparations to absorb this transition risk. Our research shows that large banks in particular have significant exposure to commercial real estate with low energy-efficiency ratings. Another finding that stands out is the fact that some institutions have only limited insight into the energy-efficiency ratings of the buildings for which they have provided loans or in which they have invested. We will soon report our findings to the sector. Previously, DNB analysed the multifaceted impact of climate risks on the Dutch financial sector.

The financial sector is a key element in the reorientation of our economic system. It is therefore important that the financial sector finances the energy transition in a transparent manner. Financial institutions such as banks, insurers and pension funds have a social responsibility to report to all stakeholders on how and the extent to which they are contributing to realising a climate-neutral economy. Where necessary, DNB will provide advice and incentives. If governments, central banks, supervisory authorities and financial institutions all take up the gauntlet and play their part, we will be able to overcome one of the greatest challenges of our time.

4 Accountability

The previous chapters examined the external developments affecting DNB: long-term low interest rates, the digitalisation of society and climate change. These three developments are relevant for our work, both now and in the future, which is why they are reflected in our new multi-year strategy (DNB 2025), which we adopted in 2019. The new strategy is fully in keeping with our societal mission: "Safeguarding financial stability and sustainable prosperity in the Netherlands". This mission remains just as urgent and current as ever. However, the speed with which our world is changing means we must explore new avenues to achieve it. To this end, we have defined six strategic ambitions at three levels – society, the financial sector and our own organisation – that form the very core of our agenda for change. Starting in 2020, we will comprehensively monitor our progress toward achieving the new strategic ambitions.

This chapter looks at our main results in 2019. We focus specifically on the tasks and achievements that we and our stakeholders consider most important for achieving our societal mission, including our CSR priorities: sustainable economic growth that has no harmful effects on the environment, and an inclusive financial and economic system. Our new CSR strategy explains these priorities in more detail, and Figure 1 provides an overview of our tasks, results and societal impact.

Figure 1 DNB's value creation model

1 Monetary tasks

As a member of the Eurosystem, we contribute to decision-making regarding monetary policy and its implementation. Monetary policy is aimed at ensuring price stability; the ECB's aim is to achieve a rate of inflation below but close to 2% in the medium term. The ECB made monetary policy more accommodative in 2019 to boost inflation. Nevertheless, inflationary trends continue to fall short of the target. A number of factors are behind this, which have resulted in a trend-based decline in core inflation. These factors, which are beyond the direct influence of monetary policy, include globalisation, a shift to a service-based economy, along with demographic and technological developments.

The ECB's accommodative policy has likely prevented even lower inflation, or possibly deflation. The ECB has maintained a highly accommodative monetary policy for quite some time. Nevertheless, the ECB has not yet managed to drive inflation towards the target. Against this backdrop, it was decided in September 2019 to lower the main policy interest rate even further to -0.5%. When doing so, the ECB stated that the rate would not be increased until inflation moved convincingly to a level of below but close to 2%. Simultaneously with the interest rate cut, some of the reserves banks hold with the ECB were exempted from the negative interest rate to support bank lending. Finally, the ECB decided to resume net purchases of government and corporate bonds at a rate of EUR 20 billion per month starting on 1 November 2019.

Monetary conditions in the euro area are to remain very accommodative for the time being. In addition to the September stimulus package, the series of long-term credit operations for banks (TLTRO-II) announced in the spring also contributed to maintaining the very accommodative monetary policy. These credit operations served to maintain favourable financing conditions for banks to support the growth in lending to the real economy (excluding home mortgage loans).

We responded critically to the stimulus package announced in September 2019, especially with regard to the relaunch of the purchase programmes. Nevertheless, in September 2019 the ECB went ahead with its intentions to make monetary policy more accommodative. The ECB is of the opinion that exceptional policy measures are needed in the light of expectations for continued low inflation in the euro area. We acknowledge that the inflation outlook falls short of the target, which may partly be due to factors that are beyond the direct influence of monetary policy (see DNB research). Low core inflation has only become more persistent. This makes it more challenging than ever for central banks to fully comprehend the exact dynamics that drive inflation. The complexity of the interactions between inflation drivers underscore the fact that these cannot be fully controlled by central banks. Moreover, we feel that the stimulus package announced in September 2019, and in particular the relaunch of the bond purchase programme, is disproportionate to current economic circumstances, especially since wages are rising, the economy is steaming ahead at a healthy clip and credit has almost never been cheaper. Chapter 1 of this Annual Report elaborates on the impact of the current low interest rates and monetary strategy.

2 Advice and research

DNB plays an impartial advisory role in economic debates. We place the emphasis on sustainable prosperity and balanced macroeconomic development in Europe. In 2019, we gave expression to our advisory role through publications and statements on pension system reform, carbon taxation, measures to reduce the sensitivity of the housing market to economic shocks (cyclicality) and other topics.

DNB contributed to the agreement in principle between the government and social partners on pension reform. As a Crown Member of the Social and Economic Council of the Netherlands (SER), we participated in the development of that body's report 'Naar een nieuw pensioenstelsel' ('Towards a new pension system'). We also expressed our position on pension reform in an Occasional Study and in various appearances in the media and in the House of Representatives in The Hague. We are a proponent of a number of pension reform elements such as abolition of the system of uniform accrual and uniform contribution rates, and lifecycle investment strategies. These elements feature in the agreement in principle. It is vital that the provisions in this agreement in principle are subsequently enshrined in legislation, which is the responsibility of a steering committee consisting of representatives from government and the social partners. DNB is an advisory member of this steering committee. Finally, we stressed in the House of Representatives and in the media that we are not in favour of deferring pension curtailments. The government decided in 2019 to amend the rules, resulting in deferrals or reductions to pension curtailments. We stressed that deferring pension curtailments will result in redistribution from young to older members of the population. Moreover, it will complicate the transition towards a new pension system, because the new system will be burdened with past losses.

We also issued a positive recommendation on the introduction of a carbon tax at the national and European level. Figures show that CO_2 emissions among Dutch companies are relatively high, while they pay relatively little for it. A carbon tax is an efficient method for reducing emissions. DNB research indicates that a carbon tax will have a manageable impact on the Dutch economy as a whole. We communicated our research conclusions in 2019 through regular channels and directly to the House of Representatives. While we are in favour of an adequate carbon taxation system for the economy as a whole, we feel that the government has taken a positive step with its intention to introduce a carbon tax for the manufacturing industry. However, it remains necessary to take action at the European level to ensure the efficacy of national measures. In our advisory publications, we therefore call for additional measures at the European level, such as the ability to cancel EU emission allowances and to increase the targets for emission reduction in the European Emission Trading System. It is also important to phase out fossil fuel subsidies and to give due consideration to climate change in the awarding of any future subsidies. This will prevent public funding from encouraging behaviour that is harmful either to the climate or to the environment. Chapter 3 of this Annual Report sets out the measures we consider necessary in the field of climate change.

44 **Finally, we repeatedly called for measures to reduce the cyclical nature of the housing market.** The cyclicality of the housing market remains a matter of concern in the Netherlands. Strong fluctuations in house prices are undesirable because of the impact on household consumption, the asset position of households and the economy in general. The prevailing high cyclicality is due to the fact that it is attractive from a tax point of view to take on mortgage debt; Dutch lending standards are quite liberal from an international perspective. In 2019, we regularly highlighted the disruptive effect of the current tax regime, calling attention to this issue both in the media and through government channels. For example, we took part in the evaluation of the Owner-occupied housing scheme, which induced the government to question the tax treatment of owner-occupied housing in a Letter to Parliament.

3 Financial stability

DNB aims for a stable financial system that ensures an efficient allocation of resources and that can absorb shocks while avoiding disruptions to the real economy. Where possible and necessary, we take macroprudential measures to address systemic risks. In 2019, we used various instruments to make the financial system more resilient to shocks.

In 2019, we identified vulnerabilities in the financial system and we instituted measures to mitigate them. Our twice-yearly Financial Stability Report provides an overview of relevant developments and risks to the financial system. Last year's reports focused on the impact of low interest rates, high public and private debt, a potential price correction on the housing market and the ongoing interconnectedness between European governments and banks. We presented these risks and associated policy recommendations to stakeholders and we addressed them in our regular supervisory work. In the international context, we also monitored structural changes in the financial sector. Developments that we watched in 2019 included the growth of leverage financing and stability risks that result from financial innovation. Finally, we monitored developments in the financial sector to ensure thorough preparations for a no-deal Brexit.

We introduced macro-prudential instruments and we enforced rules with the aim of increasing the resilience of the Dutch financial sector. Systemic risk in the housing market remains high. Although the ratio of mortgage debt to GDP has decreased slowly in recent years, Dutch household debt remains among the highest in the world. We therefore continued to argue for a further reduction of the maximum loan-to-value ratio. Currently, however, there is no political support for such a reduction. To increase banks' resilience to a potential housing market adjustment, in 2019 we announced a floor for the risk weighting of mortgage loans. Dutch banks are now jointly required to hold some EUR 3 billion in additional capital for their mortgage portfolios. Furthermore, five systemically important banks must also maintain the additional capital buffer set in 2015, thus improving their ability to absorb unexpected losses. Should one of these banks fail, the risk and damage to the financial system and the real economy would be significant. Finally, we reviewed whether banks, pension funds and insurers held sufficient buffers to provide resilience in times of stress. We conducted stress tests to identify the vulnerabilities of financial institutions in different scenarios involving lower-than-projected economic developments.

We highlighted our climate stress test both at the national and the international level. The next step will be to introduce climate-related elements to international stress tests. In 2018, we subjected Dutch financial institutions to a specially developed climate stress test for the first time. The results indicated that a disruptive energy transition may lead to significant losses. We have now integrated this factor into our regular supervisory activities, and we are embedding climate risks into our supervisory methodology. For example, we have developed a risk indicator that enables supervisors to identify transition risks. The next step is for financial institutions and international regulators to include forward-looking climate elements in their risk management procedures and

46 stress tests. We highlighted our stress test by presenting it more than twenty times to financial institutions, international regulators, in forums, as well as at academic conferences. Our Occasional Study on the stress test is one of the first studies of its kind to measure the impact of the energy transition on the financial position of institutions. This underscores our leading role in international discussions on this topic. As the study indicates, climate stress tests are relatively novel. Our discussions with stakeholders assist us as we work to refine the methodology even further. In the years to come, we will continue to work on the development and implementation of an international climate stress test.

4 Cash and payment systems

Accessible, safe and secure payments systems are at the very core of a stable and inclusive financial system. DNB has the duty to ensure the smooth operation of payment systems, including the circulation of cash, to manage payment and securities systems and to monitor institutions and systems that process payment transactions. Together with other parties we also develop policies for secure and reliable payment systems. Our Payments Strategy elucidates our priorities. In 2019, the focus was on the sustainability and role of the cash chain, the introduction of instant payments and addressing the risks inherent to innovations in payment systems.

We made our banknote production processes more sustainable and we again called for the continued availability of cash as a means of payment. We are committed to ensuring a fully functioning cash chain, in which cash remains available as a means of payment and sustainability is paramount in banknote production. We use 100% sustainable cotton for our banknotes, and we have called on our fellow central banks throughout Europe to do the same. In 2019, the Eurosystem decided that sustainable cotton is to be used in half of banknote production, rising to 100% by 2022. In addition to our efforts to make the cash chain more sustainable, we initiated a discussion in the National Forum on the Payment System on the role of cash over the next five years. This is because cash is being used less and less often. We feel that it is crucial that cash remains available as a means of payment, because it serves a variety of socially important purposes. For example, people who are incapable of paying electronically need cash. It offers autonomous control, freedom of choice, privacy and it can be relied on when electronic payment systems malfunction. A cash-free society can be envisaged in the long term, once digitalisation and technological innovations provide workable alternatives for the key functions of cash.

Instant payments provided an efficiency boost to the Dutch payments system. As a result, payments can now be processed directly (24 hours a day, 365 days a year), with funds being made available in the recipient's account within five seconds. Banks had spent the previous four years creating the necessary payment infrastructure together with the Dutch Payments Association, clearing organisations and DNB. During that time, we also adapted our systems to the new infrastructure. Instant payments are the new norm in the Netherlands, and cross-border instant payments will be introduced in the long run.

In the international context, we emphasised the risks of innovations in payment systems, as there are currently no international standards for cryptocurrencies. Alongside lower costs and greater convenience, innovations also pose risks. These include the potential for money laundering and terrorist financing, tax evasion, privacy and competition concerns, and consumer protection. In 2019, these considerations came indubitably to the fore when Facebook announced its plans to introduce an electronic currency, the Libra. The announcement immediately raised policy issues about the regulation of stablecoins. We convened a project group consisting of members from throughout DNB representing different areas of expertise and perspectives.

48 As yet, there is no international agreement on how to deal with or regulate cryptos, leading to limited scope for supervision. It is therefore currently impossible to adequately address the risks related to money laundering and poor consumer protection. This is why we are contributing to an international regulatory framework by participating in several Financial Stability Board working groups. In principle, we have a positive attitude towards central bank digital currency (CBDC). We welcome the continued use of a public form of money. Cash still fulfils this role today, but given the decline in the use of cash this may be set to change in the future. CBDC could provide the desired policy options needed to protect the balance between public and private forms of money and safeguard fungibility between private and public money. We will address the objectives, the framework conditions and the structure of CBDC in a study to be published in 2020.

5 Supervision

5.1 Cross-sectoral themes

The purpose of our supervisory activities is to ensure that financial institutions conduct their business soundly and ethically, and that they meet their obligations. Economic conditions were relatively favourable in 2019, although low interest rates proved challenging for many financial institutions. Moreover, vulnerabilities often accumulate during periods of relatively favourable conditions. In our Supervisory Strategy, we identified three focus areas for 2018-2022:

- We respond to technological developments;
- We maintain an orientation on the future and sustainability;
- We take a hard stance against financial crime.

Below, we reflect on the primary developments in these three areas. The following section looks at the main developments by sector.

We respond to technological developments

Digitalisation is changing the financial landscape and creating new products and services. The financial world is in a state of flux in the digital domain. New operators are entering the market with innovative products and services, thanks to ongoing digitalisation and the use of specific technologies such as artificial intelligence. Digitalisation also calls for an appropriate balance between leveraging opportunities and managing risks. Chapter 2 of this Annual Report elaborates on developments in the area of digitalisation and how we are responding to them.

Specific technological developments occasionally require a specific supervisory response. New crypto applications keep emerging and the crypto ecosystem continues to evolve. A regulatory framework was established to address the risks associated with cryptos for consumers and in the context of combating money laundering. We also issued guidelines in 2019 for the use of artificial intelligence by financial institutions.

We are working with the sector wherever possible to shape the digitalisation of our supervisory activities. We need to continue to digitalise our organisation to ensure effective and efficient supervision. To this end we are working together with the sector. For example, in 2019 we conducted an experiment together with two pension funds and the Dutch Authority for the Financial Markets (AFM) on pension administration infrastructure based on blockchain technology. The results of this experiment provided valuable insights into the technical and legal implications of such an infrastructure. In 2019, we continued to merge the Digital Supervision Portal with the Digital Reporting Portal to create My DNB – a one-stop portal. This new portal is designed to foster the most efficient mutual exchange of information possible. We also launched the iForum at the end of 2019 to enhance interaction and cooperation with the sector on the theme of technological innovation.

50 We maintain an orientation on the future and sustainability

We embedded climate risks into our supervision and we identified how climate change and more general societal and sustainability challenges affect financial institutions. In 2019, our climate stress tests and DNB research revealed that institutions were exposed to financial risks arising from climate change, water and resource scarcity, biodiversity loss and human rights controversies. In addition to identifying sustainability risks, we ensured that financial institutions took appropriate measures to address them. In 2019, we communicated to institutions what we expect from them with regard to climate risks. Furthermore, we took the first steps in 2019 towards incorporating climate risk management into our supervisory examinations. Last year we conducted an investment survey at a large pension fund and an on-site inspection of a medium-sized bank. We intend to incorporate climate risks in these types of activities more often in the years ahead. The sector is also exposed to the more general sustainability risks mentioned above.
Going forward, we will need to take steps to include these risks in our supervision.

The financial sector must continue to work diligently to fully integrate climate risks into risk models. We clearly indicated to the sector that we expect financial institutions to address the climate risks that are relevant to them. We provided initial guidance on this topic to banks and insurers. However, financial institutions need to take additional steps, including more stringent identification of these risks along with mitigating measures. This is also because the financial risks of climate change are new and cannot be gauged properly using traditional risk models. In the years ahead, we will work alongside our international partners to develop reliable climate risk indicators and improve the availability of climate data. We also expect a commitment from the sector. Institutions should already be taking steps to control climate risks.

We take a hard stance against financial crime

Various financial institutions are investing more and more in restoring and ensuring the proper functioning of their gatekeeper role, but some are still not doing enough to avoid becoming involved in financial crime. In 2019, we closely monitored institutions that we had previously called to account to ensure that they were making real progress on their recovery and improvement programmes, many of which are comprehensive. In addition, we conducted several institution-specific and thematic examinations, in particular into how financial institutions prevent money laundering and terrorist financing. In a number of cases, these examinations resulted in interventions and formal measures. In addition to detecting new shortcomings, we also found that some institutions had relapsed, despite recovery measures that we had imposed. We also reminded the board members of institutions where interventions were needed of their personal responsibility.
In some cases, we imposed a corrective measure on an individual board member. Due to the planned expansion of integrity supervision functions (including oversight of two categories of crypto institutions), a capacity increase of 11 FTEs has been budgeted for 2020.

In 2019, we placed great emphasis on strengthening national public-private partnerships and engaging in dialogue with supervised institutions. It is only possible to fight money laundering effectively if all actors in the entire financial chain – from institutions with a notification requirement to investigative authorities and prosecutors – cooperate and put forth maximum effort. An important achievement in this context was the action plan on money laundering presented in the summer of 2019 by the Ministers of Finance and Justice & Security on the basis of input from DNB. This resulted in the establishment of the Serious Crime Task Force by the Financial Expertise Centre (FEC) in 2019. The purpose of this special task force, which DNB chairs, is to promote the exchange of information between the participating public and private entities. A number of banks have also taken the initiative to launch joint transaction monitoring. We actively engage our FEC partners to ensure that the public and public-private initiatives produce results.

We worked with our European partners to further enhance cooperation in the fight against money laundering and terrorist financing. Money laundering and terrorist financing are cross-border forms of crime, which is why we call for a European supervisory authority in these areas. As long as this is not yet the case, we are committed to strengthening international cooperation. For example, in 2019 we organised two Colleges of Supervisors on anti-money laundering. Multiple anti-money laundering supervisors from EU Member States participated. We also signed a multilateral agreement on information exchange with the ECB in early 2019.

5.2 Sector-specific themes

The previous section covered cross-sectoral themes. This section discusses sector-specific developments. Below we explain the main areas of focus in 2019 for each supervised sector: banks, insurers, pension funds, the trust sector and other institutions.

5.2.1 Banking supervision

In recent years, Dutch banks have strengthened their financial resilience and expanded their buffers. They will continue to boost their buffers in the years to come to comply with enhanced capital and resolution requirements. This enhanced resilience is important now that banks are faced with a more competitive and challenging market in their three main areas of operation: lending, holding deposits and facilitating payments. At the same time, long-term low interest rates are putting their profitability under pressure. The search for yield, which can be accompanied by higher risks, calls for extra vigilance on the part of supervisory authorities. This poses a challenge for us when it comes to setting priorities for the operational supervision of smaller banks. The ECB sets priorities and determines supervisory capacity for large banks. In our banking supervision in 2019, we emphasised anti-money laundering measures, liquidity position and capacity for change.

52 **We closely monitored whether banks took effective steps toward assuming their gatekeeper role, and we will continue this approach in 2020.** In 2019, we focused in particular on monitoring and assessing the realisation of the recovery and improvement programmes previously agreed with several banks, involving several years of significant financial and human capital investments in order to restore major shortcomings, for example in customer due diligence and transaction monitoring. At the same time, technological developments are requiring banks to invest in cutting-edge IT applications such as the use of artificial intelligence for transaction monitoring. In case of serious findings or a failure to institute sufficient remedial activities, we take enforcement measures, repeatedly if necessary.

We also paid special attention to the liquidity of banks in the European context. As part of our implementation of the ECB's supervisory agenda, we were actively involved in conducting an ECB liquidity stress test. This stress test was conducted at 103 European banks, including six banks in the Netherlands. They revealed that, in general, banks have adequate buffers to withstand liquidity stress. The data quality of the liquidity reporting is lacking, however, and needs to be improved. The stress test served to strengthen the focus on liquidity in the annual supervisory review and evaluation process (SREP). For instance, a closer look was taken at metrics that impact a bank's liquidity position. We discussed individual results and areas for improvement with the banks.

Banks must maintain their capacity for change. The 2018 SREP looked explicitly and closely at banks' capacity for change. We shared the results and recommendations with the banks, which followed up on them in 2019. Alongside our regular supervisory activities, we carried out various risk assessment system (RAS) reviews in the area of change capacity.

5.2.2 Insurance supervision

Insurers continue to face challenging market conditions. Beside the continued low interest rates, many insurers also face the necessity of transforming their business models. The traditional life insurance business has been in decline for years, while non-life insurance is subject to intense competition, both nationally and internationally. As a result, a great deal of our supervisory activities in 2019 took place in the context of consolidation and interventions at individual insurers. We also focused on the revision of the European regulatory framework (Solvency II) and the quality of insurers' risk assessments and crisis plans.

Our work on the review of Solvency II continues to be aimed at creating a level playing field for insurers. In 2019, we emphatically called for further harmonisation of the supervision of insurers, putting our case in particular to the European Insurance and Occupational Pensions Authority (EIOPA). Our specific focus is on the harmonisation of the supervision of internal models, cross-border insurance activities and consolidation and acquisitions, including the use of reinsurance. The dilemma in some cases is that stricter supervision in the Netherlands does not always have the desired effect (protection of policyholders), because insurers may opt to move activities to a jurisdiction with less stringent supervision. We therefore remain committed to creating a level playing field within Europe. This is important not only from the perspective of the European internal market, but also to ensure that policyholders enjoy equal levels of protection. We feel that this level playing field should cover not only insurers that are currently active in the various EU Member States, but also new entrants such as insurers that are affiliated to private equity funds. In the context of the review of Solvency II, we also focused on adjustments that better reflect the economic reality, while limiting the economic impact on supervised institutions.

The quality of Own Risk and Solvency Assessments (ORSA) needed emphasis, and we initiated crisis plan reviews in 2019. In 2019 we examined ORSA future projections, and we concluded that the assumptions underlying the ORSAs are not well founded. We will call insurers to account and encourage them to make structural quality improvements. We also initiated a thematic examination in 2019 to assess insurers' preparatory crisis plans. Insurers must prepare these plans under the Act on the Recovery and Resolution of Insurers (*Wet herstel en afwikkeling van verzekeraars*) that entered into force on 1 January 2019. We published a Good Practice for crisis planning in 2019; the thematic examination will continue in 2020.

5.2.3 Pension fund supervision

Financial position recovery remains a key issue in the pension sector. Although some pension funds were able to grant full or partial indexation in 2019, a number of large funds remain distressed. The Dutch government issued a ministerial regulation, so that pension cuts that had been foreseen for most pension funds in 2020 could be reduced or abandoned. However, the threat of curtailments in the long term remains. We will continue to monitor financial position recovery as part of our supervisory activities.

In 2019 we engaged with the pension sector on obstacles to consolidation. The number of pension funds in the Netherlands is steadily falling, from over 1,000 in 1998 to around 220 in the year under review. Decisions by pension funds to wind up are mostly driven by multiple converging trends, including the increasing cost of pension administration, accumulating statutory requirements, difficulties in finding suitable board members, a vulnerable financial position or demographics and developments at employers such as mergers, bankruptcies or pension scheme amendments. Diligent decision-making on the future of a pension fund takes time. Taking too much time, however, has the potential to result in lower results for members. For this reason, we conducted discussions in 2019 on the dilemmas experienced by different parties in practice. We spoke with pension providers, umbrella organisations and consultants, among other parties. We learned that obstacles are perceived in terms of (i) governance, (ii) dealing with the fund's financial structure in the case of winding up and (iii) internal and external winding-up processes. We shared these findings with the broader sector in a newsletter in early 2020. We will continue to revisit this topic as necessary.

We emphasised the structure of key functions in our supervisory meetings with all large and medium-sized pension institutions. Key functions are intended as a counterbalance to units that are responsible for operational activities. Key functions have been mandatory since the implementation of the Institutions for Occupational Retirement Provision Directive (IORP Directive – IORP II). We provided the pension sector with information on the contents of this directive in presentations at various seminars, round table sessions, in guidance documents and in Q&As on our website. In addition, during the year under review we assessed and approved the structure of key functions at all large funds and some of the medium-sized funds based on documentation they submitted. We subsequently initiated assessments of key function holders.

5.2.4 Supervision of the trust sector and other institutions

Our supervision of the trust sector was rigorous in the year under review. We made use of targeted communication to address the enhanced requirements of the Act on the Supervision of Trust Offices (Wet toezicht trustkantoren - Wtt 2018), including the requirement to have two day-to-day policy-makers. Some of the trust offices came to the realisation that they were unable to meet the enhanced requirements, as evidenced by a drop in the number of licences granted and other factors. More illegal trust services are now being offered, however, which is an unintended side effect of our rigorous regulatory presence. We saw an increase in the number of signals regarding such services in the year under review. We assess all signals we receive. Not all signals reach us, however, meaning we cannot estimate the totality of illegal trust services.

A large number of investment, payment and e-money institutions entered the Dutch market in 2019. Brexit was the primary impetus for investment firms to enter the Dutch market. However, the number of institutions subject to prudential supervision remained practically stable in 2019, as the entrance of new institutions was compensated by a comparable number of discontinued licences. We granted substantially more licences than usual in the year under review. A significant part of our 2019 supervision of payment and electronic money institutions was devoted to the licensing of new entrants. Brexit was a factor for these institutions, with the entry into force of PSD2 also playing an important role.

6 Resolution

When the need arises, financial institutions must be resolved in an orderly fashion. Properly prepared and controlled resolution helps to buttress the resilience of the financial system as a whole while fostering public confidence. We are the national resolution authority for the Netherlands. In 2019, we prepared bank resolution plans and we started creating resolution plans for insurers and central counterparties (CCPs). We also contributed to European regulations for bank resolution.

Resolution plans were completed for the entire Dutch banking sector in 2019, and we started preparing resolution plans for insurers and a central counterparty. The resolution plans detail how institutions can be resolved in a controlled manner. A number of resolution plans for Dutch banks were being prepared at the end of 2018. A year later, all resolution plans were completed and in place. In 2019, the Netherlands Court of Audit examined DNB's resolution plans for small and medium-sized banks. The relevant findings have since been incorporated into our procedures.
On 1 January 2019, we also became the resolution authority for insurers and we embraced this new responsibility, launching a variety of initiatives. For example, we developed frameworks to determine whether insurers are eligible for resolution and we identified the data needed for resolution planning. An initial resolution plan was prepared for four insurers in accordance with the schedule. This means we are on track to have a plan in place in 2020 for all insurers that are eligible for resolution. An area of concern in this regard is that many insurers operate internationally, and that comparable resolution frameworks are lacking in other countries. We are therefore strongly committed to the development of international insurance recovery and resolution standards. In 2019, we also initiated resolution planning for a central counterparty in the Netherlands.

Moreover, we fine-tuned our resolution tools and structured the Deposit Guarantee Scheme (DGS) to enable pay-outs within seven working days. We have resolution tools at our disposal for the controlled resolution of institutions. We fine-tuned these tools further in 2019 so that they can be put into operation quickly. We are currently working on structuring the "bail-in" and "sale to a market participant" options for rapid and effective deployment. The Deposit Guarantee Scheme is another component of our resolution task. The DGS guarantees savings of up to EUR 100,000 per depositor per bank. The link between the DGS and bank systems was improved in 2019, and initial steps were taken to improve the quality standard of the deposit data provided.

Lastly, we made a contribution to bolstering European resolution frameworks. In the European context, we are working on regulations and policies for the resolution for banks, insurers and central counterparties. With regard to banks, we focused primarily on setting clear requirements for their loss-absorbing capacity. This has now become part of the bank resolution framework (BRRD2). With regard to insurers and central counterparties, the harmonisation of recovery and resolution regimes is now high on the agenda, partly thanks to our efforts.

