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KINGDOM OF THE NETHERLANDS—NETHERLANDS

FINANCIAL SYSTEM STABILITY ASSESSMENT

April 2017

This paper on the Kingdom of the Netherlands—Netherlands was prepared by a staff team of the International Monetary Fund as background documentation for the periodic consultation with the member country. It is based on the information available at the time it was completed on March 16, 2017.

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FINANCIAL SYSTEM STABILITY ASSESSMENT

March 16, 2017

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Prepared By
Monetary and Capital Markets Department

This report is based on the work of the Financial Sector Assessment Program (FSAP) mission that visited Amsterdam, Netherlands, and Frankfurt, Germany in June and September 2016. The FSAP findings were discussed with the authorities during the Article IV consultation in November 2016.

- The team comprised May Khamis (Mission Chief), Marc Dobler (Deputy Mission Chief), Mario Catalan, Marc Gerard, Heedon Kang, Dinah Knight, Fabian Lipinsky, Tsuyoshi Sasaki, and Christopher Wilson (all IMF staff), as well as Jennifer Hancock, Tanis MacLaren, David Scott, and Rodolfo Wehrhahn (external experts). The mission met with the Ministry of Finance (MoF), Ministry of Social Affairs and Employment (MoSA), De Nederlandsche Bank (DNB), Netherlands Authority for the Financial Markets (AFM), Netherlands Bureau for Economic Policy Analysis, the European Central Bank (ECB), European Insurance and Occupational Pensions Authority (EIOPA), European Systemic Risk Board (ESRB), Single Resolution Board (SRB), representatives from industry associations, the financial sector, and the auditing, accounting, actuarial, and legal professions.

- The Financial Sector Assessment Program (FSAP) assesses the stability of the financial system as a whole and not that of individual institutions. They are intended to help countries identify key sources of systemic risk in the financial sector and implement policies to enhance its resilience to shocks and contagion. Certain categories of risk affecting financial institutions, such as operational or legal risk, or risk related to fraud, are not covered in FSAPs.

- The Netherlands is deemed by the Fund to have a systemically important financial sector and the stability assessment under this FSAP is part of bilateral surveillance under Article IV of the Fund's Articles of Agreement.

- This report was prepared by May Khamis and Marc Dobler, with contributions from FSAP team members and draws upon several technical notes.

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Glossary

AEX	Amsterdam Exchange Index
AFM	Authority for the Financial Markets
AIF	Alternative Investment Fund
AML/CFT	Anti-Money Laundering and Combating the Financing of Terrorism
BIS	Bank for International Settlements
Brexit	British voters' referendum to exit the European Union in June 2016
BRRD	Bank Recovery and Resolution Directive
CCP	Central Counterparty
CET1	Common Equity Tier 1
CIS	Collective Investment Scheme
CPMI	Committee on Payments and Market Infrastructures
CRD	Capital Requirement Directive
CRE	Commercial Real Estate
CRR	Capital Requirement Regulation
DGS	Deposit Guarantee Scheme
DNB	De Nederlandsche Bank
DSTI	Debt-Service-to-Income
EA	Euro Area
EBA	European Banking Authority
ECB	European Central Bank
EIOPA	European Insurance and Occupational Pensions Authority
ELA	Emergency Liquidity Assistance
Ems	Emerging Markets
ESRB	European Systemic Risk Board
EU	European Union
EuroCCP	European Central Counterparty
FATF	Financial Action Task Force
FINREP	Financial Reporting
FMI	Financial Market Infrastructure
FOS	Freedom of Service
FSAP	Financial Sector Assessment Program
FSC	Financial Stability Committee
FSSA	Financial System Stability Assessment
GDP	Gross Domestic Product
GFC	Global Financial Crisis
GFSR	Global Financial Stability Report
G-SIB	Global Systemically Important Bank
G-SII	Global Systemically Important Insurer
ICR	Interest Cover Ratio
IMF	International Monetary Fund
IOSCO	International Organization of Securities Commissions

IRB	Internal Ratings-Based
LCR	Liquidity Coverage Ratio
LGD	Loss Given Default
LTI	Loan-to-income
LTV	Loan-to-value
MB	Management Board
MFI	Monetary Financial Institution
ML/TF	Money Laundering/Terrorist Financing
MID	Mortgage Interest Deductibility
MoF	Ministry of Finance
MoSA	Ministry of Social Affairs and Employment
MREL	Minimum Requirements for own funds and Eligible Liabilities
NCA	National Competent Authority
NFC	Nonfinancial Corporate
NII	Net Interest Income
ORSA	Own Risk and Solvency Assessment
O-SII	Other Systemically Important Institution
PD	Probability of Default
PMFI	Principles for Financial Market Infrastructures
RAM	Risk Assessment Matrix
ROA	Return on Assets
ROE	Return on Equity
RWAs	Risk-Weighted Assets
S-DH	EIOPA's stress scenario 2 DH
S-LY	EIOPA's stress scenario 1 LY
SSM	Single Supervisory Mechanism
SRB	Single Resolution Board
UFR	Ultimate Forward Rate
VA	Volatility Adjustment

EXECUTIVE SUMMARY

The Netherlands has a large and globally interconnected financial system, with assets nearly eight times gross domestic product (GDP). The country is home to a globally systemically important bank (G-SIB) and a globally systemic important insurer (G-SII). The banking system comprises half of the financial sector and is concentrated in four domestic banks. During the financial crisis, the government bailed out a number of weak banks and it remains part owner of two. The pension system is ranked first globally by share of GDP and the insurance sector has consolidated assets amounting to about 140 percent of GDP. The Netherlands is home to a central counterparty (CCP) which is systemic for European markets.

Major reforms, driven by the EU and global developments, have significantly strengthened financial sector oversight. The authorities' response to the global financial crisis (GFC) was far reaching and addressed many deficiencies. The Single Supervisory Mechanism (SSM) has enhanced supervision of banks, along with strengthened capital and liquidity regulations. Insurance supervision has been strengthened by Solvency II and a new framework was put in place for the pension sector. The Financial Stability Committee (FSC) was established with advisory powers over a full range of macroprudential tools. The European Market Infrastructure Regulation (EMIR) introduced legally binding regulatory requirements for CCPs located in the Netherlands. Overall, most recommendations of the previous FSAP have been addressed (Appendix I).

High household indebtedness contributes to financial sector vulnerabilities, although mortgage defaults are relatively low. Dutch households have significant financial assets (although mostly illiquid), and nonperforming mortgage loans remained low during the crisis. This resilience was driven by several factors, notably the full legal recourse on mortgage borrowers and a tax exemption for intergenerational transfers. Nevertheless, the share of mortgages with negative equity, particularly high among young borrowers, is still approximately 20 percent, and a similar portion of mortgage borrowers rely fully on interest only mortgages. This structure increases the vulnerability of mortgages to adverse scenarios. Mortgages with negative equity tend to have a higher probability of default and may lead to higher credit losses in case of default. High household indebtedness could exacerbate the economic cycle by amplifying fluctuations in consumption.

The authorities have strengthened institutional arrangements for macroprudential policy framework, but further measures are encouraged. The authorities are decreasing the loan-to-value (LTV) limit by 1 percentage point per year until it reaches 100 percent by 2018, tightened debt-service-to-income (DSTI) ratios, and limited mortgage interest deductibility (MID) to mortgages amortized within 30 years, reducing the MID by 0.5 percentage point per year to 38 percent in 2042. The authorities are encouraged to take further steps, including by expediting the reduction of the MID and further lowering the LTV ratio after 2018 to no more than 90 percent.

Pressure on profitability and the continuing reliance of the banking sector on wholesale funding are other vulnerabilities facing the Dutch financial system. Low interest rates and growing competition have exacerbated challenges faced by the Dutch insurance and pension

sectors, and the life insurance sector faces severe stress. Low interest rates and slow credit growth will also continue to weigh on banks' profitability, requiring changes to their business models. Although banks' net interest margins have been relatively resilient to date, mortgage rates are declining after a lag. The Netherlands also has significant global trade and financial linkages. Weaker than expected growth in the euro area (EA) or emerging markets (EMs) could slow domestic growth, and more volatile global financial conditions could have a negative impact on banks, which remain highly dependent on wholesale funding.

Dutch banks appear resilient in the face of these risks. FSAP stress tests indicate that banks, which built buffers through retained earnings and lower leverage since the crisis, are well capitalized on a risk-weighted basis. A severe stress test scenario would have a significant negative impact on Basel III fully loaded (risk-weighted) capital ratios, but all banks would maintain capital ratios above these minimum regulatory requirements. However, banks have high leverage and a relatively low risk-weighted assets (RWAs)-to-total assets ratio, particularly those using internal ratings-based (IRB) models. A significant bank could fall just below the minimum 3 percent leverage ratio hurdle used in the stress tests (not the legal minimum) in the adverse scenario. Liquidity stress tests reveal that banks could handle significant funding withdrawals, thanks to the relatively long term structure of wholesale funding.

The authorities are encouraged to build upon the substantive progress to date (Table 1). The authorities should ensure that the new architecture is effective and minimize residual risks by:

- Strengthening the operational independence of the supervisors, the DNB and AFM, including for setting budgets and wages, allowing them to issue technical regulations and use external expertise, and tightening the rules on the removal of board members;

- Reaching at least a tax neutral treatment of mortgages relative to other financial assets on an accelerated basis, reducing the LTV cap after 2018 to no more than 90 percent, strengthening the legal basis of the FSC, addressing the stock of interest-only (IO) mortgages, and ensuring sound underwriting standards across the sectors;

- Continue to build capital buffers to ensure all banks remain above minimum leverage ratio thresholds in the case of severe adverse events. This will enable banks to support credit growth and help mitigate the need for significant deleveraging in the case of adverse shocks, thus reducing potential macrofinancial implications;

- Monitoring closely the financial conditions of insurers and applying Pillar 2 measures, if required. The proposed introduction in 2017 of a new national law on the recovery and resolution of insurers is welcome; and

- Completing the processes to facilitate the resolvability of Dutch banks while safeguarding taxpayer resources, including in a systemic crisis.

Table 1. Netherlands: FSAP Key Recommendations	
Recommendations	**Time[1]**
Financial Risks and Stability analysis	
Enforce an industry-wide approach to informing IO mortgagors of estimated repayment shortfalls.	I
Continue to build capital buffers to ensure all banks remain above minimum leverage ratio thresholds in the case of severe adverse events.	NT
Macroprudential policy framework	
Strengthen the FSC by establishing it under primary law and vest it with "comply-or-explain" powers.	NT
Accelerate the phase-out of MID and reduce the final tax rate to a neutral level.	NT
Continue gradually reducing maximum limits on LTV ratio to no more than 90 percent after 2018, and place prudential ceilings above which DSTI limits (by income group) cannot be relaxed.	NT
Cross-cutting supervisory issues	
Enhance the DNB and AFM powers to introduce technical regulations (consistent with the SSM) and to conduct examinations using outside expertise.	NT
Exclude the DNB and AFM from the proposed salary cap, and provide them with greater autonomy in setting their supervisory budgets.	I
The DNB and AFM to undertake a cross-sectoral review of credit underwriting standards of mortgages.	I
Ensure that reliable and complete data is available on a timely basis to support off-site supervision.	NT
Banking supervision and regulation	
Further enhance supervisory oversight of loan classification and strengthen internal model validation by providing Joint Supervisory Teams more support from risk specialist divisions.	NT
Encourage a more active role of the Supervisory Board of Dutch banks via ongoing engagement.	NT
Insurance and pension supervision and regulation	
Monitor closely and take a series of well-defined actions, under Pillar 2, at different levels of VA and UFR impact on insurers' solvency position.	I
Harmonize the relevant laws on the quality of advice and suitability of products and provide authority for group supervision in the pension law.	NT
Securities supervision and regulation	
Broaden the supervisory authority of the AFM with regard to loan-based crowd-funding platforms.	NT
Require prompt public disclose of auditor changes or resignations.	NT
Financial market infrastructure	
Augment the supervisory resources devoted to the oversight of European Central Counterparty (EuroCCP).	I
EuroCCP to strengthen its review of its stress testing and margin models methodology and develop a comprehensive recovery plan.	I
Crisis management and bank resolution	
Develop adequate arrangements for systemic crisis management, and make legacy frameworks for managing failing banks complementary to the new SRM framework and more transparent.	NT
Allow the deposit guarantee scheme to finance deposit transfers in resolution and insolvency.	NT
[1] Immediately (I): within one year; near–term (NT): one–three years.	

MACROFINANCIAL SETTING

1. **The Dutch financial system is large with assets nearly eight times GDP.** The banking sector comprises half of the financial system (Table 2), and is concentrated with the largest three banks accounting for 72 percent of the sector's assets. During the financial crisis, the government bailed out a number of weakened institutions and it remains part-owner of two significant banks. Since the last Financial Sector Assessment Program (FSAP), banks' capitalization improved significantly but low interest rates weigh on profitability (Figure 1 and Table 3). Banks rely heavily on wholesale funding, but the term structure of this funding is relatively long. The assets of the insurance sector are 140 percent of GDP, of which about half are invested abroad. In the second pillar pension system (with assets as share of GDP of 184 percent), funding ratios (assets relative to promised pension benefits) have declined in many pension funds due to low interest rates and about 90 percent (by assets) have a funding ration below 105 percent are under a recovery plan.

2. **Since the last FSAP, the Dutch economy suffered a double-dip recession from which it only emerged in early 2014.** The economy has been gradually recovering since 2014 supported by strengthening consumption, investment, and exports, with a commensurate decline in the output gap and unemployment. However, credit growth has been lopsided towards mortgages, with credit to nonfinancial corporates (NFCs) still declining (Figure 2 and Table 4).

3. **The authorities have strengthened arrangements for financial sector oversight.** The DNB is the prudential supervisor of all financial institutions, while the AFM undertakes conduct-of-business supervision, including of security market activities (this twin peaks model was adopted in 2002). A Financial Stability Committee (FSC) was established in 2012, with a macroprudential mandate and advisory powers. Most recommendations of the previous FSAP have been addressed (Appendix I).

4. **There are three key macrofinancial vulnerabilities that give rise to risks to financial stability (Box 1).**

Box 1. "Triple Threats" to Financial Stability

Vulnerabilities	Risks
• Banks' business models are highly reliant on net interest income.	A continuation/further decline in interest rates and low credit growth may reduce net interest income for banks. Low interest rates may further impact the financial positions of insurance companies and pension funds.
• The indebtedness of the household and NFC sectors.	Increases the probability of default of borrowers and exacerbates the impact of adverse shocks to house and asset prices.
• Banks' reliance on wholesale funding and exposure to cross-border linkages.	Exacerbates the probability of an adverse funding shock and could negatively affect bank profitability.

