Box 2 Commercial real estate: an updated pandemic stress test for the Dutch financial sector

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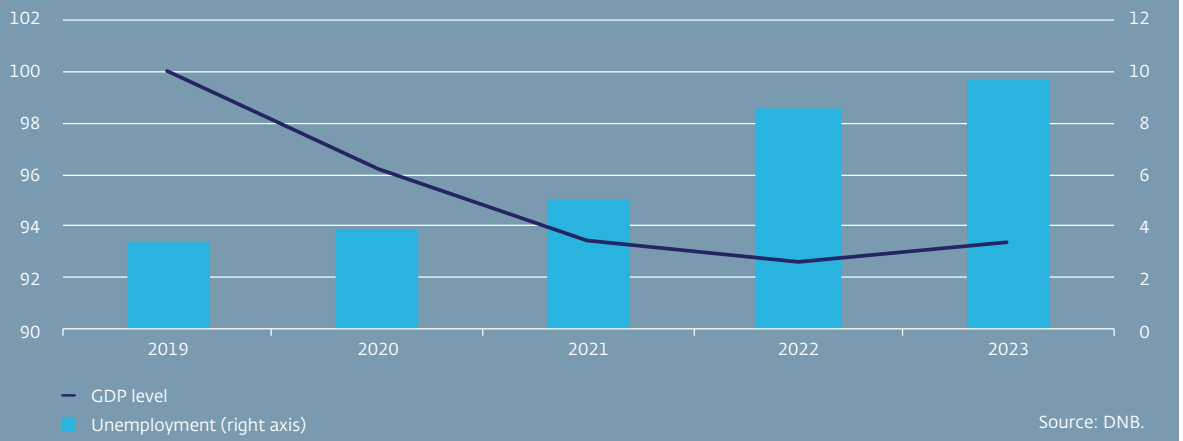
Introduction

This box analyses commercial real estate risks. A structural shock in the CRE market is unlikely to be isolated and short-lived. We have therefore opted for a stress test, an instrument that allows a long-term analysis of a CRE shock amid a broader macroeconomic scenario. Such a stress test should not be seen as a prediction but as a thought process to assess tail risks. Here we continue to build on the two pandemic stress tests[3] which DNB published in 2020. This new analysis also includes smaller banks, as well as insurers and pension funds. This gives us a clearer view of where potential vulnerabilities for commercial real estate lie in the financial sector.

Figure 11 GDP level and unemployment in stress scenario

Index 2019 = 100



Source: DNB.

Methodology

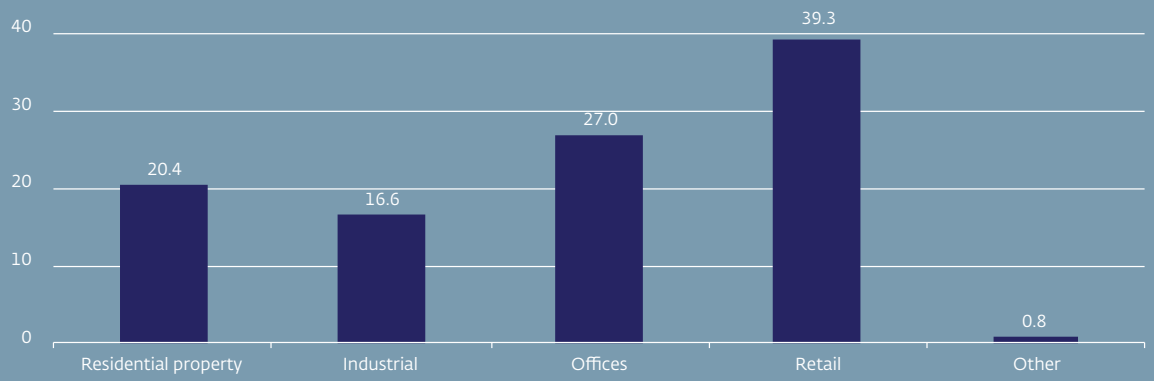
The CRE shocks are embedded in a stress scenario characterised by persistent uncertainty, lack of growth and a steep rise in unemployment. This stress scenario (an update of the very severe stress scenario from the Economic Developments and Outlook of December 2020) is again based on a relatively protracted vaccine rollout, the possible emergence of new virus variants and a continuing need for containment measures. As a result, coronavirus continues to take a substantial toll on the economy in the Netherlands and around the world. On the basis of this narrative a macroeconomic scenario has been calibrated using DNB's Delfi model. In this calibration the Dutch economy does not recover until 2023 and unemployment rises above 9% (Figure 11). The stress scenario is applied to the situation as at end-2020.