7 Balance sheet management

The exposures and risks on our balance sheet are generated by the Eurosystem's joint monetary policy and by EUR 39 billion of our own investments and gold reserves (see the explanatory notes on our financial position). It befits us to pursue a prudent and socially responsible investment strategy. In 2019, we achieved a result of EUR 1,176 million, including a release of EUR 177 million from the provision for financial risks, and we took steps in the implementation of our capital policy and socially responsible investment policy.

The 2019 profit has been added to our buffers, bringing them to the target level in accordance with our revised capital policy. The capital policy was revised in 2019. This was necessary due to the considerable changes in the world around us. For example, our balance sheet grew due to the unconventional monetary policy, and the risk profile was predominantly determined by monetary exposures. The new capital policy makes a distinction between buffers to cover temporary risks (the provision for financial risks) and buffers to cover structural and hidden risks (capital), and thus better reflects the risks on the balance sheet. Risks decreased in 2019, thus freeing up part of the provision for financial risks. In implementing the new capital policy, part of the profit was used to bolster our capital reserves, bringing them to the target level. The explanatory notes on our financial position provide further details on the new capital policy.

In 2019, we adopted and started implementing our corporate social responsibility (CSR) policy. Although many investors have signed the Principles for Responsible Investment (PRI), we were the first central bank (March 2019) to adopt these international guidelines for socially responsible investment. By signing the PRI, we committed ourselves to the integration of six environmental, social and governance aspects (ESG) into our investment policy. Simultaneously, we published a Responsible Investment Charter that describes the principles of our socially responsible investment policy. This Charter consists of five components that we intend to integrate into our investment processes within two years. We took the first steps toward this integration in 2019, both in our internally managed investments (EUR 9.1 billion) and in our externally managed investments (EUR 2.7 billion) (see Table 1). The monetary portfolios, which form the bulk of our balance sheet at EUR 175.6 billion, are outside the scope of our socially responsible investment policy. See Chapter 3 for more detailed information on our socially responsible investment strategies in relation to our portfolios.

Table 1 Overview of implementation of socially responsible investment policy

Policy	What did we do in 2019?	What will we do in 2020?
Filter	**Externally managed assets:** ■ The Investment Grade Exchange Traded Funds, which did not comply with our exclusion policy, were replaced by asset managers that do meet the criteria. ■ The exclusion policy of one of our high-yield managers was adjusted, meaning that all of our external asset managers now comply with our policy. ■ All asset managers but one now conduct screening based on the UN Global Compact. The asset manager that is not in compliance has developed plans to meet this criterion in the future. **Internally managed assets:** ■ We developed exclusion and screening policies based on international standards. The Chief Investment Officer is responsible for the execution of these policies with a second-line role for the head of Risk Management. ■ We selected an external ESG data provider, enabling us to apply ESG standards to our internally managed assets.	**Externally managed assets:** ■ Monitor implementation of the action plan of the asset manager that does not yet screen against international standards. ■ Quarterly monitoring of the implementation of exclusion and screening policies by external asset managers. **Internally managed assets:** ■ Implement our exclusion and screening policy using ESG data.
Integrate	**Externally managed assets:** ■ Of our four asset managers that actively manage portfolios, three met our ESG integration policy. The asset manager that was not in compliance has drawn up an action plan to meet this criterion in due course. **Internally managed assets:** ■ The basic principles of an ESG integration framework were identified. ■ We selected an external ESG data provider, enabling us to implement ESG integration internally.	**Externally managed assets:** ■ Monitor the implementation of the action plan of the relevant asset manager. ■ It has proved challenging to fully implement ESG integration in our externally managed portfolios due to the lack of customisation that is possible in these portfolios. We will therefore look into ways to achieve the desired level of customisation. **Internally managed assets:** ■ Develop, test and, where necessary, improve ESG integration work in more detail.
Promote	■ International commitment to the development of socially responsible investment by central banks, including through the coordination of an NGFS report on this topic; ■ Chair of the NGFS and the Sustainable Finance Platform.	■ Additional contributions to the work of the NGFS on sustainable and responsible investment. ■ Continue chairing the NGFS and Sustainable Finance Platform.
Report	■ Report on the progress of implementation of the Responsible Investment Charter in our Annual Report; ■ Responsible investment reporting framework for externally managed investments was established for internal stakeholders.	■ Develop a responsible investment reporting framework for the internally managed assets for internal stakeholders. ■ Public disclosure via the PRI platform. ■ Report on the carbon footprint of own assets in our Annual Report.
Develop	■ Developed a climate strategy focused on risk mitigation and impact, complementing the already existing socially responsible investment policy. ■ In the context of this strategy, we looked into whether we can apply the climate stress test we developed to our own balance sheet (risk mitigation).	■ Measure the carbon footprint of our portfolios and conduct a climate stress test on our own balance sheet (risk mitigation). ■ Expand asset allocation to green bonds in the internal portfolios (impact). ■ It has proved challenging to implement the climate strategy in our externally managed portfolios due to the lack of customisation that is possible in these portfolios. We will therefore look into ways to achieve the desired level of customisation.

8 Statistics

DNB produces statistics on the Dutch financial system. These statistics are made available to the general public and to official institutions such as Statistics Netherlands (CBS), the ECB and the IMF. By making statistics and data sources readily available, we help policymakers, regulators and other stakeholders to make informed decisions. In 2019, the focus was on improving the quality, efficiency and accessibility of our statistics.

We worked together with Statistics Netherlands (CBS) on the further implementation of the new, joint production process for macroeconomic statistics. In 2018, DNB and CBS had already achieved mutual consistency in macroeconomic statistics. That also marked the start of the integration of our joint statistics production processes. In 2019, we developed the underlying technical infrastructure for these processes. Furthermore, it was agreed in 2018 that DNB was to be responsible for financial sectors, and CBS for non-financial sectors. This meant the termination of our data collection in the non-financial sector in 2019. Reporting institutions now benefit from the efficiency gains realised, as do we. We also worked on developing an improved data collection method for the financial system. Starting in 2020 we will publish new, monthly impact reports along with quarterly reports for institutions such as securities traders and finance companies.

We also launched several new, granular datasets on loans. Such datasets include detailed information on individual loans, thus providing new opportunities for monetary policy, supervision and financial stability analyses. The year under review was the first full reporting year for the European System of Central Banks' (ESCB) reporting framework for corporate lending and for reporting on private mortgage loans. These sets contain data on approximately 500,000 and 6 million loans, respectively. The statistical quality framework of these reports has been enhanced, resulting in improved data quality. The reports were used in 2019 for the first time in examinations and policy-making.

Lastly, we made our data more accessible. We make the statistics we produce widely available on our Statistics website. We expanded the website in 2019, adding new features for visualising data. In addition to enhanced visualisations, the statistics themselves are now also more accessible. For example, almost all statistical time series have also been published in a variant without time breaks. We also registered our datasets with the government's Open Data Initiative, making them even easier to find and use. All of these changes and improvements were in response to the needs and wishes of our users.

9 Operational management

We are committed to ensuring a modern and efficient provision of services and operational management. Cost awareness, sustainability and user satisfaction are part of all of our decision-making processes. We therefore took additional steps in 2019 to enhance the sustainability of our accommodation programme and procurement procedures. We also reviewed and strengthened our diversity policy and we adopted a long-term digital ambition for our organisation.

In 2019, we set high sustainability requirements for the renovation of our headquarters in Amsterdam, and construction on the cash centre commenced. Our headquarters will be fully renovated in the years to come, and a new zero-energy cash centre will be realised in Zeist. Preparations were made in 2019 for the start of the headquarters' renovation in 2020. This included the temporary relocation of banknote operations and the gold vault to Haarlem. The renovation of our headquarters building can now be completed a year earlier. Furthermore, sustainability ambitions have been included in the preliminary design for the renovated building. This includes the highest possible energy rating label (A+++) upon completion in 2023 (compared to the current energy rating label of G). Moreover, CO_2 emissions from the renovated building will be at least 83% lower than is currently the case. Another ambition for our new building is to qualify for the BREEAM "Outstanding" label, an important indicator of an office building's sustainability. Moreover, we aspire to obtain the WELL Platinum certification, which recognises a building's positive impact on the health and well-being of the people who work there.

We added sustainability and labour market participation as award criteria in our tender procedures. We completed a tender procedure for ICT services in 2019. Sustainability criteria were included in the contracts awarded. We expect our outsourcing partners to work to make the ICT services provided to us more sustainable, including through the use of more energy-efficient data centres in 2020. Environmental and circularity aspects are now also part of our tender procedures for furnishings, hotels and meeting venues. For example, hotel and meeting venues preferably hold a Green Key Certification and are easily accessible by public transport. We also decided to re-use furnishings in our temporary headquarters during renovation. If new furnishings are needed, we will only procure items that meet our sustainability criteria. In 2019, our procurement policy also imposed requirements on labour market participation. We included contractual provisions in several tender procedures to engage people who are at a distance to the labour market.

We strengthened our diversity policies even further, aiming at more cultural diversity, greater gender diversity in our organisation's upper echelons and more positions for people with disabilities. We participated in the Netherlands Inclusiveness Monitor (NIM) in 2019 in order to measure our organisation's current level of inclusiveness and identify potential obstacles. It was found that our current policy focuses primarily on hiring and promoting groups that are under-represented in the organisation. However, there is still insufficient emphasis on policies aimed at creating an inclusive organisational culture. There is still a lack of focus on initiatives to retain under-represented groups in the organisation. Based on the results, diversity policies have been bolstered in several areas. For example, creating an inclusive organisational culture is now part of our new multi-year strategy (DNB 2025). Starting in 2020, for example, all divisions will report annually to the Governing Board on what they are doing to achieve this goal. In addition, in 2020 we will look into ways to retain under-represented talent. Finally, it was decided to move the target for women in management positions from 32% (set in 2016) to 35% in 2021. Cultural diversity was a factor in recruitment in 2019, and a new network focusing on cultural diversity was added to the existing staff diversity networks (Female Capital, JongDNB and GayNB). We also appointed a coordinator for labour market participation in 2019 to assist in recruitment procedures to fill 15 jobs earmarked for people at a distance to the labour market.

Finally, in 2019 we identified the ongoing digitalisation of our organisation as a strategic priority in our new multi-year strategy. Digitalisation is nothing new for us. Still, we acknowledge that improvements and significant efficiency gains are always possible. We have set the goal of working digitally in all our mission areas by 2025, and of being acknowledged as a full participant in the financial sector in the digital field. We took the first steps toward achieving this in 2019 by establishing a Chief Data Office (CDO), which is tasked with this objective. We also established a Chief Innovation Office for Supervision (CIOT) in 2019. This office plays a key role in the digitalisation of our supervisory activities.

Annex 1 DNB's financial position

The exposures and risks on our balance sheet arise from the joint monetary policy of the Eurosystem and from our own investments. As a result of the continuing unconventional monetary policy, our balance sheet remains swollen, and the risk profile is predominantly determined by monetary exposures, including the shared risks of other central banks in the Eurosystem. We revised our capital policy in 2019, resulting in buffers (which serve to absorb any losses) that are better attuned to the risks.

Total exposures, risks and buffers[1]

Total exposures amounted to EUR 189.7 billion in 2019. The bulk of these exposures (EUR 175.6 billion) stemmed from monetary operations (see Table 2). Total exposures declined in 2019 due to the maturing inactive monetary programmes (including the SMP programme for the securities markets), a drop in open market operations and a contraction of our own investment portfolio. In view of the resumption of net purchases in November 2019, monetary exposures will again increase going forward.

We determine our own credit and market risk using risk models and scenarios. The interest rate risk resulting from the unconventional monetary policy is similarly determined. Overall, the estimated total risk decreased from EUR 5.2 billion to EUR 3.6 billion in 2019. The interest and credit risk arising from the unconventional monetary policy decreased from EUR 2.3 billion to EUR 1.8 billion. These risks are covered by the provision for financial risks[2] (voorziening voor financiële risico's – VFR). We added a fixed amount of EUR 500 million to this provision annually in 2015, 2016, 2017 and 2018. In 2019, we reduced the VFR by EUR 177 million, and it now fully covers the calculated risks of EUR 1.8 billion.

Gold occupies a special position in our risk framework. Our gold reserves (EUR 26.7 billion) are intended to cover ultimate systemic risks that can materialise in extreme scenarios beyond the limits of the risk calculations. We manage the gold stocks passively.

1 This paragraph forms part of the risks paragraph in the financial statements, which means that it is included in the scope of the audit report of the independent auditor (see page 177).
2 The provision was previously called the provision for credit and interest rate risk (voorziening voor krediet- en renterisico – VKR), but the name was changed into the provision for financial risks (voorziening voor financiële risico's - VFR). See "Comparison with preceding year" in the "Accounting policies" section of the notes to the financial statements.

Table 2 DNB exposures, risks and buffers

EUR billion, excluding gold reserves and excluding intra-system exposures. The exposures where DNB incurs a risk are reported.

	31/12/2019	31/12/2018	Difference
Total exposures	**189.7**	**203.0**	**-13.2**
Monetary exposures	175.6	183.6**	-8.0
Own investments and other portfolios	14.1	19.4	-5.2
Total risk	**3.6**	**5.2**	**-1.6**
Monetary exposure risks (VFR)*	1.8	2.3	-0.5
Other risks	1.8	2.9	-1.1
Risk buffer	**9.8**	**9.9**	**-0.2**
Provision for financial risks (VFR)	1.8	2.0	-0.2
Capital and reserves	7.9	7.9	0.0

* The risk under the VFR consists of credit risk on bond purchases as part of the CSPP, CBPP3 and PSPP programmes and interest rate risk. All other risks, including the risks from other purchase programmes, own investments and the conventional liquidity transfer to banks (OMOs), are covered by capital and reserves. The ABSPP is for the ECB's account and risk.
** The monetary exposures at year-end 2018 have been adjusted downwards by EUR 5.9 billion to ensure consistency with the application of ECB portfolio data.

Monetary exposures and risks[3]

We conduct monetary operations together with the other central banks in the Eurosystem. Open-market operations (OMOs) cover regular liquidity provision to banks, also involving targeted long-term refinancing operations (TLTROs). Under the APP programmes, the Eurosystem purchases public-sector securities (PSPP), covered bonds (CBPP3), investment grade corporate bonds (CSPP) and asset-backed securities (ABSPP). The inactive programmes SMP and CBPP1 and 2 are gradually expiring. OMO, CBPP3, SMP and CSPP are for shared account and risk. Eurosystem capital key shares are the basis for the distribution of profits and losses between the Eurosystem central banks. Table 3 shows our share of the Eurosystem's total exposure for each bond purchase programme. Of these programmes, the PSPP has the largest volume. The majority of the risk and return on bond purchases in the PSPP is not shared among Eurosystem central banks.[4] The ABSPP is on the ECB's balance sheet and is primarily at the ECB's risk. As we are only indirectly exposed to these risks, Table 3 does not include the ABSPP.

3 This paragraph forms part of the risks paragraph in the financial statements, which means that it is included in the scope of the audit report of the independent auditor (see page 177).
4 There is no sharing of the risks associated with purchases of a country's own debt by that country's own central bank. Risks are shared on purchases of bonds issued by supranational institutions and ECB purchases of national debt.

In 2019, the ECB Governing Council implemented various changes to monetary policy. Despite the fact that the resumption of net bond purchases results in additional interest rate and credit risk, monetary policy risks fell overall in 2019. The net decrease in interest rate risk was mainly driven by a postponement of the first expected policy interest rate hike in the underlying scenario. Interest rate risk materialises when policy rates rise significantly and rapidly. By postponing the first interest rate increase, the current longer-term refinancing operations (which will terminate in March 2021, TLTRO-II) no longer contributed to the interest rate risk. The new long-term refinancing operations (TLTRO-II) have a variable interest rate, which means no impact on the interest rate risk for DNB (as opposed to earlier operations). The lower credit risk is driven by a review of the assumptions used in the risk models. The assumptions are based on historical data, with recent years being more economically favourable in relative terms and showing less pronounced losses. The risks from the unconventional monetary policy are likely to remain on our balance sheet for some time, given the bonds' long maturities and the adjusted indications for the interest rate policy (forward guidance).

Table 3 Monetary exposures per purchase programme per country

EUR billion. The exposures where DNB incurs a risk are reported.

	OMO	SMP	CBPP 1-3	PSPP	CSPP	Total
Netherlands	1.6	0.0	0.9	98.0	3.3	103.8
Italy	12.9	1.5	1.6	0.0	1.0	17.0
France	5.6	0.0	3.8	0.0	3.3	12.7
Spain	7.6	0.6	3.2	0.0	0.7	12.1
Germany	4.4	0.0	3.0	0.0	1.2	8.6
Greece	0.4	0.2	0.0	0.0	0.0	0.6
Other	3.9	0.4	1.8	13.2	1.4	20.6
Total*	**36.5**	**2.6**	**14.3**	**111.3**	**10.9**	**175.6**
Difference relative to December 2018	-6.4	-1.3	0.1	-0.9	0.5	-8.0

* The total may differ from the sum of the exposures for each country and each programme due to rounding differences.
The differences are shown in relation to the corrected exposures.

Own-account investments[5]

Our own-account investments consist primarily of high-grade, short-dated bonds issued by governments and semi-government bodies in countries such as France, Germany and the United States. Alongside internally managed bond portfolios, we also hold units in external funds containing equities, high-grade corporate bonds and high-yield corporate bonds.

The bond portfolio's risk profile is kept low, and minimum conditions are set for the creditworthiness and liquidity of the investments, including a minimum rating and a sufficiently small difference between bid and ask rates. Forward exchange contracts are used to hedge the currency risk in the bond portfolio. The currency risk on the IMF receivables, which are expressed in a basket of international currencies (special drawing rights – SDRs), is also hedged. The persistently low interest rates negatively affect the returns on our bonds. In 2019 we reduced the size of the euro portfolio from EUR 11 billion to EUR 5 billion to limit negative yields. The values of the remaining portfolios remained largely unchanged (see Table 4).

Table 4 Composition of own-account investments and other portfolios

EUR billion

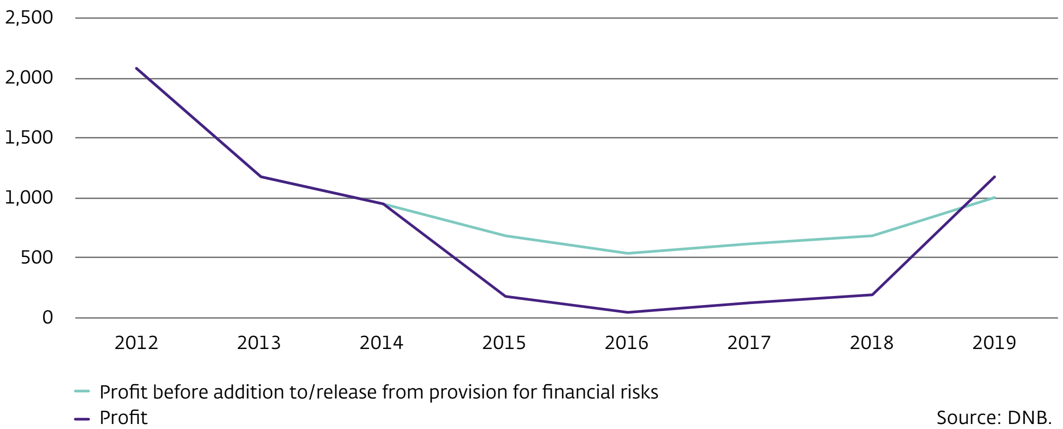
	31/12/2019	31/12/2018	Difference
EUR investments	5.0	11.0	-6.0
USD investments	4.1	4.0	0.0
Equity funds	1.5	1.4	0.1
High-yield bond funds	0.7	0.6	0.1
High-grade bond funds	0.5	0.4	0.1
IMF receivables	2.3	1.8	0.5
Total	14.1	19.4	-5.2

Profit

The profit for 2019 stood at EUR 1,176 million, an increase of EUR 988 million compared to 2018. The profit is due to improved results on own-account investments, monetary operations, non-monetary deposits and a deduction from the VFR provision (see Table 5). Future profits depend heavily on the development of interest rates and monetary policy measures in the Eurosystem as they come into force.

5 This paragraph forms part of the risks paragraph in the financial statements, which means that it is included in the scope of the audit report of the independent auditor (see page 177).

Figure 2 Profit development
EUR million



Source: DNB.

The profit from own-account investments (EUR 149 million) stems mainly from the externally managed equity portfolio. This portfolio reached its strategic upper limit in the course of 2019 as a result of share price increases. Shares were sold to bring the portfolio back to within strategic ranges. Some of the proceeds were put toward the revaluation reserve (EUR 183 million). The remainder of the year also saw a positive result on the equity portfolio and the externally managed corporate bond funds; these profits were also put toward the revaluation reserve. Just as in 2017 and 2018, the fixed-income euro and dollar portfolios were loss-making in 2019. This was mainly due to the bonds' short maturities that typically have negative yields.

The monetary operations contributed EUR 831 million to the 2019 profit, an increase of EUR 35 million compared to the previous year. The increase stemmed primarily from the revenues from the active bond purchase programmes (CBPP3, PSPP and CSPP). This was largely due to an accounting operation in which the differences between book value and nominal value are depreciated faster in early years than in later years. These effects compensated the falling revenues due to repayments in a number of high-yield and expiring monetary portfolios (SMP and CBPP1 and 2). The decision by the ECB Governing Council to partially exempt bank deposits from negative interest rates resulted in a drop in revenues. This measure entered into force on 30 October 2019, meaning its effect was limited in the year under review. Interest income on monetary deposits will continue to fall in 2020.
The drop will be partly offset by the reduction of the deposit facility rate, resulting in higher revenues on deposits that are not exempt.

The non-monetary deposits contributed EUR 150 million to the 2019 profit (2018: EUR 125 million). The increase in revenue was mainly due to higher interest income from our bilateral services to central banks outside the Eurosystem. The yield from these services is not shared within the Eurosystem. The non-monetary deposits are accounted for on average at an interest rate slightly below the deposit facility rate. The total amount of non-monetary deposits has increased substantially in recent years, because it is now more advantageous to keep non-monetary deposits on account with us than to invest in short-term, high-grade bonds.

Table 5 Breakdown of DNB profit

EUR million

	31/12/2019	31/12/2018	Difference
OMO	-153	-135	-18
CBPP1 and 2	5	9	-4
CBPP3	81	73	8
SMP	177	237	-60
CSPP	93	75	18
PSPP	207	115	92
Money market liabilities for monetary deposits	417	431	-14
Release (+) from/addition(−) to the provision for monetary policy operations	4	-9	13
Total monetary operations	**831**	**796**	**35**
EUR investments	-18	-32	14
USD investments	-5	-15	10
Equity funds	183	3	180
Corporate bond funds	7	-46	53
SDR investments	-18	-11	-7
Total external reserves and EUR investments	**149**	**-101**	**250**
Money market liabilities for non-monetary deposits	150	125	25
Total sundry (including costs)*	-131	-141	10
Total release (+) from/addition (−) to provision for financial risks (VFR)	177	-491	668
Total	**1.176**	**188**	**988**

* Sundry consists of operating expenses and revenues from participating interests

Capital policy

We revised our capital policy in 2019 to ensure adequate buffers in the long term.[6] The new capital policy makes a distinction between buffers to cover temporary risks and buffers to cover structural risks and latent risks. Temporary risks are those risks arising from the unconventional monetary policy. Structural risks stem from the regular activities such as own-account investments and refinancing operations. Latent risks are associated with uncertain future activities such as providing sudden emergency liquidity to Dutch banks.

The temporary risk buffer consists of the provision for financial risks (*voorziening voor financiële risico's* - VFR). The VFR can be expanded quickly if temporary risks become more threatening, and is released when these risks again become benign. As long as there is no buffer shortfall, a maximum of 50% of profit is added to the VFR. In the case of a buffer shortfall, the full profit may be added to the VFR. There is a buffer shortfall any time total risks are higher than the sum of the capital and the VFR. There was no buffer shortfall at year-end 2019. Since the value of the VFR at year-end 2019 was greater than the calculated temporary risks, EUR 177 million was released.

Our capital forms the buffer for structural risks and latent risks. In order to maintain a margin for uncalculated uncertainties, the target capital level tends to be substantially higher than the calculated risks it covers. The balance sheet grows structurally due to the growth of the financial sector and the money supply. As the balance sheet grows, the structural and hidden risks grow, too. The capital must follow the trend, so an anticipated annual growth rate of 3.4% was pegged based on available capital at year-end 2017. This 3.4% rate was calibrated based on the average annual growth of Dutch gross national product between 1999 and 2017. No more than 50% of profits are added to the capital, meaning any shortfalls in capital growth from previous years can be compensated. The remaining profits are distributed as dividends to the State.[7]

6 See https://www.rijksoverheid.nl/documenten/kamerstukken/2019/06/07/eindrapport-werkgroep-kapitaal-beleid-dnb for the report published by the joint task force of the Ministry of Finance (our sole shareholder) and DNB. The new agreements will be reviewed and evaluated after five years.

7 2019 capital should amount to EUR 8,484 million in accordance with anticipated growth. Taking into account the statutory provision and the shareholder's mandate, it was proposed to add EUR 539 million of the profit to the capital pursuant to the capital policy (see the financial statements). This addition to the capital means that the 2018 shortfall in capital growth has been compensated, and that the capital has now reached the target value of EUR 8,484 million.

Annex 2 Notes on risk management

At DNB we take a comprehensive approach to managing risks. We do so on the basis of an overarching framework that allows us to take a systematic approach to identifying, assessing and, where necessary, mitigating risks. We distinguish between strategic, financial and operational risks in our risk management framework.

The **strategic risks** impact our core tasks and are therefore part of our decision-making and control processes. We recalibrated our multi-year strategy in 2019, taking into account the predominant trends and associated strategic opportunities and risks. Based on this analysis of externals, the Governing Board conducted dialogue sessions with staff in order to ensure strong support for the new strategy. The priorities, objectives and results stemming from the new strategy (DNB 2025) will be reflected in divisional plans for each individual year. The strategy also describes the risks that may hinder implementation of these divisional plans, and it provides potential mitigation measures.
The Risk Management and Strategy Department regularly monitors the implementation of the strategic ambitions and associated priorities. Additional information on the multi-year strategy is provided in the Notes on DNB 2025. The **financial risks** are coordinated by the risk management committee (RMC). They are covered in Annex 1: DNB's financial position. We define **operational risks** as the probability of an adverse event having a negative impact on our finances, operational objectives or reputation. Such an event may be caused by inadequate or failing internal business processes, people and systems, or by external events. The remainder of this section discusses our operational risk management processes.

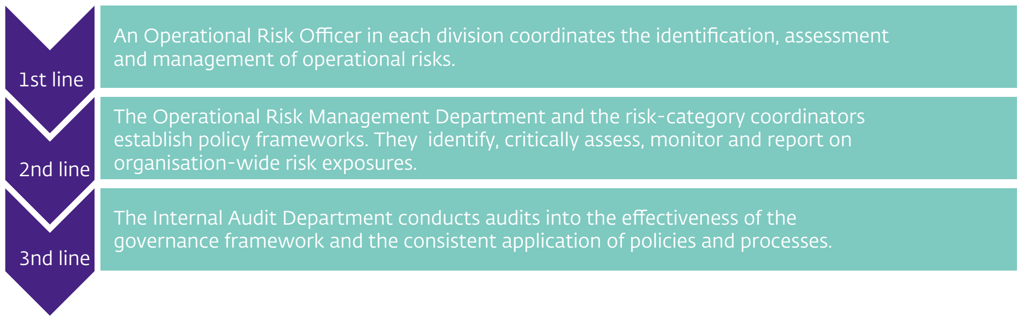
We distinguish between eleven categories in our operational risk framework (see Figure 3). A risk coordinator has been appointed for each category to provide an organisation-wide perspective on the relevant category. The operational risk management department reports periodically to the Operational Risk Board (ORB) on the main operational risks and the associated risk management activities. The ORB then intervenes where necessary. In 2020, the Governing Board will set the risk appetite for each category.