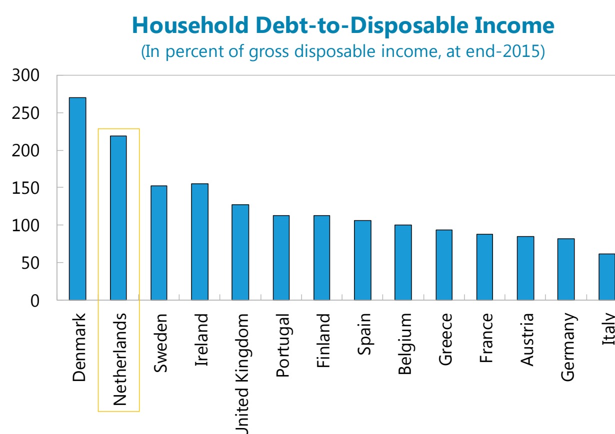
A. Low Profitability

5. As with other advanced economies, low interest rates and slow credit growth are expected to weigh on financial sector profitability (Figure 3). In the recent past, net interest income (NII) of Dutch banks was relatively resilient to falling interest rates. Although lending rates on new corporate loans, which are mostly floating, declined sharply in tandem with short-term rates, mortgage rates, which are largely fixed, started declining only with a lag and gradually. If interest rates remain at their current low levels, the full impact on mortgage rates will materialize with time, further compressing net interest margins, with little room remaining for further funding cost reductions. Prolonged low interest rates and competition have also exacerbated the challenges faced by Dutch insurers and pension funds.

B. Household Sector Indebtedness

6. Households are highly indebted (Figure 4). Household debt-to-disposable income ratio is one of the highest in Europe. The overall net wealth of households is strong, with debt-to-total assets at 25.7 percent at end-2014. However, assets and debt are distributed unevenly across households, and sizable assets are mostly illiquid in the form of pension entitlements and housing[1] that would be difficult to mobilize and pay down debt in periods of stress.

Household Debt-to-Disposable Income
(In percent of gross disposable income, at end-2015)



Sources: ECB; National Authorities; and Haver Analytics.

7. Mortgages with higher LTV and loan-to-income (LTI) ratios have higher default rates. Following the GFC, residential property prices fell by 21 percent on average. While housing markets have experienced a slow recovery since 2013, about 21 percent of mortgages were still in negative equity at the end of June 2016, the share of which is particularly high among young borrowers. However, aggregate mortgage arrears were only 2.3 percent in the first quarter of 2013, and declined further to 1.6 percent at end-2015. The resilience of mortgages to the economic downturn was driven by several factors specific to the Netherlands, including full legal recourse on mortgagors, a tax exemption for intergenerational transfers, low and fixed lending rates, and a strong social safety net. Notwithstanding these features, the share of mortgage loans with high LTV and LTI ratios remain high and may lead to higher credit losses (text table) in the case of default.[2]

[1] See Parlevliet and Kooiman (2015).

[2] See Mastrogiacomo and Van der Molen (2015).

Netherlands: Share of Mortgages in Arrears by Originating LTV and LTI Ratios

(In percent, as of 2015 Q4, loan-level data)

Based on the latest loan-level survey		Originating LTV Ratios							
		<60	60-70	70-80	80-90	90-100	100-110	110-120	>120
Originating LTI Ratios	0-2	0.4	0.4	0.4	0.5	0.6	0.7	1.1	0.6
	2-3	0.4	0.5	0.6	0.8	0.9	1.2	1.6	1.5
	3-4	0.6	0.7	0.8	1.1	1.1	1.6	2.3	2.7
	4-5	0.8	1.0	1.3	1.5	1.8	2.1	3.1	4.4
	5-6	1.0	1.3	1.6	2.0	2.3	3.0	4.2	5.9
	> 6	1.4	1.4	1.6	2.0	2.4	2.9	3.7	4.9

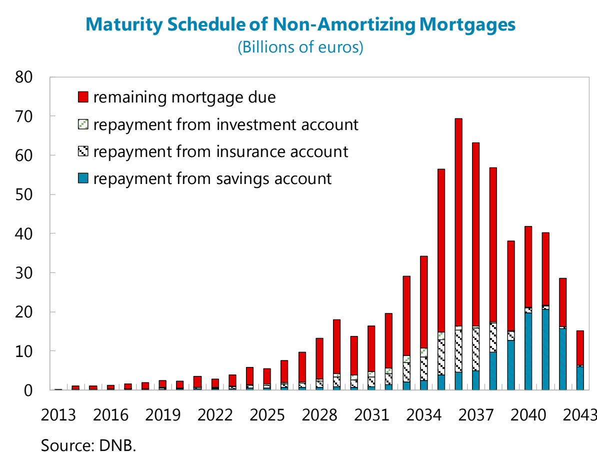
Source: DNB.

8. The procyclicality of house price shocks is exacerbated by high LTV ratios. Based on simulations with a dynamic stochastic general equilibrium model calibrated to mimic the Dutch economy, the FSAP team finds that, when faced with a house price shock, the higher the LTV the more volatile output and employment.[3] Previous studies, such as Verbruggen and others (2015) and IMF (2014), also find that a lower (higher) LTV limit helps reduce (increases) economic fluctuations by dampening (exacerbating) boom-bust cycles.

9. The stock of interest-only (IO) mortgages is also high.[4] IO mortgages were about 55 percent of total mortgages at end-2015, the bulk of which will start to mature from 2030 onwards. One-quarter of mortgagors rely fully on an IO mortgage and the DNB (2016) estimates that 60 percent will not be fully covered by contractual payments or pledged accounts at maturity. This could create a risk of fire sales or an increase in DSTI ratios for households who refinance mortgages at maturity, depending on market conditions at the time. A standardized approach to

Maturity Schedule of Non-Amortizing Mortgages

(Billions of euros)



Source: DNB.

[3] See the Technical Note on Financial Stability and Stress Testing of the banking, household, and corporate sectors for detailed simulation results.

[4] As of January 2014, new IO mortgages are no longer eligible for mortgage interest deductibility (MID), which has eliminated the incentives for these mortgages.

informing IO mortgage holders of their financial status vis-à-vis these loans and advise on early remedial measures—for example, by strengthening the incentive to switch their loan types to annuity or linear mortgages, prepay the loans voluntarily, or accumulate financial assets—should be adopted.

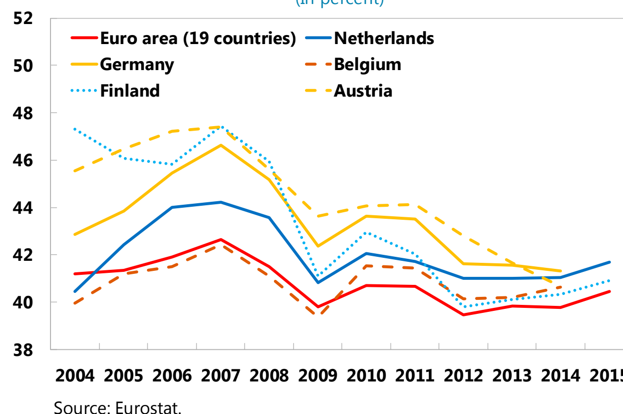
10. **Real estate prices remain below their long-term averages (Figure 5).** Following a decline of 21 percent over five years (2008–13), housing prices have risen by 8 percent since mid-2013, and the volume of house transactions has almost doubled thanks to low interest rates and increased consumer confidence. Standard valuation metrics (price-to-income and price-to-rent ratio) at 2016Q1 are still 10 percent and 22 percent below their long-term average (since 2000), respectively. However, house prices in Amsterdam grew by 15 percent in 2016Q2, driven in part by short supply. Commercial real estate (CRE) prices declined by 20 percent during 2008–14 and while they partially recovered they remain well below their pre-crisis peak and the recovery has been subdued more recently.

C. Corporate Sector Indebtedness

11. **The financial health of the nonfinancial corporates (NFC) sector has improved but the sector continues to be highly indebted (Figure 6 and Table 5).** The sector emerged from the crisis with restored profitability, strong liquidity buffers, and improved leverage. Corporate debt stabilized at 127 percent of GDP in 2015, about 20 percentage points above the EU average. However, strong equity build-up has allowed for steadily decreasing debt-to-equity ratios, which have hovered below 100 percent since 2011 supported by sustained profitability in most economic sectors, with gross profit rates above 40 percent. Firms also maintained strong liquidity buffers.

12. **Overall, the domestic NFC sector appears generally resilient to adverse macroeconomic conditions, but pockets of vulnerability might exist.**[5] Interest coverage ratios (ICRs) in the Netherlands remained high

Gross Operating Surplus to Gross Value Added
(In percent)



Source: Eurostat.

ICR of Domestic of Non-Financial Corporations by Firm Sector
(Median, in percent)

	2009	2011	2013	2015
Total	9.9	9.7	11.1	12.7
Agriculture	9.2	10.5	6.9	10.3
Manufacturing	15.3	19.2	19.9	12.1
Trade	16.1	19.4	23.1	14.0
Information	28.4	24.5	22.8	13.9
Finance	9.7	8.4	11.1	15.8
Housing	2.9	2.6	4.2	4.4
Services	13.8	12.3	13.2	19.2
Other	8.5	7.5	5.4	3.1

Sources: ORBIS, and IMF staff calculations.

[5] See the Technical Note on Financial Stability and Stress Testing of the Banking, Household and Corporate Sectors.

across all categories of firms throughout the crisis.[6] Nonetheless, a segment of firms in our sample holding a non-trivial share of total debt still continues to have low ICRs, which warrants further investigation using a more granular and complete data set.

D. Wholesale Funding and Cross-Border Linkages

13. Banks are vulnerable to funding and cross-border contagion risks. Dutch banks:

- **Are closely interconnected with European banks**. Large Dutch banks have significant asset exposures to banks in the U.K., France, Germany, and Spain (Figures 7 and 8);

- **Rely heavily on wholesale funding.** Wholesale funding comprises more than 40 percent of total liabilities, about one-third of which is short term (Figure 9). About half of total wholesale funding is obtained by banks through issuance of debt securities; of which, about 45 percent of are held by EA investors (Figure 10);[7] and

- **Are exposed to global economic developments through trade**. The Netherlands has strong trade linkages with other European and EM countries.[8] Weakness in these markets could impact on the profitability and solvency of Dutch NFCs, which could lead to deterioration in bank assets.

RISKS, RESILIENCE, AND SPILLOVERS

A. Key Risks Facing the Dutch Financial System

14. The Dutch economy faces external and domestic risks. External risks include a significant recession and deflation in the euro area and a tightening in global financial conditions. A rise in populism in large economies could lead to uncertainty, trade barriers, and a sharp rise in risk premia, with market illiquidity and diminishing confidence amplifying adverse conditions (Risk Assessment Matrix in Appendix II). Realization of these risks would reduce net exports, business confidence, and investment in the Netherlands, exacerbating banks' credit losses. Also, a drop in bond prices would negatively impact banks' capital ratios, while renewed stress in wholesale funding markets would reduce net interest income (through higher funding costs) or trigger funding liquidity strains. Domestic risks include a decline in house prices impacting private consumption and investment with adverse effects on banks' credit losses. While limited so far, the effects of Brexit on the Dutch economy will depend upon the outcome of ongoing negotiations with the EU. The rest of this chapter will assess the resilience of the financial sector to the above-noted risks.

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[6] The ICR, the ratio of earnings before interests, tax, depreciation and amortization (EBITDA) to interest payments, measures firms' capacity to service their debt without drawing down financial assets.

[7] About half of debt securities issued by Dutch banks are denominated in foreign currencies, mainly in U.S. dollars.

[8] Close to 50 percent of the revenue of companies in the Netherlands' Amsterdam Exchange Index (AEX) stock market index originates from EMs.

B. Financial System Resilience

Banking

15. The FSAP team conducted stress tests to assess the resilience of the banking system to solvency and liquidity shocks, and contagion (Figure 11). Specific risks to the Dutch financial system were modeled, in line with risks identified in Section A above. In the prolonged low interest rate environment, banks are projected to suffer significant deterioration in net interest income, even under the baseline scenario, since banks' lending rates will decline further as fixed income assets mature and are repriced. As a result, overall profitability in the banking system will fall from 0.50 percent of assets in 2015 to about 0.15 percent in 2018 under the baseline—despite the mitigating effects of lower credit losses and taxes. Past efforts to extend the maturity of wholesale funding liabilities have reduced roll-over (funding liquidity) risks. However, longer maturities with fixed interest rates limit bank's ability to adjust interest cost if interest rates continue declining as envisaged in the baseline scenario.

Solvency stress tests based on macroeconomic scenarios

16. The stress tests examined the resilience Dutch banks under an extreme but plausible adverse scenario. The extreme adverse scenario is characterized by a cumulative decline of GDP equal to two standard deviations relative to the baseline (8.7 percentage points over three years) in a V-shaped recession. This reflects downside external risks—including a significant recession and deflation in the euro area and tightening in global financial conditions (Appendix II and Table 6)—in addition to domestic shocks, including a decline in house prices impacting consumption and investment.

17. The Dutch banking system appears resilient in the face of the assessed risks (Figure 12). The adverse shocks have a significant impact on (risk-weighted) capital ratios, but all banks stay above the regulatory minima. The fully loaded common equity Tier 1 (CET1) capital ratio for the largest six banks declines from 13.5 percent in 2015 to 10.2 percent in 2018. The capital ratio of every bank remains above the minimum hurdle rate of CET1 ratio of 7 percent over 2016–18. However, the leverage ratio of the six largest banks would decline from 3.8 percent to 3.2 percent, and the ratio for one of the largest banks would fall just below the minimum 3 percent hurdle used in the test. This outcome generally reflects the relative low RWA density (RWAs to total assets) in the Dutch banking system and implies a capital shortage of Tier 1 capital for the system in the adverse scenario equivalent to EUR 3.8 billion (0.6 percent of GDP). Under the stress scenario, overall profitability declines from 0.5 percent of assets in 2015 to -0.3 percent in 2017–18, with a significant impact on capital, and each of the three main "threats" identified in Box 1 contributes to the decline in bank profitability.