3 See Financial Stability Report, Spring 2020 and Economic Developments and Outlook, December 2020.

The stress test also assumes substantial shocks in commercial real estate. This stress test assumes bigger shocks in the commercial real estate market than we would expect purely on the basis of the macroeconomic picture described above. This is mainly due to the structural pressure on the commercial real estate market described earlier. This has been included, for example, by assuming an additional fall in corporate investment. In this specific stress scenario it has also been assumed that the market for commercial real estate is considerably more volatile than the residential real estate market.

The assumed price falls in commercial real estate differ depending on the subsector. In the stress scenario they exceed 30%. The analysis determines a price shock for each subsector based on historical correlations with house prices (20% cumulative decline in the scenario). The biggest falls in the scenario are in retail (-39%) and office property (-27%). Purely on the basis of historical correlations, the sharpest decline would be expected in these cyclically sensitive segments. Since structural trends also play a role in these sectors, however, the shock is further magnified compared to subsectors such as industrial real estate (-17%) and residential real estate (-20%).[4]

Figure 12 CRE shock by segment
Cumulative percentage price decrease



Source: DNB.

Results

In the case of banks, the capitalisation in the scenario decreases by around 4 percentage points, particularly due to a rise in risk weights. Banks' resilience is often expressed in terms of their risk-weighted capital (CET1 ratio). Banks are currently well capitalised despite the pandemic, with an average capital ratio of 17%. This is due in part to the low level of bankruptcies and limited dividend payouts.[5] In the stress scenario this capitalisation would fall to just over 13%, mainly as a result of rising risk weights. In line with the economic stagnation, the default risk on many loans has risen, requiring more capital to be held. In particular the value of collateral on loans secured on commercial real estate has declined, leading to an

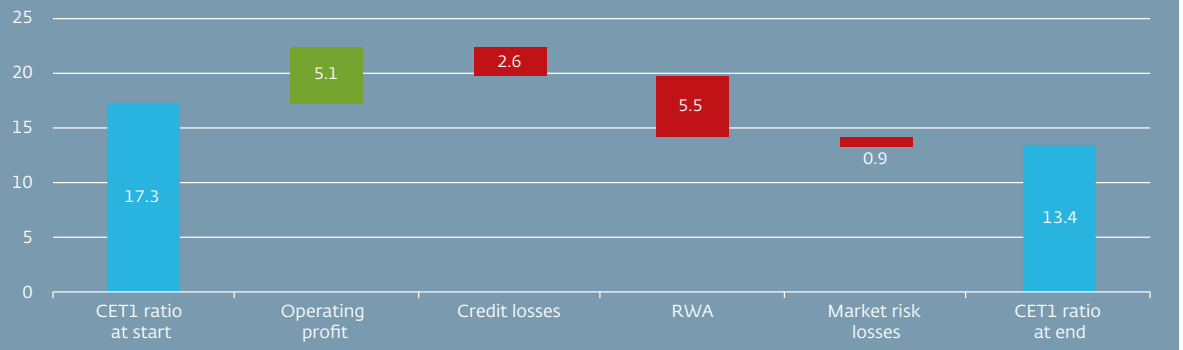
4 It is somewhat counterintuitive that homes also fall within commercial real estate. The reason is that commercial real estate includes major investments in social housing projects by pension funds, for example. The smallest shock has been applied to the "other" segment, which includes categories such as car parks and data centres.
5 The scenario assumes that 15% of profit will be distributed as dividend.

additional rise in the risk weighting for this category of loans. Without these specific shocks in commercial real estate, the decrease in the CET1 ratio due to rising credit losses and higher risk weights in this stress scenario would be around one percentage point smaller.

The impact on banks in this stress scenario is substantial, but would not immediately cause major lending problems. In this scenario banks would still have scope to absorb losses and large-scale lending cuts would not be necessary.

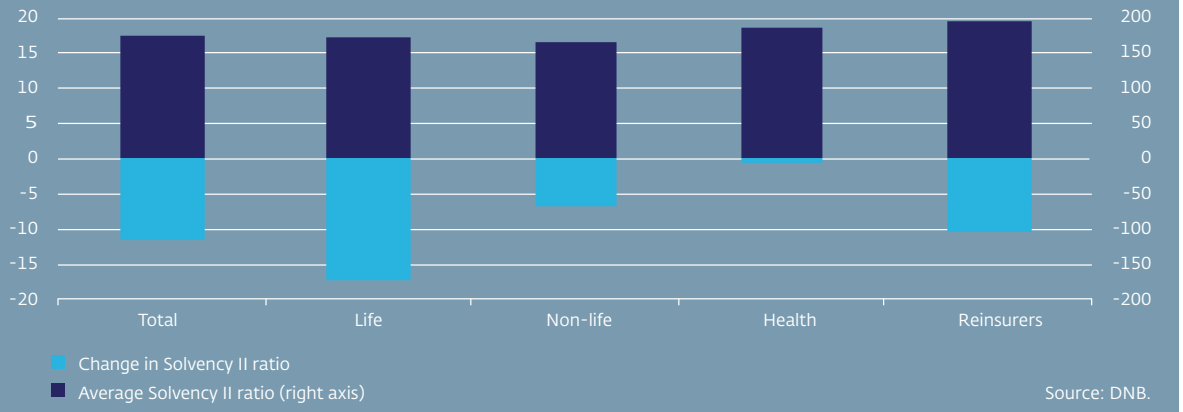
In the insurance sector the impact is felt particularly by life insurers, but there too the 17-percentage-point impact on the Solvency II ratio is manageable. Insurers in the Netherlands invest 5% of their total balance sheet in commercial real estate (EUR 26.2 billion). The biggest exposures are to mortgages and are concentrated in the life sector. In this sector the scenario reduces the Solvency II ratio by 17.4 percentage points, so insurers remain well above the required 100% level. Figure 14 shows the Solvency II ratio in each subsector after application of the stress scenario as well as the decline in the ratio. The relatively minor impact also reflects insurers' limited sensitivity to the macro scenario.