Figure 3 Operational risk categories at DNB

A	Information security risk	G	Fraud risk
B	Business continuity risk	H	HR risk
C	Compliance & integrity risk	I	Physical security risk
D	IT risk	J	Reporting risk
E	Outsourcing risk	K	Process risk
F	Legal risk		

Furthermore, since 2016 we have had a three-lines-of-defence model in place to manage operational risks (see Figure 4). A multi-year plan (covering the period through 2021) was also adopted at that time to ensure the resilience of the three lines of defence. The ORB's members constitute the first and second lines of defence. In 2019, we continued working to make our operational risk management more robust. First of all, we ensured that each division appointed an Operational Risk Officer. In order to improve the incident management process, a clear procedure was established for reporting, registering and processing operational incidents. We also implemented a bank-wide Risk & Control Self Assessment (RCSA). Based on the results, we initiated improvements to our integrated project management, the uniformity and findability of policies, and we worked to make our process protocols clearer. The Operational Risk Officers also carried out division-specific and department-specific RCSAs. They will use the results to report on the main operational risks and mitigation measures in the course of 2020.

Figure 4 The three-lines-of-defence model



Based on the risk management guidelines of the European System of Central Banks, the European Banking Authority and the Basel Committee

Annex 3 Notes on costs

Our costs in 2019 amounted to EUR 430.3 million, representing a budget overrun of EUR 19.7 million. This is mainly the result of recent decision-making under the Accommodation Programme, which has led to a redistribution of costs over multiple years. In addition, we produced more banknotes in 2019 than budgeted.

The costs for each core task are set out in Table 6. Any material differences with respect to the budget are explained in more detail. The Accommodation Programme's impact on the costs is allocated to all tasks.

Table 6 Overview of costs in 2019

EUR million

	Actual 2019	Budget 2019	Difference	Actual 2018	Actual 2017
Core task					
Financial stability	12.7	12.6	0.1	11.4	10.1
Monetary tasks	63.6	63.0	0.6	62.8	54.8
Cash and payment systems	116.5	102.1	14.3	109.8	89.1
Supervision	164.8	164.0	0.8	157.1	143.8
Financial Expertise Centre	2.9	3.3	-0.3	2.7	1.4
Statistics	51.5	44.7	6.9	48.4	39.2
Resolution	9.2	10.9	-1.8	7.3	4.9
DGS	9.1	9.9	-0.8	10.3	8.3
DGS interest compensation settlement	0.0	0.0	0.0	0.0	1.4
Total	**430.3**	**410.6**	**19.7**	**409.6**	**353.2**

Note: Figures refer to the situation on 9 January 2020.

Spending on the Cash and payment systems core task was EUR 14.3 million over budget. This was mainly caused by decision-making under the Accommodation Programme, which had a relatively heavy impact on this core task due to the preparations for the temporary relocation of Cash Operations to Haarlem and other factors. We also produced more banknotes than budgeted in 2019.

Actual costs for our supervision task were EUR 0.8 million higher than budgeted. The independent public body (ZBO) policy framework incurred flexible layer costs of EUR 1 million in 2019 in connection with the Brexit, which was approximately EUR 0.2 million under budget for this framework. The cost impact of the Accommodation Programme was dampened somewhat thanks to lower costs for other support services. In addition, direct costs for supervision were lower than budgeted due to lower average salary costs and depreciation costs, among other factors. See the independent public body (ZBO) report 2019 for a full explanation of the costs for our supervisory task.

Costs for the Financial Expertise Centre (FEC) have been rising since 2018 due to expanded responsibilities in the area of combating terrorist financing. This transition precipitated a budget overrun of EUR 0.3 million in 2019. The Dutch Ministry of Finance has provided structural funding for these duties to promote a methodical approach to combating terrorist financing.

Spending on the Statistics core task was EUR 6.9 million over budget, because Statistics required additional ICT support for the modern macrostatistics programme. In addition, a correction was applied to previously capitalised expenditures, thereby redistributing these costs over multiple years.

The underspend on the Resolution core task was EUR 1.8 million. Of this amount, EUR 0.8 million can be attributed to the bank resolution task, where actual personnel costs were lower than budgeted due to the lower average age of staff in the Resolution division. In addition, Resolution made less use of legal advice and outsourced staff than budgeted, as the division needed a higher level of specialism that can only be provided by in-house capacity for the implementation of BRRD2 and the Recovery Act, for example. The underrun of EUR 1.0 million on the insurers resolution task can mainly be ascribed to the fact that this task was still being established in 2019.

The DGS (Deposit Guarantee Scheme) task had a budget underrun of EUR 0.8 million, primarily due to quicker delivery of DGS systems than scheduled. However, more capacity than budgeted was devoted to the further elaboration of DGS policy, which caused a minor overrun in personnel costs. The independent public body (ZBO) report 2019 provides a full explanation of the costs for our Resolution and DGS tasks.

Annex 4 Notes on DNB 2025

In 2019, the Governing Board adopted the new multi-year strategy: DNB 2025. This strategy sets out new priorities and ambitions that we intend to achieve by 2025. DNB 2025 is fully in keeping with our mission, which is that we endeavour to safeguard financial stability and thus contribute to sustainable prosperity in the Netherlands. This mission is as urgent and timely as ever. The speed with which our world is changing means we must ask ourselves whether we need to explore other avenues to achieve that aim. DNB 2025 is the result. In its essence it is our organisation's agenda for change.

The genesis of the strategy consisted of a number of dialogue sessions in which the Governing Board and DNB employees discussed the main challenges we are facing. The Governing Board then chose six strategic ambitions that touch on three levels relevant to DNB: society, the financial sector and our own organisation. Achieving the new ambitions means that we will be able to carry out our tasks even more effectively.

The first two ambitions relate to our societal mission. The first entails that, thanks to our corporate social responsibility efforts (as described in the CSR strategy), we will have integrated sustainability into all of our core tasks by 2025. The second ambition also concerns the core of our tasks in the service of society: ensuring greater balance in economic relationships through structural solutions to enduring problems. This includes a stable and resilient pension system, subdued mortgage debt development and monetary policy normalisation.

The third and fourth ambitions are in the area of the financial sector. The third ambition calls for us to embrace new technological developments: by 2025 we intend to be acknowledged as a full participant in the financial sector in the digital field. The fourth ambition is that will make a recognised contribution to public confidence in financial institutions in the Netherlands.

The fifth and sixth ambitions relate to our own organisation. The fifth ambition is that we will carry out our tasks effectively and cost-consciously, and that will we demonstrate this both internally and externally. The sixth ambition relates to our own people: by 2025 our workforce will be more diverse and will deliver results effectively and in dialogue with stakeholders, and they will be digitally proficient in all positions. The kind of institution we wish to be in 2025 resonates clearly in this final ambition: an organisation that is aware of its environment and with people who search for connection with the outside world, in the knowledge that we cannot achieve financial stability and sustainable prosperity alone. This is how we will make a success of our strategy, DNB 2025.

Annex 5 Overview of CSR objectives and results

We have developed a CSR strategy for 2019-2025. The vision identifies two material, societal goals that are in keeping with our mission and core tasks: i) sustainable economic growth that has no harmful effects on the environment, and ii) an inclusive financial and economic system. These two goals have been translated into six concrete priorities. The CSR strategy was established following a board decision and dialogues with internal and external stakeholders. It was then embedded throughout our organisation. For example, the CSR strategy is included in the DNB-wide strategy, and a CSR decision rule has been added to decision-making processes. This means that for each decision an explicit assessment must be made of whether the same result can be achieved in a different way, and whether the decision is in accordance with the CSR strategy. Although the CSR strategy is in place and operational, CSR activities are updated annually (based on stakeholder input). Table 7 shows the activities carried out in 2019, and Table 8 provides an overview of relevant CSR communication from DNB management.

Table 7 Report on CSR objectives

Priorities		
Activities in 2019	Accountability	AR
Manage climate risks		
Institutions to map the impact and management of climate risks	Climate risks are now included in the evaluation processes of banks (SREP), insurers (ORSA) and pension funds (ERB)	p. 52
Communication on climate stress test methodology	More than 20 external presentations. Used by supervision divisions in the form of a tangible energy transition risk measure	p. 45
Survey on exposure to carbon-intensive sectors and energy rating labels	Label survey complete. Survey on exposure to carbon-intensive sectors has not yet taken place	p. 39
Include sustainability in on-site supervisory examinations	Sustainability aspects included in on-site supervisory examinations at medium-sized banks and in investment surveys of pension funds.	p. 50
Advise on energy transition		
Research the impact of the energy transition on the economy	Advised politicians on carbon taxation and contributed to NGFS study on macroeconomic impact of climate change	p. 43
Advise on Climate Agreement	Participated in the House of Representatives committee meeting on the Climate Agreement	p. 43
Study the financial implications of the energy transition	Communicated insights through the Financial Stability Committee on making owner-occupied housing more sustainable	p. 43
Integrate sustainability into our reserve management		
Became signatory to the Principles for Responsible Investment	First central bank to sign in March 2019	p. 56
Publish Responsible Investment Charter	Published in March 2019	p. 56
Integrate ESG criteria into internally managed investments	Invested in green and development bank bonds. ESG criteria included in setting risk limits for new issuers	p. 57
Integrate ESG criteria into externally managed investments	Exclusion, ESG integration, and voting and engagement strategies included in the selection and monitoring of external asset managers	p. 57
Improve sustainability in internal operations		
Define sustainability ambitions for new accommodation	Ambitions defined: A+++ energy rating label, CO_2 emission reduction of at least 83% relative to 2018 and BREAAM Outstanding certification	p. 59
Include societal impact in tenders	Climate and environmental aspects and labour participation requirements included as award criteria.	p. 59
Incorporate sustainability requirements in provision of ICT services	Sustainability requirements included in ICT sourcing procedure	p. 59
Inclusiveness analyses		
In-depth analyses of labour market, housing market and lending	Published papers on trends and persistence in the misallocation of labour and capital and on pay gaps between permanent and flexible workers. Speeches by Klaas Knot on inclusiveness in the housing market.	p. 43
Address the sustainability of the pension system and public finances	Published a study on pension reform, Governing Board presence on this topic in the media and in the House of Representatives	p. 43
Promote accessibility of payment systems		
Follow-up on market research on availability and accessibility	Results and recommendations were individually discussed with five major banks	p. 47
Focus on digital inclusion in payment innovations	No payment innovations were eligible for an accessibility assessment	p. 47
Support for Pay-Able platform and co-chair of the Accessibility working group	Participated in Pay-Able webinar on the European Accessibility Act. The ECB working group on Accessibility has ceased to exist	p. 47
Promote vision on financial inclusion in an international context	Organised the 'Financial Inclusion Integrates the World' conference, speech by Nicole Stolk on financial inclusion and participation in the World Bank's Financial Inclusion Global Initiative	p. 75
Discuss climate risks to payment and securities systems (FMI)	Put climate risks on the agenda of the Basel Committee on Payments and Market Infrastructures. Organised round table session with FMI parties on climate risks.	p. 47

Table 8 Overview of published speeches related to CSR priorities

Speaker, date, occasion	Title
Olaf Sleijpen, 16 April, Insurance Day,	Onderneem het maar
Frank Elderson, 17 April, NGFS conference	Opening remarks at NGFS Conference
Frank Elderson, 30 August, International Capital Markets Conference	We all play a vital role
Frank Elderson, 2 October, European Banking Summit	Two issues to take on together
Nicole Stolk, 4 October, conference on financial inclusion in the world	No one left behind: a holistic approach to financial inclusion
Frank Elderson, 17 October, round table session at Capitol Hill	Speech for the special Committee on the Climate Crisis
Frank Elderson, 8 November, San Francisco Federal Reserve Board Conference	Discussing financial risks during wildfire
Frank Elderson, 19 November, EIOPA 9th annual conference	Are we doing enough?
Frank Elderson, 11 December, Banco de España Climate Change Conference	Climate crisis requires urgent action by financial sector and financial supervisors

Annex 6 Stakeholder management and materiality analysis

At DNB, we feel it is very important to engage our stakeholders in dialogue. As an organisation, we strive to be open and receptive to the world around us. We empower our employees to engage with relevant stakeholders to give shape and substance to our mission. Effective interaction with stakeholders enhances our effectiveness and legitimacy. In 2019, we conducted several stakeholder dialogues and carried out a materiality analysis. This annex provides an overview of the results of these dialogues and analysis. This input formed the basis for our report in this chapter and for the yearly update of our CSR strategy.

We conduct organisation-wide dialogues with stakeholders in all of our function areas. We use these dialogues to identify which themes within our organisation and tasks carry the most weight for our internal and external stakeholders such as the financial sector, relevant ministries, the European Central Bank, other supervisory authorities, international fora, business associations, national and international economic research institutes and the academic community.

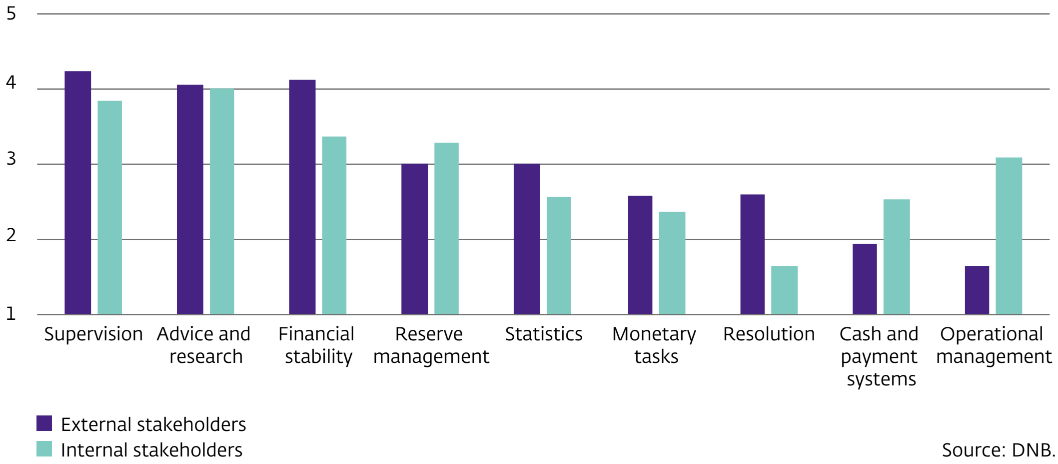
We developed our new CSR strategy in 2018 based on a DNB-wide stakeholder survey and a materiality analysis. We repeated our materiality analysis in 2019 by means of surveys. The respondent group consisted of 50 stakeholders, of which 33 internal and 17 external. The internal group included Governing Board members, divisional directors and staff members directly involved in CSR policy and activities at DNB. The external group consisted of delegates from the financial sector, the Dutch Authority for the Financial Markets (AFM), the Ministry of Finance and umbrella organisations. The surveys provided scope for stakeholders to identify societal issues not already included in our CSR strategy. Their responses gave us little reason to adjust our CSR strategy and associated accountability report, as they mainly contained suggestions relating to themes we already address.

We also asked stakeholders to score the impact of nine of our tasks on the two themes in the CSR strategy by assigning a value of 1 (very low impact) to 5 (very high impact).

Figure 5 shows which of our tasks shareholders feel can have the greatest impact on the energy transition and the Paris climate agreement (first CSR theme). Both internal and external stakeholders feel that we can have a positive impact, in particular through our supervisory, research and advisory, financial stability and reserve management tasks. It is striking that internal stakeholders assigned relatively high scores to operational management, while external stakeholders assigned very low scores to this task. The scores for our resolution task were precisely the opposite: internal stakeholders assigned lower scores to this task than external stakeholders. The results correspond to the our climate efforts in our core tasks as identified in the priorities in our CSR strategy: i) managing climate and environmental risks (supervision and financial stability); ii) advising on the energy transition (research and advice); iii) improving the sustainability of our reserve management (reserve management); and iv) improving the sustainability of our operational management (operational management).

Figure 5 How can DNB contribute to the energy transition and the Climate Agreement?

Average scores

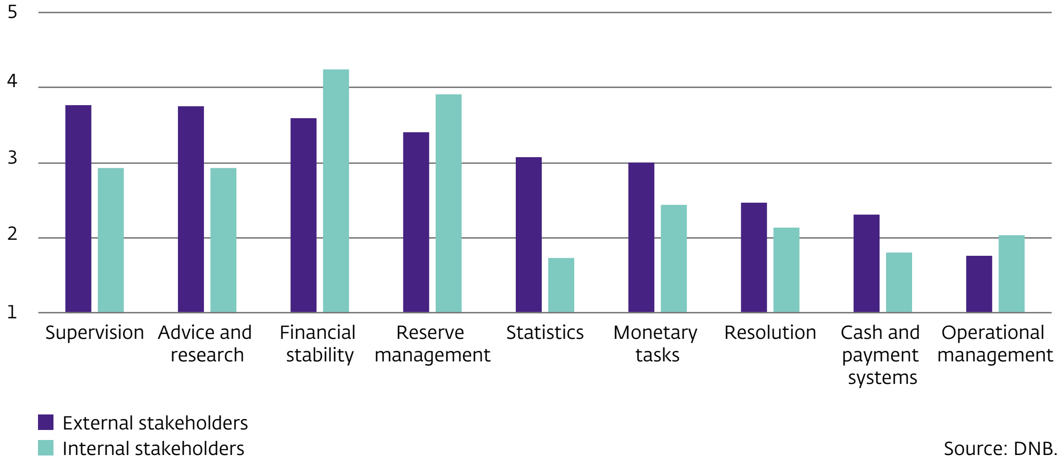


Source: DNB.

Figure 6 shows which of our core tasks stakeholders feel can have an impact on the second theme in our CSR strategy: an inclusive financial and economic system. Both internal and external stakeholders feel that we can have a positive impact, in particular through our supervisory, financial stability, cash and payment systems, and research and advice tasks. Scores from external stakeholders showed few discrepancies, while internal stakeholders were more likely to distinguish between the four "most important" tasks. Here again, internal stakeholders assigned higher scores to operational management and lower scores to resolution. The results again correspond to our efforts in the area of assuring an inclusive financial and economic system. The activities in these core tasks are identified in the priorities in our CSR strategy: v) promoting accessibility of the payment system (cash and payment systems) and vi) researching the inclusiveness of economic systems (research and advice). When updating the CSR strategy, we explicitly stated why the action points in this theme are linked to our cash and payment systems and research and advisory tasks, and not to our supervisory and resolution tasks.

Figure 6 How can DNB contribute to an inclusive financial and economic system?

Average scores



Source: DNB.

The figures only show average scores.[8] The histograms provide insight into the distribution of the scores. The histograms reveal less variation in the responses of external stakeholders compared to internal stakeholders.

8 The average scores assigned by internal and external stakeholders provide an overall picture, but they cannot be compared one-on-one due to potential differences in the statistical distribution of the underlying populations and a difference in sample size. The medians correspond to the averages, but statistical tests on differences between internal and external stakeholder medians show that the views of our impact on the second CSR theme differ significantly for more tasks than for our impact on the first CSR theme.

Annex 7 Additional notes on operational management

7.1 CO_2 emissions and environmental protection

Thanks to the purchase of green electricity and the offsetting of our remaining CO_2 emissions, DNB was climate-neutral in 2019. The number of carbon credits purchased was determined based on actual CO_2 emissions during the reporting period, which runs from the fourth quarter of one calendar year to the end of the third quarter of the next year. Our CO_2 emissions and the amount of CO_2 emissions to be offset declined in absolute terms in the reporting year under review compared to the 2018 reporting year. The decrease can mainly be attributed to an update to commuting data and improved data on international rail and air travel. As of 2019, calculations for international travel are based on the date of departure rather than on the invoice date. This change resulted in a one-off decrease in 2019. Despite reduced energy consumption in existing premises, total energy consumption rose slightly due to the inclusion of our temporary accommodations in the 2019 calculation. See Table 9 for more details. Once renovation of our headquarters building is complete, energy consumption and CO_2 emissions will be significantly lower.

Our ISO 14001:2015-certified environmental management system for the Facilities Management, Cash Operations and Security departments was renewed in 2019. This demonstrates that we have effectively embedded environmental protection in our operations for these departments.

Table 9 Environmental data

CO_2 emissions (in tonnes)

Measured environmental data and explanation of policy and activities

Measured data[1,4]	2019[2] CO_2 (tonnes)	2018[3] CO_2 (tonnes)	2018[2] Absolute consumption	Unit
Energy	**1,604**	**1,527**		
Purchased renewable electricity	0	0	13,286,798	kWh
Natural gas purchased for heating	1,583	1,500	837,360	m^3
Diesel for energy supply	21	27	6,535	litres
Commuting	**1,556**	**1,753**		
Public transport	552	500	15,332,012	litres of petrol
Lease cars, petrol	181	135	66,092	litres of diesel
Lease cars, diesel	56	89	17,232	kWh
Lease cars, electric	8	7	12,218	km
Private cars	759	1,022	3,449,882	litres of petrol
Business travel	**1,684**	**1,976**		
Private cars	105	124	478,311	km
Lease cars, petrol	152	113	55,374	litres of petrol
Lease cars, diesel	47	75	14,438	litres of diesel
Lease cars, electric	7	5	10,236	kWh
Air travel	1,344	1,608	7,205,030	km
International rail travel	30	51	1,146,442	km
Goods and passenger transport	**23**	**25**		
Passenger cars, petrol	4	5	1,620	litres of petrol
Passenger cars, diesel	5	8	1,555	litres of diesel
Lorries	13	11	4,104	litres of diesel
Total CO_2	**4,866**	**5,281**		
Offset through purchase of carbon credits	4,866	5,281		
Total CO_2 emissions	**0**	**0**		

1 We use the emission conversion factors published online at www.co2emissiefactoren.nl (in Dutch) and the Milieubarometer calculation method to determine our material CO_2 emissions.
2 The 2019 reporting period runs from 1 October 2018 to 30 September 2019.
3 The 2018 reporting period runs from 1 October 2017 to 30 September 2018.
4 Figures subject to minor rounding differences.

7.2 Chain management

At DNB we source expertise, labour and resources to create knowledge, advice and policies, while we also source services for our operational management such as the rental of temporary premises and security. Our main categories of suppliers and markets in 2019 were: banknotes and coins, hiring and consulting services, ICT services, software and hardware, rental premises, real estate management and maintenance, and physical security. We work with suppliers in the following categories: printing, outsourcing and consultancy firms, resellers, and management and maintenance companies. We work with the ECB and other European central banks in the banknote production process. Our other chain partners operate in the Netherlands and the European Union.

In 2019, we carried out 26 European procurement projects and multiple private tenders (valued at more than EUR 50,000). Netherlands Enterprise Agency criteria were applicable to three tender procedures. These were implemented and included seven criteria covering the following product groups: external meeting venues and hotels, office furnishings and office building renovation. The tender for banknote production in 2019 included requirements for the use of sustainably produced raw materials. The printer must be able to demonstrate the source of the raw materials, and must possess certificates for sustainability.

7.3 HR

DNB is a public limited company whose sole shareholder is the State of the Netherlands. A Governing Board is responsible for the bank's management. Alongside an Internal Audit Department and an Executive Secretariat, there are 17 divisions and 5 departments that report directly to a board member (see the organisation chart). The Supervisory Board supervises the general course of business at DNB and the Governing Board's policy regarding the implementation of DNB's national tasks (see the Report of the Supervisory Board).

Table 10 shows comparative figures for DNB's workforce in 2018 and 2019. Total employment is expected to rise by 27 FTE in 2020 to 1785 FTE. Most new positions will be in our supervision divisions, partly as a result of expanded supervision of integrity, Brexit and PSD2. We have our own collective labour agreement with the trade unions (FNV Finance and the Employees' Association); its period of validity is 1 July 2019 to 1 July 2020. A total of 308 vacancies were filled in 2019. External candidates filled 220 (71%) of these positions (see Table 10), including 17 trainees and 14 managers. The other 88 vacancies, including 20 management positions, were filled through internal transfers. We offer our employees opportunities for substantive, professional and personal development through various talent programmes (the traineeship for ambitious scholars, a data & technology programme for tech talents and internal training programmes for young, highly talented employees, those with management potential and managerial experience outside of DNB). In addition, there is a budget available for all staff for training or study alongside their work.

Table 10 Key HR figures

	2019	2018
Workforce (regular employment and Governing Board)[9]	1,957	1,953
Average number of FTEs	1,813,0	1,815,6
Total % women	40.4%	38.5%
Workforce % women	40.90%	38.9%
Governing Board % women	40.0%	40.0%
Division directors % women	23.5%	23.5%
Heads of department % women	31.8%	34.4%
Heads of section % women	43.8%	33.3%
Actual training costs (EUR)	5,874,360	5,991,408
Budgeted training costs (EUR)	6,517,022	6,636,295

Employees with permanent or temporary contracts by gender	Women	Men	Total
Permanent	678	1,029	1,707
Temporary	112	138	250
Total	790	1,167	1,957

Full-time and part-time employees by gender	Women	Men	Total
Full-time (36 hours p/w or more)	571	1,098	1,669
Part-time (less than 36 hours p/w)	219	69	288
Total	790	1,167	1,957

Employees on contract and insourced	
Governing Board	5[10]
Insourced (on contract) [11]	814
Internal[12]	1,952
Total	2,771

9 Does not include trainees, insourced personnel or Supervisory Board members.
10 A sixth Governing Board member was appointed as of 1 February 2020.
11 Employees falling under collective labour agreement.
12 Of all DNB employees, 29.4% are insourced.

Inflow and outflow by gender	Women	Men	Total
Inflow	109	123	232
	46.98%	53.02%	
Outflow	71	157	228
	31.14%	68.86%	

Reason for outflow	2019	2018
Own request	97	101
Termination of contract	16	23
End of temporary employment contract	13	18
Retirement and early retirement	33	30
Restructuring	56	5
Occupational disability	9	1
Death	4	2
Total	228	180

7.4 Compliance & Integrity

The Compliance & Integrity (C&I) department monitors compliance with the code of conduct and integrity regulations. C&I received 464 notifications and 645 requests for advice in 2019 (see Table 11). The complaints committee received a total of 3 internal and 5 external complaints (see Table 12).

Table 11 Notifications and requests for advice relating to integrity regulations

	2019	2018
Impartiality (gifts and invitations, subsidiary activities, transfer)	464	448
Requests for advice	645	626

Table 12 Integrity incidents, investigations and complaints

	2019	2018
Integrity incidents (total), of which:	29	18
improper use of information	23	13
Regulation on private investment transactions	3	4
other	3	1
Complaints		
internal	3	4
external	5	4

We put forth great effort in 2019 to promote integrity and fight corruption and bribery. For example, we embedded the DNB-wide vision on integrity in our business relationships. The aim is to reduce the risk that one of our business partners may conduct business with parties (or may itself carry out activities) that are not socially responsible or even illegal and/or criminal. In addition, we monitor compliance with the code of conduct and integrity regulations by insourced employees, and we provide integrity training courses to our business partners. We also use our statutory powers to investigate the background of a company or person when contracting for real estate, construction, environmental or ICT services. If the history of the company or individual reveals aspects that may be a threat to integrity, we may decide not to conduct business with the company or individual in question or we may to terminate the relationship altogether. Regular staff and insourced employees may submit a notification, either by e-mail or in a personal interview, about potential wrongdoings at DNB or by one our staff. Our internal notification form now offers the option of anonymous submission. No use was made of this option in 2019.

