

DNB



Risks for the Dutch financial sector of biodiversity loss

De Nederlandsche Bank NV (DNB), the Dutch central bank, aims to safeguard stability of the Dutch financial sector, warn about risks that may harm the financial system as a whole and thereby contribute to sustainable prosperity in the country. They published their new sustainable finance strategy in July 2021. They are actively involved in shaping international financial regulation regarding sustainability risks, reflecting a desire to contribute to the creation and implementation of international regulation that better manages sustainability risks, including Basel Committee on Banking Supervision(BCBS) and European Banking Authority (EBA) guidelines. Their research to date on environmental and social sustainability risks has been described in several major reports, including *Waterproof? Values at Risk?* (2019) and *Indebted to Nature* (2020).

They encourage collaboration in the field of sustainability at the national and international levels. As a founder member of the Network for Greening the Financial System (NGFS), they have been working since 2017 to improve collaboration between central banks and supervisors in the field of financial sustainability risks. As the Chair of the Dutch Sustainable Finance Platform, which they established in 2016, they also encourage collaboration between financial institutions at the national level. Through this platform, the financial sector, supervisory authorities and government ministries work together on initiatives for sustainable financing. Twice a year, the Platform members meet to discuss the new and ongoing sustainability initiatives in the Dutch financial sector. The Biodiversity Working Group of the Sustainable Finance Platform has been established, recognising that rapid action must be taken to curb the loss of biodiversity.

“ At De Nederlandsche Bank (DNB) sustainability is high on the agenda. We advise the government and include sustainability in our supervision, our investments and our business operations. And we bring parties together to come up with solutions. Time is running out, because the longer we wait, the greater the uncertainty and the likelihood of economic shocks.”

DNB Green Economy

<https://www.dnb.nl/en/green-economy>

DNB Sustainability Research

The Values at Risk? work included a survey of 25 large and medium-sized financial institutions, indicating that financial institutions are showing awareness of their potential impact on issues like climate change, water availability and biodiversity loss. While the reviewed financial institutions are not yet conducting systematic risk analyses; biodiversity loss, deforestation and forest conversion are increasingly featuring in their sustainability policies. This was considered to be mainly in the context of institutions seeking to make an impact, rather than as part of their overall risk management. A select group of the reviewed financial institutions were making progress in terms of measuring the impact of their exposures on biodiversity and some had already set specific goals, for example by restricting their lending to businesses with deforestation concerns.

The exposures of financial institutions to businesses operating in water-stressed regions were also identified. To determine overall exposure, the level of water stress was established at the geographic location of each individual business facility using a dataset from research agency Four Twenty Seven, which was then linked to water stress data from the World Resources Institute (WRI). Each facility was classified into a water stress category, from low to extremely high. The exposures of the Dutch financial sector were then allocated to the various categories pro rata to the number of business facilities in those categories. The study found over 180,000 (20%) of facilities were located in extremely water-stressed regions.

Their analysis also looked forward, based on WRI water stress projections for 2040. Assuming unchanged water policies and asset allocations, the exposure to extremely water-stressed regions was found to climb to €91 billion.

Their analysis also showed that the Dutch financial sector has invested at least € 151 billion in businesses that depend on critical raw materials. At €95 billion, pension funds had the largest exposure, representing 9% of their securities portfolio. The Bank's exposure (€50 billion) consists almost entirely of loans, representing 6.2% of the Dutch banks corporate loans portfolio.

Controversies were also considered to act as drivers of increased operational, legal and reputation risks. Investments in, or loans issued to, businesses listed in the MSCI ESG controversies database were explored as an indicator of reputation risk.

Over 600 controversies involving human rights were found in businesses whose shares are held by Dutch financial institutions at year end 2017, 28 of which were very severe. These investments, worth €85 billion, represented 17% of the total investigated equity portfolio.

Biodiversity work: Indebted to Nature

Subsequent research undertaken by DNB and PBL analysed in further detail the potentially major economic impact of biodiversity loss, of several risk transfer channels, meaning that biodiversity loss information becomes material for different types of business risks.

At the outset they acknowledged that they could not study all the risks resulting from the loss of biodiversity – the choice of the risks to be studied reflecting the availability of financial and biodiversity data that could be linked. Moreover, potential systemic risks resulting from biodiversity loss and their possible connection with climate-related risks were not taken into consideration.

They did nevertheless acknowledge that climate change is one of the main causes of biodiversity loss. The reverse also being true – loss of biodiversity, for example through deforestation and resulting carbon emissions, can accelerate climate change. They therefore considered it important that financial institutions take a coherent approach to climate-related risks and biodiversity risks in their risk management. The approach taken in the study aligns with that adopted by the TCFD for climate in considering both physical and transition risks under different future scenarios.

Physical risks of biodiversity loss

Financing companies that depend on ecosystem services means that financial institutions are exposed to physical risks. The loss of ecosystem services can threaten companies' production processes and lead to a deterioration in their financial position. Moreover, if ecosystems are used too intensively, this can result in them being unable to recover, or to recover insufficiently.

For this, DNB explored how the Dutch financial institutions are exposed to ecosystem services using the ENCORE tool, developed by UN-WCMC. Linking the exposure of Dutch financial institutions to sectors (through shares and corporate bonds and loans) and associated business processes was undertaken. The ecosystem services on which these business processes are highly or very highly dependent then gave them an understanding of the ways in which the Dutch financial sector is indirectly dependent on ecosystem services.