Figure 13 Impact on banks
Percentage of risk-weighted assets



Source: DNB.

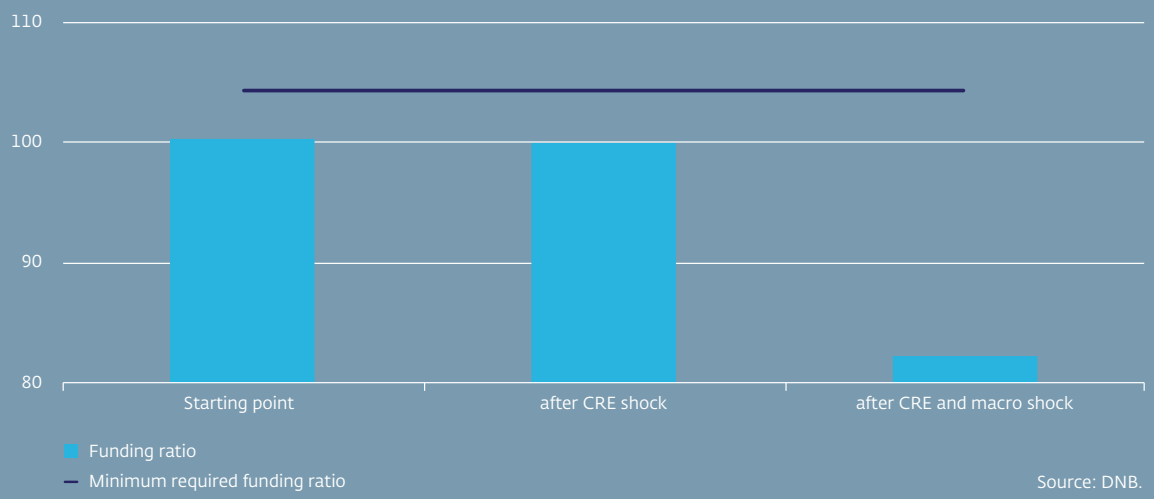
Figure 14 Impact on insurers
Percentage points; solvency ratio in percent



Source: DNB.

The impact on pension funds is relatively high due to direct exposures to commercial real estate, but particularly as a result of sensitivity to the macro scenario and a less favourable starting position. Among the larger pension funds in particular, commercial real estate makes up a significant part of the portfolio (EUR 130 billion in total for the sector; 7.3% of the assets of the 10 largest funds). Whereas insurers and to a lesser extent banks are mainly exposed to CRE indirectly through mortgages, pension funds more often invest directly in real estate projects and/or funds. They could therefore be affected more rapidly by a price shock. The isolated impact of a CRE shock on the sector is limited, however, and causes the coverage ratio to fall by less than 1%. Pension funds are nevertheless more affected by the dynamics in the fixed-income and equity markets in the scenario. The average funding ratio in the macro scenario would consequently fall from 100.3% to 83.2 percent, leading to substantial deficits. These results underline the vulnerabilities among pension funds.

Figure 15 Impact on pension funds
Percentage



Source: DNB.

Conclusions

Due to a combination of cyclical and structural factors, a substantial commercial real estate price shock cannot be ruled out. The retail and office segments are particularly vulnerable. Such a CRE-related shock would have a marked impact on the various Dutch financial institutions, particularly in the event of wider macroeconomic stagnation. The shock for banks would be substantial but manageable, partly due to their relatively comfortable buffers. Insurers would be protected by the limited sensitivity of the Solvency II framework to the macro scenario, their indirect exposure to commercial real estate and comfortable margins above the statutory Solvency II requirements. The biggest vulnerability is among pension funds. In addition to the exposure to commercial real estate, pension funds are particularly sensitive to the macro scenario and the overall lack of buffers.