Annex 8 GRI content index

Table 13 General disclosures 2016 (GRI 102)

SRS reference	Description	Reference
Organisation profile		
102-1	Name of the organisation	■ Title page
102-2	Activities, brands, products and services	■ Introduction by the President ■ Accountability, Introduction
102-3	Site of the head office	■ 4.9 Operational management
102-4	Countries where the organisation operates	■ Accountability, Introduction ■ Annex 1: Financial position of DNB
102-5	Ownership structure and legal form	■ Annex 7.3 HR
102-6	Markets	■ Accountability, Introduction
102-7	Scale of the organisation	■ Financial statements ■ Annex 1: DNB's financial position ■ Annex 7.3 HR
102-8	Information on staff	■ Annex 7.3 HR
102-9	Description of the chain	■ Accountability, Introduction ■ 4.4 Cash and payment systems ■ 4.7 Balance sheet management ■ Annex 7.2 Chain management
102-10	Significant changes affecting the organisation and the chain	■ Accountability, Introduction ■ Annex 1: Financial position of DNB ■ Annex 4: Notes on DNB 2025 ■ Annex 9: About this report
102-11	Explanatory notes on the application of the precautionary principle	■ Annex 2: Risk management
102-12	External initiatives	■ Accountability, Introduction (SDG) ■ 4.7 Balance sheet management (UN PRI, UN Global Compact) ■ 4.9 Operational management (Dutch Inclusiveness Monitor) ■ Annex 7: Detailed explanation of business operations (ISO 14001:2015, NIM)
102-13	Membership in sector associations and special-interest groups	https://www.dnb.nl/en/about-dnb/co-operation/index.jsp

SRS reference	Description	Reference
Strategy		
102-14	Statement from most senior decision-maker	■ Introduction by the President
Ethics and integrity		
102-16	Values, principles, standards and norms of conduct	■ Annex 7.4: Compliance & Integrity
Governance		
102-18	Management structure	■ Annex 7.3: HR ■ Annex 9: About this report
Stakeholder engagement		
102-40	List of stakeholders	■ Annex 6: Stakeholder management and materiality analysis
102-41	Collective labour agreements	■ Annex 7.3 HR
102-42	Identification and selection of stakeholders	■ Annex 6: Stakeholder management and materiality analysis
102-43	Stakeholder engagement	■ Annex 6: Stakeholder management and materiality analysis
102-44	Primary topics and issues	■ Accountability, Introduction ■ Annex 5: Overview of CSR objectives and results ■ Annex 6: Stakeholder management and materiality analysis

SRS reference	Description	Reference
Reporting practice		
102-45	The organisation's operational structure	■ Annual report ■ Annex 9: About this report
102-46	Contents and scope of the report	■ Accountability, Introduction ■ Annex 5: Overview of CSR objectives and results ■ Annex 6: Stakeholder management and materiality analysis ■ Annex 9: About this report
102-47	List of material topics	■ Annex 6: Stakeholder management and materiality analysis
102-48	Revision of information released earlier	■ Annex 9: About this report
102-49	Changes in reporting	■ Annex 6: Stakeholder management and materiality analysis ■ Annex 9: About this report
102-50	Reporting period	■ Annex 9: About this report ■ (1 January 2019 – 31 December 2019)
102-51	Date of most recent report	■ Title page
102-52	Reporting cycle	■ Annex 9: About this report (annual)
102-53	Contact for questions on the report	■ Annex 9: About this report (info@dnb.nl)
102-54	Claims regarding reporting in accordance with GRI Standards	■ Annex 9: About this report
102-55	GRI Contents	■ Annex 8: GRI content index
102-56	External assurance	■ Annex 9: About this report ■ Annex 10: Assurance report

Annex 9 About this report

Stakeholder dialogue and material topics

We have selected our material topics for this report on the basis of a stakeholder dialogue and a materiality analysis. These topics have an impact on us and are of interest to our stakeholders. We greatly value an ongoing dialogue with our stakeholders in various forms. We invite stakeholders to email us at info@dnb.nl with any questions or comments they may have on this Annual Report.

Reporting guidelines

We have prepared this report according to the reporting guidelines of the Global Reporting Initiative (GRI Standards: core option) and a number of DNB-specific indicators. These GRI guidelines form a global standard for CSR reporting, broken down into various categories and principles. In addition, we use the value creation model, which gives an overview of our tasks, results and envisaged societal impact.

Scope and aspect boundaries

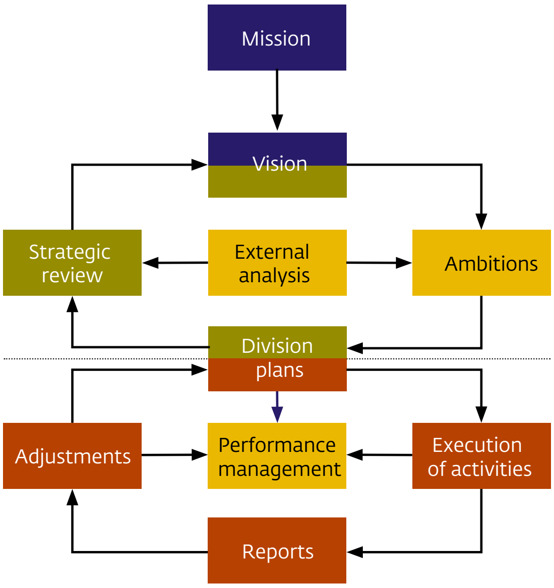
In Chapter 4 of this Annual Report, we render account for our activities to our external stakeholders. The information in this chapter relates to the 2019 calendar year, with the exception of the environmental data, for which the reporting period is the fourth quarter of 2018 to the third quarter of 2019.

Our report does not cover activities outside of our own organisation. All DNB locations are wholly owned, with the exception of the temporary premises in Amsterdam and Haarlem, which have been leased for the duration of the renovation work on our headquarters building and construction of the new facility in Zeist. Supplier information falls outside the scope of this Annual Report. The calculation of CO_2 emissions covers energy consumption (gas, electricity and diesel for heating) at all DNB locations. CO_2 emissions associated with commuting, business travel and goods transport are also reported on an organisation-wide basis.

Method of management and evaluation

Our aim is to incorporate CSR in the day-to-day performance of our duties. The material CSR topics included in our reports are thus in accordance with our mission and are integrated into the performance of our core tasks. We have structured our method of management and evaluation accordingly. Our CSR strategy is included in our organisation-wide strategy, and a CSR decision rule has been added to decision-making processes. This means that for each decision an explicit assessment must be made of whether the same result can be achieved in a different way, and whether the decision is in accordance with the CSR strategy. The CSR Committee and CSR priority officers on the work floor monitor progress and make adjustments as necessary to ensure that we achieve the goals as defined in the CSR strategy.

Figure 7 Method of management and evaluation



With respect to all topics, implementation of the objectives is safeguarded in an integrated planning and control (P&C) cycle, in which we translate the long-term aspirations into annual priorities. We lay down the objectives in each policy area in division-specific plans and SMART objectives for employees. We monitor progress using the planning and control tool, based on data provided by the departments responsible for the objectives. The business controllers from the Finance & Consulting department and the Risk Management & Strategy (RMS) department critically assess the reported progress. Based on this input, the Governing Board receives quarterly reports. As our CSR strategy has been integrated into the DNB 2025 strategy, the regular P&C cycle is to include a progress report on CSR priorities as defined at the start of each year. Progress toward the 2019 priorities and the results achieved are listed in Annex 5.

Alongside this method of management, our RMS department is also responsible for quality improvements in the organisation's overall performance of its duties. RMS fulfils this quality assurance function throughout the entire DNB organisation (i.e. Supervision, Central Bank, Internal Operations) with a view to improving not only our processes, but also the underlying substance of our work. In addition, RMS provides support on request to quality assurance procedures in the first line, for example by organising sessions devoted to lessons learned and providing advice on effective working methods. RMS conducts evaluations to identify strengths and weaknesses, resulting in a report on findings and recommendations. The ultimate goal is to enhance our capacity as a learning organisation. The focus of the RMS department's evaluations is not so much on risk-management processes, but more on the primary processes in the first line. Additionally, our Internal Audit department (IAD) conducts independent audits into the effectiveness of the overall risk framework and the consistent application of policies and processes. The IAD then submits periodic reports on its findings to the Governing and Supervisory Boards.

The Annual Report was produced under the direction of an editorial committee, centrally coordinated by the Economic Policy & Research division, the Financial Markets Division and the Communications department, with input provided by staff and divisional directors, the CSR Committee and the departments of Risk Management & Strategy and Finance & Consulting. The texts in the Annual Report were discussed and approved by the Governing Board.

Structure of the Annual Report

The introduction by the President and Chapters 1 to 3 of the Annual Report describe the main developments and outlook relating to our core tasks. Chapter 4 reflects on our activities and results in 2019. This chapter also contains a more detailed account of the specific CSR priorities in our core tasks in the year under review.

Data collection

No changes have been made to definitions or methods of measurement. All data are based on calculations (not estimates), unless stated otherwise. It should be noted that many of our results in the area of CSR are presented in qualitative terms.

External assurance

Our external auditor reviewed the information on CSR in Chapter 4 of this Annual Report. The assurance report is included in Annex 10.

Benchmark

DNB takes part in the Ministry of Economic Affairs and Climate Policy's Transparency Benchmark on CSR reporting. The Ministry defines the benchmark criteria and arranges the biennial benchmarking in order to learn about the transparency of CSR reporting by the largest enterprises in the Netherlands. Table 14 shows the development of our score on the transparency benchmark and our ranking compared to other organisations. We are committed to improving the context, balance and communication on value creation in our reports.

Table 14 Our score on the Transparency Benchmark

	Points	Ranking (total number of organisations)
2019 (Annual Report 2018) [1]	63.5 [2]	42 (487)
2017 (Annual Report 2016)	186	26 (477)
2016 (Annual Report 2015)	170	53 (483)
2015 (Annual Report 2014)	174	22 (461)
2014 (Annual Report 2013)	150	57 (242)

www.transparantiebenchmark.nl

[1] Transparency Benchmark frequency is biennial as of 2018
[2] Scale adjusted in 2019

Definitions

Terms	Definitions
Advice and research	DNB provides economic advice to the government and we are represented on important councils and consultative bodies. Thanks to our expertise, reputation and autonomous position, we are able to provide independent economic advice that helps to promote solid national and international decision-making on economic policy.
Balance sheet management	We are responsible for the reserves and financial assets that are used to underpin confidence in the Dutch financial system and to support the single European monetary policy.
Bank for International Settlements (BIS)	An international organisation pursuing international monetary and financial cooperation and acting as a bank for the national central banks.
Carbon credit	A certificate representing an independently verified reduction of one tonne of carbon dioxide equivalent in the atmosphere.
Cash and payment systems	We actively promote accessible, secure and reliable cash and payment systems. In this regard, we are responsible for issuing euro banknotes and coins in the framework of the Eurosystem, we ensure robust and reliable cash and payment systems and we supervise institutions and systems that process payment transactions.
Central Banks and Supervisors Network for Greening the Financial System	Network of central banks and supervisory authorities. This network aims to green the financial system and strengthen the efforts being put forth by the financial sector to achieve the Paris climate agreement goals.
CO_2 neutrality	The offset of all of our CO_2 emissions as shown in Table 9.
Committee on Payments and Market Infrastructures	Basel Committee on Payments and Market Infrastructures that promotes the security and efficiency of payments, clearing and settlement.

Terms	Definitions
CSR Committee	DNB committee made up of a number of division directors and heads of department who update the CSR policy every year, promote the integration of the CSR policy into our core tasks and oversee its implementation.
Financial Stability Board	International supervisory authority that makes and monitors recommendations for the global financial system.
Financial stability	DNB is committed to a stable financial system: a system that is resilient and contributes to sustainable economic growth. We warn about risks that may harm the financial system as a whole. We also work to strengthen the financial system's resilience, for example by requiring financial institutions to reinforce their buffers.
Green Key certification	International quality mark for sustainable businesses in the recreational and leisure industry and the business market.
ISO 14001:2015	An international standard that specifies requirements for an environmental management system that an organisation can use to gain insight into its environmental impact.
National Forum on the Payment System (NFPS)	A group of 15 civil society organisations, chaired by DNB, which focuses on improving the efficiency of the retail payment system.
No-deal Brexit	The possible withdrawal of the United Kingdom from the European Union in the absence of a withdrawal agreement.
Monetary tasks	As a member of the Eurosystem, we contribute to decision-making on monetary policy and its implementation. Monetary policy is aimed at price stability, which is defined as an inflation rate of under but close to 2% over the medium term.
Resolution	As the Dutch resolution authority, we seek to ensure that the critical functions of banks are safeguarded to the greatest extent possible, while non-viable institutions or parts of institutions are wound up in an orderly manner.

Terms	**Definitions**
RVO criteria	Sustainable procurement criteria used by the Dutch public authorities.
Socially responsible investment	The policy through which DNB considers environmental, social and governance aspects, in addition to financial and economic aspects, when making investment decisions.
Stablecoins	Cryptocurrencies designed to minimise the volatility of the price of the currency compared to a 'stable' asset or basket of assets.
Statistics	DNB collects statistical information and compiles statistics in close cooperation with partners such as Statistics Netherlands (CBS), the European System of Central Banks (ESCB) and the International Monetary Fund (IMF).
Statistics Netherlands (CBS)	National institute engaged in collecting data and compiling statistics on Dutch society. Statistics Netherlands produces statistical information on a wide range of social and economic issues.
Supervision	We supervise banks, pension funds, insurers and other financial institutions by conducting fit and proper assessments of board members, issuing licenses and working to combat financial crime. We also assess whether institutions are financially sound and whether they can meet their obligations, even when faced with economic downturns.
Sustainable Finance Platform	A group consisting of supervisory authorities, sector associations, ministries and the Sustainable Finance Lab that seeks to promote and increase awareness of sustainable finance in the financial sector by coming together to consider ways to avoid or overcome obstacles to sustainable finance.

Annex 10 Assurance report of the independent auditor

To the shareholder and the supervisory board of De Nederlandsche Bank N.V.

Our conclusion

We have reviewed the CSR information as specified in the paragraph 'External assurance' (hereafter: the 'CSR information') in the chapter Accountability of the Annual Report 2019 of De Nederlandsche Bank N.V. (hereafter: 'DNB') based in Amsterdam. A review is aimed at obtaining a limited level of assurance.

Based on our procedures, nothing has come to our attention that causes us to believe that the CSR information is not prepared, in all material respects, in accordance with the Sustainability Reporting Standards of the Global Reporting Initiative (GRI).

Basis for our conclusion

We have performed our review of the CSR information in accordance with Dutch law, including Dutch Standard 3000A 'Assurance-opdrachten anders dan opdrachten tot controle of beoordeling van historische financiële informatie (attest-opdrachten)' (Assurance engagements other than audits or reviews of historical financial information (attestation engagements)). Our responsibilities under this standard are further described in the section 'Our responsibilities for the review of the CSR information' of this assurance report.

We are independent of DNB in accordance with the 'Verordening inzake de onafhankelijkheid van accountants bij assurance-opdrachten' (ViO, Code of Ethics for Professional Accountants, a regulation with respect to independence) and other relevant independence regulations in the Netherlands. Furthermore, we have complied with the 'Verordening gedrags- en beroepsregels accountants' (VGBA, Dutch Code of Ethics).

We believe that the assurance evidence we have obtained is sufficient and appropriate to provide a basis for our conclusion.

Limitations to the scope of our review

The references to external sources or websites are not part of the information itself as reviewed by us. We therefore do not provide assurance on this information.

The CSR information includes prospective information such as ambitions, strategy, plans, expectations and estimates, and risk assessments. Inherently the actual future results are uncertain. We do not provide any assurance on the assumptions and achievability of prospective information in the CSR information.

Responsibilities of the Governing Board for the CSR information

The Governing Board of DNB is responsible for the preparation of the CSR information in accordance with the Sustainability Reporting Standards of the Global Reporting Initiative (GRI). The choices made by the Governing Board regarding the scope of the CSR information and the reporting policy are summarized in attachment 9 to the Report.

The Governing Board is also responsible for such internal control as it determines is necessary to enable the preparation of the CSR information that is free from material misstatement, whether due to fraud or error.

Our responsibilities for the review of the CSR information

Our objective is to plan and perform the review in a manner that allows us to obtain sufficient and appropriate assurance evidence for our conclusion.

Procedures performed to obtain a limited level of assurance are aimed to determining the plausibility of information and vary in nature and timing from, and are less in extent, than for a reasonable assurance engagement. The level of assurance obtained in review engagements with a limited level of assurance is therefore substantially less than the assurance obtained in audit engagements.

Misstatements can arise from fraud or errors and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the decisions of users taken on the basis of the information in the Report. The materiality affects the nature, timing and extent of our review procedures and the evaluation of the effect of identified misstatements on our conclusion.

We apply the 'Nadere voorschriften kwaliteitssystemen' (NVKS, Regulations on quality management systems) and accordingly maintain a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

We have exercised professional judgement and have maintained professional scepticism throughout the review, in accordance with the Dutch Standard 3000A, ethical requirements and independence requirements.

Our review engagement included, among others, the following procedures:

- Performing an analysis of the external environment and obtaining an understanding of relevant CSR themes and issues, and the characteristics of the organisation;
- Evaluating the appropriateness of the reporting criteria used, their consistent application and related disclosures in the CSR information. This includes the evaluation of the results of the stakeholders' dialogue and the reasonableness of estimates made by the Governing Board;

- Obtaining an understanding of the reporting processes for the CSR information, including obtaining a general understanding of internal control relevant to our review;
- Identifying areas in the CSR information with a higher risk of misleading or unbalanced information or material misstatements, whether due to fraud or error. Designing and performing further assurance procedures aimed at determining the plausibility of the CSR information responsive to this risk analysis. These procedures included among others:
  - Interviewing relevant staff at group level responsible for the CSR policy and results;
  - Interviewing relevant staff responsible for providing the CSR information for, carrying out internal control procedures on, and consolidating the CSR information;
  - Obtaining assurance information that the CSR information reconciles with underlying records of the company;
  - Reviewing, on a limited test basis, relevant internal and external documentation.
- Evaluating the presentation, structure and content of the CSR information;
- To consider whether the CSR information as a whole, including the disclosures, reflects the purpose of the reporting criteria used.

We have communicated with the Governing Board regarding, among other matters, the planned scope and timing of the review and significant findings that we have identified during our review.

Amstelveen, 25 March 2020

KPMG Accountants N.V.
M.A. Huiskers RA

2019 in brief

The AFM and DNB recommend regulation of cryptos at international level

DNB study: "Values at risk? Sustainability risks and goals in the Dutch financial sector"

JANUARY

PSD2 licences are open for application

FEBRUARY

DNB issues a brochure on its supervision of small and medium-sized banks

ECB announces new round of long-term refinancing operations for banks

DNB is the first central bank in the world to sign the Principles for Responsible Investment

MARCH

DNB warns against overvaluation in residential property appraisals

APRIL

Introduction of new €100 and €200 banknotes

Pension Agreement

MAY

Barbara Baarsma appointed as Chair of DNB's Bank Council

DNB endorses UFR advice of the Parameters Committee

JUNE

DNB study: Amsterdam housing market more closely resembles Paris and Frankfurt than the rest of the Netherlands

DNB issues guidelines for the use of artificial intelligence

DNB, AFM and the Ministry of Finance call for European integrity supervision

JULY

AUGUST

DNB starts registering crypto service providers in preparation for the supervision of crypto services starting in 2020

The ECB announces a wide range of monetary policy measures. Klaas Knot speaks out against restarting the ECB's asset purchasing programme

DNB wants Dutch banks to maintain more capital against mortgage loans

NGFS issues Sustainable and Responsible Investment Guide for central banks

Announcement of temporary relocation of the gold vaults to Haarlem

Publication of good practices on tax integrity risks for trust offices

SEPTEMBER

Christine Lagarde takes up position as Chair of the ECB

Publication of Q&As and Good practices on insurers' treatment of climate risks

OKTOBER

NOVEMBER

Netherlands Court of Audit publishes report about DNB as the Dutch resolution authority

DNB forecasts: Dutch economy continues to grow, but at a slower rate

FSC calls attention to the risks of long-term low interest rates

Announcement of renovation plans for Frederiksplein head office

DECEMBER

Organisation and governance

From left to right: Klaas Knot, Else Bos, Olaf Sleijpen, Nicole Stolk, Frank Elderson

As of the date of adoption of the 2019 financial statements, the Governing Board, Supervisory Board, Bank Council and Employees Council were composed as follows:

Governing Board

President:
Klaas Knot (1967, Dutch, economics, end of second term: 2025)

Executive Director and Chair for Prudential Supervision:
Else Bos (1959, Dutch, econometrics, end of first term: 2025)

Executive Director of Banking Supervision:
Frank Elderson (1970, Dutch, Dutch law, end of second term: 2025)

Executive Director of Monetary Affairs:
Job Swank (1955, Dutch, economics, end of second term: 2025)

Executive Director for Resolution and Internal Operations:
Nicole Stolk (1969, Dutch, history and Dutch law, end of first term: 2025)

Executive Director of Monetary Affairs:
Olaf Sleijpen (1970, Dutch, economics, end of first term: 2027)

Company Secretary:
Cees Ullersma (1969, Dutch, economics)

The allocation of responsibilities among the members of the Governing Board is represented in the organisation chart on DNB's website.

Due to long-term illness, Job Swank is currently unable to fulfil his duties as an executive director. Since it is not yet clear how long his recovery will take, Olaf Sleijpen has been appointed by Royal Decree as an Executive Director as of 1 February 2020.

Supervisory Board

Chair:
Wim Kuijken (1952, Dutch, economics, end of first term: 2023)
Member of the Remuneration and Appointments Committee.

Vice-Chair:
Margot Scheltema (1954, Dutch, international law, end of second term: 2023)
Chair of the Audit Committee.
Member of the Supervision Committee.

Other members:
Feike Sijbesma (1959, Dutch, medical biology and business administration, end of second term: 2020)
Chair of the Remuneration and Appointments Committee.

Kees Goudswaard (1955, Dutch, economics, end of second term: 2020)
Chair of the Supervision Committee.
Member of the Bank Council on behalf of the Supervisory Board since 2016.

Marry de Gaay Fortman (1965, Dutch, Dutch law, end of first term: 2020)
Member of the Remuneration and Appointments Committee.
Member of the Supervision Committee.

Roger Dassen (1965, Dutch, business economics and accountancy, end of first term: 2022)
Member of the Audit Committee.

Government-appointed member:
Annemieke Nijhof (1966, Dutch, chemical technology, end of second term: 2023)
Member of the Audit Committee.
Member of the Bank Council since 2015.

Remuneration and Appointments Committee
Feike Sijbesma, Chair
Wim Kuijken
Marry de Gaay Fortman

Audit Committee
Margot Scheltema, Chair
Annemieke Nijhof
Roger Dassen

Supervision Committee
Kees Goudswaard, Chair
Margot Scheltema
Marry de Gaay Fortman

The other positions held by the Governing Board and Supervisory Board members are posted on DNB's website.

Bank Council

Chair:
Barbara Baarsma
Professor of Corporate Finance and Financial Markets at the University of Amsterdam.

Other members:
Kees Goudswaard
Member on behalf of the Supervisory Board.

Annemieke Nijhof
Member of the Bank Council on behalf of the Supervisory Board as a government-appointed member.

Hans de Boer
Chair of VNO-NCW.

Chris Buijink
Chair of the Dutch Banking Association.

Han Busker
Chair of FNV.

Marc Calon
Chair of LTO Nederland.

Harry Garretsen
Professor of Economics at the University of Groningen.

Nic van Holstein
Chair of the Trade union federation for Professionals.

Willem van Duin
Chair of the Dutch Association of Insurers.

Piet Fortuin
Chair of CNV.

Shaktie Rambaran Mishre
Chair of the Federation of the Dutch Pension Funds.

Jacco Vonhof
Chair of the Royal Association MKB-Nederland.

Representative of the Ministry of Finance:
Christiaan Rebergen, Treasurer-General.

Barbara Baarsma was appointed as member and Chair of the Bank Council as of 21 June 2019. She succeeded Arnoud Boot, who functioned as member and Chair of the Bank Council until that date. Piet Fortuin was appointed as a member of the Bank Council in his capacity of Chair of the CNV trade union as of 1 December 2019.

Employees Council

Jos Westerweele (Chair)
Jerry Rijmers (Deputy Chair)
Carel van den Berg
Jacqueline van Breugel
Joost van der Burgt
Bernard de Groes
Saideh Hashemi
Eline Kogan
Marjon Linger-Reingoud
John van de Meent
Anja Peerenboom
Stephan Raspoort
Paul Suilen
Aaldert van Verseveld
Ingrid Voorn
Edwin Weerdenburg
Sandra Koentjes (Professional Secretary)

Governance

De Nederlandsche Bank (DNB) is a public limited company incorporated under Dutch law. In its capacity as the central bank of the Netherlands, DNB forms part of the European System of Central Banks (ESCB), the Single Supervisory Mechanism (SSM) and the Single Resolution Mechanism (SRM). As the supervisory authority and resolution authority, DNB is an independent public body.

DNB is led by a Governing Board consisting of a President and at least three and at most five Executive Directors.

The President of DNB is also a member of the Governing Council and the General Council of the European Central Bank (ECB).

The Executive Director of Monetary Affairs is responsible for financial stability, financial markets, economic policy and research, and payment systems. The Executive Director of Monetary Affairs is also responsible for DNB's statistics function and he is a Crown-appointed member of the Social and Economic Council of the Netherlands (SER).

The Executive Director and Chair for Prudential Supervision is responsible for supervision policy and supervision of insurers and pension funds. She represents DNB on the Board of Supervisors of EIOPA, the European Insurance and Occupational Pensions Authority. DNB has a Prudential Supervision Council for Financial Institutions, chaired by the Chair for Prudential Supervision, to support the internal deliberations and decision-making by the Executive Director of Supervision concerning supervisory matters.

The Executive Director of Banking Supervision is responsible for supervision of banks, supervision of horizontal functions and integrity, and legal affairs. He also represents DNB on the ECB's Supervisory Board. The ECB's Supervisory Board is responsible for decision-making on the supervision of significant banks within the euro area within the framework of the Single Supervisory Mechanism (SSM).

The Executive Director for Resolution and Internal Operations is responsible for resolution tasks concerning Dutch banks, investment firms and insurers. She also represents DNB on the Single Resolution Board (SRB). DNB has a Resolution Council, chaired by the Executive Director for Resolution and Internal Operations, to support the Governing Board's internal deliberations and decision-making concerning resolution matters. The Executive Director for Resolution and Internal Operations is also responsible for managing DNB's internal operations. These include the HR, ICT, Security & Transport, Communications, Finance & Consulting and Strategy departments.

The Supervisory Board supervises the general course of business at DNB and the Governing Board's policy regarding the implementation of Section 4 of the Bank Act 1998. It is also responsible for adopting the financial statements. The Supervisory Board has several other significant powers, including approval of the budget and of certain Governing Board decisions. It consists of at least seven and at most ten members, one of whom is appointed by the Minister of Finance.

DNB has one single shareholder: the Dutch State, which is represented by the Minister of Finance, also in the General Meeting. The Governing Board renders account to the General Meeting by presenting its annual report and financial statements over the past financial year. The General Meeting's main powers include approving the annual financial statements, discharging Governing Board and Supervisory Board members, appointing Supervisory Board members and appointing the external auditor.

The Bank Council functions as a sounding board for the Governing Board. It consists of at least eleven and at most thirteen members. Two members of the Supervisory Board, including the government-appointed member, sit on the Bank Council. With regard to the other members, DNB aims to ensure that the various sectors of society are represented.

DNB's website provides more information on the governance structure, as also laid down in the Bank Act 1998 and in DNB's Articles of Association and Rules of Procedure. Although the Dutch Corporate Governance Code (the Code) applies only to listed companies, DNB strives to implement the principles and best practices from the Code as much as possible. DNB explains its implementation of the Code on its website.

Report of the Supervisory Board

Introduction

In 2019 the Supervisory Board examined the way in which DNB's policies relating to its core tasks and internal operations were carried out, devoting specific attention to the DNB 2025 Organisational Strategy, the DNB Accommodation Programme, the outsourcing of specific ICT services, sustainability and climate risks, digitalisation and integrity supervision. These and other subjects caused the Supervisory Board to remain closely involved with DNB throughout 2019.

Composition and appointments

The Governing and Supervisory Board composition remained unchanged in 2019. It was an eventful year, however, due to the long-term absence through illness of Else Bos and Job Swank. The Supervisory Board is pleased that Else Bos has recovered and was able to resume her duties. Job Swank is still recovering. With the support of the Division Directors and the organisation as a whole, the other Governing Board members dealt excellently with these exceptional circumstances. However, in close consultation with the Governing Board and the shareholder, the Supervisory Board decided to appoint a new Executive Director to take over the Monetary Affairs portfolio. Following interviews with several external and internal candidates, the Supervisory Board decided to recommend Division Director Olaf Sleijpen to the Crown for appointment as the new Executive Director. He has been appointed as of 1 February 2020. The Supervisory Board welcomes his appointment and looks forward to working with him.

In conformity with Section 13(1) of the Bank Act 1998, the Supervisory Board consists of at least seven and at most ten members. As of the date of adoption of the 2019 financial statements, the Supervisory Board consisted of seven members: Wim Kuijken (Chair), Margot Scheltema (Vice-Chair), Annemieke Nijhof (government-appointed member), Feike Sijbesma, Kees Goudswaard, Marry de Gaay Fortman and Roger Dassen.