Sensitivity analysis

18. Sensitivity tests assessed vulnerabilities of the banking system to concentration risk and the introduction of risk-weight floors on mortgage portfolios.

- *Some large banks can be vulnerable to concentration risk*. Concentration risk was tested by assessing the impact of default of the largest (one, three, and five) exposures across different recovery levels. When 50 percent haircuts on collateral values are applied (a highly unlikely event), one of the largest banks exhibits a shortfall of Tier 1 capital upon simultaneous default of the three largest exposures; while other systemically important banks become undercapitalized only in the simultaneous default of the five largest exposures.

- *Introducing risk weight floors on (IRB-based) mortgage portfolios has an important impact on banks' CET1 ratios.*[9] The tests estimate the impact of increasing risk weights (from the current average IRB-based risk weight of 15 percent for the largest banks to 60, 80, and 90 percent of the risk weight corresponding to standardized portfolios (35 percent); i.e., RWAs increase to 21, 28, and 31.5 percent, respectively. As of end-2015, the introduction of the floors would cause declines in CET1 ratio equivalent to 0.7, 1.4, and 1.8 percentage points, respectively.[10]

Liquidity tests

19. Liquidity stress tests reveal that banks could handle significant funding withdrawals. Cash flow-based liquidity stress tests assessed resilience to strong shocks characterized by different run-off rates on funding sources (calibrated by liability type and based on maturity ladder analysis) combined with asset haircuts. The structure of contractual maturities and run-off rates resulted in withdrawals of funding equivalent to 15–20 percent of the initial stock within the first two to three months (with variation across banks). The results suggest that, with the exception of a small institution, all banks could face persistent and sizable withdrawals of funding (for periods longer than six months) without requiring emergency liquidity assistance (ELA). Although the system exhibits heavy reliance on wholesale funding, liquidity risks appear contained because the funding is of sufficiently long average maturity.

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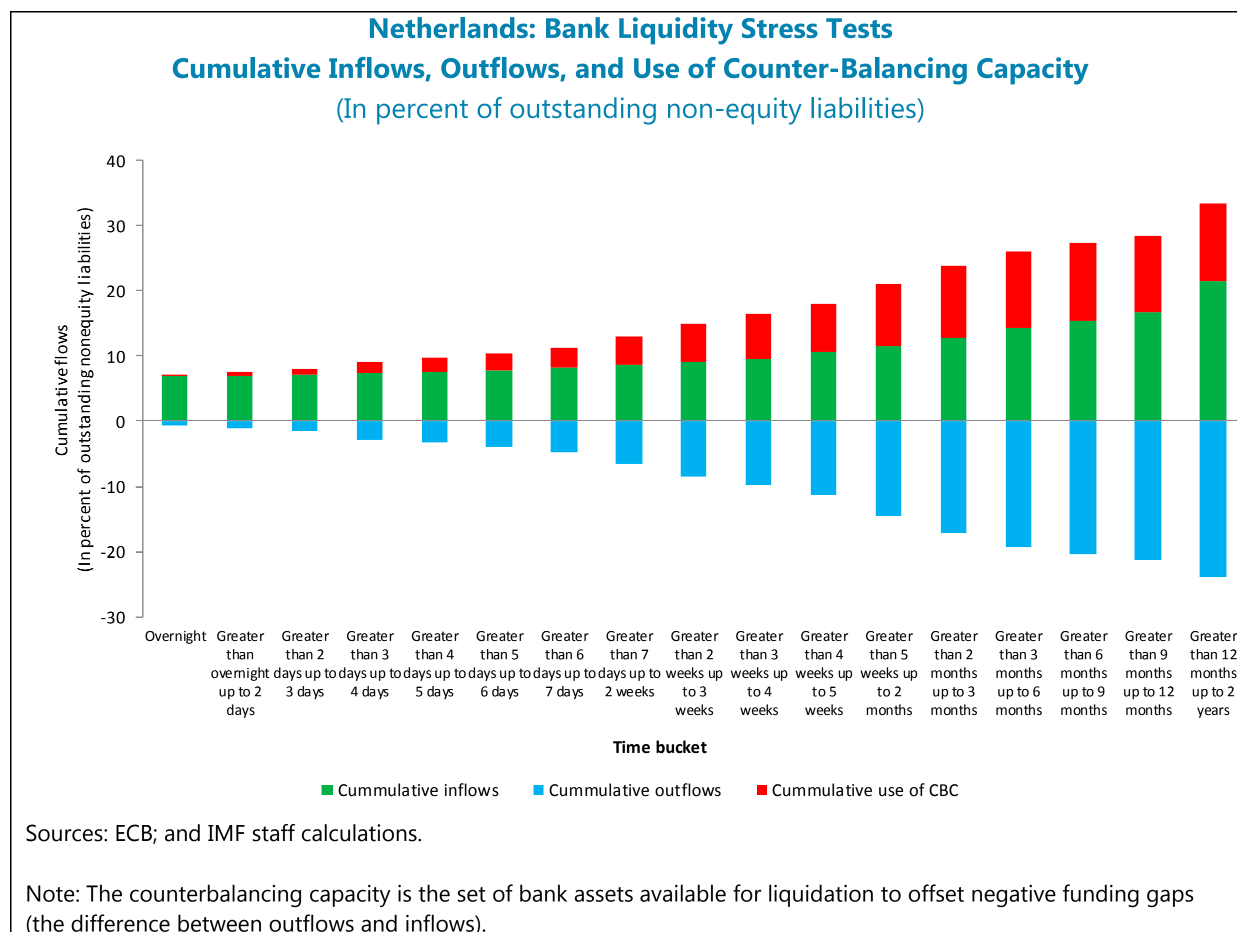
[9] This analysis is relevant given ongoing discussions of reforms to the Basel III framework.

[10] Note that the test is based on a simple "static" calculation; hence likely phase-in periods and potential dynamic responses of banks are not taken into account.

Netherlands: Bank Liquidity Stress Tests

Cumulative Inflows, Outflows, and Use of Counter-Balancing Capacity

(In percent of outstanding non-equity liabilities)



Sources: ECB; and IMF staff calculations.

Note: The counterbalancing capacity is the set of bank assets available for liquidation to offset negative funding gaps (the difference between outflows and inflows).

Interconnectedness

20. Contagion within the domestic banking system appears limited, though there are vulnerabilities. Network analysis based on pair-wise domestic interbank exposures indicates that contagion among Dutch banks is limited overall. However, there is significant heterogeneity among the banks—the degree of contagion to the system and vulnerability from failures in the system vary significantly among the banks. Specifically, one bank in the system is exposed to substantial risk from two peer domestic banks. The Bank for International Settlements (BIS) data indicates that Dutch banks are vulnerable to shocks from other financial centers, while outward spillovers from the Dutch banks to the rest of the world are less significant. Granular network analysis based on supervisory data indicates heterogeneity among banks with certain banks being more vulnerable to the failure of foreign banking groups, particularly in the United Kingdom, Germany, and the United States. Analysis of Dutch banks' connectedness with other European credit institutions using the co-

movement of equity volatilities of Dutch financial institutions and other European financial institutions indicates that ING is highly interconnected with other European banks (and insurers),[11] while the largest insurer, Aegon, is mainly connected with European insurers.[12]

21. Although banks appear fairly resilient to the stress tests, increasing capital buffers would further enable them to continue supporting credit growth under adverse conditions. Additional capital would help mitigate banks' need for a significant reduction in leverage ratios when faced with unexpected stress scenarios and reduce any potential negative macrofinancial implications.

Insurance

22. Notwithstanding Solvency II ratios higher than 100 percent, the life sector is vulnerable. The solvency of the life insurers has become dependent on certain elements in Solvency II, such as the Ultimate Forward Rate (UFR)[13] and the Volatility Adjustment (VA),[14] which distort the economic-based valuation. Their effect in the current low-yield environment account, on average, to more than 50 percent of the sector's own funds. In a shock requiring restructuring or resolution of the insurer, available own funds will be significantly less than indicated under Solvency II. Supervisors also have limited Pillar 1 tools if adjusted solvency ratios remain above 100 percent. The non-life sector is highly competitive and its profitability is under pressure.

23. Data from the 2016 EIOPA stress tests confirmed the vulnerability of the life sector. The 2016 EIOPA stress test exercise consists of two scenarios. The first assumes a prolonged low-yield environment, including a change in the value of the UFR (S-LY), and the second includes a combination of a prolonged low interest rate environment and market shocks (S-DH). Notwithstanding the use of interest rate hedging instruments, the effect of the S-LY scenario is substantial, reducing own funds significantly, or even eliminating them. However, the risk-free market yield curve is already lower than the one used to discount liabilities under the S-LY scenario, which highlights the vulnerability of the sector. The results of the S-DH scenario confirm the distortion that the VA plays. Specifically, the stress scenario results in a controversial positive VA impact in some cases more than the loss in value affecting their portfolios. The VA methodology

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[11] Market-based analysis was limited to ING since market data is not available for the other large banks. An important caveat is that ING's connection with the European insurance sector is expected to have declined after divesting NN Group in April 2016.

[12] Using the methodology developed by Diebold and Yilmaz (2012, 2014).

[13] The UFR is the risk free interest rate towards which the risk free yield curve converges beyond the last liquid point (20 years for euros). The current UFR under Solvency II is 4.2 percent.

[14] The VA is a constant addition to the risk-free UFR, based on a risk-corrected spread on the assets in a reference portfolio. It is designed to protect insurers from the impact of market volatility on their solvency position.

generates incentives for insurers to move their investments towards the average portfolio of EU insurers, which could be of lower credit rating, to maximize the VA benefit of reducing the volatility of the solvency ratio.

Pension system

24. The second pillar pension system is under stress. The average pension fund coverage ratio dropped below 102 percent by end-Q2 2016, and 90 percent of pension funds (by assets) currently are subject to a recovery plan. However, recovery plans are based on regulatory yield curves for asset valuation that appear highly optimistic given current market conditions (for example, a 7 percent return for equity investments). Based on sensitivity analysis undertaken with the DNB, to avoid a substantial benefit cut, the excess investment returns (over the risk-free rate) needed is in the order of 400 basis points.

25. The pension system is in transition and a new model is under discussion. Discussions are under way to determine a new structure for the pension system, which may include shifting risks to participants. The main issues to address are the lack of trust created by the uncertainty of the level of benefits and the deficiency in pension portability in a labor market with higher self-employment and job mobility. It is important that, once implemented, the new system should ensure awareness among the participants so that they can objectively judge the longevity and investment risks they might assume.

MACRO AND MICROPRUDENTIAL OVERSIGHT

A. Macroprudential Policy

26. The authorities have strengthened institutional arrangements for macroprudential policy setting, but further measures are recommended. The FSC, formed of the DNB, AFM, and MoF (as a non-voting member) in 2012, is responsible for identifying potential financial stability risks and issuing non-binding recommendations. The DNB conducts macro- and microprudential policies according to the Capital Requirements Directive (CRD IV) and Regulation (CRR) and is the secretariat of the FSC. The European Central Bank (ECB) can apply more stringent measures, including higher capital buffers (the so called "topping-up power"). The MoF sets limits on LTV and DSTI ratios in collaboration with the Ministry of Interior and of Kingdom Relations. The European Systemic Risk Board (ESRB) can issue recommendations on a "comply-or-explain" basis. To enhance its effectiveness, the FSC should be established in primary legislation with powers to issue macroprudential policy recommendations on a "comply-or-explain" basis to both the DNB and MoF. Some data gaps should be addressed, including on the financial conditions of NFCs and CRE prices and transactions data. In addition, a more-streamlined European notification system is merited.

While the principles behind the notification of the European authorities in the CRR and CRD IV are sound, the process is lengthy and quite rigid.[15] The authorities should make a case for accelerating the process in cases of urgent need.

27. Further tightening of macroprudential policies is warranted to contain potential risks. The DNB has been actively addressing systemic risks stemming from interconnectedness and concentration in the banking system, using G-SII, O-SII, and systemic risk buffers.[16] Following recommendations from the MoF, the DNB requested that four systemically important banks (ING, ABN AMRO, Rabobank, and SNS Bank) meet a minimum of 4 percent leverage ratio by 2018. LTV and DSTI ratios have been legally binding since 2013. The LTV limit is set to decline by 1 percentage point per year until it reaches 100 percent by 2018. The DSTI ratios have been tightened and lenders are required to apply a "stressed" interest rate (5 percent) when calculating DSTI ratios for mortgages with interest rates fixed for less than 10 years. Since January 2014, new mortgage loans are only eligible for mortgage interest deductibility (MID) if they are amortized within 30 years, and the MID rate is being reduced by 0.5 percentage point per year to 38 percent in 2042. The authorities should address remaining tax incentives with more alacrity, dedicate the LTV and DSTI instruments to preserving financial stability, and use other policy measures to meet competing social policy objectives. A supply-demand mismatch of residential rental and owner-occupied housing need to be addressed by other targeted policies, such as zoning regulations and liberalization of rental markets. Specifically, the authorities should:

Netherlands: Macroprudential Instruments

Instruments	Agencies	Implementation
Macroprudential tools under CRR and CRD IV		
Countercyclical capital buffer	DNB, ECB	January 2016
G-SII buffer	DNB, ECB	January 2016
O-SII buffer	DNB, ECB	January 2016
Systemic risk buffer	DNB, ECB	January 2016
Risk weight for RRE and CRE exposures	DNB, ECB	January 2014
Loss given default for RRE and CRE exposures	DNB, ECB	January 2014
Flexibility measures 1/	DNB, ECB	January 2014
Liquidity coverage ratio	DNB, ECB	October 2015
Pillar II	DNB, ECB	January 2014
Macroprudential tools under national law		
Limits on LTV ratio	MOF 2/	January 2013
Limits on DSTI ratio	MOF 2/	January 2013

Sources: DNB; and IMF staff.
1/ The DNB has not activated any flexibility measure yet.
2/ The MoF collaborates with MOIKR in setting the LTV and DSTI limits.

- Accelerate the phase-out of MID (by at least 1 percentage point per year), and reduce the final rate to a tax neutral level relative to other financial assets (IMF, 2016);[17]

[15] The implementation process of Article 458 (flexibility measures) under the CRR can take up to two–three months from the time of the national authorities' notification to the adoption of the flexibility measure.

[16] The DNB imposed a 3 percent systemic risk buffer on the three largest banks, and a 1 percent O-SII buffer on the next two banks.

[17] The tax-neutral treatment of owner-occupied housing would mean reducing the MID rate to 30 percent, lower than the current plan (38 percent) (Parlevliet and Kooiman, 2015).