Of investments by Dutch financial institutions, a total of €510 billion was highly or very highly dependent on one or more ecosystem services (representing 36% of the portfolio they examined). For these investments, the loss of ecosystem services could lead to substantial disruption of business processes and financial losses. The highest dependence was on the ecosystems that provide groundwater and surface water.



Physical Risk – Pollination

The disappearance of pollination ecosystem services as a physical risk was studied further in depth. The loss of natural pollination of crops can have a negative impact on the profitability of primary producers, while food processors can face higher or more volatile raw material prices. This can result in a higher risk profile for the financial sector through exposure of the agriculture sector and the food production and processing industry to pollination loss.

They initially identified which product groups contain any of the 55 pollination-dependent crops which, according to the Food and Agriculture Organisation, are crucial to global food production. They subsequently determined the importance of the 271 product groups for the various economic sectors. Finally, using balance sheet data from the financial institutions, they determined the extent of lending to, and investment in, sectors with products that are dependent on pollination. The exposure of products in agriculture, food processing and textile processing industries to pollination loss totalled €28 billion.

Transition Risks

The overall size of the biodiversity footprint was considered an approximation of the scale of overall transition risk and how it might change in future as a result of policies for reducing further biodiversity loss, like increasing protected area coverage.

They first calculated the current global biodiversity footprint for the Dutch sector using the PBL's GLOBIO model that calculates local terrestrial biodiversity intactness expressed in the mean species abundance (MSA) indicator. First, the biodiversity footprint per euro of turnover was determined by sector and by continent, including the impact of their value chains using an environmentally extended Input/Output model in which the GLOBIO biodiversity loss was included as an extension. The biodiversity footprint of companies in which the Dutch financial sector has an equity interest was then allocated to the financial sector in proportion to the market capitalization.

The biodiversity footprint of Dutch financial institutions was found to be comparable with the loss of over 58,000 km² of pristine nature (about half of this was due to changing land use, the other half to greenhouse gas emissions). In terms of transition risk new government policy or changing consumer preferences could require large companies with a disproportionate footprint to be transparent on their exposure to biodiversity loss risks, and how they manage these risks.

The transition risk in the Dutch financial sector's investment universe (representing over 8000 companies) was further explored using two examples; the potential expansion of protected areas and likely measures responding to the Dutch nitrogen crisis.

Expanding protected areas

Financial institutions run a transition risk as well as a reputational risk through financing companies that operate in protected or valuable areas. A transition risk exists when governments decide to designate new areas as protected areas. DNB considered two future scenarios, based on proposals for new targets for the coming decade of the UN Convention on Biological Diversity (CBD), in which either 24% or 30% of ecosystems on land and inland waters are classified as protected areas. The spatial consequences of these targets have been analysed by PBL in a scenario study for the CBD. This involved identifying areas of particular importance for biodiversity which are not yet protected or designated along with Intact Forest Landscapes that are not yet protected to give a 24% area protection scenario. To arrive at 30% area coverage, areas were added that potentially gave the greatest contribution to the goal of conserving biodiversity in different types of ecosystems.

They then measured how many financed companies operate in close vicinity of the protected or valuable areas using the FourTwentySeven database which details over 900,000 business locations worldwide. Each business location was assigned to one of four areas: protected area; valuable area in the 24% scenario; valuable area in the 30% scenario; or non-protected and non-valuable area. The calculated exposure of the Dutch financial sector consists of 71% of the total equity portfolio of Dutch financial institutions and 40% of the Dutch banks' major loans. There was €15 billion in exposure to companies that are active in already protected areas which rose to €28 billion in the 30% scenario (this represented a lower limit of exposure given that small and medium-sized enterprises were not included in the analysis).



The Dutch nitrogen crisis

Companies with negative impacts on biodiversity and ecosystem services also expose financial institutions to transition and reputational risks. Government measures, technological developments or changing consumer preferences aimed at reducing the damage to biodiversity and ecosystems can translate into transition risks as companies have to adapt to a new reality. One example of a transition risk identified was the Dutch nitrogen crisis, in which a legally determined emission allocation to protect nitrogen-sensitive Natura 2000 areas has led to a restriction of activities in various economic sectors, most prominently the agricultural sector that produces a lot of N-emissions in the vicinity of nature reserves.

The Dutch nitrogen crisis requires a transition to business models that will result in extra costs and investments for nitrogen-emitting activities. The three large Dutch banks had made loans totalling €81 billion to sectors with nitrogen– emitting activities, accounting for around 39% of total lending in the Netherlands.

Reputational risks

They also identified the financial sector's exposure to possible reputational risks. Based on CDP reporting initiative, companies were classified into four categories according to the extent to which they can represent a reputational risk for financial institutions, and the extent of disclosed information by companies regarding their specific deforestation risks. The exposure of financial institutions to businesses with a heightened reputational risk totals €97 billion – associated with the failure to report.

In conclusion DNB stated that finance organisations can take measures to limit their risk exposure through action such as proper due diligence, qualitative credit conditions and client engagement, recommending a sector oriented approach due to differences in biodiversity risk across different types of business.

The campaign is being led by the [Institute of Chartered Accountants in England and Wales](#) alongside the [World Business Council for Sustainable Development](#), [IUCN](#) and [Oppla](#).



**WE VALUE
NATURE**

Supporting



**CAPITALS
COALITION**



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 821303

wevaluenature.eu

info@wevaluenature.eu

[@WeValueNature](#)