The shareholder reappointed Wim Kuijken for a second four-year term as member and Chair of the Supervisory Board as of 1 July 2019. The shareholder reappointed Margot Scheltema for a second term as a member of the Supervisory Board as of 1 September 2019. The Government appointed Annemieke Nijhof for a second term as a member of the Supervisory Board as of 1 June 2019.

As the composition of the Supervisory Board did not change in 2019, the diversity distribution also remained unchanged. We achieved the statutory target for a balanced distribution of board membership between women and men, given that the female/male mix was 43/57% on the Supervisory Board and 40/60% on the Governing Board. In the event of appointment or reappointment, the Board will focus on the adopted profiles, which include the aim of diversity. It should be noted that the aim of diversity extends beyond the female/male mix and also takes account of expertise, background and competencies. For further details, see the expertise matrix and gender diversity matrix below.

Area of expertise	Wim Kuijken	Margot Scheltema	Annemieke Nijhof	Marry de Gaay Fortman	Kees Goudswaard	Feike Sijbesma	Roger Dassen
Management							
Management and organisation	x	x	x	x	x	x	x
Accounting, administrative organisation and internal control structure		x					x
Stakeholder management	x	x	x	x	x	x	x
Risk management		x		x	x	x	x
Outsourcing	x	x		x		x	x
Legal affairs and corporate governance		x		x			x
Core tasks							
Macroeconomic issues	x				x	x	x
Financial stability and institutions		x		x	x		
Payment system							
Statistics					x		
Strategic issues							
Sustainability		x	x			x	x
Digital IT	x					x	x
Public interest	x		x	x	x		

Age brackets

45 – 55
Nijhof,
De Gaay Fortman

55 – 65
Scheltema

65 – 75

Age brackets

45 – 55
Dassen

55 – 65
Goudswaard,
Sijbesma

65 – 75
Kuijken

The participation of Supervisory Board members in the Bank Council remained unchanged in 2019. Annemieke Nijhof continued her membership as government-appointed Supervisory Board member throughout 2019. Kees Goudswaard stayed on as Bank Council member appointed by the Supervisory Board throughout 2019.

The composition of the Supervisory Board, its committees and the Governing Board is provided from page 99 of this Annual Report. The profiles of the Governing and Supervisory Board members and the other positions they hold can be found on DNB's website.

Activities

In plenary Supervisory Board meetings, the average attendance rate was 90%. None of the members were regularly absent. A part of each of these meetings was held with the Governing Board being present. The table below specifies the attendance rates of each of the members in plenary Supervisory Board (SB), Remuneration and Appointments Committee (RAC), Audit Committee (AC), and the Supervision Committee (SC) meetings.

Member	SB	RAC	AC	SC
Wim Kuijken	8/9	9/9		
Margot Scheltema	9/9		8/8	5/5
Feike Sijbesma	8/9	9/9		
Kees Goudswaard	8/9			5/5
Marry de Gaay Fortman	8/9	9/9		5/5
Annemieke Nijhof	8/9		7/8	4/5
Roger Dassen	8/9		8/8	

The Chair of the Supervisory Board and the President were in frequent contact about issues concerning the Supervisory Board's work and developments concerning DNB. The activities of the three Supervisory Board committees are described in Sections 5.4 to 5.6 below. As part of the Supervisory Board's supervision of the general course of business at DNB, the Supervisory Board discussed the financial results for 2019 in the Audit Committee, and it discussed the financial results for 2019 relating to DNB's tasks as an independent public body in the Audit Committee, the Supervision Committee and its plenary meetings. These discussions were based on quarterly financial reports, the management letter and audit report from the external auditor and the internal audit department's (IAD) quarterly reports.

One of the Supervisory Board's areas for attention in 2019 was the size of the balance sheet items related to the monetary operations and associated risks. DNB's balance sheet risk exposure resulting from the Eurosystem's monetary policy prompted the Governing Board – supported by the Supervisory Board – to decide for the 2019 financial year to release EUR 177 million from the provision for financial risks formed in 2015. Net profit for 2019, therefore, came to EUR 1,176 million (2018: EUR 188 million). In accordance with DNB's capital policy, EUR 539 million was added to the general reserve. The distribution to the Dutch State amounted to EUR 637 million. DNB again refrained from distributing an interim dividend for the 2019 financial year. No gold sales took place in 2019. From time to time, the Supervisory Board discusses the Governing Board's considerations concerning the gold stock when there is reason to do so.

The Supervisory Board discussed the 2019 financial statements with the Governing Board at length, in the presence of the external auditor. Pursuant to Section 13(6) of the Bank Act 1998, the Supervisory Board subsequently adopted DNB's financial statements and presented them for approval to the general meeting. The Supervisory Board discussed the budget for 2020, including the independent public body budget, on 22 November 2019 and approved it. The Supervisory Board established that the internal operational and control instruments, such as the planning and control cycle and the risk management and control system, operated effectively.

Following deliberation by the Supervisory Board, the Governing Board and several members of the Supervisory Board reviewed the independent public body budget in the annual budget meeting with the Ministry of Finance. The Supervisory Board is pleased to see that the Governing Board practises transparency in the budgeting process and engages in dialogue about it with its main stakeholders. It believes DNB exercises its supervision decisively and intrusively, formulating unambiguous priorities. Based on available resources, the Governing Board and Supervisory Board jointly look for effective and efficient solutions to execute DNB's core tasks and to further strengthen its internal operations.

The Supervisory Board continued to devote particular attention to DNB's internal organisation in 2019. 2019 saw a continuation of the reconfiguration of DNB's internal operations based on a dedicated strategic plan for 2016-2020 (Meerjarenplan Intern Bedrijf 2016-2020). On various occasions, the Supervisory Board discussed the progress made in ICT services outsourcing and DNB's programme on accommodation in considerable depth. This programme encompasses the temporary relocation of the gold vaults and banknote activities to Haarlem prior to the final relocation to the new Cash Centre in Zeist, the refurbishment of the office premises at Frederiksplein, and DNB's temporary alternative office accommodation during the renovations. The Supervisory Board stressed the importance of a balanced weighing of cost efficiency, sustainability, security and transparency in these meetings. Last but not least, the Supervisory Board and Governing Board also discussed the DNB 2025 Organisational Strategy. By continuing an ongoing dialogue with the Governing Board on themes such as diversity and inclusiveness, process and programme management and DNB's risk management, the Supervisory Board seeks to contribute to the strengthening of DNB's corporate culture.

At each of its meetings, the Supervisory Board addressed the most important trends in DNB's areas of responsibility, derived from the periodic update on current affairs, with the Governing Board members, who informed the Supervisory Board about the international forum meetings they attended.

During a retreat with the Governing Board, the Supervisory Board discussed DNB's strategic challenges, zooming in on integrity supervision and DNB's corporate culture.

In conformity with Section 24 of the Works Councils Act (Wet op de ondernemingsraden), members of the Supervisory Board attended consultation meetings between the Executive and the Employees Council. The Chair of the Supervisory Board and the Chair of the Audit Committee met with the Head of the Compliance and Integrity Department at regular intervals, and the Chair of the Audit Committee regularly met with the Head of the IAD and the external auditor. Supported by an external expert, the Supervisory Board assessed its own performance in 2019 and discussed the results at a plenary meeting without the Governing Board being present. At this meeting, the Supervisory Board also discussed its cooperation with the Governing Board and the latter's performance.

Audit Committee

In the year under review, the Audit Committee consisted of Margot Scheltema (Chair), Roger Dassen and Annemieke Nijhof. Meetings were held in the presence of the Executive Director for Resolution and Internal Operations, the external auditor, the Heads of the IAD and Finance departments, and several officers from the relevant areas.

The Audit Committee discussed the financial statements and the external auditor's findings, and advised the Supervisory Board to adopt the 2019 financial statements and to approve the independent public body report for 2019. The Audit Committee extensively discussed the 2020 budget and the 2020 independent public body budget with the Governing Board, looking for opportunities to further enhance the organisation's effectiveness. The Audit Committee advised the Supervisory Board to approve both budgets. In 2019, as in previous years, the Audit Committee paid attention to the external auditor's report and management letter, establishing that the Governing Board adequately acted on the findings and recommendations set out in the management letter.

The Audit Committee discusses current affairs relating to DNB's internal operations with the Executive Director for Resolution and Internal Operations at each meeting, with the themes of accommodation, information security and ICT services outsourcing being recurring themes for the Audit Committee. It also confers about such updates on payments and statistics, the quarterly reports issued by the Compliance & Integrity Department, and the quarterly financial reports. Throughout 2019 the Audit Committee regularly discussed and advised on progress made in DNB's programme on accommodation, paying particular attention to the temporary relocation of the Cash Centre to Haarlem and the preliminary design of the renovated office premises at Frederiksplein. Risk management as part of the accommodation programme, data and digitalisation and DNB's organisational ICT landscape were discussed in separate theme sessions. The Audit Committee regularly meets with relevant lines of defence within DNB and with the external auditor without the Governing Board being present.

Remuneration and Appointments Committee

In the year under review, the Remuneration and Appointments Committee consisted of Feike Sijbesma (Chair), Wim Kuijken and Marry de Gaay Fortman.

The Committee devoted extensive attention to the composition of the Governing Board, resulting in Olaf Sleijpen's appointment effective from 1 February 2020. In addition, the Remuneration and Appointments Committee continued its preparations for the nomination of an eighth Supervisory Board member, with financial sector expertise. The Committee also considers payment systems expertise in formulating its nomination. The Remuneration and Appointments Committee spoke with the President about his performance and that of the other Governing Board members, following the Supervisory Board's annual evaluation. The Supervisory Board's role in compliance matters, for instance when assessing the compatibility of secondary positions, also comprises periodic meetings between the Chair of the Supervisory Board and the shareholder.

Supervision Committee

The Supervision Committee consisted of Kees Goudswaard (Chair), Margot Scheltema and Marry de Gaay Fortman. Annemieke Nijhof also participated in the meetings, which were held in the presence of DNB's two Executive Directors of Supervision and several officers from the relevant areas. The Supervision Committee's agenda is based in part on an annual agenda and in part on current events. The meetings focused on a number of practical cases, current policy issues and building a deeper understanding of various supervisory topics. The Committee discussed the ongoing supervisory methodology review and the integration of climate risk in DNB's supervision approach, the solvency position of Dutch life and non-life insurers, the staffing requirements of integrity supervision, the digitalisation of supervision and the impact of technological developments on supervised institutions and DNB, and fit and proper assessments and licence applications (market access).

As part of the Supervisory Board's monitoring of DNB's policy in respect of its prudential supervision, the Supervision Committee in all of its meetings exchanged views with the Governing Board about institution-specific supervision cases to which the latter devoted particular attention in that period, to the extent relevant to safeguarding the quality and effectiveness of DNB's supervision policy. The Supervision Committee, like the Audit Committee, advised the Supervisory Board to approve the independent public body report for 2019 and the independent public body budget for 2020. The Supervision Committee discussed the evaluation of specific supervision cases with the Executive Directors of Supervision.

Declaration of independence

The Regulation on Incompatible Offices and the Regulation on Conflicts of Interest apply to Supervisory Board members without restriction. Supervisory Board members are not employed by DNB and were not a DNB employee at any time in the five years preceding their appointment, nor do they have any relationship with DNB from which they could obtain personal gain. Supervisory Board members receive a fixed annual fee that is not related to DNB's results in any given year. All Supervisory Board members are independent within the meaning of the Dutch Corporate Governance Code. Any potential secondary position is assessed on the basis of the Regulation on Incompatible Offices and submitted to DNB's Compliance & Integrity Department for advice. This procedure was also followed in 2019, for both Supervisory Board members and Governing Board members.

Concluding remarks

The Supervisory Board looks back on an eventful year and has found that DNB made significant progress in the year under review, both in the execution of its core tasks and in its operational management. The Supervisory Board would like to thank DNB's staff and its Governing Board for their contribution to sustainable prosperity in the Netherlands and looks forward to its continued cooperation with the Governing Board in 2020.

Amsterdam, 25 March 2020
Supervisory Board
De Nederlandsche Bank N.V.
Wim Kuijken, Chair
Margot Scheltema, Vice-Chair
Annemieke Nijhof, government-appointed member
Feike Sijbesma
Kees Goudswaard
Marry de Gaay Fortman
Roger Dassen

Financial statements

Balance sheet as at 31 December 2019

(before appropriation of profit)

Millions

		31 December 2019	31 December 2018
	Assets	EUR	EUR
1	Gold and gold receivables	26,664	22,073
2	Claims on non-euro area residents denominated in foreign currency	12,029	11,270
2.1	Receivables from the International Monetary Fund (IMF)	8,256	7,588
2.2	Balances held with banks and investments in securities, external loans and other external assets	3,773	3,682
3	Claims on euro area residents denominated in foreign currency	731	1,354
4	Claims on non-euro area residents denominated in euro	970	2,008
5	Lending to euro area credit institutions related to monetary policy operations denominated in euro	26,791	27,742
5.1	Main refinancing operations	0	0
5.2	Longer-term refinancing operations	26,651	27,742
5.3	Fine-tuning reverse operations	0	0
5.4	Structural reverse operations	0	0
5.5	Marginal lending facility	140	0
5.6	Credits related to margin calls	0	0
6	Other claims on euro area credit institutions denominated in euro	2	885
7	Securities of euro area residents denominated in euro	120,165	128,008
7.1	Securities held for monetary policy purposes	116,125	119,304
7.2	Other securities	4,040	8,704
8	Intra-Eurosystem claims	109,038	149,161
8.1	Participating interest in the ECB	540	482
8.2	Claims equivalent to the transfer of foreign reserves to the ECB	2,357	2,320
8.3	Claims related to the issuance of ECB debt certificates	0	0
8.4	Net claims related to the allocation of euro banknotes within the Eurosystem	59,872	54,191
8.5	Other intra-Eurosystem claims (net)	46,269	92,168
9	Other assets	4,697	4,516
9.1	Euro area coins	0	0
9.2	Tangible and intangible fixed assets	151	177
9.3	Other financial assets	2,922	2,494
9.4	Off-balance sheet instruments revaluation differences	0	0
9.5	Accruals and prepaid expenses	1,614	1,788
9.6	Other investments	10	57
	Total assets	**301,087**	**347,017**

Amsterdam, 25 March 2020
Governing Board of De Nederlandsche Bank N.V.

Klaas Knot, *President*
Else Bos
Frank Elderson
Job Swank[1]
Nicole Stolk
Olaf Sleijpen

1 Executive Director Job Swank did not sign the financial statements due to long-term illness.

	Liabilities	31 December 2019 EUR	31 December 2018 EUR
1	Banknotes in circulation	69,491	64,419
2	Liabilities to euro area credit institutions related to monetary policy operations denominated in euro	139,756	178,101
2.1	Current accounts (covering the minimum reserve system)	131,213	162,308
2.2	Deposit facility	8,543	15,793
2.3	Fixed-term deposits	0	0
2.4	Fine-tuning reverse operations	0	0
2.5	Deposits related to margin calls	0	0
3	Other liabilities to euro area credit institutions denominated in euro	0	824
4	Liabilities to other euro area residents denominated in euro	5,317	2,944
4.1	General government	3,290	2,193
4.2	Other liabilities	2,027	751
5	Liabilities to non-euro area residents denominated in euro	41,922	62,221
6	Liabilities to euro area residents denominated in foreign currency	0	0
7	Liabilities to non-euro area residents denominated in foreign currency	161	0
8	Counterpart of special drawing rights allocated by the IMF	5,968	5,878
9	Intra-Eurosystem liabilities	0	0
9.1	Liabilities related to the issuance of ECB debt certificates	0	0
9.2	Other intra-Eurosystem liabilities (net)	0	0
10	Other liabilities	882	764
10.1	Off-balance sheet instruments revaluation differences	304	284
10.2	Accruals and income collected in advance	363	277
10.3	Sundry	215	203
11	Provisions	1,834	2,017
12	Revaluation accounts	26,636	21,726
13	Capital and reserves	7,944	7,935
13.1	Issued capital	500	500
13.2	General reserve	7,430	7,415
13.3	Statutory reserve	14	20
14	Profit for the year	1,176	188
	Total liabilities	**301,087**	**347,017**

Amsterdam, 25 March 2020
Adopted by the Supervisory Board of De Nederlandsche Bank N.V.

Wim Kuijken, *Chair*
Margot Scheltema, *Vice-Chair*
Feike Sijbesma
Kees Goudswaard
Annemieke Nijhof
Marry de Gaay Fortman
Roger Dassen

Profit and loss account for the year ended 31 December 2019

Millions

		2019	2018
		EUR	EUR
1	Interest income	1,493	1,630
2	Interest expense	(331)	(263)
	Net interest income	**1,162**	**1,367**
3	Realised gains/(losses) from financial operations	211	(1)
4	Write-downs on financial assets and positions	(3)	(42)
5	Transfer to/(from) provision for financial risks	177	(491)
	Net result from financial operations and write-downs	**385**	**(534)**
6	Fees and commissions income	13	11
7	Fees and commissions expense	(9)	(9)
	Net fees and commissions income/(expense)	**4**	**2**
8	Income from equity shares and participating interests	112	93
9	Net result from monetary income pooling	(241)	(509)
10	Other income	187	178
	Total net income	**1,609**	**597**
11	Staff costs	(227)	(230)
12	Other administrative costs	(134)	(114)
13	Depreciation and amortisation of tangible and intangible fixed assets	(60)	(47)
14	Banknote production costs	(11)	(19)
15	Other costs	(1)	0
16	Capitalised software costs	0	1
17	Corporate income tax	0	0
	Profit for the year	**1,176**	**188**

Amsterdam, 25 March 2020
Governing Board of De Nederlandsche Bank N.V.

Klaas Knot, *President*
Else Bos
Frank Elderson
Job Swank[2]
Nicole Stolk
Olaf Sleijpen

Amsterdam, 25 March 2020
Adopted by the Supervisory Board of De Nederlandsche Bank N.V.

Wim Kuijken, *Chair*
Margot Scheltema, *Vice-Chair*
Feike Sijbesma
Kees Goudswaard
Annemieke Nijhof
Marry de Gaay Fortman
Roger Dassen

2 Executive Director Job Swank did not sign the financial statements due to long-term illness.

Notes to the balance sheet as at 31 December 2019 and the profit and loss account for the year 2019

1. Accounting policies

The financial statements are drawn up in accordance with the models and accounting policies applying to the European Central Bank (ECB) and the European System of Central Banks (ESCB) (hereafter: ESCB accounting policies) and the harmonised disclosures to the balance sheet and the profit and loss account. This is possible under the exemption provisions of Section 17 of the Bank Act 1998. Where Section 17 does not provide any exemption or where the ESCB accounting policies or harmonised disclosures do not cover the subject, the financial statements are compiled in accordance with the provisions of Part 9 of Book 2 of the Dutch Civil Code. In addition, remuneration is disclosed in accordance with the provisions of the Public and Semi-public Sector Executives Remuneration (Standards) Act (Wet bezoldiging topfunctionarissen publieke en semipublieke sector – WNT).

The ESCB accounting policies are broadly in line with the Dutch Generally Accepted Accounting Principles (GAAP). In deviation from Part 9 of Book 2 of the Dutch Civil Code:

- a. unrealised gains from marketable assets and liabilities are recognised as set out under 'Securities not held for monetary policy purposes and investment funds' below;
- b. the balance sheet format differs from that set out in the Financial Statements Formats Decree;
- c. no cash flow statement is included;
- d. a provision for financial risks may be established; and
- e. tangible and intangible fixed assets are depreciated and amortised, respectively, over their standard estimated useful lives.

With the exception of accelerated depreciation of tangible fixed assets[3] and the pension provisions[4] all individual items in the balance sheet and the profit and loss account are recognised in accordance with the ESCB accounting policies. The provisions of Part 9 of Book 2 of the Dutch Civil Code are reflected mainly in the general accounting policies and the disclosures relating to the following balance sheet and profit and loss account items:

- a. capital and reserves
- b. participating interests
- c. events after the balance sheet date
- d. off-balance sheet rights and liabilities
- e. revaluation accounts
- f. realised gains/(losses) from financial operations
- g. number of employees
- h. fees paid to the external auditor
- i. remuneration (also in accordance with the WNT)

3 See pages 122 and 143 for more details of the accelerated depreciation.
4 See pages 124 and 153 for detailed notes on DNB's pension provision.

Comparison with preceding year
The ESCB accounting policies were amended from the preceding year in several respects[5]. The most important amendments are:

- Investments in marketable investment funds are valued at market prices (net asset value). Revaluation is performed on a net basis, and not on underlying assets, provided the investment funds meet the following criteria:
  a. DNB acquires them for investment purposes only with no influence on day-to-day buy and sell decisions.
  b. The investment strategy and the mandate of the fund have been determined in advance and all terms and conditions are contractually provided for.
  c. The performance of the investment is evaluated as a single investment in line with the investment strategy of the fund.
  d. The fund is a separate entity, irrespective of its legal form, and is managed independently, including the day-to-day investment decisions.
- The scope of the provision for general risks was expanded to include all financial risks. It used to be limited to foreign exchange rate, interest rate, credit and gold price risks. All financial risks are understood to mean market, liquidity and credit risks. DNB renamed the 'provision for credit and interest rate risks' to 'provision for financial risks', while it covers the same risks as in 2018.

There was no need to restate comparative figures.

Securities held for monetary policy purposes
Securities held for monetary policy purposes are valued at amortised cost, subject to impairment. See for further details the breakdown in the note to balance sheet item 7.1 'Securities held for monetary policy purposes' on page 135.

Securities not held for monetary policy purposes and investment funds
Marketable securities held for other than monetary policy purposes are valued at the mid-market prices prevailing[6] on the next-to-last trading day of the year. Options embedded in securities are not separated for valuation purposes.

5 See Guideline (EU) 2019/2217 of the European Central Bank of 28 November 2019 amending Guideline (EU) 2016/2249 on the legal framework for accounting and financial reporting in the European System of Central Banks (ECB/2019/34), which took effect on 31 December 2019.
6 The ESCB accounting policies define the mid-market price as the mid-point between the bid price and the offer price for a security.

 Marketable investment funds and portfolios that are externally managed and strictly replicate the performance of an index-linked fund are valued at market prices (net asset value). Valuation is on a net – fund – basis and not on the basis of the underlying assets, provided that they meet certain predetermined criteria, broadly speaking in relation to the level of influence of DNB on the day-to-day operations of the fund, the legal status of the fund and the way the investment is evaluated. There is no netting between the revaluation results of different marketable investment funds.

Revaluation differences arising from price differences in respect of securities are determined on a code-by-code[7] basis. Revaluations arising from exchange rate differences are determined on a currency portfolio basis and subsequently on a currency basis. Unrealised revaluation gains are added to the item 'Revaluation accounts'. Unrealised revaluation losses are charged to the 'Revaluation accounts' item to the extent that the balance of the relevant revaluation account is positive. Any shortfall is taken to the profit and loss account at year-end. Price revaluation losses on a security are not netted against price revaluation gains on another security or exchange rate revaluation gains. Exchange rate revaluation losses on any one currency are not netted against exchange rate revaluation gains on any other currency or against price revaluation gains. For gold and gold receivables, no distinction is made between price revaluation and exchange rate revaluation.

Gold and gold receivables
Gold and gold receivables are valued at the year-end ECB market price.

Conversion of foreign currencies
The financial statements are presented in euro (EUR), which is DNB's functional and presentation currency. On- and off-balance sheet rights and liabilities denominated in foreign currency are converted into euro at the year-end ECB market exchange rate. Income and expense denominated in foreign currency are converted at the ECB market exchange rates prevailing at the transaction dates.

Repurchase and reverse repurchase transactions
Repurchase transactions (repos) consist of a spot sale of securities hedged by a forward purchase of the same securities. The receipts from the spot sale are presented in the balance sheet as a deposit. In the light of the forward purchase, the securities continue to be recognised as assets; hence, the amount involved in the forward purchase is disclosed in the balance sheet under liabilities. Reverse repurchase transactions (reverse repos) are regarded as lending. The securities received as collateral are not recognised in the balance sheet and do not, therefore, affect the balance sheet position of the portfolios concerned.

7 The ESCB accounting policies clarify that on code-by-code basis means the same International Securities Identification Number/type.

Other financial instruments

Other financial instruments include foreign exchange forwards and foreign exchange swaps, as well as interest rate swaps and futures. On initial recognition, foreign exchange forwards and foreign exchange swaps are valued at their spot rates. Subsequent differences between spot and forward rates are amortised and taken to the profit and loss account. This allows their value to evolve towards the forward rate over time. Interest rate swaps are valued at market rates. Futures are settled on a day-to-day basis. Currency positions are included in the revaluation accounts in accordance with revaluation rules set out under 'Securities not held for monetary policy purposes and investment funds'.

Intra-ESCB and intra-Eurosystem claims and liabilities

Intra-ESCB balances are the result of cross-border payments within the EU settled in euro by the central banks. Such transactions are for the most part initiated by private institutions. Most are settled within TARGET2[8] and give rise to bilateral balances in the TARGET2 accounts held by the EU central banks. On a daily basis, such bilateral balances are netted and assigned to the ECB, leaving every national central bank (NCB) with a single net bilateral balance vis-à-vis the ECB. DNB's position vis-à-vis the ECB arising from TARGET2 transactions is presented, together with other euro-denominated positions within the ESCB (such as interim income distributions to the NCBs and monetary income results), as a net asset or liability item under 'Other intra-Eurosystem claims/liabilities (net)' on the NCB's balance sheet. Positions held within the ESCB vis-à-vis NCBs outside the euro area arising from TARGET2 transactions are reported in 'Claims on/liabilities to non-euro area residents denominated in euro'.

Intra-Eurosystem positions arising from DNB's participating interest in the ECB are reported under 'Participating interest in the ECB'. This item comprises (i) DNB's paid-up share in the ECB's subscribed capital and (ii) net amounts paid due to increases in DNB's share in the ECB's accumulated equity value[9] resulting from previous capital key adjustments.

Intra-Eurosystem positions arising from the transfer of foreign reserve assets to the ECB by NCBs at the time of joining the Eurosystem are reported in 'Claims equivalent to the transfer of foreign reserves to the ECB'.

Intra-ESCB balances arising from the allocation of euro banknotes within the Eurosystem are included as a single net asset or liability item under 'Net claims/liabilities related to the allocation of euro banknotes within the Eurosystem' (see below under 'Banknotes in circulation').

8 TARGET2 stands for Trans-European Automated Real-Time Gross Settlement Express Transfer system 2.
9 Equity value means the total of the ECB's reserves, revaluation accounts and provisions equivalent to reserves, minus any loss carried forward from previous periods. In the event of capital key adjustments taking place during the financial year, the equity value also includes the ECB's accumulated net profit or net loss until the date of the adjustment.

Participating interests

Participating interests are valued at cost, subject to impairment. Income from participating interests is included in the profit and loss account under 'Income from equity shares and participating interests'.

The participating interest in the ECB is accounted for in accordance with the principles set out under 'Intra-ESCB and intra-Eurosystem claims and liabilities'.

Tangible and intangible fixed assets

Tangible and intangible fixed assets are valued at cost less depreciation or amortisation, subject to impairment. For intangible assets, in addition to the primary acquisition cost and the costs of external advisers relating to these assets, the in-house hours spent on these assets are also capitalised. For software developed in-house under 'Intangible fixed assets', a statutory reserve has been formed. Depreciation and amortisation are applied on a straight-line basis. The standard useful life of buildings and renovations is 25 years, that of equipment, plant and furniture 10 years and that of computer hardware, software, motor vehicles and intangible assets 4 years. Accelerated depreciation or amortisation is applied if a shorter useful life is likely. Land is not depreciated. Retired tangible fixed assets are valued at the lower of book value and expected realisable value.

Other assets (excluding tangible and intangible fixed assets) and accruals and income collected in advance

'Other assets' (excluding tangible and intangible fixed assets) and 'Accruals and income collected in advance' are valued at cost or nominal value, subject to impairment. Transactions in 'Other assets' and 'Accruals and income collected in advance' are recognised in the financial statements as at the settlement date, with the exception of foreign exchange transactions and related accruals, which are reported as at the trade date, in accordance with the economic approach.

Banknotes in circulation

The ECB and the euro area NCBs, which together comprise the Eurosystem, issue euro banknotes[10]. The shares in the total value of the euro banknote circulation is allocated to the Eurosystem central banks on the last working day of each month, in accordance with the banknote allocation key.[11]

10 Decision of the ECB of 13 December 2010 on the issue of euro banknotes (recast) (ECB/2010/29), OJ L 35 of 9.2.2011, p. 26.
11 Banknote allocation key means the percentages that result from taking into account the ECB's share in the total euro banknote issue and applying the subscribed capital key to the NCBs' share in such total.