- Continue to gradually reduce the maximum limit on the LTV ratio by at least 1 percentage point per year to no more than 90 percent after 2018, in line with the FSC's recommendation;[18] and
- Set prudential ceilings on the DSTI caps by income, beyond which these ceilings cannot be relaxed across the credit cycle.[19]

B. Microprudential Oversight

Cross-cutting issues

28. Important supervisory enhancements have taken place since the last FSAP and further strengthening is merited. The DNB's approach to supervision has become more intrusive, forward-looking and risk-based. The AFM's supervisory approach has also been enhanced, with early risk identification supported by dedicated teams that monitor market information. Information sharing and cooperation between the DNB and the AFM is well established. Further improvements could be made to ensure independent, intrusive, and adequately resourced supervision:

- *Independence and resources*. The requirement for ministerial approval of the supervisory budgets of the DNB and AFM, and the proposed legislation on a salary cap could limit the supervisors' ability to attract and retain essential staff and deliver their responsibilities effectively. The limited ability of the supervisor to introduce technical regulations has the potential to reduce supervisory effectiveness[20] as does the authority of the MoF to set aside rules enacted by the supervisors (even if not formally used) and the inability of the supervisors to use external experts to better equip them to address increasing complexity.[21] Lastly, the authority specified in legislation for the removal of members of the executive or supervisory boards of the supervisors is open to wide interpretation.

[18] A gradual approach will mitigate potential negative impact on the economy, but the pace of this reduction could be accelerated if the recovery in home prices persists. Cross-country data indicates that the median limit in countries that use the LTV ratio is 80 percent, and the authorities should consider reducing the LTV ratio further, once 90 percent is reached, taking into account market developments at the time.

[19] Any relaxation of macroprudential measures across the credit cycles should respect prudential minima that can ensure an appropriate degree of resilience against future shocks.

[20] This limitation is more important in the pension sector, in which the national regulations play a more prominent role than in the insurance and banking sector, which follow EU directives. However, in the banking sector, while rule-making is increasingly being driven by EU legislation, there are areas that do not prejudice the ECB's regulatory and policy framework for SIs and LSIs and where national regulations are needed by the SSM (e.g., Fit and Proper, and corrective actions and sanctions).

[21] Temporarily engaging an outside specialist for a project or investigation is often more efficient than trying to acquire expertise on a permanent basis.

- *Data.* Weaknesses in data quality need to be addressed. The changing reporting framework in insurance and for the collective investment scheme (CIS) is subject to implementation risks, including differing interpretations. Legacy systems, ageing infrastructure, and compatibility of systems—both between the industry and the supervisors and between the supervisors themselves—add to the complexity. These factors impact the reliability of the data and may impede an accurate view of the market and hinder effective off-site supervision.

- *Potential arbitrage.* Mortgage investments have been rising rapidly in the insurance sector (the share has increased from 3 percent in 2009 to 8 percent in 2016). For some insurance groups their mortgage investments now make up to 40 percent of their portfolios (excluding unit-linked business).[22] Given the risk of regulatory arbitrage and a decline in lending standards, the authorities are recommended to undertake a cross-sectoral review (including sampling loan files) of mortgage underwriting standards.

Banking regulation and supervision

29. The SSM has significantly strengthened banking supervision, though some elements of the framework such as decision making processes need to be streamlined. [23] The response by the DNB to the GFC was far reaching, including a revised strategic vision, greater resources, stronger regulations, and a more-assertive style of supervision. The ECB is directly responsible for six of the largest Dutch banks comprising the majority of the banking system, whereas the DNB supervises the less significant ones, under the general oversight of the ECB. The SSM introduced greater frequency and intensity of engagement with banks, particularly through onsite examinations and leveraging thematic exercises to encourage best practice. The day-to-day functions of the ECB supervision is subject to the following: (i) all supervisory decisions need to be submitted to the ECB's Governing Council after consideration and approval by the Supervisory Board, under a no-objection procedure. This creates a time-consuming and cumbersome supervisory decision-making process; and (ii) the ECB needs to comply with local legislation to execute many of its tasks (including for fit and proper, and corrective actions and sanctions).

30. While banks have increased the quality and amount of regulatory capital, leverage is high. Leverage in the banking system is high, with capital-to-assets ratio one of the lowest by international comparison (Figure 1). The RWA density for Dutch banks is also low, particularly those using IRB models.[24] Although banks were fairly resilient to stress tests, increasing capital buffers

[22] The exposure of pension funds to Dutch home loans is also growing, reaching EUR 15 billion at the end of 2015, but significantly lower than the total mortgage loan portfolio of Dutch insurers of EUR 46 billion.

[23] A detailed assessment of the implementation of effective supervision using the Basel Core Principles was undertaken during the 2016 Germany FSAP. See http://www.imf.org/external/pubs/ft/scr/2016/cr16196.pdf.

[24] One of the fundamental elements of the BCBS' post-crisis work program is to reduce the excessive variability in RWAs, including the role of internal models.

further (for example, through retained earnings) will enable banks to support demand for credit by the private sector. This will also help mitigate banks' need for significant (and simultaneous) deleveraging when faced with unexpected stress scenarios and lessen any negative macrofinancial implications.[25] Greater attention to ongoing model monitoring is also needed.

31. Assessing banks' business models and risk management and strengthening corporate governance are priorities. Dutch banks face a more challenging operating environment, including through lower interest rates and potential future regulatory changes. These challenges may result in banks adjusting their strategies, including by searching for higher risk assets or pressure to reduce costs where risk management may not be immune. The passive role of bank Supervisory Boards (SB) was a key theme identified by the crisis.[26] Greater engagement with the SB by the supervisors (the SSM and DNB) commenced in 2013 and while progress is evident, more progress is needed, particularly in areas such as the SBs oversight of the implementation of risk management frameworks and internal models. A more active supervisory role in assessing loan classification is also needed to underscore prudent provisioning. While recent asset quality reviews and stress testing by the EBA confirm generally low levels of asset impairment of Dutch SIs, further intrusiveness by the supervisor is needed when assessing loan classification and valuation, building upon recent progress on credit file reviews and portfolio revaluations.

32. Supervisors need to encourage banks to adopt new standards for data aggregation. Weaknesses in data quality is thematic across the Dutch SIs impacting not only the accuracy of regulatory reporting but also the reliability of management information. These arise from ageing information technology infrastructure and legacy systems; often from mergers of multiple legal entities with incompatible data systems. Supervisors are working closely with banks to address data aggregation issues and benchmarking exercises are identifying outliers. Remediation programs will require time and large complex projects, which will need to be tracked by supervisors.

Insurance and pensions regulation and supervision

33. Supervision of the insurance and pension sectors has strengthened significantly but further enhancements are recommended. The Solvency II framework (2016) has implemented a market-valuation and risk-based prudential regime, including comprehensive group-wide supervision, in line with the International Association of Insurance Supervisors principles, and the intensity of supervision has significantly increased. While the focus of the DNB and of AFM is different, a joint approach in some areas would deliver benefits, in particular, for culture, governance and integrity, and data exploitation and analytics. While the supervisors share cases that require the

[25] Also, further regulatory changes may result in additional regulatory capital being required (e.g., Total Loss-Absorbing Capacity standard, CRD IV, and amendments to the standardized approaches for credit, market, and operational risk, including changes to the treatment of internal models).

[26] In the Netherlands, there is a two-tier board structure where the SB exercises the oversight function and the Management Board (MB) the executive function. Historically the role of SBs has, in general, been passive with most policy, risk management responsibilities placed on the MB.

highest level of supervisory attention, earlier formal information sharing on problem files should be considered. Random on-site assessment on the quality and accuracy of the data reported under off-site supervision and frequent back-testing of its predictive power would also enhance the robustness of supervision. Finally, the proposed introduction in 2017 of a new national law on the recovery and resolution of insurers is welcome**.**

34. The DNB should remain vigilant and closely monitor the transition to Solvency II. While Solvency II is a substantial improvement to the prudential framework, its effectiveness remains untested and some aspects should be reconsidered in the next Solvency II revision in 2018, including the UFR methodology, the tax-loss absorbance capacity of tax credits, and the VA. Using Pillar 2 powers, a series of well-defined actions, such as dividend payout restrictions and capital add-ons should be exercised based on the degree of impact that the VA and UFR adjustments has on the solvency positions of insurers.

35. The risk of supervisory arbitrage needs to be addressed at the EU and domestic level. Group supervision has significantly improved but some important powers for comprehensive group supervision are not available. Where a group is headed outside the EEA by an insurance holding company or a mixed financial holding company, powers over unregulated holding companies do not apply and strong collaboration between home-host supervisor is required. Furthermore, the complexity of Solvency II could motivate the use of Freedom of Service (FOS) in the EU to search for jurisdictions where supervision uses a lighter touch. The Dutch authorities should continue to contribute to coordination mechanisms by EIOPA to mitigate potential arbitrage. In addition, national market-conduct legislation, such as the ban on inducement regulation or product development process legislation, faces challenges given that products offered by financial institutions outside of the Netherlands are excluded from the regulations' scope. The authorities should consider widening the regulations to cover all products offered in the Netherlands, regardless of the location of the provider, and establish mechanisms to credibly enforce national market conduct regulation with regard to FOS operations.

36. The prudential regulation for pension funds was updated in 2015 but further improvements are necessary. Under the new regulation, premium contributions that do not cover the corresponding accrued benefits are allowed. An important part of the pension sector is affected by this situation. Furthermore, while the regulation provides a tighter description of the existing norm of the prudent person principle, it is far less detailed when compared to the equivalent definition under Solvency II. Additional guidance on the prudent person regime will increase supervisory powers to intervene in excessive risk taking, which is especially important for the smaller pension funds. Finally, the prescribed time horizon for the feasibility test required by the supervisor of 60 years dilutes the informative power of this tool and another set of projections based on a shorter projection horizon is recommended.

37. Aspects of the pension law should be strengthened. Public access to professional investment advice might become more difficult in view of the recent introduction of a ban on inducement payments to independent financial advisers and intermediaries for selling complex financial products. The requirements for advice provided by a pension fund regulated under the

pension law are less stringent than those which apply to banks and insurers. Furthermore, no rules on the amount of costs or the suitability of the product are incorporated into the pensions law. The pension law also does not require supervision of service providers to which activities of pension funds have been outsourced and direct oversight of their governance and staff qualifications at group level should be considered.

Securities market

38. While the Dutch regime for supervision of CIS, auditors, and market-based finance is comprehensive, some enhancements would further strengthen the system. The supervisors have the key powers necessary to carry out their responsibilities, but some additional authority would enhance the effectiveness of the system, including addressing the operational independence issues raised above. The supervisors already have some authority to supervise the small but growing crowd-funding sector, but to ensure they have sufficient authority to supervise effectively, it would be helpful to add general provisions regarding loan-based crowd-funding platforms to the legislation that would allow the authorities to develop more detailed requirements to respond quickly to developments.

39. The Dutch regime for audits and auditor oversight works well in practice but could be strengthened. Independence rules for audit firms and auditors are extensive and exceed the minimums set under EU law in several key areas, such as strict separation between providing audit and non-audit services and rotation requirements. The AFM is responsible for the oversight of the audit profession regarding the performance of statutory audits and carries out its responsibilities directly and through arrangements with two professional associations. The overall effectiveness of the oversight system could be improved by additional attention being devoted to on-site reviews of the smaller audit firms that audit public companies and financial institutions and to ensuring that the AFM controls the scope and other key details of the reviews conducted by the professional associations. Additional transparency with respect to changes in auditors of public companies is warranted.

40. The CIS supervisory regime is comprehensive but could be enhanced. Depositaries are key in protecting CIS assets from the failure of the manager or other parties. Ideally they should be completely independent of the fund manager, but related depositaries are permitted under the relevant EU directives. Consideration should be given to assessing the risks arising from the use of related depositaries and to imposing additional safeguards. The authorities should work to improve the information provided to ESMA on the positions of alternative investment funds (AIFs) and ensure the scope of the reporting obligations under the AIF Managers Directive (AIFMD) is complete. They should also work for enhanced international exchange of information. The supervisors' ability to assess risks of AIFs and other investment funds would also be enhanced by adopting a globally harmonized method for calculating fund leverage.

Financial market infrastructures

41. The supervision of financial market infrastructures (FMIs) in the Netherlands has been significantly strengthened. The European Market Infrastructure Regulation (EMIR) introduced legally binding regulatory requirements for central counterparties (CCPs) located in the Netherlands. The authorities have also adopted the CPMI-IOSCO Principles for Financial Market Infrastructures (PFMI) in their oversight and supervision of central securities depositories (CSDs), securities settlement systems (SSS) and systemically important payment systems. There are two CCPs (EuroCCP and ICE Clear Netherlands B.V.) and one central CSD/ SSS domiciled in the Netherlands (Euroclear Netherlands). Most FMIs in the Netherlands are jointly regulated, supervised, and overseen by the AFM and DNB.

42. Recovery planning is needed. The Netherlands currently does not have a resolution regime for FMIs. The supervisors should ensure that the CCPs develop comprehensive recovery plans, ahead of the EU legislation on CCP recovery and resolution expected to be introduced at the EU level. Once, the EU legislation in in place, the authority given the responsibility for CCP resolution should establish crisis management groups for the two Dutch CCPs.

43. Some aspects of the generally robust oversight and the risks management arrangements of EuroCCP could be strengthened. The DNB should review the allocation of supervisory resources across FMIs to ensure that it reflects relative risks. EuroCCP is highly interconnected, and its failure would have significant financial stability consequences for European financial markets as a whole and reputational risk for the Netherlands. Accordingly, relatively more staff resources and time should be devoted to EuroCCP. EuroCCP monitors risks from new trades, price movements and settlement of trades in real-time, and reviews its margin and stress testing models on a monthly basis. This monthly review process should be strengthened. In particular, EuroCCP should enhance its reverse stress tests to consider a wider set of market price scenarios and combinations of participant defaults that would exhaust its financial resources. EuroCCP should also enhance and expand the scenarios it uses in its daily stress testing, conduct sensitivity analysis to examine the parameters and assumptions in its stress test model and increase the attention on and scope of the sensitivity analysis of its margin model.

Anti-Money Laundering and Combating the Financing of Terrorism (AML/CFT)

44. The Netherlands has made significant progress to bring its AML/CFT legal and regulatory framework in line with the revised FATF standard. Amendments to the AML/CFT legislation in 2013 established a direct obligation to identify the "ultimate beneficial owner" including for legal persons and arrangements. A legislative requirement that entities obtain and hold adequate, accurate and current information on beneficial ownership is expected to enter into force in July 2017. More recently, and in light the requirements imposed by the UNSCR, Netherlands adjusted its terrorist financing offence in line with the revised FATF standard, and the United Nations Security Council Resolution. The authorities are at the initial stages of conducting an assessment of the ML/TF risks in Netherlands and have designated a government entity to conduct national assessments of ML/TF threats and vulnerabilities.

FINANCIAL SAFETY NETS

45. Arrangements for managing failing banks have undergone fundamental change and remain a work in progress. Under the SSM, the ECB is responsible for early intervention and recovery planning for Dutch SIs. The SRB is responsible, under the SRM, for ensuring effective resolution of SIs (along with another Dutch bank with operations in other EA countries). The DNB, as the national resolution authority, is responsible for the resolution of LSIs and for supporting the SRB with respect to SI resolution. The SRB's decision-making structure is complex and should be streamlined to ensure timely decision making for resolution of banks within its purview. Moreover, the roles of the SRB and ECB in planning for and managing a domestic systemic banking crisis (as opposed to an individual bank failure) are yet to be defined. At the national level, the Dutch authorities should ensure that domestic crisis management arrangements are up-to-date and appropriate to the new institutional environment. Ultimately, a formal coordination framework for crisis management involving the Dutch authorities, the ECB and the SRB should be developed. These arrangements should be tested periodically, at some stage, with involvement from the SRB and ECB. The Dutch authorities should also enhance the clarity of the resolution framework. The patchwork approach taken to incorporate the EU legislation into Dutch law impedes transparency. To add to the complexity, legacy frameworks for managing failing banks (i.e., the "Emergency Rule" and the "Intervention Act") coexist with the new arrangements.[27] Overlapping triggers, tools and responsibility for action contribute to a lack of legal certainly as to which rules apply and when. As regards ELA, adequate arrangements for the provision of ELA in euro and other currencies by the DNB are in place.

46. The Dutch authorities are making significant progress in recovery and resolution planning though impediments remain. For the largest and most complex banks, whole bank bail-in may be the preferred resolution strategy. A key impediment to this approach across the EU is the lack of debt that can be feasibly and credibly bailed-in to absorb losses and recapitalize the bank in resolution. Even when a solution emerges, meeting the minimum requirements for eligible liabilities that can be bailed-in may take years. In some banks, this may constitute a transition risk for the execution of a preferred resolution strategy and require a fallback resolution strategy. For other banks, the resolution strategy may include the transfer of critical functions to a private purchaser or to a bridge bank. To facilitate such an approach, the Dutch and European authorities need to address potential constraints on the use of transfer powers resulting from the Bank Recovery and Resolution Directive (BRRD), including a legal interpretation that could limit flexibility in the use of deposit insurance funds in resolution and uncertainty over the ability to depart from pari passu treatment of creditors outside of bail-in. The Dutch authorities should also continue efforts to ensure they can make operational a bridge bank on short notice.

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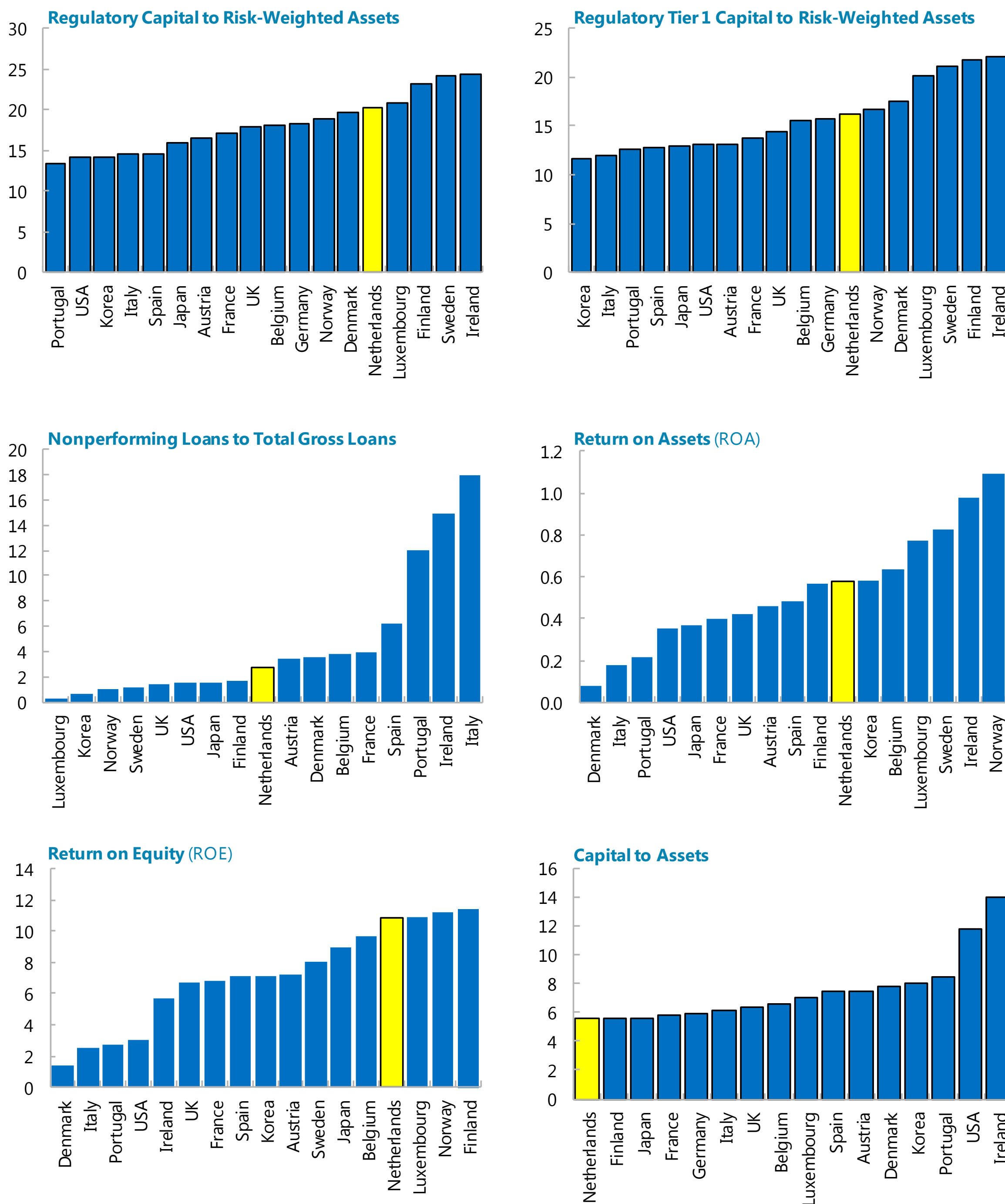
[27] The authorities are considering repealing the "Emergency Rule."

47. An ex ante funded deposit guarantee scheme (DGS) was adopted in 2015 and should be strengthened. Even when fully funded the target balance of the fund will be insufficient to finance the payout of deposits in some of the larger LSIs. However, backstop funding arrangements, including the ability to impose extraordinary premiums on banks and a documented line of credit from the MoF are in place. The Dutch authorities should commit publically to their intent of reducing the maximum payout period from 20 to 7 business days by 2019,[28] and amend national legislation to allow the DGS to finance deposit transfers in insolvency**.**

[28] The seven-day payout period has been incorporated already into Dutch las, to be implemented by 2019.

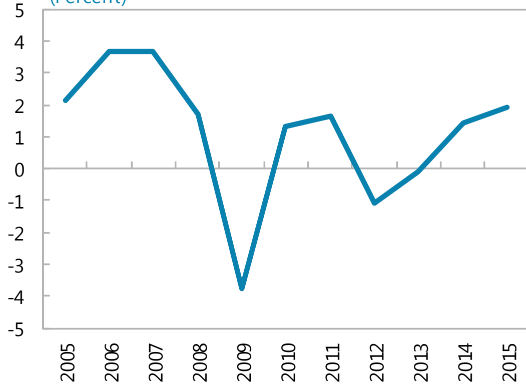
Figure 1. Netherlands: Financial Soundness Indicators in the Banking System
(Latest available; in percent)



Source: IMF Financial Soundness Indicators Database.

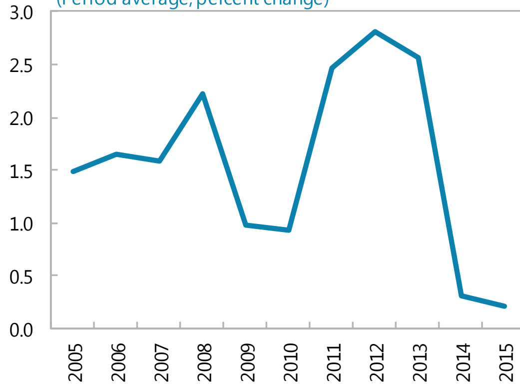
Figure 2. Netherlands: Macrofinancial Developments, 2005–15

The Netherlands experienced a double-dip recession...

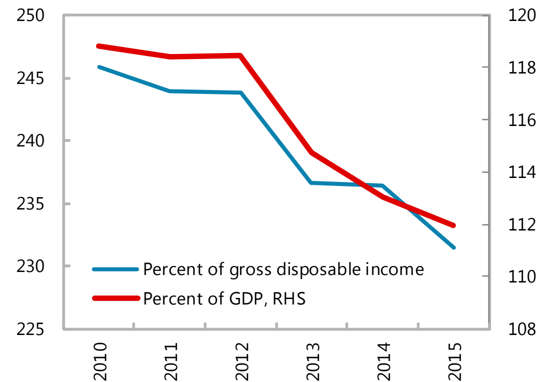


... with marked adverse consequences on the labor market.

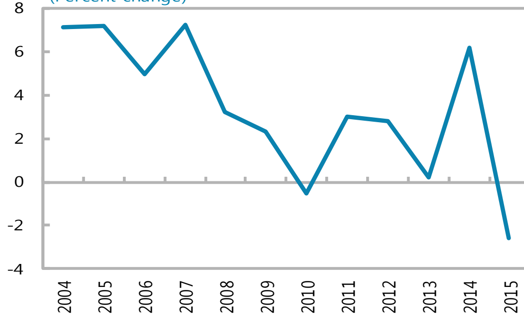
Price developments have become sluggish recently...



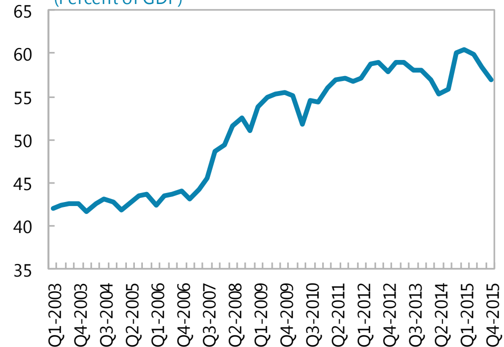
... limiting the pace of household deleveraging, from very high levels.



Credit growth has trailed economic activity...



... notably in the NFC sector.

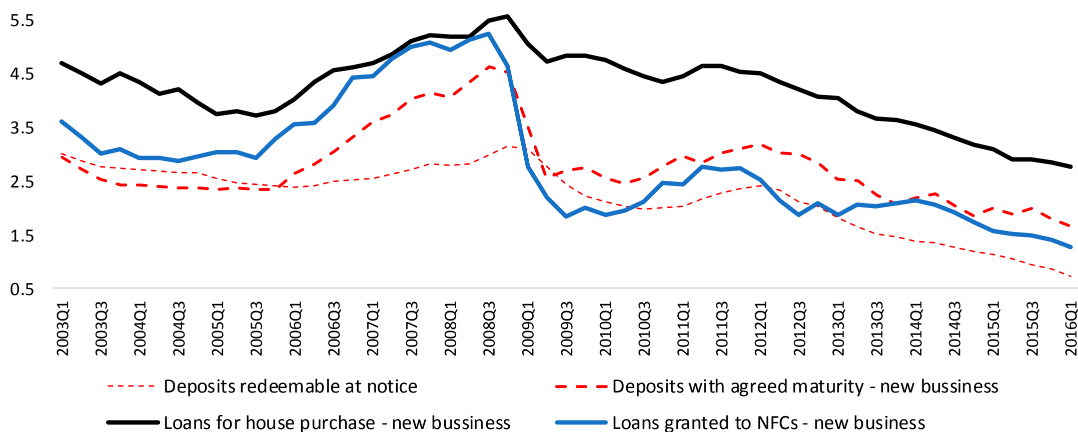


Sources: DNB; and IMF staff calculations.

Figure 3. Netherlands: Interest Rate Developments and Impact on Bank Profitability

Interest Rates on Deposits and Loans to Households and NFCs (new business)

(In percent)



Interest Rate Spread between Mortgage Loans and Deposits

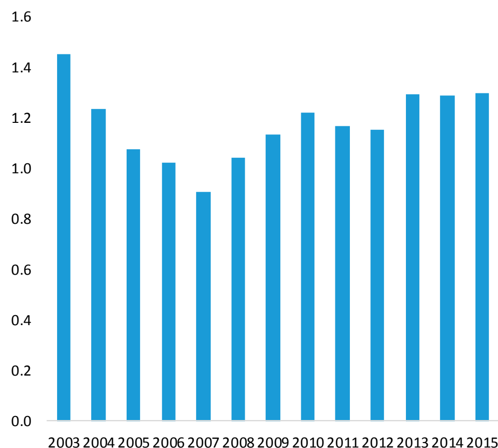
(In percentage points)

Outstanding Amounts of Mortgage and Corporate Loans

(In millions of euros)

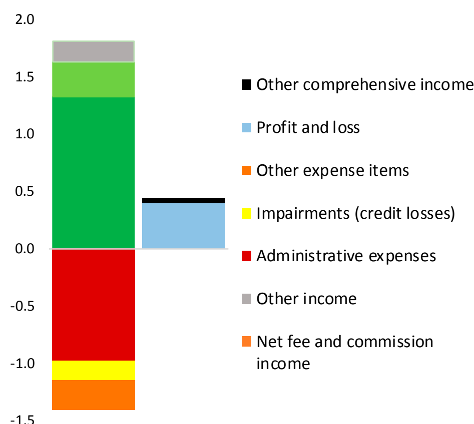
Net Interest Income to Total Assets Ratio

(In percent)



Banking System Profitability in 2015

(In percent)

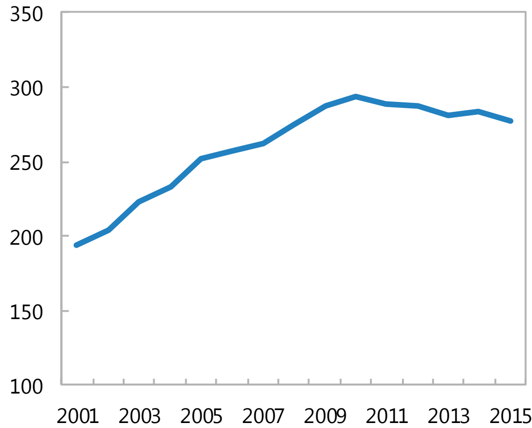


Sources: DNB; and IMF staff calculations.