The ECB has been allocated a share of 8% of the total value of euro banknotes in circulation, whereas the remaining 92% has been allocated to NCBs in proportion to their weightings in the Eurosystem capital key. The value of the share of banknotes in circulation allocated to each NCB is accounted for on the liabilities side of the balance sheet under 'Banknotes in circulation'. The difference between the value of the euro banknotes allocated to each NCB in accordance with the banknote allocation key and the value of the euro banknotes actually circulated by the relevant NCB gives rise to intra-Eurosystem positions. These claims or liabilities are presented under 'Net claims/liabilities related to the allocation of euro banknotes within the Eurosystem'.

From the cash changeover[12] year until five years following the cash changeover year the intra-Eurosystem balances arising from the allocation of euro banknotes are adjusted in order to avoid significant changes in NCBs' relative income positions as compared to previous years. The adjustments are effected by taking into account the differences between the average value of banknotes put into circulation by each NCB in the reference period[13] and the average value of banknotes that would have been allocated to them during that period under the Eurosystem capital allocation key. The adjustments will be reduced in annual stages until the first day of the sixth year after the cash changeover year when income on banknotes will be allocated fully in proportion to the NCBs' paid-up shares in the ECB's capital. In the year under review, the adjustments resulted from the accession of Latvijas Banka (in 2014) and Lietuvos bankas (in 2015) and will terminate 31 December 2019 and 2020, respectively. The interest income and expense on these balances is disclosed in the profit and loss account.[14]

Provision for financial risks

A provision for financial risks may be established pursuant to Article 8 of the accounting policies that apply to the ECB and the ESCB. DNB has established a provision for financial risks to cover its exposure to transitory and volatile risks whose magnitude it has established on the basis of a reasoned estimate.[15] It has formed the current provision for financial risks with an eye to risks pertaining to the asset purchase programme (APP[16]). It is comprised of credit risk on the monetary asset purchases (excluding exposures to the Dutch government) and interest rate risk.

12 Cash changeover year refers to the year in which the euro banknotes are introduced as legal tender in the respective Member State.
13 The reference period refers to the 24 months which start 30 months before the day on which euro banknotes become legal tender in the respective Member State.
14 ECB Decision of 3 November 2016 on the allocation of monetary income of the national central banks of Member States whose currency is the euro (recast) (ECB/2016/36, OJ L 347 of 20 December 2015, pp. 26-26.
15 DNB has documented its policy on the formation and use of the provision in the capital policy agreed with the shareholder (see Annex 1 to the Accountability chapter of the Annual Report).
16 The APP comprises the covered bond purchase programme 3 (CBPP3), the asset-backed securities purchase programme (ABSPP), the public sector purchase programme (PSPP) and the corporate sector purchase programme (CSPP).

Pension and other retirement schemes

The pension entitlements of staff as well as of others having comparable entitlements have been transferred to Stichting Pensioenfonds van De Nederlandsche Bank N.V. (Pensioenfonds DNB). Through an agreement, DNB has undertaken to pay to the DNB Pension Fund, subject to conditions agreed for the purpose, such amounts as to ensure the pensions under the Pension Fund's pension schemes. In the agreement, the financial methodology is set out in a premium, supplement and risk policy ladder; in the target assets, allowance is made for the indexation ambition. The level of the amounts payable by DNB and the liabilities reported in the financial statements in respect of other retirement schemes are calculated on an actuarial basis.

Other balance sheet items

Other balance sheet items are valued at nominal value, subject to impairment.

ECB profit distribution

After adoption by the ECB's Governing Council, the ECB's profit is distributed to the NCBs of the Eurosystem in proportion to their weightings in the Eurosystem capital key. The amount distributed to DNB is disclosed in the profit and loss account under 'Income from equity shares and participating interests'.

An amount equal to the ECB's income arising from the 8% share of euro banknotes in circulation allocated to the ECB, as well as the income arising from securities purchased through a) the securities markets programme (SMP), b) the third covered bond purchase programme (CBPP3), c) the asset-backed securities purchase programme (ABSPP) and d) the public sector purchase programme (PSPP), is distributed in January of the following year by means of an interim profit distribution, unless otherwise decided by the Governing Council.[17] It is distributed in full unless it is higher than the ECB's net profit for the year, and subject to any decisions by the Governing Council to make transfers to the provision for financial risks. The income arising from the 8% share of the income on euro banknotes in circulation can also be reduced by the amount of the costs incurred by the ECB in connection with the issue and handling of euro banknotes. The final profit distribution takes place one month later.

17 Decision ECB/2014/57 of 15 December 2014 on the interim distribution of the income of the European Central Bank (recast), OJ L 53, 25.2.2015, p.24, as amended.

Recognition of income and expense

Income and expense are allocated to the financial year to which they relate. Realised gains and losses on investments are determined according to the average cost method and recognised in the profit and loss account. Unrealised gains are not recognised as income, but recorded directly in the revaluation accounts. Unrealised losses are taken to the profit and loss account if they exceed previous revaluation gains registered in the corresponding revaluation account. They are not reversed in subsequent years against new unrealised gains. Unrealised revaluation losses are taken to the profit and loss account.

Significant accounting estimates and judgements

The preparation of the financial statements requires management to make significant estimates and judgements that affect the reported amounts. These include estimates of useful lives of tangible fixed assets not depreciated in accordance with ESCB accounting policies, and assessments as to whether provisions must be established. In addition, the estimate of the risk to which DNB is exposed is relevant to determining the amount added to or released from the provision for financial risks.

2. Notes to the balance sheet

Assets

1. Gold and gold receivables

In the year under review, the volume of the gold holdings did not change. The gold holdings on the last business day of the financial year consisted of 19.7 million fine troy ounces (or 612 tonnes) of gold. The market value as at 31 December 2019 stood at EUR 1,354.10 (31 December 2018: EUR 1,120.96) per fine troy ounce. The euro value of this item was higher at year-end 2019 compared with year-end 2018 due to an increase in the market price of gold.

Millions

	EUR
Balance as at 31 December 2017	21,303
Revaluation 2018	770
Balance as at 31 December 2018	22,073
Revaluation 2019	4,591
Balance as at 31 December 2019	**26,664**

2. Claims on non-euro area residents denominated in foreign currency

As at 31 December 2019, this item stood at EUR 12,029 million (31 December 2018: EUR 11,270 million) and can be broken down as follows:

- 2.1 Receivables from the International Monetary Fund (IMF)

On the last business day of the financial year, the receivables totalled EUR 8,256 million (31 December 2018: EUR 7,588 million). The SDR[18]/EUR exchange rate as at 31 December 2019 stood at EUR 1.2339 (31 December 2018: SDR/EUR 1.2154).

The receivables from the IMF are funded and held by DNB for the IMF membership of the Dutch State. The Dutch State has extended a credit guarantee up to the sum of the commitments.

18 The value of the SDR is based on a basket of international currencies: euro, US dollar, Chinese yuan, Japanese yen, and pound sterling.

Millions

	31 December 2019		31 December 2018	
	SDR	EUR	SDR	EUR
Reserve tranche position	1,309	1,615	1,032	1,254
Loans	451	556	511	621
Special drawing rights	4,931	6,085	4,700	5,713
Total	**6,691**	**8,256**	**6,243**	**7,588**

Reserve tranche position
The reserve tranche position stood at EUR 1,615 million as at 31 December 2019 (31 December 2018: EUR 1,254 million), and it is part of the national IMF quota. All IMF member states have made quotas available to the IMF. Their amounts are related to the member states' relative positions in the global economy. The Dutch quota amounts to SDR 8,737 million. The reserve tranche position (SDR 1,309 million) is the share in this quota effectively drawn by the IMF. The remaining amount – the IMF's euro holdings (SDR 7,428 million) – is kept by DNB.

Loans
Loans stood at EUR 556 million as at 31 December 2019 (31 December 2018: EUR 621 million).

Millions

	Total facility		End of drawing period*	31 December 2019		31 December 2018	
	SDR	EUR		SDR	EUR	SDR	EUR
PRGT	1,005	1,240	31-12-2024	214	264	162	197
NAB	4,595	5,670	17-11-2022	237	292	349	424
2016 credit line		13,610	31-12-2020	-	-	-	-
Total				**451**	**556**	**511**	**621**

* The drawing period is the period during which loans can be taken out.

 They can be broken down as follows:

Millions

	Residual maturity* 31 December 2019				Residual maturity* 31 December 2018			
	Toaal	< 1 year	1 - 2 years	> 2 years	Total	< 1 year	1 - 2 years	> 2 years
	EUR	EUR	EUR	EUR	EUR	EUR	EUR	EUR
PRGT	**264**	8	4	252	**197**	25	8	164
NAB**	**292**	-	-	292	**424**	-	-	424
Total	**556**	**8**	**4**	**544**	**621**	**25**	**8**	**588**

* The residual maturity is the period between the balance sheet date and the expiration date.
** NAB loans have 10-year terms from the time of granting. Loans were redeemed early in part in 2019.

The Poverty Reduction and Growth Trust (PRGT) is a fund set up to supply the principal amounts of subsidised low-interest loans to the poorest developing countries.

The New Arrangement to Borrow (NAB) is a credit line which DNB has made available to the IMF. The IMF can use this credit line for its regular operations in addition to the quota.

The 2016 credit line is an additional facility made available to the IMF, which it can draw on if resources from the quota and the NAB are insufficient.

Special drawing rights

As at 31 December 2019, DNB's special drawing rights amounted to EUR 6,085 million (31 December 2018: EUR 5,713 million). They represent the right to exchange SDR holdings to obtain other currencies.

Special drawing rights were created against the liability item 'Counterpart of special drawing rights allocated by the IMF'. At 31 December 2019, these stood at EUR 5,968 million (31 December 2018: EUR 5,878 million).

- 2.2 Balances with banks and security investments, external loans and other external assets

As at 31 December 2019, this item stood at EUR 3,773 million (31 December 2018: EUR 3,682 million).

The table below provides a breakdown of this item by currency.

Millions

	31 December 2019			31 December 2018		
	Foreign currency	EUR	Exchange rate	Foreign currency	EUR	Exchange rate
USD	2,595	2,310	1.1234	2,182	1,906	1.1450
JPY	169,080	1,386	121.94	182,107	1,447	125.85
DKK	571	76	7.4715	2,459	329	7.4673
Other currencies		1			0	
Total		**3,773**			**3,682**	

The table below specifies these foreign currency balances by investment category.

Millions

	31 December 2019	31 December 2018
	EUR	EUR
Fixed-income securities	3,043	3,302
Bond funds	-	195
Reverse repos	727	182
Nostro accounts	3	3
Total	**3,773**	**3,682**

Annex 1 to the Accountability chapter of the Annual Report provides a more detailed discussion of the movements in own investments at a portfolio level.

130 The table below provides a breakdown of investment categories by residual maturity.

Millions

	Residual maturity* 31 December 2019				Residual maturity* 31 December 2018			
	Total	< 1 year	1 - 2 years	> 2 years	Toaal	< 1 year	1 - 2 years	> 2 years
	EUR	EUR	EUR	EUR	EUR	EUR	EUR	EUR
Fixed-income securities	**3,043**	2,156	436	451	**3,302**	2,521	228	553
Bond funds	**-**	-	-	-	**195**	195	-	-
Reverse repos	**727**	727	-	-	**182**	182	-	-
Nostro accounts	**3**	3	-	-	**3**	3	-	-
Total	**3,773**	**2,886**	**436**	**451**	**3,682**	**2,901**	**228**	**553**

* The residual maturity is the period between the balance sheet date and the expiration date.

3. Claims on euro area residents denominated in foreign currency

As at 31 December 2019, this item stood at EUR 731 million (31 December 2018: EUR 1,354 million). It comprises EUR 706 million (31 December 2018: EUR 1,016 million) in USD-denominated fixed-income securities, EUR 22 million (31 December 2018: 338 million) in liquidity-providing operations in USD (USD tender) and EUR 3 million in nostro accounts.

The table below provides a breakdown of this item by currency.

Millions

	31 December 2019			31 December 2018		
	Foreign currency	EUR	Exchange rate	Foreign currency	EUR	Exchange rate
USD	821	731	1.1234	1,548	1,354	1.1450
Other currencies		0			0	
Total		**731**			**1,354**	

The table below specifies these foreign currency balances by investment category.

Millions

	31 December 2019	31 December 2018
	EUR	EUR
Fixed-income securities	706	1,016
USD tender	22	338
Nostro accounts	3	0
Total	**731**	**1,354**

Annex 1 to the Accountability chapter of the Annual Report provides a more detailed discussion of the movements in own investments at a portfolio level.

The table below provides a breakdown of investment categories by residual maturity.

Millions

	Residual maturity* 31 December 2019				Residual maturity* 31 December 2018			
	Total	< 1 year	1 - 2 years	> 2 years	Total	< 1 year	1 - 2 years	> 2 years
	EUR	EUR	EUR	EUR	EUR	EUR	EUR	EUR
Fixed-income securities	**706**	613	93	-	**1,016**	690	195	131
USD tender	**22**	22	-	-	**338**	338	-	-
Nostro accounts	**3**	3	-	-	**0**	0	-	-
Total	**731**	**638**	**93**	**-**	**1,354**	**1,028**	**195**	**131**

* The residual maturity is the period between the balance sheet date and the expiration date.

The USD tender comprises claims arising from reverse operations on Eurosystem counterparties. They are related to the short-term liquidity-providing operation in US dollars, under which US dollars are made available to the ECB by the Federal Reserve, which aims to provide short-term liquidity in US dollars to Eurosystem counterparties. In turn, the ECB makes the US dollars available to the euro area NCBs.

4. Claims on non-euro area residents denominated in euro

As at 31 December 2019, this item stood at EUR 970 million (31 December 2018: EUR 2,008 million). These claims can be broken down as follows:

Millions

	31 December 2019	31 December 2018
	EUR	EUR
Fixed-income securities	895	1,019
Reverse repos	-	482
Deposits	-	475
Nostro accounts	75	32
Total	**970**	**2,008**

The main cause of the decrease in this item are the nil positions in reverse repos and deposits as at 31 December 2019 (31 December 2018: EUR 482 million and EUR 475 million, respectively).

Annex 1 to the Accountability chapter of the Annual Report provides a more detailed discussion of the movements in own investments at a portfolio level.

The table below provides a breakdown of the maturities of the fixed-income securities.

Millions

	Residual maturity* 31 December 2019				Residual maturity* 31 December 2018			
	Total	< 1 year	1 - 2 years	> 2 years	Total	< 1 year	1 - 2 years	> 2 years
	EUR	EUR	EUR	EUR	EUR	EUR	EUR	EUR
Fixed-income securities	**895**	586	38	271	**1,019**	471	264	284
Reverse repos	**-**	-	-	-	**482**	482	-	-
Deposits	**-**	-	-	-	**475**	475	-	-
Nostro accounts	**75**	75	-	-	**32**	32	-	-
Total	**970**	**661**	**38**	**271**	**2,008**	**1,460**	**264**	**284**

* The residual maturity is the period between the balance sheet date and the expiration date.

5. Lending to euro area credit institutions related to monetary policy operations denominated in euro

As at 31 December 2019, the Eurosystem's claim arising from the item 'Lending to euro area credit institutions related to monetary policy operations denominated in euro' totalled EUR 624,232 million (31 December 2018: EUR 732,106 million). Of this total, lending by DNB to Dutch-based credit institutions amounted to EUR 26,791 million (31 December 2018: EUR 27,742 million). In accordance with Article 32.4 of the ESCB and ECB Statute, all risks relating to such lending will, if materialised, following a decision by the ECB's Governing Council, be borne in full by the Eurosystem NCBs in proportion to the Eurosystem capital key in force at the time when the loss is suffered. To have access to this facility, a financial institution must meet the requirements made by the ECB, including the collateral eligibility criteria. Losses occur only if the counterparty defaults on the repayment and, in addition, the sale of the collateral fails to cover the debt.

The main refinancing rate stood at 0.00% throughout 2019 (unchanged from 2018). The deposit rate was -0.40% from 1 January to 17 September 2019. From 18 September to 31 December 2019, it stood at -0.50% (throughout 2018: -0.40%).

- 5.1 Main refinancing operations

No credit is outstanding under main refinancing operations as at 31 December 2019 (31 December 2018: nil). They are conducted as standard tenders on a weekly basis, usually with a maturity of one week. The main refinancing operations have been conducted as fixed-rate tenders with full allotment of all bids since October 2008.

- 5.2 Longer-term refinancing operations

Longer-term refinancing operations, amounting to EUR 26,651 million as at 31 December 2019 (31 December 2018: EUR 27,742 million), provide longer-term liquidity. TLTRO II loans stood at EUR 26,624 million as at 31 December 2019 (31 December 2018: EUR 27,742 million), while TLTRO III loans stood at EUR 27 million (31 December 2018: nil). These operations have maturities equal to the minimum reserve maintenance period[19] or maturities between 3 and 48 months.

Four targeted longer-term refinancing operations (TLTRO II) started from 2016 onwards. These operations have a four-year maturity, with a possibility of repayment after two years. Redemption of TLTRO II loans totalled EUR 1,117 million in 2019. The weighted average interest rate paid on the TLTRO II loans is 0.34%.

19 A calendar for reserve maintenance periods can be found on the ECB website.

 Additionally, in 2019 the Governing Council introduced a new series of seven quarterly targeted longer-term refinancing operations (TLTRO III). These operations have a three-year maturity, with a possibility of repayment after two years. According to the decisions taken by the Governing Council, the final interest rate applicable to each TLTRO-III operation can be as low as the average interest rate on the deposit facility prevailing over the life of the operation plus 0.10%. Given that the rate for accruing interest will only be known starting from September 2021 and that a reliable estimate is not possible until that time, the deposit facility rate plus 0.10% is used for calculating the TLTRO III interest for 2019, as this was deemed a prudent approach.

- 5.3 Fine-tuning reverse operations

Fine-tuning reverse operations aim to regulate the market liquidity situation and steer interest rates, particularly to smooth the effects on interest rates caused by unexpected market fluctuations. Owing to their nature, they are conducted on an ad-hoc basis. As in 2018, they were not conducted in 2019.

- 5.4 Structural reverse operations

These are reverse open-market transactions through standard tenders to enable the Eurosystem to adjust its structural liquidity position vis-à-vis the financial sector. As in 2018, they were not conducted in 2019.

- 5.5 Marginal lending facility

Marginal lending facilities may be used by counterparties to obtain overnight liquidity from NCBs at a pre-specified interest rate against eligible assets. As at 31 December 2019, this item stood at EUR 140 million (31 December 2018: nil).

- 5.6 Credits related to margin calls

This item refers to cash paid to counterparties in those instances where the market value of the collateral exceeds an established trigger point implying an excess of collateral with respect to outstanding monetary policy operations. In 2019, as in 2018, no credits related to margin calls were extended.

6. Other claims on euro area credit institutions denominated in euro

As at 31 December 2019, this item stood at EUR 2 million (31 December 2018: EUR 885 million), consisting solely of nostro accounts. As at 31 December 2018, it consisted solely of reverse repurchase agreements.

7. Securities of euro area residents denominated in euro

As at 31 December 2019, this item stood at EUR 120,165 million (31 December 2018: EUR 128,008 million) consisting of 'Securities held for monetary policy purposes' and 'Other securities'.

- 7.1 Securities held for monetary policy purposes

As at 31 December 2019, this item consists of securities acquired by DNB within the scope of the three covered bond purchase programmes (CBPP)[20], the securities markets programme (SMP)[21], and the public sector purchase programme (PSPP)[22]. The purchases under the first and second CBPPs and the SMP were terminated in 2012.

On 1 November 2019 the Eurosystem restarted its net purchases of securities under the asset purchase programme (APP)[23] at a monthly pace of EUR 20 billion on average. This followed a period of ten months since end-2018 during which the Eurosystem only reinvested, in full, the principal payments from maturing securities purchased under the APP.

The Governing Council expects net purchases to run for as long as necessary to reinforce the accommodative impact of its policy rates, and to end shortly before it starts raising the key ECB interest rates, and in any case for as long as necessary to maintain favourable liquidity conditions and an ample degree of monetary accommodation.

20 Decision of the ECB of 2 July 2009 on the implementation of the covered bond purchase programme (ECB/2009/16), OJ L 175 of 4 July 2009, p. 18, Decision of the ECB of 3 November 2011 on the implementation of the second covered bond programme (ECB/2011/17), OJ L 297 of 16 November 2011, p. 70 and Decision of the ECB of 15 October 2014 on the implementation of the third covered bond purchase programme (ECB/2014/40), OJ L 335 of 22 October 2014, p. 22, as amended.

21 Decision of the European Central Bank of 14 May 2010 establishing a securities markets programme (ECB/2010/5), OJ L 124 of 20 May 2010, p. 8.

22 Decision of the European Central Bank of 4 March 2015 on the implementation of a secondary markets public sector asset purchase programme (ECB/2015/10) OJ L 121 of 14 May 2015, p. 20, as amended. Under this programme, the ECB and the NCBs can purchase on secondary markets euro-denominated securities issued by central, regional or local governments and recognised agencies located in the euro area, as well as by international organisations and multilateral development banks located in the euro area.

23 The APP consists of the third covered bond purchase programme (CBPP3), the ABSPP, the PSPP and the corporate sector purchase programme (CSPP). Further details on the APP can be found on the ECB's website (https://www.ecb.europa.eu/mopo/implement/omt/html/index.en.html).

As at 31 December 2019, the amounts held by the Eurosystem NCBs under these programmes totalled EUR 2,632,056 million (31 December 2018: EUR 2,645,735 million). Of this amount, DNB held EUR 116,125 million (31 December 2018: EUR 119,304 million).

The amortised cost and market value[24] of the fixed-income securities held by DNB are as follows:

Millions

	31 December 2019		31 December 2018	
	Amortised cost	Market value	Amortised cost	Market value
	EUR	EUR	EUR	EUR
Covered bond purchase programme	55	56	106	110
Covered bond purchase programme 2	46	49	85	89
Covered bond purchase programme 3	16,781	17,627	16,092	16,248
Securities markets programme	2,417	2,617	3,978	4,296
Public sector purchase programme	96,826	101,294	99,043	100,692
Total	**116,125**	**121,643**	**119,304**	**121,435**

24 Market values are indicative and are derived on the basis of market quotes. When market quotes are not available, market prices are estimated using internal Eurosystem models. Market values are not recorded in the balance sheet or in the profit and loss account and are provided for comparison purposes only.

The table below provides a breakdown of the maturities of the fixed-income securities.

Millions

	Residual maturity* 31 December 2019						Residual maturity* 31 December 2018					
	Total	< 1 year	1 - 2 years	2 - 5 years	5 - 10 years	> 10 years	Total	< 1 year	1 - 2 years	2 - 5 years	5 - 10 years	> 10 years
	EUR	EUR	EUR	EUR	EUR	EUR	EUR	EUR	EUR	EUR	EUR	EUR
Covered bond purchase programme	**55**	55	-	-	-	-	**106**	51	55	-	-	-
Covered bond purchase programme 2	**46**	6	-	40	-	-	**85**	39	6	40	-	-
Covered bond purchase programme 3	**16,781**	1,824	1,200	4,369	4,286	5,102	**16,092**	1,071	1,827	4,360	4,509	4,325
Securities markets programme	**2,417**	993	982	324	118	-	**3,978**	1,581	984	1,218	195	-
Public sector purchase programme	**96,826**	9,989	5,843	32,001	25,785	23,208	**99,043**	8,275	10,036	27,533	31,480	21,719
Total	**116,125**	**12,867**	**8,025**	**36,734**	**30,189**	**28,310**	**119,304**	**11,017**	**12,908**	**33,151**	**36,184**	**26,044**

* The residual maturity is the period between the balance sheet date and the expiration date.

The Governing Council of the ECB and the Governing Board of DNB assess on a regular basis the financial risks associated with the securities held under these programmes.

Impairment tests are conducted by the Eurosystem on an annual basis, using data as at the year-end. In these tests, impairment indicators are assessed separately for each programme. DNB's policy is in accordance with the decision by the ECB Governing Council.

In accordance with the decision of the Governing Council taken under Article 32.4 of the ESCB and ECB Statute, losses from holdings of CBPP3, SMP, PSPP securities and (in respect of the international and supranational portion) CSPP securities, if they were to materialise, are shared in full by the Eurosystem NCBs, in proportion to the prevailing ECB capital key shares. As a result of an impairment test conducted on CSPP securities, the Governing Council has deemed it appropriate to maintain a buffer against credit risks in monetary policy operations during 2019 (see 'Provision for monetary policy operations' on page 152).

Annex 1 to the Accountability chapter of the Annual Report provides a more detailed discussion of the various risks to which the monetary programmes are exposed.

7.2 Other securities

As at 31 December 2019, this item stood at EUR 4,040 million (31 December 2018: EUR 8,704 million) and, as in 2018, it consisted entirely of fixed-income securities valued at market value. DNB reduced the volume of its own investments in 2019.

The table below provides a breakdown of the maturities of the fixed-income securities.

Millions

	Residual maturity* 31 December 2019				Residual maturity* 31 December 2018			
	Total	< 1 year	1 - 2 years	> 2 years	Total	< 1 year	1 - 2 years	> 2 years
	EUR	EUR	EUR	EUR	EUR	EUR	EUR	EUR
EUR	**4,040**	3,007	829	204	**8,704**	5,906	1,234	1,564

* The residual maturity is the period between the balance sheet date and the expiration date.

8 Intra-Eurosystem claims

As at 31 December 2019, this item stood at EUR 109,038 million (31 December 2018: EUR 149,161 million).

- 8.1 Participating interest in the ECB

Pursuant to Article 28 of the ESCB and ECB Statute, the NCBs of the ESCB are the sole subscribers to the capital of the ECB. Subscriptions depend on shares which are fixed in accordance with Article 29 of the ESCB and ECB Statute and are subject to adjustment every five years or whenever there is a change in composition of the ESCB national central banks. The most recent such adjustment took effect on 1 January 2019.

Due to the capital key change, the share that DNB held in the subscribed capital of the ECB – EUR 7,659 million in total – increased from 4.0035% to 4.0677%. As a result, DNB's relative share in the ECB's accumulated net equity also increased. DNB transferred an additional capital contribution of EUR 7 million to the ECB and made an additional payment of EUR 51 million relating to the distribution of the shares in the ECB's accumulated net equity.

As at 31 December 2019, this item stood at EUR 540 million (31 December 2018: EUR 482 million). This is comprised of EUR 440 million in capital contribution (2018: EUR 433 million) and EUR 100 million in contributions resulting from the changes in DNB's share in the ECB's accumulated net equity (2018: EUR 49 million).

Based on the decision[25] of the ECB's Governing Council, the NCBs' capital keys were changed as follows:

Percentages

	Capital key from 1 January 2019	Capital key until 31 December 2018
	%	%
National Bank of Belgium	2.5280	2.4778
Deutsche Bundesbank	18.3670	17.9973
Eesti Pank	0.1968	0.1928
Central Bank of Ireland	1.1754	1.1607
Bank of Greece	1.7292	2.0332
Banco de España	8.3391	8.8409
Banque de France	14.2061	14.1792
Banca d'Italia	11.8023	12.3108
Central Bank of Cyprus	0.1503	0.1513
Latvijas Banka	0.2731	0.2821
Lietuvos bankas	0.4059	0.4132
Banque centrale du Luxembourg	0.2270	0.2030
Central Bank of Malta	0.0732	0.0648
De Nederlandsche Bank	**4.0677**	**4.0035**
Oesterreichische Nationalbank	2.0325	1.9631
Banco de Portugal	1.6367	1.7434
Banka Slovenije	0.3361	0.3455
Národná banka Slovenska	0.8004	0.7725
Suomen Pankki-Finlands Bank	1.2708	1.2564
Subtotal for euro area NCBs*	*69.6176*	*70.3915*
Bulgarian National Bank	0.8511	0.8590
Česká národní banka	1.6172	1.6075
Danmarks Nationalbank	1.4986	1.4873
Hrvatska narodna banka	0.5673	0.6023
Magyar Nemzeti Bank	1.3348	1.3798
Narodowy Bank Polski	5.2068	5.1230
Banca Națională a României	2.4470	2.6024
Sveriges Riksbank	2.5222	2.2729
Bank of England	14.3374	13.6743
Subtotal for non-euro area NCBs*	*30.3824*	*29.6085*
Total for euro area and non-euro area NCBs	**100.0000**	**100.0000**

*Totals may not add up owing to rounding.