Figure 4. Netherlands: Balance Sheet Developments in the Household Sector

Dutch households remain highly leveraged…

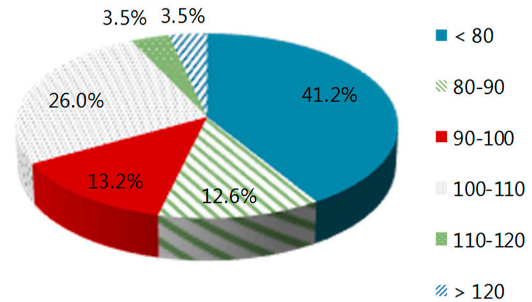
Netherlands: Household Debt
(Percent of net disposable income)



Source: OECD.

…given the continued practice of low mortgage down payments.

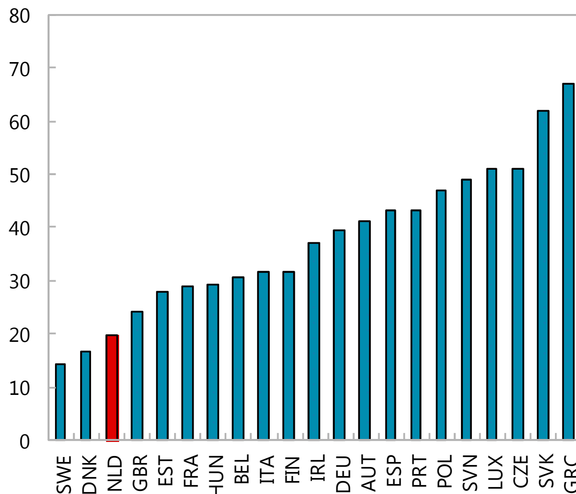
Household Loan-to-Value Ratios of New Mortgage Loans
(Percent, at end-2015)



Source: DNB.

Households tend to be liquidity constrained…

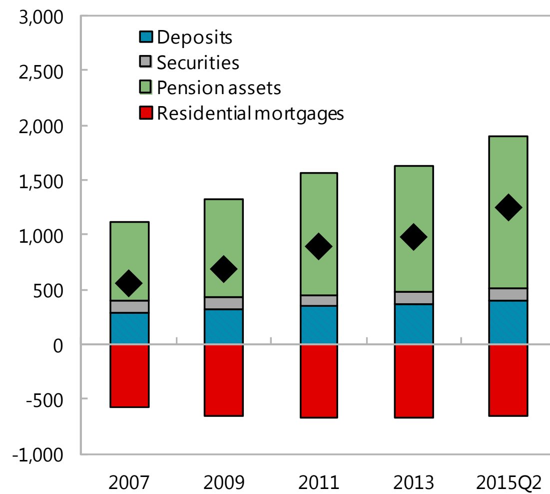
Households: Currency Deposits to Total Financial Assets, 2014 (percent)



Sources: OECD; and IMF staff calcuations.

…with most net wealth in the form of pension assets.

Households: Assets and Liabilities, 2015
(Billions of euros)

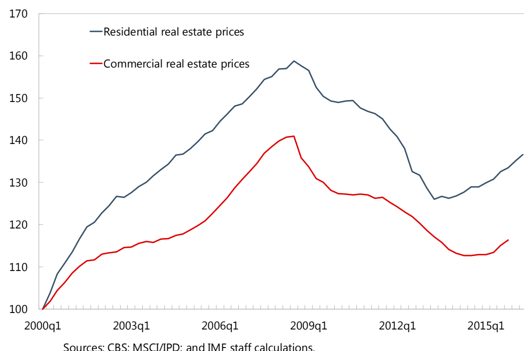


Sources: DNB; and IMF staff calculations.

Figure 5. Netherlands: Real Estate Market Developments

Real estate markets have been bouncing back from their lows…

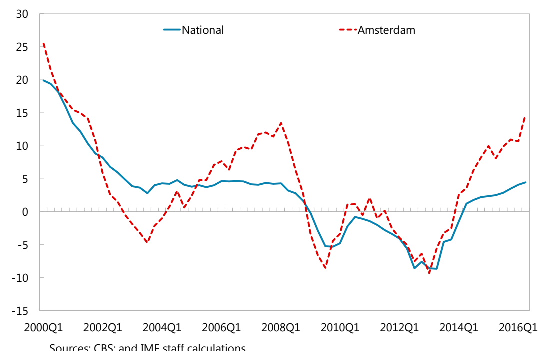
Property Prices
(Index, 2000Q1=100)



Sources: CBS; MSCI/IPD; and IMF staff calculations.

…most rapidly in Amsterdam, prompting the need for close monitoring.

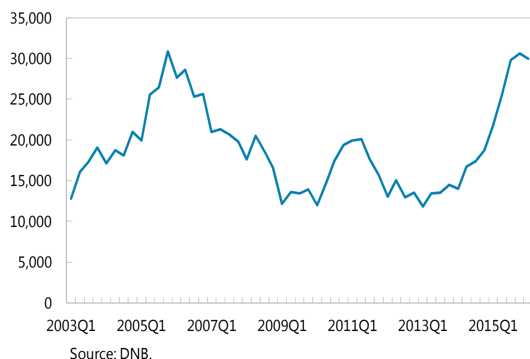
House Price Growth Rates
(Percent, y-o-y, nominal)



Sources: CBS; and IMF staff calculations.

The volume of new mortgage loans has slightly surpassed the pre-crisis peak.

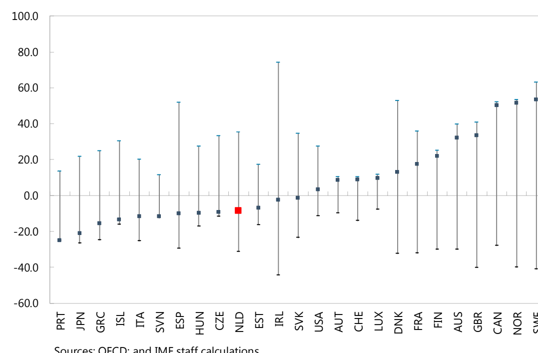
New Mortgage Loans
(Millions of euro)



Source: DNB.

However, standard overvaluation metrics suggest that housing market is slightly undervalued.

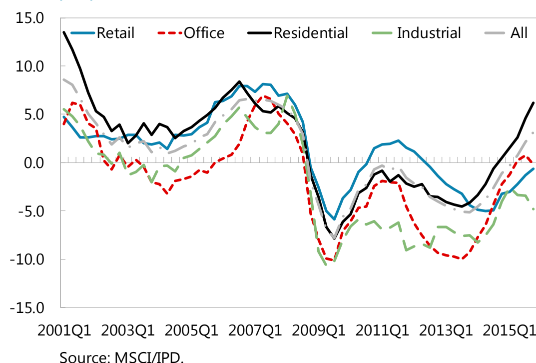
Price-to-Rent Ratio
(Percentage deviation from historical mean, max and min during 1995Q1-2015Q2)



Sources: OECD; and IMF staff calculations.

Commercial real estate prices have been partially rebounded, but…

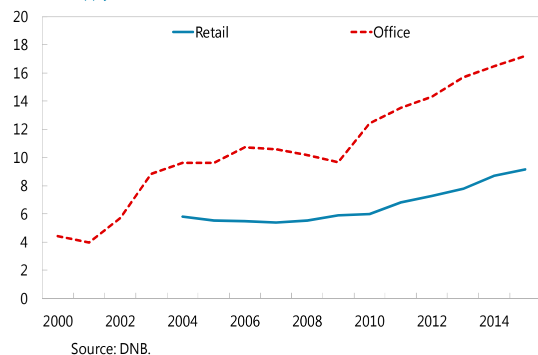
Price Growth
(Percent, y-o-y)



Source: MSCI/IPD.

… momentum is still weak with increasing vacancy rates in the office and retail sector.

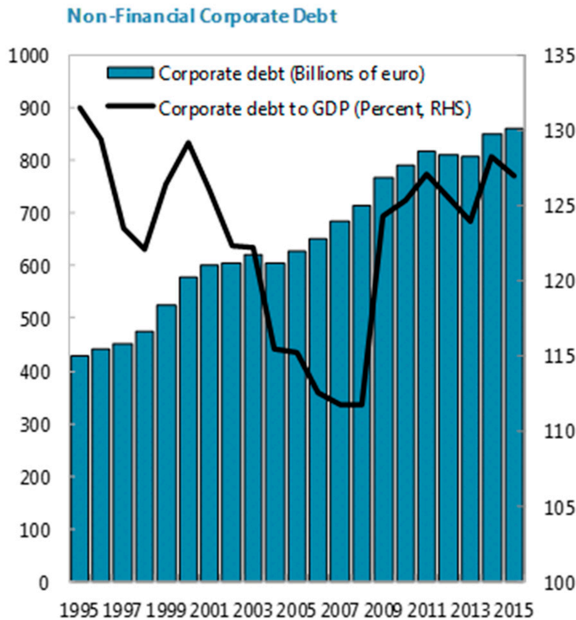
CRE Vacancies
(Percent of supply)



Source: DNB.

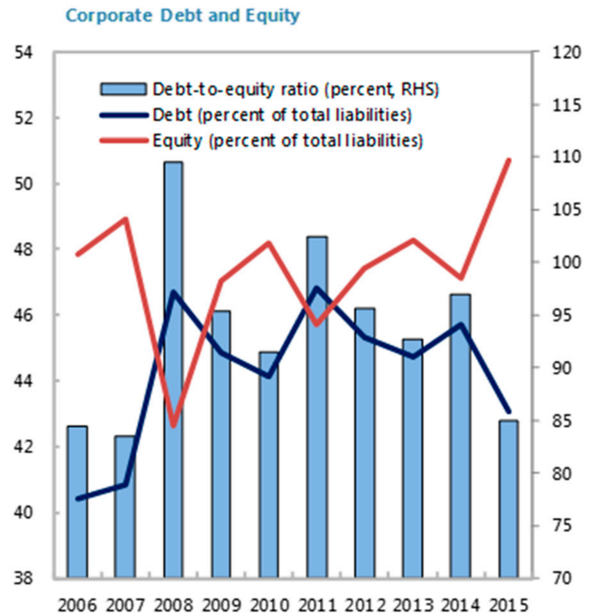
Figure 6. Netherlands: Balance Sheet Developments in the Nonfinancial Corporate Sector

Corporate debt has stabilized at relatively high levels…



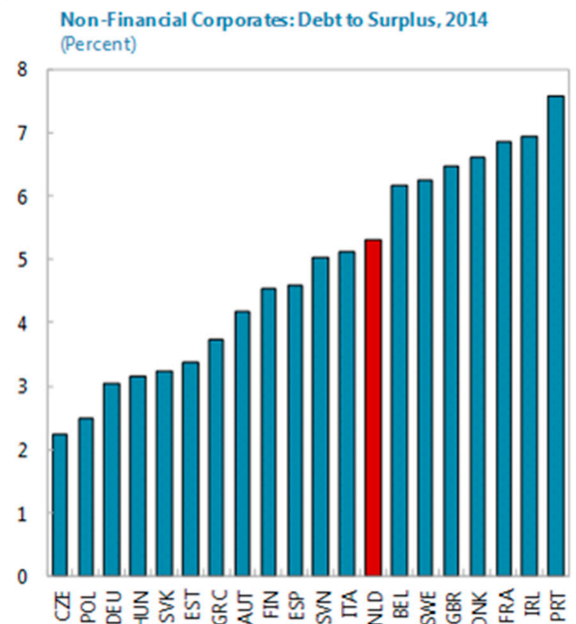
Sources: CBS and IMF staff calculations.

…but debt-to-equity ratios have improved in the aftermath of the financial crisis.



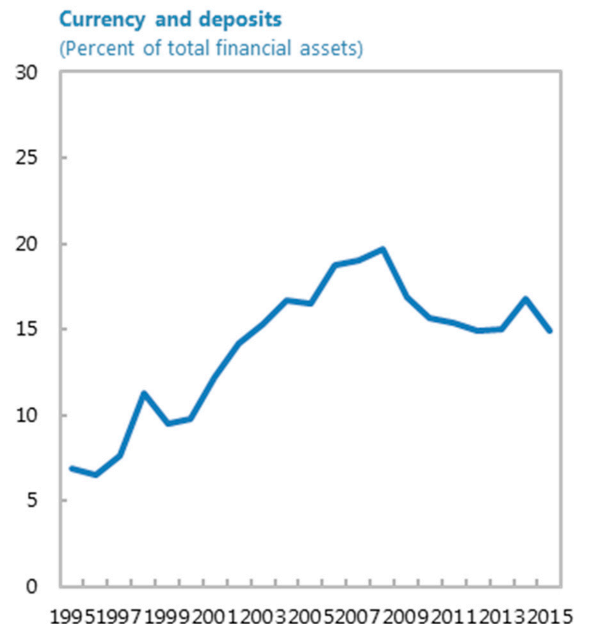
Sources: CBS and IMF staff calculations.

The debt-servicing capacity of Dutch firms is in line with EU peers…



Sources: OECD; and IMF staff calculations.

… while liquidity buffers have been preserved.

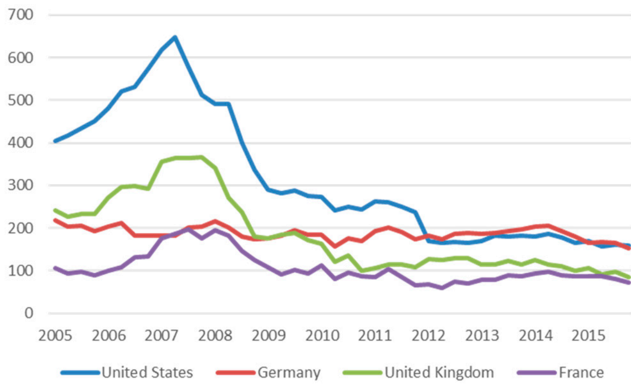


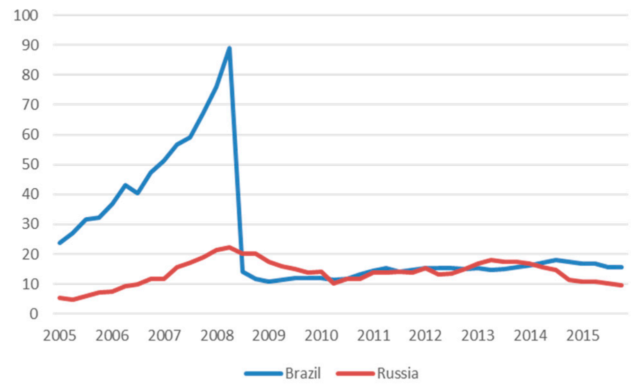
Sources: CBS and IMF staff calculations.

Figure 7. Netherlands: Evolution of Cross-Border Exposures

Evolution of Dutch Banks' Claims in Foreign Countries

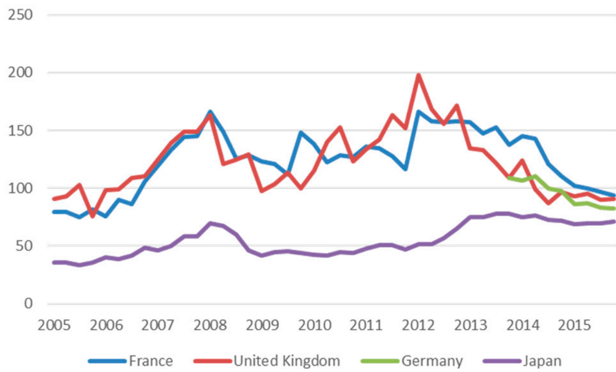
(In billions of U.S. dollars)

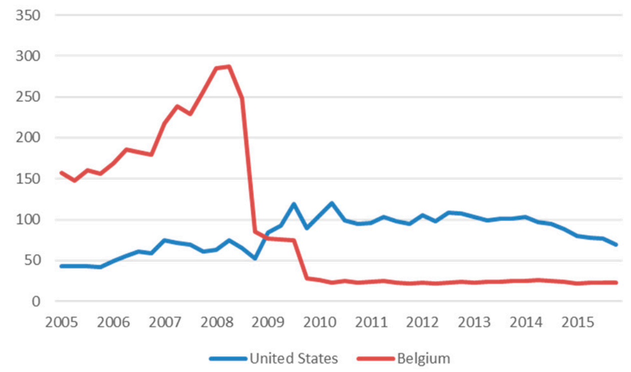




Evolution of Foreign Banks' Claims in The Netherlands

(In billions of U.S. dollars)

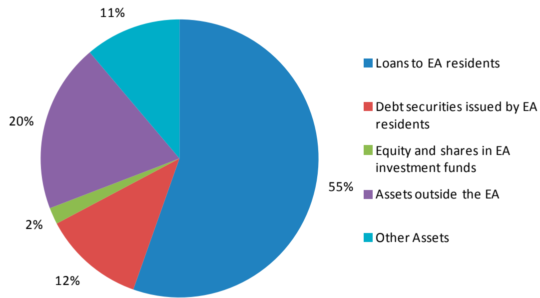




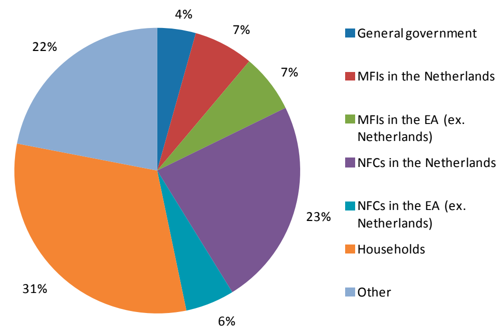
Sources: BIS consolidated banking statistics (Ultimate risk basis); and IMF Staff calculations.

Figure 8. Netherlands: Assets of Banks, 2015: Second Quarter

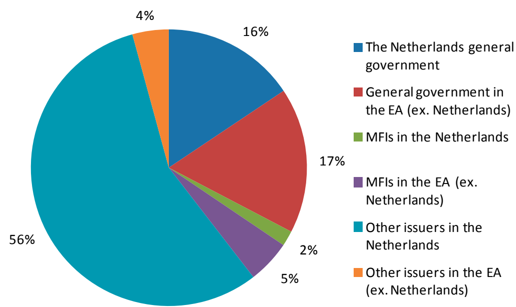
a) Total assets, breakdown by type and residency of counterpart



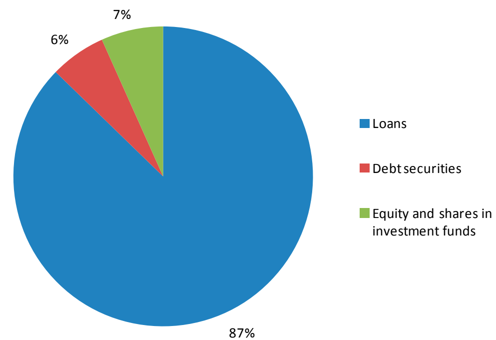
b) Assets, loans to EA residents by institutional sector



c) Assets, holdings of debt securities issued by EA residents

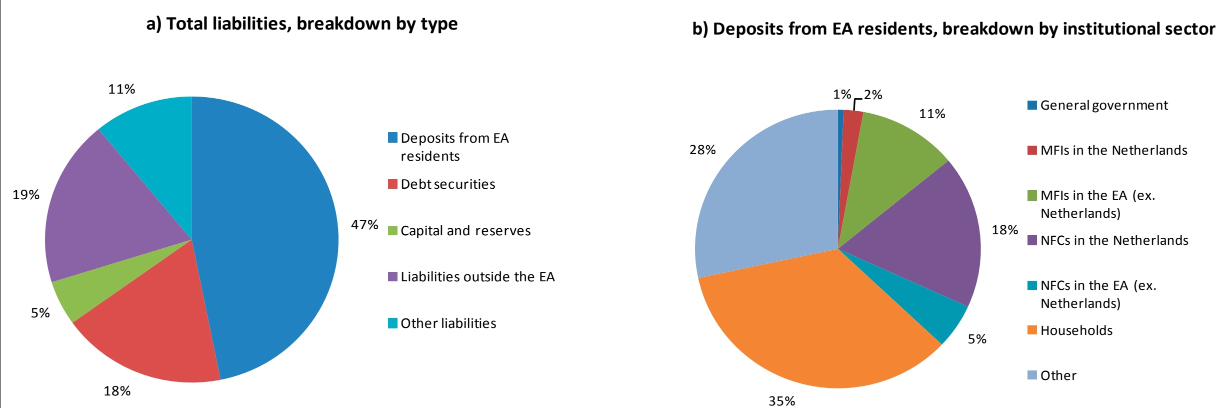


d) Assets outside the EA



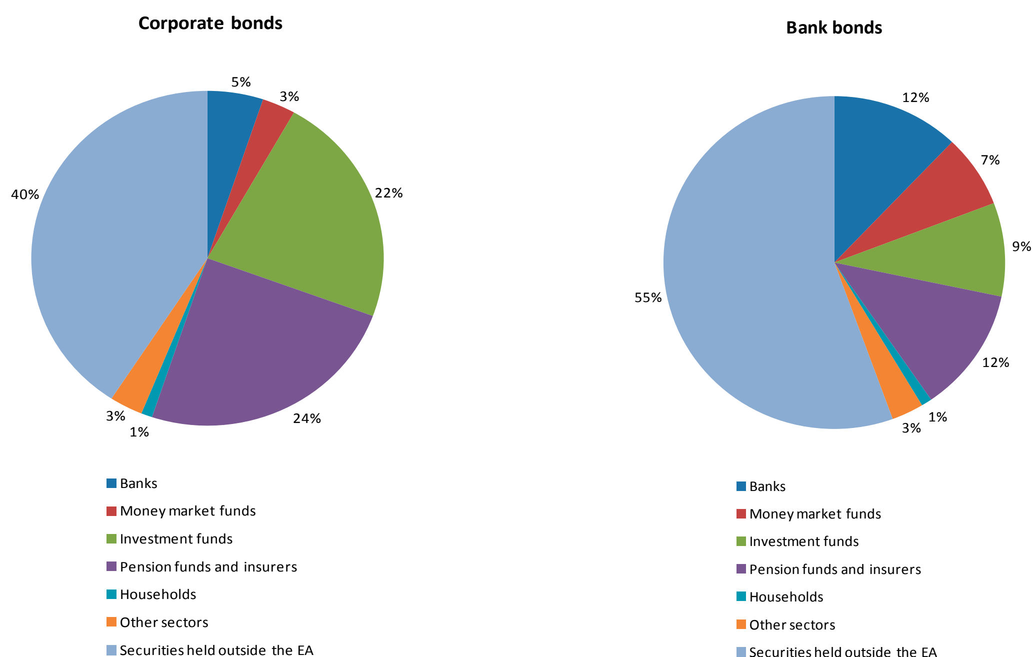
Sources: DNB; and ECB.

Figure 9. Netherlands: Liabilities of Banks, 2015: Second Quarter



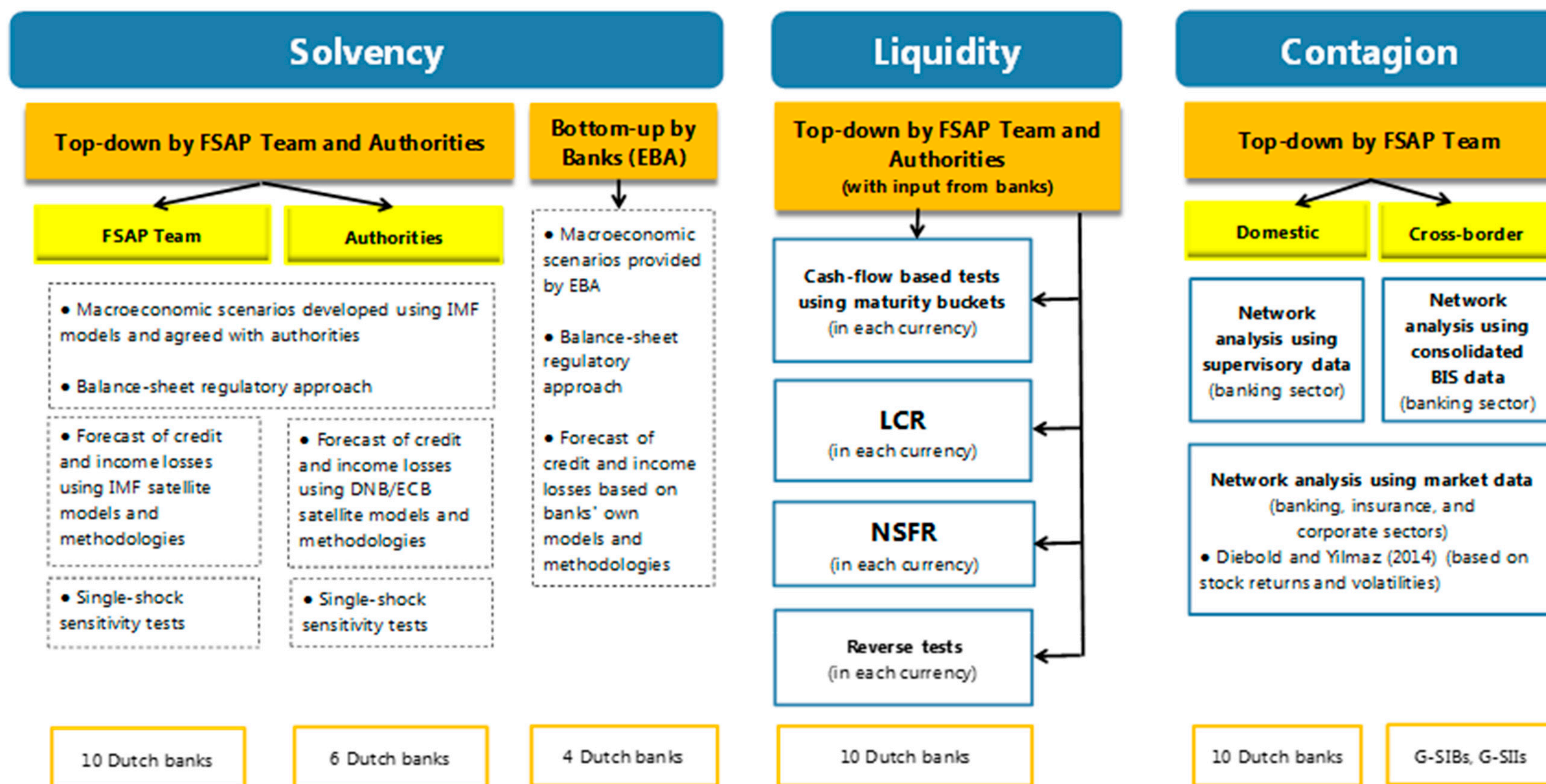
Sources: DNB; and ECB.

Figure 10. Netherlands: Holders of Securities Issued by Dutch Corporations and Banks, 2015: Second Quarter



Sources: DNB; and OFS Autumn 2015.