25 Council Decision 2003/517/EC of 15 July 2003 on the statistical data to be used for the adjustment of the key for subscription of the capital of the European Central Bank. OJ L 181, 19 July 2003, p. 43.

The table below sets out the NCBs' shares in the authorised, subscribed and paid-up capital of the ECB.

Percentages and millions

	31 December 2019			
	Eurosystem capital key	Capital key	Authorised and subscribed capital since	Paid-up capital
	%	%	EUR	EUR
National Bank of Belgium	3.6313	2.5280	274	274
Deutsche Bundesbank	26.3827	18.3670	1,988	1,988
Eesti Pank	0.2827	0.1968	21	21
Central Bank of Ireland	1.6884	1.1754	127	127
Bank of Greece	2.4839	1.7292	187	187
Banco de España	11.9784	8.3391	903	903
Banque de France	20.4059	14.2061	1,538	1,538
Banca d'Italia	16.9530	11.8023	1,278	1,278
Central Bank of Cyprus	0.2159	0.1503	16	16
Latvijas Banka	0.3923	0.2731	30	30
Lietuvos bankas	0.5830	0.4059	44	44
Banque centrale du Luxembourg	0.3261	0.2270	25	25
Central Bank of Malta	0.1051	0.0732	8	8
De Nederlandsche Bank	**5.8429**	**4.0677**	**440**	**440**
Oesterreichische Nationalbank	2.9195	2.0325	220	220
Banco de Portugal	2.3510	1.6367	177	177
Banka Slovenije	0.4828	0.3361	36	36
Národná banka Slovenska	1.1497	0.8004	87	87
Suomen Pankki-Finlands Bank	1.8254	1.2708	138	138
Subtotal for euro area NCBs*	*100.0000*	*69.6176*	*7,537*	*7,537*
Bulgarian National Bank	-	0.8511	92	3
Česká národní banka	-	1.6172	175	7
Danmarks Nationalbank	-	1.4986	162	6
Hrvatska narodna banka	-	0.5673	61	2
Magyar Nemzeti Bank	-	1.3348	144	5
Narodowy Bank Polski	-	5.2068	564	21
Banca Natională a României	-	2.4470	265	10
Sveriges Riksbank	-	2.5222	273	10
Bank of England	-	14.3374	1,552	58
Subtotal for non-euro area NCBs*	-	*30.3824*	*3,288*	*122*
Total for euro area and non-euro area NCBs	**-**	**100.0000**	**10,825**	**7,659**

*Totals may not add up owing to rounding.

- 8.2 Claims equivalent to the transfer of foreign reserves to the ECB

As at 31 December 2019, these claims – arising from the transfer of foreign reserve assets to the ECB – totalled EUR 2,357 million (31 December 2018: EUR 2,320 million). The interest paid on these claims is calculated daily at the latest established rate used in the main refinancing operations of the Eurosystem, with a zero return on the gold component.

The increase in DNB's Eurosystem capital key as at 1 January 2019 resulted in a EUR 37 million increase in the claims equivalent to the transfer of foreign reserves.

- 8.4 Net claims related to the allocation of euro banknotes within the Eurosystem

This item, amounting to EUR 59,872 million (31 December 2018: EUR 54,191 million), consists of a net claim of DNB on the Eurosystem relating to the reallocation of euro banknotes (see under 'Intra-ESCB and intra-Eurosystem claims and liabilities' and 'Banknotes in circulation' in the 'Accounting policies' section). The interest paid on these claims is calculated daily at the latest established rate used in the main refinancing operations of the Eurosystem.

- 8.5 Other intra-Eurosystem claims (net)

As at 31 December 2018, this net claim amounts to EUR 46,269 million (31 December 2018: EUR 92,168 million), comprising three components.

Millions

	31 December 2019	31 December 2018
	EUR	EUR
Claims on the ECB in respect of TARGET2	46,430	92,604
Due to the ECB in respect of monetary income	(245)	(504)
Claims on the ECB in respect of the ECB's interim profit distribution	84	68
Total	**46,269**	**92,168**

The first component is the TARGET2 claim on the ECB of EUR 46,430 million (31 December 2018: EUR 92,604 million). This claim is related to receipts and payments of credit institutions and NCBs via TARGET2 and balances held in Eurosystem NCB correspondent accounts. The interest paid on this claim is calculated daily at the latest established rate used in the main refinancing operations of the Eurosystem.

The second component, i.e. DNB's position vis-à-vis the ECB due to the annual pooling and distribution of monetary income by the Eurosystem NCBs shows a net balance of EUR (245) million at the end of the year (31 December 2018: EUR (504) million).

The third component is DNB's claim on the ECB in connection with the interim profit distribution by the ECB. For 2019, the Governing Council of the ECB decided to distribute interim profits of EUR 1,431 million (31 December 2018: EUR 1,191 million) to the Eurosystem NCBs. As at 31 December 2019, the amount allocated to DNB totalled EUR 84 million (31 December 2018: EUR 68 million).

9. Other assets

As at 31 December 2019, this item totalled EUR 4,697 million (31 December 2018: EUR 4,516 million).

- 9.2 Tangible and intangible fixed assets

The table below sets out the components of and movements in 'Tangible and intangible fixed assets'.

Millions

	Total tangible and intangible fixed assets	Total tangible fixed assets	Land and buildings*	Fittings	Fixed assets under construction	Total intangible fixed assets	Development costs (software)
	EUR	EUR	EUR	EUR	EUR	EUR	EUR
Book value as at 31 December 2017	**205**	**175**	130	35	10	**30**	30
Movements:							
Reclassification	**-**	**-**	6	1	(7)	**-**	-
Additions	**19**	**16**	0	7	9	**3**	3
Disposals	**0**	**0**	-	0	-	**-**	-
Depreciation and amortisation	**(47)**	**(34)**	(18)	(16)	-	**(13)**	(13)
Impairment losses	**-**	**-**	-	-	-	**-**	-
Book value as at 31 December 2018	**177**	**157**	118	27	12	**20**	20
Movements::							
Reclassification	**-**	**-**	3	0	(3)	**-**	-
Additions	**34**	**33**	-	2	31	**1**	1
Disposals	**0**	**0**	0	-	-	**-**	-
Depreciation and amortisation	**(60)**	**(53)**	(38)	(15)	-	**(7)**	(7)
Impairment losses	**-**	**-**	-	-	-	**-**	-
Book value as at 31 December 2019	**151**	**137**	83	14	40	**14**	14
Cost	**595**	**511**	366	105	40	**84**	84
Accumulated depreciation and amortisation	**(444)**	**(374)**	(283)	(91)	**-**	**(70)**	(70)
Book value as at 31 December 2017	**151**	**137**	83	14	40	**14**	14

*Land and buildings includes land in the amount of EUR 9 million. Land is not depreciated.

DNB decided in 2019 on the degree of renovations to be carried out to the office building on Frederiksplein. DNB also decided to move its banknote activities and the gold vaults in 2020 for a limited period to a temporary location in Haarlem, pending the construction of the new site in Zeist. No corresponding significant contractual financial obligations had been entered into as at 31 December 2019.

The useful life of the building on Frederiksplein changed as a result of this decision. Until 1 July 2020, the relevant tangible fixed assets of this location will be subject to accelerated depreciation. The impact of this accelerated depreciation is EUR 20 million in 2019.

DNB decided in 2019 to sell the building on Sarphatistraat 1-5 in Amsterdam in 2020. As a result, its useful life was reduced, and DNB has ceased depreciating the building from 1 November 2019 onwards, given that its residual value exceeds its book value. The impact of this is EUR 0.1 million in 2019.

- 9.3 Other financial assets

The table below provides a breakdown of 'Other financial assets' by currency.

Millions

	31 December 2019	31 December 2018
	EUR	EUR
EUR	1,445	1,099
USD	1,477	1,395
Total	**2,922**	**2,494**

The table below sets out the subcategories of 'Other financial assets'[26].

Millions

	31 December 2019	31 December 2018
	EUR	EUR
Participating interests	61	61
Equity funds	1,480	1,399
Bond funds	1,249	881
Other receivables	132	153
Total	**2,922**	**2,494**

Annex 1 to the Accountability chapter of the Annual Report provides a more detailed discussion of the movements in own investments at a portfolio level.

26 As at 31 December 2018, a bond fund (EUR 251 million) had been incorrectly classified as an equity fund. The comparative figures for 2018 are restated.

Participating interests

The participating interests concern shares in the Bank for International Settlements (BIS), the Society for Worldwide Interbank Financial Telecommunication scrl (SWIFT), and N.V. Settlement Bank of the Netherlands (SBN). The shareholding percentages for the BIS and SBN are unchanged from 2018, The BIS shares are 25% paid-up. As in 2018, the contingent liability for the uncalled part of the shares stood at SDR 64.9 million as at 31 December 2018. Although DNB holds 100% of the shares in SBN, this entity is not within DNB's scope of consolidation. The reason is that DNB cannot exercise any policy-making influence over SBN, which is entirely controlled by external parties.

Percentages and millions

Interests	Participation share	Location	Shareholders' equity*	31 December 2019	31 December 2018
			EUR	EUR	EUR
BIS	3.10	Basel (Switzerland)	24,653	52	52
SWIFT	0.03	La Hulpe (Belgium)	408	0	0
SBN	100.00	Amsterdam	9	9	9
Total				**61**	**61**

* Shareholders' equity of SWIFT and SBN is based on the 2018 annual financial statements.
Shareholders' equity of the BIS is based on the 2018/2019 annual financial statements (financial year from 1 April 2018 through 31 March 2019).

Equity funds

Equity funds consist of equity index investments. As at 31 December 2019, they stood at EUR 1,480 million (31 December 2018: EUR 1,399 million).

Bond funds

Bond funds consist of corporate bonds. As at 31 December 2019, they stood at EUR 1,249 million (31 December 2018: EUR 881 million).

Other receivables

'Other receivables' include mainly receivables arising from mortgage loans extended to DNB staff.

- 9.5 Accruals and prepaid expenses

As at 31 December 2019, this item stood at EUR 1,614 million (31 December 2018: EUR 1,788 million), consisting predominantly of accrued interest and unamortised forward results. The table below provides a breakdown of the unamortised results.

Millions

	31 December 2019	31 December 2018
	EUR	EUR
Foreign exchange swaps	122	117
Foreign exchange forwards	3	2
Interest rate swaps	(2)	(1)
Total	**123**	**118**

Liabilities

1. Banknotes in circulation

This item consists of DNB's share in the total euro banknotes circulated by the Eurosystem.

The table below sets out the composition of banknotes put into circulation by DNB less banknotes returned to DNB, by denomination.

Millions

	31 December 2019		31 December 2018	
	Aantal	EUR	Aantal	EUR
EUR 5	(183)	(916)	(168)	(841)
EUR 10	(201)	(2,007)	(179)	(1,789)
EUR 20	(593)	(11,853)	(565)	(11,300)
EUR 50	632	31,615	575	28,751
EUR 100	(55)	(5,471)	(38)	(3,836)
EUR 200	30	6,005	30	5,921
EUR 500	(16)	(7,754)	(13)	(6,678)
Total euro banknotes circulated by DNB		9,619		10,228
Reallocation of euro banknotes in circulation	65,914		59,793	
Euro banknotes allocated to the ECB (8% of the sum of 9,619 + 65,914)	(6,042)		(5,602)	
		59,872		54,191
Total		**69,491**		**64,419**

During 2019, the total value of banknotes in circulation within the Eurosystem increased/decreased by 8%. As a result of banknote reallocation, DNB had euro banknotes in circulation worth EUR 69,491 million at 31 December 2019 (31 December 2018: EUR 64,419 million). The value of the euro banknotes actually issued by DNB in 2019 decreased by 6% from EUR 10,228 million to EUR 9,619 million. The difference of EUR 59,872 million between the reallocated amount and the total amount of euro banknotes put into circulation through DNB is shown under 'Net claims related to the allocation of euro banknotes within the Eurosystem'. The negative numbers of banknotes for certain denominations are accounted for by the fact that, on a net basis, DNB issued fewer of these banknotes than it received from circulation. DNB has entered into consignment agreements with commercial banks, under which these banks hold banknotes on location overnight, with DNB being the legal and beneficial owner of the banknotes. No banknotes were held on consignment as at 31 December 2019 (31 December 2018: EUR 74 million).

2. Liabilities to euro area credit institutions related to monetary policy operations denominated in euro

This item relates to liabilities to credit institutions arising from DNB's money market policy conducted on behalf of the Eurosystem. As at 31 December 2019, this item stood at EUR 139,756 million (31 December 2018: EUR 178,101 million).

As at 31 December 2019, the breakdown of this item was as follows:

- 2.1 Current accounts (covering the minimum reserve system)

These liabilities, amounting to EUR 131,213 million as at 31 December 2019 (2018: EUR 162,308 million), contain the credit balances on the transaction accounts of credit institutions that are required to hold minimum reserves. The main refinancing rate of interest is paid on these mandatory reserve holdings. Until 30 October 2019, the reserve holdings exceeding the required minimum reserves are remunerated at 0% or the deposit facility rate, whichever is lower. Starting on 30 October 2019, the Governing Council of the ECB introduced a two-tier system for reserve remuneration, which exempts part of credit institutions' reserve holdings in excess of minimum reserve requirements from negative remuneration at the rate applicable on the deposit facility. This part is remunerated at the annual rate of 0%. The volume that was exempt from the deposit facility rate was determined as six times an institution's minimum reserve requirements[27]. The non-exempt part of excess liquidity holdings continues to be remunerated at the lower of either 0% or the deposit facility rate.

- 2.2 Deposit facility

This permanent facility, amounting to EUR 8,543 million as at 31 December 2019 (31 December 2018: EUR 15,793 million), may be used by credit institutions to place overnight deposits at DNB at the deposit facility rate.

- 2.3 Fixed-term deposits

Fixed-term deposits are fine-tuning liquidity absorbing operations that take the form of deposits. As in 2018, no bids were made in 2019.

27 The multiplier of six may be adjusted by the Governing Council over time in line with changing levels of excess liquidity holdings.

- 2.4 Fine-tuning reverse operations

These are monetary policy operations intended to tighten liquidity. As in 2018, no such operations were conducted in 2019.

- 2.5 Deposits related to margin calls

This item refers to deposits made by counterparties in those instances where the market value of the collateral pledged falls short of an established trigger point, implying a deficit of collateral with respect to outstanding monetary policy operations. In 2019, as in 2018, no deposits related to margin calls were held.

3. Other liabilities to euro area credit institutions denominated in euro

As at 31 December 2019, this item amounts to nil. It consisted entirely of euro-denominated repos (EUR 824 million) as at 31 December 2018.

4. Liabilities to other euro area residents denominated in euro

As at 31 December 2019, this item totalled EUR 5,317 million (31 December 2018: EUR 2,944 million).

- 4.1 General government

This item, amounting to EUR 3,290 million (31 December 2018: EUR 2,193 million) consists of liabilities payable on demand to the government.

- 4.2 Other liabilities

This item, amounting to EUR 2,027 million (31 December 2018: EUR 751 million), consists predominantly of non-monetary deposits.

5. Liabilities to non-euro area residents denominated in euro

This item, amounting to EUR 41,922 million (31 December 2018: EUR 62,221 million), consists of EUR 40,271 million in non-monetary deposits (31 December 2018: EUR 59,562 million), EUR 1,620 million in liabilities to the European Single Resolution Fund (31 December 2018: EUR 1,792 million) and EUR 31 million in liabilities related to margin calls (31 December 2018: EUR 4 million). As at 31 December 2019, liabilities arising from repo transactions were nil (31 December 2018: EUR 863 million).

7. Liabilities to non-euro area residents denominated in foreign currency

This item, amounting to EUR 161 million (31 December 2018: nil), consists entirely of liabilities arising from repo transactions.

8. Counterpart of special drawing rights allocated by the IMF

This item is disclosed under the asset item 'Receivables from the International Monetary Fund (IMF)'.

10. Other liabilities

As at 31 December 2019, this item stood at EUR 882 million (2018: EUR 764 million), consisting predominantly of currency revaluation differences on the off-balance sheet instruments of EUR 304 million (31 December 2018: EUR 284 million), accrued interest related to TLTRO II operations of EUR 295 million (31 December 2018: EUR 203 million) and cash collateral of EUR 198 million (31 December 2018: EUR 193 million).

The breakdown of the revaluation differences can be found in the table of off-balance sheet positions related to foreign exchange swaps, currency forwards and interest rate swaps on page 157.

11. Provisions

Provisions can be broken down as follows:

Millions

	Total	Provision for financial risks	Provision for monetary policy operations	Provision for employee benefits	Other provisions
	EUR	EUR	EUR	EUR	EUR
Balance as at 31 December 2017	**1,516**	1,496	4	13	3
Withdrawal	**(16)**	(9)	(4)	(1)	(2)
Release	**-**	-	-	0	0
Addition	**517**	500	9	0	8
Balance as at 31 December 2018	**2,017**	1,987	9	12	9
Withdrawal	**(3)**	-	-	0	(3)
Release	**(181)**	(177)	(4)	-	-
Addition	**1**	-	-	1	-
Balance as at 31 December 2019	**1,834**	1,810	5	13	6

Provision for financial risks

In 2019, EUR 177 million was released from the provision for financial risks. As at 31 December 2019, the provision totalled EUR 1,810 million (31 December 2018: EUR 1,987 million).

Annex 1 to the Accountability chapter of the Annual Report provides a more detailed discussion on the risks to which DNB is exposed.

Provision for monetary policy operations

As a result of the annual impairment test of the CSPP portfolio, the Governing Council of the ECB reviewed the appropriateness of the volume of this provision formed in 2018 and decided to reduce the provision from a total amount of EUR 161 million as at 31 December 2018 to an amount of EUR 89 million as at 31 December 2019. In accordance with Article 32.4 of the ESCB and ECB Statute, the provision was formed by all participating Eurosystem NCBs in proportion to their ECB capital keys. Accordingly, EUR 4 million was released from the provision for monetary policy operations to the net result of monetary income pooling.

Provision for employee benefits

The provision for employee benefits increased by EUR 1 million to EUR 13 million (31 December 2018: EUR 12 million). The increase reflects the lower discount rate used to discount future liabilities (see the table on page 153).

DNB operates the following arrangements:

- a defined benefit pension scheme;
- a contribution to the health care insurance premiums of pensioners (limited group);
- a service anniversary and retirement bonus arrangement;
- a social plan arrangement

DNB operates an average-pay staff pension scheme, which features provisional indexation based on the consumer price index in line with that for pensioners and former DNB staff. Annual indexation takes place only if DNB Pension Fund's financial position allows this. DNB Pension Fund's funding ratio stood at 119.8% at 31 December 2019 which means it was not underfunded until year-end 2019. Partial indexation was applied in the year under review. The pension contribution paid is charged to the profit and loss account, rather than set against a provision.

The contribution towards the health insurance premiums payable by pensioners is an allowance for a limited group of pensioners towards the costs concerned and may be characterised as a temporary transitional arrangement.

The service anniversary and retirement bonus arrangements provide for bonuses payable to staff upon 20, 30, 40 and 50 years' service and retirement, and payments made in the event of incapacity for work and to surviving dependants.

The liabilities and annual costs are actuarially determined. The assumptions used were:

	31 December 2019	31 December 2018
Discount rate for other employee benefits	Scheme-dependent (anniversaries: 0.70% other: 0.65%)	Scheme-dependent (anniversaries: 1.45% other: 1.35%)
Price inflation	2.0%	2.0%
General salary increase	2.0%	2.0%
Individual salary increase (average)	2.0%	2.0%
Expected average retirement age	Assumption for all participants: 67 years	Assumption for all participants: 67 years
Mortality outlook	Mortality table AG 2018 + mortality experience	Mortality table AG 2018 + mortality experience

Other provisions

Other provisions primarily consist of a provision formed for staff-related expenses with respect to the outsourcing of ICT services (31 December 2019: EUR 6 million, 31 December 2018: EUR 8 million).

12. Revaluation accounts

As at 31 December 2019, this item totalled EUR 26,636 million (31 December 2018: EUR 21,726 million). The table below sets out the components of and net movements in the revaluation accounts.

Millions

	Total	Gold	Foreign currency	Fixed-income securities	Equity funds	Bond funds
	EUR	EUR	EUR	EUR	EUR	EUR
Balance as at 31 December 2017	**21,035**	20,177	62	44	752	0
Net revaluation movements	**691**	770	33	(21)	(93)	2
Balance as at 31 December 2018	**21,726**	20,947	95	23	659	2
Net revaluation movements	**4,910**	4,591	(7)	2	208	116
Balance as at 31 December 2019	**26,636**	**25,538**	**88**	**25**	**867**	**118**

The increase in the aggregate amount for the revaluation accounts of EUR 4,910 million can be largely ascribed to the higher market value of gold seen in 2019.

13. Capital and reserves

DNB's authorised capital, which is fully issued and paid up, amounts to EUR 500 million and is divided into 500 shares of EUR 1 million each. All shares are held by the Dutch State. The statutory reserve has been formed for the book value of the intangible fixed assets.

The table below sets out the movements in capital and reserves before appropriation of profit:

Millions

	Total	Issued capital	General reserve	Statutory reserve
	EUR	EUR	EUR	EUR
Balance as at 31 December 2017	**7,929**	500	7,399	30
Profit for the year 2017	**121**			
Dividend	**(115)**			
Addition of 2017 net profit*	**6**		6	
Movement in statutory reserve	**-**		10	(10)
Balance as at 31 December 2018	**7,935**	**500**	**7,415**	**20**
Result for the year 2018	**188**			
Dividend	**(179)**			
Addition of 2018 net profit*	**9**		9	
Movement in statutory reserve	**-**		6	(6)
Balance as at 31 December 2019	**7,944**	**500**	**7,430**	**14**

*Addition of net profit concerns profit after dividend payment.

14. Profit for the year and appropriation of profit

The profit for the 2019 financial year was EUR 1,176 million (31 December 2018: EUR 188 million).

With due observance of the relevant provision of the Articles of Association, the proposed appropriation of profit is set out below (see Annex 1 to the Accountability chapter of the Annual Report).

Millions

	2019	2018
	EUR	EUR
Addition to the general reserve	539	9
Distribution to the State	637	179
Profit for the year	**1,176**	**188**

Other notes to the balance sheet

Off-balance sheet positions revaluation differences

The off-balance sheet positions are shown below: Their conversion to euro results in net revaluation differences.

Millions

	31 December 2019								31 December 2018							
	Total	EUR	USD	JPY	GBP	CNH	DKK	SDR	Total	EUR	USD	JPY	GBP	CNH	DKK	SDR
Foreign exchange swaps																
Receivables	**7,243**	5,838	1,405	-	-	-	-	-	**7,767**	6,256	1,511	-	-	-	-	-
Payables	**(7,547)**	-	(4,417)	(1,396)	(10)	(13)	(76)	(1,635)	**(8,046)**	(60)	(5,115)	(1,456)	(10)	(13)	(329)	(1,063)
	(304)	5,838	(3,012)	(1,396)	(10)	(13)	(76)	(1,635)	**(279)**	6,196	(3,604)	(1,456)	(10)	(13)	(329)	(1,063)
Foreign exchange forwards																
Receivables	**6,856**	3,465	3,391	-	-	-	-	-	**7,024**	3,679	3,345	-	-	-	-	-
Payables	**(6,856)**	(3,104)	(3,613)	(41)	(43)	(55)	-	-	**(7,029)**	(3,112)	(3,399)	(1)	-	-	-	(517)
	(0)	361	(222)	(41)	(43)	(55)	-	-	**(5)**	567	(54)	(1)	-	-	-	(517)
Interest rate swaps	**0**	-	0	-	-	-	-	-	**0**	-	0	-	-	-	-	-
Total*	**(304)**	**6,199**	**(3,234)**	**(1,437)**	**(53)**	**(68)**	**(76)**	**(1,635)**	**(284)**	**6,763**	**(3,658)**	**(1,457)**	**(10)**	**(13)**	**(329)**	**(1,580)**

* DNB has fully hedged the exchange rate risk of the exposures listed, except for working stocks.

The foreign exchange swaps and forwards are used to hedge currency risks. The purpose of an interest rate swap is to hedge interest rate risk. Futures are used to control the maturity profile of the investment portfolio.

A foreign exchange swap is a transaction in which parties agree to directly buy or sell one currency in exchange for another currency at the spot rate and later to sell or buy back the currency at the forward rate. A currency forward contract is a transaction in which parties agree to buy or sell a currency in return for another currency at a specific rate and for delivery at a date in the future. Upon initial recognition, positions are valued at the spot rate, split into off-balance sheet presentation at the forward rate and a forward profit or loss recognised under 'Accruals and prepaid expenses', which is amortised. The amortised profit or loss represents the difference between the forward rate and the spot rate. This allows the value to evolve towards the forward rate over time.

An interest rate swap is a contract under which two parties exchange flows of interest payments in a single currency over a set period of time without exchanging the principal amount. As at 31 December 2019, the underlying value of the interest rate swaps totalled EUR 45 million (31 December 2018: EUR 105 million).

A future is a negotiable contract under which a predetermined volume of specific underlying assets is purchased or sold on a specific date and time. As at 31 December 2019, DNB's futures position was EUR 1,003 million in EUR (31 December 2018: EUR (5,478) million) and EUR 1,058 million in USD (31 December 2018: EUR 568 million). Gains and losses on futures are settled on a day-to-day basis.

USD tender

The off-balance sheet positions include forwards related to the ECB in connection with the short-term USD liquidity providing programme. Related claims resulting from swap transactions with Eurosystem counterparties for providing US dollar liquidity in exchange for euro liquidity are also included under off-balance sheet positions.

Securities lending programme

In accordance with the ECB's Governing Council's decisions, DNB has made available for lending its holdings of securities purchased under the PSPP. Unless these securities lending operations are conducted against cash collateral, they are recorded in off-balance-sheet accounts. Such securities lending operations with a value of EUR 107 million (31 December 2018: EUR 197 million) were outstanding as at 31 December 2019.

Foreign currency position

As at 31 December 2019, the euro equivalent of the total sum of assets denominated in foreign currency (included in asset items 2, 3 and 9.3) amounted to EUR 14,233 million (31 December 2018: EUR 14,020 million). As at 31 December 2019, the euro equivalent of the total sum of liabilities denominated in foreign currency (included in liability items 6, 7 and 8) amounted to EUR 6,129 million (31 December 2018: EUR 5,878 million). DNB has fully hedged its currency exposures, except for working stocks.

Management and custody

DNB manages and holds securities and other documents of value in custody as part of its Eurosystem Reserve Management Services (ERMS) to central banks outside the euro area and governments. Such management and custody is for the account and risk of the depositors. Income is recognised in the profit and loss account under commission income.

Buffers for balance sheet-wide risks

The financial risks for DNB remained significant in 2019 as a result of the measures taken by the Eurosystem to stabilise the functioning of the euro area. The financial risk as at 31 December 2019 was determined at EUR 3,640 million (31 December 2018: EUR 5,194 million). Of the total EUR 3,640 million balance sheet-wide risk, EUR 1,810 million (2018: EUR 1,987 million) relates to specific risks under the APP[28]. As at 31 December 2019, the provision for financial risks stood at EUR 1,810 million (31 December 2018: EUR 1,987 million).

The table below provides a breakdown of the buffers for balance sheet-wide risks.

Millions

	31 December 2019	31 December 2018
	EUR	EUR
Capital and reserves (excluding statutory reserve)	7,930	7,915
Provision for financial risks	1,810	1,987
Total	**9,740**	**9,902**

28 The APP risk consists of credit risk relating to the asset purchases (excluding exposures to the Dutch government) and interest rate risk. Annex 1 to the Accountability chapter of the Annual Report provides a more detailed discussion of DNB's financial risks.

Events after the balance sheet date

Bank of England's withdrawal

As a result of the departure of the United Kingdom from the European Union and consequent withdrawal of the Bank of England from the ESCB, the weightings assigned to the remaining NCBs in the key for subscription to the ECB's capital were adjusted. The table below sets out the NCBs' shares in the capital of the ECB with effect from 1 February 2020.

Percentages

	Capital key from 1 February 2020	Capital key until 31 January 2020
	%	%
National Bank of Belgium	2.9630	2.5280
Deutsche Bundesbank	21.4394	18.3670
Eesti Pank	0.2291	0.1968
Central Bank of Ireland	1.3772	1.1754
Bank of Greece	2.0117	1.7292
Banco de España	9.6981	8.3391
Banque de France	16.6108	14.2061
Banca d'Italia	13.8165	11.8023
Central Bank of Cyprus	0.1750	0.1503
Latvijas Banka	0.3169	0.2731
Lietuvos bankas	0.4707	0.4059
Banque centrale du Luxembourg	0.2679	0.2270
Central Bank of Malta	0.0853	0.0732
De Nederlandsche Bank	**4.7662**	**4.0677**
Oesterreichische Nationalbank	2.3804	2.0325
Banco de Portugal	1.9035	1.6367
Banka Slovenije	0.3916	0.3361
Národná banka Slovenska	0.9314	0.8004
Suomen Pankki-Finlands Bank	1.4939	1.2708
Subtotal for euro area NCBs*	*81.3286*	*69.6176*
Bulgarian National Bank	0.9832	0.8511
Česká národní banka	1.8794	1.6172
Danmarks Nationalbank	1.7591	1.4986
Hrvatska narodna banka	0.6595	0.5673
Magyar Nemzeti Bank	1.5488	1.3348
Narodowy Bank Polski	6.0335	5.2068
Banca Națională a României	2.8289	2.4470
Sveriges Riksbank	2.9790	2.5222
Bank of England	0.0000	14.3374
Subtotal for non-euro area NCBs*	*18.6714*	*30.3824*
Total for euro area and non-euro area NCBs	**100.0000**	**100.0000**

*Totals may not add up owing to rounding.

Impact on DNB's share in the ECB's capital

The ECB kept its subscribed capital unchanged at EUR 10,825 million after the Bank of England's withdrawal from the European System of Central Banks (ESCB). The share of the Bank of England in the ECB's subscribed capital, which stood at 14.3%, was reallocated among both the euro area NCBs and the remaining non-euro area NCBs. As a result, DNB's share in the ECB's subscribed capital increased by 0.6985%.

The ECB's paid-up capital will also remain unchanged at EUR 7,659 million in 2020 after the departure of the United Kingdom from the European Union, as the remaining NCBs will cover the withdrawn Bank of England's paid-up capital of EUR 58 million. In 2021 and 2022 the euro area NCBs will pay up the increases in their shares in the ECB's capital in full. As a result, DNB will transfer to the ECB an amount of EUR 4 million in 2020, EUR 36 million in 2021 and EUR 36 million in 2022.

Impact on DNB's claims equivalent to the foreign reserves assets transferred to the ECB

The contributions of the NCBs to the transfer of foreign reserve assets to the ECB are fixed in proportion to their share in the ECB's subscribed capital[29]. The weighting of the euro area NCBs (which have transferred external reserve assets) in the ECB's subscribed capital increases as a result of the Bank of England's withdrawal from the ESCB. The Governing Council of the ECB has decided, however, to reduce the proportion of the euro area NCBs' contributions, so that the total amount of foreign reserve assets already transferred by the euro area NCBs will roughly remain at the current level. The claim equivalent to this transfer was therefore marginally adjusted. This resulted in a contribution by DNB of EUR 7 million on 3 February 2020.

COVID-19

The COVID-19 outbreak is likely to have an impact DNB's future results and financial position. It is not yet possible to make a reliable quantitative estimate of this impact due to the current uncertainties surrounding the pandemic.

29 In accordance with Article 30.2 of the ESCB and ECB Statute.

Off-balance sheet rights and liabilities

Liability claims and procedures

By reason of its supervisory task or otherwise, DNB may receive liability notices or pre-announcements of such notices. In some cases liability proceedings have been brought against DNB. Where the liability amounts cannot reasonably be estimated or where a liability is unlikely to be settled, DNB suffices by disclosing such cases in this section. The relevant pending case is discussed in more detail below.

In September 2016, a foundation which had previously operated as an insurer without licence and its managing director instituted legal proceedings against DNB before the cantonal section of the Amsterdam District Court, claiming damages. They asserted that DNB had acted unlawfully with respect to the foundation and its managing director. The case was referred to District Court in the next instance, which considered the claimants' action inadmissible. The Amsterdam Court of Appeal upheld the District Court's decision on 26 February 2019, ruling in DNB's favour. The foundation and its managing director appealed from the ruling.

IMF

As the implementing body of the Dutch IMF membership, DNB has made various credit lines available to the IMF. More details are provided on pages 127 and 128.

Outsourcing

DNB has outsourced part of its ICT function to an external party – the end user services, the data centre and the services related to this. The initial term of the outsourcing contract is four years, ending in March 2023. Under the contract, DNB's financial liability largely depends on its future service purchase volume. In each contract year, its minimum liability amounts to 65% of the expense incurred in the preceding contract year. The expense in the first contract year will amount to approximately EUR 16 million.

Rental and lease agreements

DNB has rented part of the Toorop building and the neighbouring premises at Omval in Amsterdam since 1 July 2018. The term of the rental agreements is until 31 August 2025. DNB relocates in early 2020 as its office building at Frederiksplein is due to undergo major renovation. Annual rental charges are taken to the profit and loss account. The rental liability is presented in the table below.

In 2019 DNB entered into a ground lease agreement with the Dutch State for the benefit of a newly built location that will house DNB's banknote operations and its gold vaults. The term of the agreement is 60 years. Annual ground rent payments are taken to the profit and loss account. The liability entered into is presented in the table below.

DNB has rented the building formerly in use by the Johan Enschedé printing company in Haarlem since 1 October 2019 to house its banknote operations and gold vaults on a temporary basis. The term of the agreement is until 1 April 2024. Annual rental charges are taken to the profit and loss account. The liability entered into is presented in the table below.

Several DNB staff members are entitled to a lease car on the basis of their positions. By default, the duration of car lease contracts is 4 or 5 years, with the option of renewal. The liability under the present car lease contracts is presented in the table below. Renewal at the current prices is assumed for staff members whose contracts expired in 2019.

Millions

	Total	2020	2021 to 2024	2025 and beyond
	EUR	EUR	EUR	EUR
Rental agreements	**50**	10	35	5
Ground lease agreements	**9**	0	1	8
Lease contracts	**3**	1	2	-
Total	**62**	**11**	**38**	**13**

3. Notes to the profit and loss account

Operating income

1 and 2 Net interest income

This item includes interest income and interest expense in respect of the assets and liabilities denominated in euro.

The table below provides a breakdown of interest income:

Millions

	2019	2018
	EUR	EUR
Investments	176	121
Liabilities to euro area credit institutions	711	939
Non-monetary deposits	150	125
Monetary portfolios	456	445
Total	**1,493**	**1,630**

Interest income went down primarily because the balances which financial institutions held on average on the deposit facility and current accounts with DNB fell. They pay interest at the negative deposit facility rate on any balances held in excess of the exempt amount (see the note to liabilities item 2.1 for more information).

The table below sets out the components of interest expense.

Millions

	2019 EUR	2018 EUR
Monetary lending	(95)	(79)
Other	(236)	(184)
Total	**(331)**	**(263)**

The interest expense related to monetary lending primarily concern the charges incurred on the TLTRO II loans (see the note to asset item 5.2 for more information). 'Other' predominantly relates to the costs of hedging foreign exchange risks.

3. Realised gains/(losses) from financial operations

Millions

	2019 EUR	2018 EUR
Net realised result on currency exchange rates	21	(2)
Net realised price result on fixed-income securities	24	12
Net realised price result on equity funds	161	2
Net realised price result on bond funds	5	(13)
Total	**211**	**(1)**

4. Write-downs on financial assets and positions

The write-downs of EUR 3 million (2018: EUR 42 million) consist mainly of price revaluation losses on corporate bonds that could not be recognised under 'Revaluation accounts'.

5. Transfer to/from provision for financial risks

In 2019 the risks for which the provision for financial risks had been formed decreased. Accordingly, EUR 177 million was released in 2019 (2018: EUR 491 million added). As a result, the amount of the provision fell to EUR 1,810 million as at 31 December 2019 (31 December 2019: EUR 1,987 million).

8. Income from equity shares and participating interests

For 2019, this item amounted to EUR 112 million (2018: EUR 93 million) and mainly included income from DNB's participating interest in the ECB and dividends from investments.

Income from DNB's participating interest in the ECB can be broken down as follows:

Millions

	2019	2018
	EUR	EUR
Interim profit distribution in the financial year	84	68
Final profit distribution for the preceding financial year	21	16
Total	**105**	**84**

9. Net result of monetary income pooling

The net result of monetary income pooling can be broken down as follows:

Millions

	2019	2018
	EUR	EUR
Monetary income accruing to DNB	661	694
Monetary income earned by DNB	(905)	(1,201)
Result of monetary income pooling	(244)	(507)
Adjustment of monetary income pooling from preceding years	(1)	3
Provision for monetary policy operations	4	(5)
Net result from monetary income pooling	**(241)**	**(509)**

The amount of each Eurosystem NCB's monetary income is determined by measuring the actual annual income that derives from the earmarkable assets held against its liability base. The earmarkable assets consist of the following items: lending to euro area credit institutions related to monetary policy operations denominated in euro, securities held for monetary policy purposes, claims equivalent to the transfer of foreign reserve assets to the ECB, net claims related to the allocation of euro banknotes within the Eurosystem, other intra-Eurosystem claims (net), and a limited amount of gold holdings in proportion to DNB's Eurosystem capital key share. Gold is considered to generate no income. Securities held for monetary policy purposes[30], which include securities issued by central governments and agencies[31], are considered to generate income at the refinancing rate. Where the value of DNB's earmarked asset exceeds or falls short of the value of its liability base, the difference is offset by applying the refinancing rate to the value of the difference. The income on the earmarkable assets is included under 'Interest income'. The liability base consists of the following items: banknotes in circulation, liabilities to euro area credit institutions related to monetary policy operations denominated in euro, and other intra-Eurosystem liabilities (net). Any interest paid on liabilities included within the liability base is deducted from the monetary income to be pooled.

The monetary income pooled by the Eurosystem NCBs is to be allocated among the NCBs according to the subscribed ECB capital key. The pooling and reallocation of monetary income to NCBs leads to certain net reallocation effects. One reason is that the yields earned on certain earmarkable assets and the interest expense paid on certain liability base items may differ to a varying degree among the Eurosystem NCBs. In addition, usually each Eurosystem NCB's share of earmarkable assets and in the liability base deviates from its share in the subscribed capital of the ECB. The difference between the monetary income pooled by DNB amounting to EUR 905 million and reallocated to DNB based on the Eurosystem capital key amounting to EUR 661 million is the net result arising from the calculation of monetary income of EUR (244) million (2018: EUR (507) million). The net result of monetary income pooling includes DNB's share in the provision for monetary policy operations. For 2019 this is a EUR 4 million gain related to the partial release of the provision formed in 2018 (2018: EUR 5 million loss).

30 Decision ECB/2009/16 of 2 July 2009 on the implementation of the covered bond purchase programme and Decision ECB/2011/17 of 3 November 2011 on the implementation of the second covered bond purchase programme.
31 Decision ECB/2015/10 of 4 March 2015 on a secondary markets public sector asset purchase programme.

10. Other income

In its capacity as an independent public body, DNB exercises prudential supervision over financial institutions. This item includes the fees raised from the supervised institutions to cover the costs of its activities as an independent public body, as well as the government contributions to the performance of these activities.

Other income can be broken down as follows:

Millions

	2019	2018
	EUR	EUR
Fees from supervised institutions	182	173
Government contribution	4	5
Other	1	0
Total	**187**	**178**

In accordance with supervision and resolution legislation, a more detailed account is given in a separate report.

Operating costs

11. Staff costs

The average number of employees, expressed as full-time equivalents (FTEs), amounted to 1,813 in 2019, versus 1,816 on average in 2018.

The table below provides a breakdown of 'Staff costs' in 2019 and 2018.

Millions

	2019	2018
	EUR	EUR
Wages and salaries	(154)	(153)
Social insurance contributions	(21)	(21)
Pension costs	(35)	(33)
Other staff costs	(17)	(23)
Total	**(227)**	**(230)**

The pension scheme costs of EUR 35 million for the year (2018: EUR 33 million) are included under 'Pension costs'. They equal total pension contributions paid (2019: EUR 41 million; 2018: EUR 39 million), less employee-paid contributions (2019: EUR 6 million; 2018: EUR 6 million).

The annual costs on account of the contribution to the health care insurance premiums of pensioners are included under 'Social insurance contributions'. The annual costs on account of other employee benefits are included under 'Wages and salaries' and 'Social insurance contributions'.

Remuneration

General

Under the Public and Semi-public Sector Executives Remuneration (Standards) Act (Wet normering bezoldiging topfunctionarissen publieke en semipublieke sector – WNT), DNB is required to disclose the remuneration of its senior executives and of officials other than senior executives exceeding the remuneration ceiling referred to in the WNT. The Minister of Finance and the Minister of the Interior and Kingdom Relations have decided that DNB is allowed to agree with Governing Board members who were reappointed for a second term in 2018 and Governing Board members who were newly appointed in 2018 on individual remuneration in excess of the ceiling referred to in the WNT.

The remuneration ceiling under the WNT for the financial year 2019 amounts to EUR 194,000 (2018: EUR 189,000), Unless stated otherwise, all officials mentioned worked in full-time employment throughout the year.

Governing Board

The individual maximum remuneration of the Governing Board members in 2019, as fixed by the Minister of Finance, includes holiday allowance, an extra month's pay and other terms and conditions of employment, but has no performance-related component. The pension scheme for the members of the Governing Board is in accordance with the agreements made with the Minister of Finance in 2005, and has been aligned with the statutory provisions that have applied since 1 January 2015. Like other staff, the members of the Governing Board contribute to their pension premiums.

The table below specifies the remuneration, taxable expense allowances and deferred remuneration (employer's pension contributions) for each member of the Governing Board.

		Remuneration and taxable expense allowances		Deferred remuneration		Total remuneration[5]		Individual maximum remuneration	
		2019	2018	2019	2018	2019	2018	2019	2018
Name[1]	Position	EUR	EUR	EUR	EUR	EUR	EUR	EUR	EUR
Klaas Knot	President	395,023	390,946	26,189	25,675	421,212	416,621	420,000	422,831
Else Bos[2]	Executive Director	386,015	220,600	25,157	16,568	411,172	237,168	410,000	201,795
Frank Elderson	Executive Director	322,731	320,650	26,189	25,675	348,920	346,325	348,000	350,619
Job Swank	Executive Director	317,246	323,644	26,189	25,675	343,435	349,319	343,000	359,305
Nicole Stolk[3]	Executive Director	185,180	185,725	25,157	24,666	210,337	210,391	210,000	99,310
Jan Sijbrand[4]	Executive Director	-	193,225	-	12,713	-	205,938	-	196,570
Total		**1,606,195**	**1,634,790**	**128,881**	**130,972**	**1,735,076**	**1,765,762**		

1 Olaf Sleijpen was appointed to the Governing Board with effect from 1 February 2020. Accordingly, he is not included in the above table.
2 Else Bos joined DNB on 1 May 2018, initially as a division director. She was appointed to the Governing Board with effect from 1 July 2018. Her remuneration for 2018 includes that as a division director. Her individual maximum remuneration concerns the second half of 2018 and was not exceeded.
3 Nicole Stolk served as Secretary-Director until 1 July 2018, when she was appointed to the Governing Board. Her remuneration for 2018 includes that as Secretary-Director. Her individual maximum remuneration concerns the second half of 2018 and was not exceeded.
4 Jan Sijbrand stepped down with effect from 1 July 2018. His individual maximum remuneration concerns the first half of 2018 and was not exceeded. Total remuneration for 2018 includes an amount in holiday allowance relating to 2017, and allocated accordingly.
5 In 2019 a subsequent payment was made to all Governing Board members that must be allocated to 2018. Their individual maximum remuneration for 2018 and 2019 was not exceeded as a result.

Remuneration paid to the members of the Supervisory Board

Members of the Supervisory Board are paid fees in line with the WNT, which stipulates maximum fees of 10% and 15% of the generally applicable remuneration ceiling for members and the Chair, respectively.

In 2019 and 2018, the members of the Supervisory Board were paid the following fees:

	2019	2018
	EUR	EUR
Wim Kuijken (Chair)	29,100	28,350
Margot Scheltema (vice-Chair)	19,400	18,900
Feike Sijbesma	19,400	18,900
Kees Goudswaard[1]	19,400	18,900
Annemieke Nijhof[1]	19,400	18,900
Marry de Gaay Fortman	19,400	18,900
Roger Dassen[2]	19,400	4,764
Jaap van Manen[3]	-	14,136
Total	**145,500**	**141,750**

1 Kees Goudswaard and Annemieke Nijhof were also members of the Bank Council throughout the year under review, for which they were each paid EUR 3,299 on an annual basis (2018: EUR 3,299), which is not included here.

2 Roger Dassen was appointed with effect from 1 October 2018.

3 Jaap van Manen served as Vice-Chair until 1 October 2018.

Officials with remuneration that exceeds the WNT ceiling

In compliance with the WNT, DNB also reports remuneration of officials other than executives that exceeds the EUR 194,000 threshold for 2019 (2018: EUR 189,000). In respect of these officials the WNT does not impose a ceiling, but prescribes disclosure. The remuneration of these officials exceeds the threshold as a result of DNB's package of employment conditions. The number of officials whose remuneration details we publish fell from 29 to 28 compared with the previous year.

Remuneration overview

The table below shows the non-senior executives, listed by position, whose remuneration exceeds the threshold.

	Average number of hours a week		Remuneration and taxable expense allowances		Deferred remuneration		Total remuneration	
	2019	2018	2019	2018	2019	2018	2019	2018
Position			EUR	EUR	EUR	EUR	EUR	EUR
Division Director	36.0	38.5	295,517	288,382	26,189	25,721	321,706	314,103
Division Director	37.2	38.5	258,351	247,526	26,213	25,721	284,564	273,247
Division Director	36.0	36.0	249,188	218,001	26,189	25,675	275,377	243,676
Division Director	37.2	38.5	238,258	228,067	26,213	25,721	264,471	253,788
Division Director	36.0	36.0	235,887	212,066	26,189	25,675	262,076	237,741
Division Director	37.2	38.5	235,463	244,191	26,213	25,721	261,676	269,912
Division Director	37.2	38.5	232,581	234,299	26,213	25,721	258,794	260,020
Division Director	37.2	38.5	231,247	229,043	26,213	25,721	257,460	254,764
Division Director	36.0	36.0	221,330	190,777	25,157	24,666	246,487	215,443
Division Director	37.2	38.5	219,738	220,814	26,213	25,721	245,951	246,535
Division Director	36.0	36.0	215,752	207,194	25,157	24,666	240,909	231,860
Division Director	36.0	36.0	194,929	182,752	26,189	25,675	221,118	208,427
Division Director	36.0	36.0	189,228	185,601	26,189	25,675	215,417	211,276
Division Director	36.0	36.0	188,662	151,591	25,157	24,666	213,819	176,257
Division Director	36.0	36.0	179,914	151,371	25,157	24,666	205,071	176,037
Head of Department	36.0	36.0	191,744	169,332	26,189	25,675	217,933	195,007
Head of Department	36.0	36.0	187,293	189,682	26,189	25,675	213,482	215,357
Head of Department	38.5	38.5	183,876	172,209	26,237	25,721	210,113	197,930
Head of Department	36.0	36.0	181,368	173,705	26,189	25,675	207,557	199,380
Head of Department	36.0	36.0	180,440	194,527	26,189	25,675	206,629	220,202
Head of Department	40.0	40.0	180,134	162,701	26,265	25,749	206,399	188,450
Head of Department	38.5	38.5	178,532	176,767	26,237	25,721	204,769	202,488
Head of Department	36.0	36.8	176,961	181,108	26,189	25,689	203,150	206,797
Head of Department	36.0	36.0	170,764	175,307	26,189	25,675	196,953	200,982
Head of Department	36.0	36.0	168,503	167,486	26,189	25,675	194,692	193,161
Expert	38.3	38.9	192,805	165,005	15,662	15,814	208,467	180,819
Expert	38.5	38.5	182,849	183,332	26,237	25,721	209,086	209,053
Expert	36.0	36.0	170,736	170,439	26,189	25,675	196,925	196,114

12. Other administrative expenses

The table below specifies 'Other administrative expenses'.

Millions

	2019	2018
	EUR	EUR
Temporary staff and outsourcing	(74)	(64)
Travel and accommodation expenses	(5)	(5)
Accommodation	(16)	(10)
Office equipment, software and office expenses	(26)	(26)
General expenses	(13)	(9)
Total	**(134)**	**(114)**

General expenses include the fees paid to the external auditor.
The table below provides a breakdown of the fees into categories.

Whole amounts

	2019			2018
	KPMG Accountants N.V.	KPMG Network	Total KPMG	Deloitte Accountants B.V.
	EUR	EUR	EUR	EUR
Audit of the financial statements*	(849,418)	-	(849,418)	(568,003)
Other audit services	(209,330)	-	(209,330)	(166,315)
Tax advisory services	-	-	-	-
Other non-audit services	-	(24,200)	(24,200)	-
Total	**(1,058,748)**	**(24,200)**	**(1,082,948)**	**(734,318)**

* The figures for 2018 are restated to reflect a subsequent invoice that related to 2018.

The total fees for the audit of the financial statements include VAT and are based on the fees paid during the financial year to which the audit relates. Starting with the 2019 financial year, KPMG Accountants N.V. (KPMG) has been DNB's external auditor, succeeding Deloitte Accountants B.V. (Deloitte). The fee increase was caused by the fact that since 2019 DNB's Internal Audit Department has no longer performed any audit procedures with respect to the financial statements. In addition, KPMG was paid an additional fee of EUR 175,000 to cover the costs of transitioning from Deloitte to KPMG.

17. Corporate income tax
DNB's corporate income tax liability is limited to duties not assigned to it by law.
The corporate income tax payable for 2019 amounted to EUR 0 million (2018: EUR 0 million).
No significant results were posted that are related to duties not assigned to it by law.

Amsterdam, 25 March 2020
Governing Board of De Nederlandsche Bank N.V.

Klaas Knot, *President*
Else Bos
Frank Elderson
Job Swank[32]
Nicole Stolk
Olaf Sleijpen

Amsterdam, 25 March 2020
Adopted by the Supervisory Board of De Nederlandsche Bank N.V.

Wim Kuijken, *Chair*
Margot Scheltema, *Vice-Chair*
Feike Sijbesma
Kees Goudswaard
Annemieke Nijhof
Marry de Gaay Fortman
Roger Dassen

32 Executive Director Job Swank did not sign the financial statements due to long-term illness.

4. Other information

Independent auditor's report
To: the General Meeting and the Supervisory Board of De Nederlandsche Bank N.V.

Report on the company financial statements

Our opinion
We have audited the company financial statements 2019 of De Nederlandsche Bank N.V., based in Amsterdam.

In our opinion the company financial statements of De Nederlandsche Bank N.V. as at 31 December 2019, and of its result for the year 2019 have been compiled, in all material respects, in accordance with the accounting principles of guidance ECB/2019/34 supplemented with the applicable standards of Part 9 of Book 2 of the Dutch Civil Code pursuant to Section 17 of the Bankwet (Banking Act) 1998 and the Wet normering topinkomens - WNT (Public and Semi-public Sector Senior Officials (Standard Remuneration Act)).

The company financial statements comprise:
1 the balance sheet as at 31 December 2019;
2 the profit and loss account for the year 2019; and
3 the notes comprising a summary of the accounting policies and other explanatory information.

Basis for our opinion
We conducted our audit in accordance with Dutch law, including the Dutch Standards on Auditing and the Audit Protocol under the Public and Semi-public Sector Senior Officials (Standard) Remuneration) Act. Our responsibilities under those standards are further described in the 'Our responsibilities for the audit of the company financial statements' section of our report.

We are independent of De Nederlandsche Bank N.V. in accordance with the Wet toezicht accountantsorganisaties (Wta, Audit firms supervision act), the 'Verordening inzake de onafhankelijkheid van accountants bij assurance-opdrachten' (ViO, Code of Ethics for Professional Accountants, a regulation with respect to independence) and other relevant independence regulations in the Netherlands. Furthermore, we have complied with the 'Verordening gedrags- en beroepsregels accountants' (VGBA, Dutch Code of Ethics).
We believe the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Unaudited compliance with the anti-cumulation clause in the WNT

In accordance with the 'Controleprotocol WNT 2018' (Audit Protocol under the Public and Semi-public Sector Senior Officials (Standard) Remuneration Act 2018), we did not audit the anti-cumulation clause referred to in Section 1.6a of the WNT and Section 5 subsection 1j of the 'Uitvoeringsregeling WNT'. Consequently, we did not verify whether or not the maximum salary norm has been exceeded by a 'leidinggevende topfunctionaris' (managing senior official) due to possible employment at other institutions subject to the WNT, and whether the WNT-disclosure as required in relation to this clause is accurate and complete.

Report on the other information included in the annual report

In addition to the company financial statements and our auditor's report thereon, the annual report contains other information that consists of:

- annual report page 4 until page 113;
- other information.

Based on the following procedures performed, we conclude that the other information:

- is consistent with the company financial statements and does not contain material misstatements;
- contains the information as required by Part 9 of Book 2 of the Dutch Civil Code.

We have read the other information. Based on our knowledge and understanding obtained through our audit of the company financial statements or otherwise, we have considered whether the other information contains material misstatements.

By performing these procedures, we comply with the requirements of Part 9 of Book 2 of the Dutch Civil Code and the Dutch Standard 720. The scope of the procedures performed is less than the scope of those performed in our audit of the company financial statements.

The Governing Board is responsible for the preparation of the other information, including the annual report, in accordance with Part 9 of Book 2 of the Dutch Civil Code.

Description of the responsibilities for the company financial statements

Responsibilities of the Governing Board and the Supervisory Board for the company financial statements

The Governing Board is responsible for the preparation of the company financial statements in accordance with the accounting principles as set out in Guideline ECB/2019/34, supplemented by the applicable provisions of Part 9 of Book 2 of the Dutch Civil Code pursuant to Section 17 of the Bank Act 1998 and the provisions of and pursuant to the WNT. Furthermore, the Governing Board is responsible for such internal control as the Governing Board determines it necessary to enable the preparation of the company financial statements that are free from material misstatement, whether due to errors or fraud.

As part of the preparation of the company financial statements, the Governing Board is responsible for assessing the company's ability to continue as a going concern. Based on the financial reporting framework mentioned, the Governing Board should prepare the company financial statements using the going concern basis of accounting.

Supervisory Board is responsible for overseeing the company's financial reporting process.

Our responsibilities for the audit of the company financial statements

Our objective is to plan and perform the audit engagement in a manner that allows us to obtain sufficient and appropriate audit evidence for our opinion.

Our audit has been performed with a high, but not absolute, level of assurance, which means we may not have detected all material errors and fraud during our audit.

Misstatements can arise from fraud or errors and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the company financial statements. The materiality affects the nature, timing and extent of our audit procedures and the evaluation of the effect of identified misstatements on our opinion.

We have exercised professional judgement and have maintained professional scepticism throughout the audit, in accordance with Dutch Standards on Auditing, the Audit Protocol WNT, ethical requirements and independence requirements. Our audit included e.g.:

- identifying and assessing the risks of material misstatement of the company financial statements, whether due to errors or fraud, designing and performing audit procedures responsive to those risks, and obtaining audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from errors, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control;
- obtaining an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control;
- evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by the Governing Board;
- concluding on the appropriateness of management's use of the going concern basis of accounting and based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the company financial statements or, if such disclosures are inadequate, to modify our opinion.

Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the company ceasing to continue as a going concern;

- evaluating the overall presentation, structure and content of the company financial statements, including the disclosures; and
- evaluating whether the company financial statements represent the underlying transactions and events without material misstatements.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant findings in internal control that we identify during our audit.

Amstelveen, 25 March 2020

KPMG Accountants N.V.
M.A. Huiskers RA

Provisions governing the appropriation of profit

These provisions are set out in Article 22(2) of the Articles of Association of De Nederlandsche Bank N.V. and read as follows:

The profit, as shown in the adopted financial statements, is at the disposal of the general meeting.