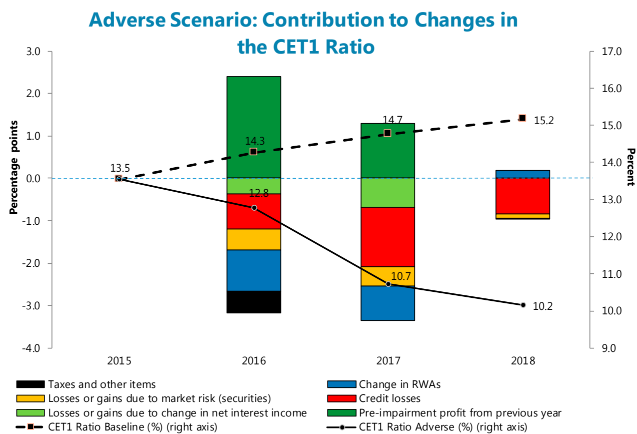
Figure 11. Netherlands: Summary of Stress Tests



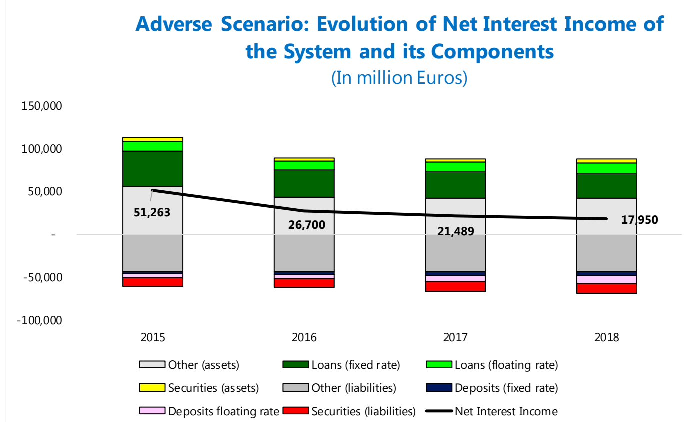
Source: IMF staff.

Figure 12. Netherlands: Results of the Solvency Stress Tests for the Banking System

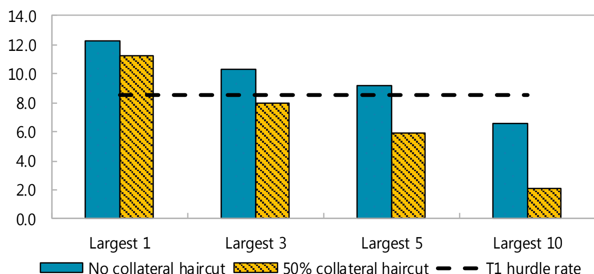
Capital ratios deteriorate in the stress scenarios ...



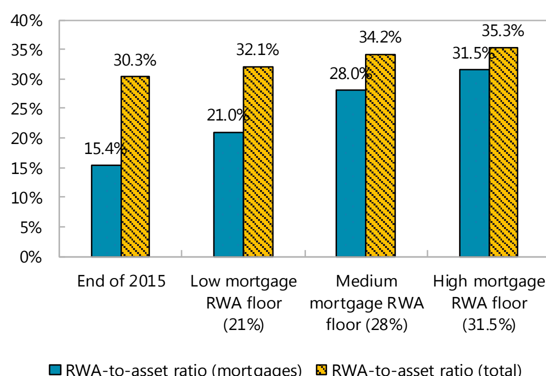
... mainly due to a combination of higher credit losses and lower net interest income....



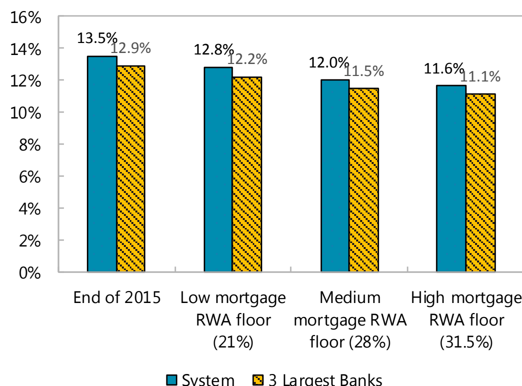
Concentration tests show that banks are vulnerable to default of 3 or more of the largest borrowers if a 50% haircut is used



An introduction of a floor to RWA for mortgages increases RWA overall...



... and leads to reduction in capital ratios



Source: IMF staff calculations.

Table 2. Netherlands: Structure of the Financial System

	First Quarter 2010				First Quarter 2016				
	Number	Assets (in billions of euro)	Percent of total assets	Percent of GDP	Number	Assets (in billions of euro)	Increase since 2010 (in %)	Percent of total assets	Percent of GDP
Banks	**124**	**2,290**	**58**	**400**	**97**	**2,605**	**14**	**50**	**385**
Insurers	**327**	**397**	**10**	**69**	**190**	**505**	**27**	**10**	**75**
Life and funeral insurers	93	321			44	419			
Non-life insurers	217	67			136	79			
Reinsurers	17	9			10	7			
Pension funds	**559**	**776**	**20**	**136**	**304**	**1,330**	**71**	**26**	**197**
Investment funds	**1,409**	**513**	**13**	**90**	**1,832**	**767**	**50**	**15**	**113**
Total Financial system	**2,419**	**3,976**	**100**	**695**	**2,423**	**5,207**	**31**	**100**	**770**

Source: DNB.

Table 3. Netherlands: Banks' Financial Soundness Indicators, 2013–15

(In percent)

	2013Q2	2013Q3	2013Q4	2014A1	2014Q1	2014Q2	2014Q3	2014Q4	2015A1	2015Q1	2015Q2	2015Q3	2015Q4
Regulatory Capital to Risk-Weighted Assets	14.3	14.9	14.9	17.9	17.3	17.3	17.5	17.9	20.1	18.7	18.8	20.0	20.1
Regulatory Tier 1 Capital to Risk-Weighted Assets	12.4	12.8	12.5	15.0	14.1	13.7	14.7	15.0	16.2	15.3	15.4	16.0	16.2
Non-performing Loans Net of Provisions to Capital	48.2	46.3	50.4	40.0	51.5	47.2	39.5	40.0	35.2	38.4	39.6	37.0	35.2
Non-performing Loans to Total Gross Loans	3.0	3.0	3.2	3.0	3.2	3.0	2.9	3.0	2.7	2.8	2.8	2.7	2.7
Sectoral Distribution of Total Loans: Residents	70.8	70.2	70.2	66.1	67.8	65.9	64.5	66.1	64.4	63.0	64.0	64.4	64.4
Sectoral Distribution of Total Loans: Deposit-takers	0.9	1.0	1.2	0.8	1.0	0.7	0.8	0.8	0.8	0.9	0.6	0.8	0.8
Sectoral Distribution of Total Loans: Central bank	5.9	5.1	4.1	2.4	3.7	1.7	1.0	2.4	5.8	1.7	3.9	5.3	5.8
Sectoral Distribution of Total Loans: Other financial	13.4	13.9	13.0	13.0	12.7	13.4	13.5	13.0	12.4	12.4	12.4	12.3	12.4
Sectoral Distribution of Total Loans: General government	3.4	3.3	3.6	3.3	3.5	3.4	3.4	3.3	3.2	3.5	3.3	3.3	3.2
Sectoral Distribution of Total Loans: Nonfinancial corporations	20.7	20.4	20.6	20.2	20.0	19.7	19.3	20.2	16.9	19.3	18.4	17.9	16.9
Sectoral Distribution of Total Loans: Other domestic sectors	26.6	26.5	27.7	26.3	26.9	27.0	26.5	26.3	25.3	25.2	25.4	25.0	25.3
Sectoral Distribution of Total Loans: Nonresidents	29.2	29.7	29.8	33.9	32.2	34.1	35.5	33.9	35.6	37.0	36.0	35.6	35.6
Return on Assets	0.3	0.4	0.3	0.3	0.3	0.4	0.4	0.3	0.6	0.4	0.5	0.6	0.6
Return on Equity	6.9	9.2	6.2	6.6	6.7	7.8	8.0	6.6	10.9	7.2	10.3	12.0	10.9
Interest Margin to Gross Income	65.7	66.3	82.8	77.7	73.2	75.1	74.5	77.7	73.5	70.3	65.6	77.4	73.5
Non-interest Expenses to Gross Income	66.8	66.3	108.5	84.4	82.8	76.3	73.2	84.4	77.9	88.7	61.5	52.8	77.9
Liquid Assets to Total Assets (Liquid Asset Ratio)	23.7	23.7	23.6	21.1	21.3	22.1	21.3	21.1	22.8	21.2	22.6	22.9	22.8
Liquid Assets to Short Term Liabilities	166.8	167.6	180.3	162.5	158.4	165.5	162.1	162.5	169.7	153.4	157.8	166.0	169.7

Source: IMF Financial Soundness Indicators Database.

Table 4. Netherlands: Selected Economic Indicators, 2013–17

	2013	2014	2015	2016 Proj.	2017 Proj.
National accounts (percent change)					
Gross domestic product	-0.2	1.4	2.0	1.7	1.6
Private consumption	-1.0	0.3	1.8	1.9	1.9
Public consumption	-0.1	0.3	0.2	1.2	1.2
Gross fixed investment	-4.2	2.3	9.9	5.0	4.0
Total domestic demand	-1.4	0.9	2.3	2.1	2.2
Exports of goods and nonfactor services	2.1	4.5	5.0	3.5	2.8
Imports of goods and nonfactor services	1.0	4.2	5.8	4.3	3.7
Net foreign balance 1/	1.0	0.7	0.0	-0.2	-0.3
Output gap (percent of potential output)	-4.4	-3.5	-2.6	-1.9	-1.4
Prices, wages, and employment					
Consumer price index (HICP)	2.6	0.3	0.2	0.2	0.9
GDP deflator	1.4	0.1	0.1	0.4	1.3
Hourly compensation (manufacturing)	1.6	2.9	1.5	1.2	2.2
Unit labor costs (manufacturing)	4.3	0.8	0.5	0.2	1.1
Employment (percent)					
Unemployment rate	7.3	7.4	6.9	6.6	6.4
NAIRU	6.3	5.4	5.2	5.2	5.4
External trade					
Merchandise balance (percent of GDP)	11.8	11.9	11.6	11.1	10.7
Current account balance (percent of GDP)	10.1	9.5	9.2	9.1	8.1
General government accounts (percent of GDP)					
Revenue	43.9	43.9	43.3	43.3	43.3
Expenditure	46.3	46.2	45.1	44.9	44.3
Net lending/borrowing	-2.4	-2.4	-1.8	-1.6	-1.0
Primary balance	-0.9	-0.9	-0.5	-0.4	0.0
Structural balance 2/	-0.4	-0.7	-0.7	-0.8	-0.4
Structural primary balance 2/	1.5	1.3	1.2	0.8	0.9
General government gross debt	67.7	68.2	65.3	65.0	63.7

Sources: Dutch official publications, IMF, IFS, and Fund staff calculations.
1/ Contribution to GDP growth.
2/ In percent of potential GDP.

Table 5. Netherlands: NFC Sector Balance Sheet and Profit and Loss Developments, 2009–15

Return on Equity (ROE) of Non-Financial Corporations by Firm Size
(median, percent)

	2009	2011	2013	2015
Domestic firms	13.4	12.9	11.0	16.4
Small	11.8	11.7	10.8	16.5
Medium	14.5	13.6	10.7	17.9
Large	13.4	13.7	12.2	14.4
Foreign firms	9.2	11.4	9.0	11.7
Small	5.0	6.9	4.2	7.3
Medium	12.4	14.7	11.7	14.3
Large	12.3	13.2	11.4	14.3

Return on Equity (ROE) of Domestic Non-Financial Corporations by Firm Sector
(median, percent)

	2009	2011	2013	2015
Total	12.6	12.6	10.6	15.3
Agriculture	11.5	13.8	9.7	15.8
Manufacturing	17.3	17.8	14.4	14.3
Trade	18.2	19.9	14.9	17.3
Information	24.7	22.5	15.4	17.3
Finance	13.1	11.7	10.9	18.5
Housing	7.0	6.2	4.8	9.0
Services	16.2	14.4	12.8	18.8
Other	12.6	12.5	7.6	9.1

Liquidity Ratio of Non-Financial Corporations by Firm Size 1/
(median, times)

	2009	2011	2013	2015
Domestic firms	2.1	2.3	2.4	2.0
Small	2.5	2.6	2.8	2.6
Medium	1.0	1.0	1.0	1.1
Large	1.0	1.0	1.0	1.0
Foreign firms	1.2	1.2	1.2	1.2
Small	1.2	1.3	1.3	1.4
Medium	1.2	1.1	1.2	1.2
Large	1.1	1.1	1.1	1.1

1/ (Current Assets - Stocks) / Current Liabilities

Liquidity Ratio of Domestic Non-Financial Corporations by Firm Sector 1/
(median, times)

	2009	2011	2013	2015
Total	2.1	2.2	2.2	1.9
Agriculture	1.3	1.4	1.2	1.2
Manufacturing	1.2	1.2	1.2	1.2
Trade	1.3	1.3	1.3	1.2
Information	1.8	1.7	1.8	1.4
Finance	2.4	2.6	2.7	2.6
Housing	1.5	1.6	1.7	1.5
Services	2.4	2.5	2.5	2.3
Other	1.5	1.7	1.8	1.5

1/ (Current Assets - Stocks) / Current Liabilities

Debt-to-Equity Ratio of Non-Financial Corporations by Firm Size
(median, times)

	2009	2011	2013	2015
Domestic firms	0.6	0.6	0.6	0.5
Small	0.7	0.8	0.7	0.7
Medium	0.6	0.6	0.5	0.4
Large	0.6	0.5	0.5	0.5
Foreign firms	0.4	0.4	0.4	0.5
Small	0.4	0.4	0.5	0.5
Medium	0.3	0.4	0.4	0.4
Large	0.5	0.4	0.5	0.5

Debt-to-Equity Ratio of Domestic Non-Financial Corporations by Firm Sector
(median, times)

	2009	2011	2013	2015
Total	0.6	0.5	0.5	0.5
Agriculture	1.1	1.1	1.3	1.2
Manufacturing	0.5	0.4	0.4	1.2
Trade	0.3	0.3	0.3	1.2
Information	0.3	0.3	0.2	0.4
Finance	0.6	0.6	0.5	0.5
Housing	1.8	1.9	1.1	0.5
Services	0.6	0.4	0.6	0.4
Other	0.6	0.8	0.9	1.1

Sources: ORBIS; and IMF staff calculations.

Table 6. Netherlands: Macroeconomic Baseline and Adverse Scenarios for Stress Tests

		Paths in Stress Period		
	2015	2016	2017	2018
Real GDP growth (in percent change)				
Baseline	**2.0**	**1.7**	**1.6**	**1.9**
Contribution of common EA layer		-1.1	-4.0	-1.4
Contribution of country-specific layer		-0.5	-1.3	-0.3
Adverse IMF	**2.0**	**0.1**	**-3.7**	**0.2**
Private consumption (in percent change)				
Baseline	**1.8**	**1.9**	**1.9**	**1.7**
Contribution of common EA layer		-0.8	-3.5	-1.8
Contribution of country-specific layer		-1.0	-2.8	-0.9
Adverse IMF	**1.8**	**0.1**	**-4.4**	**-1.0**
Private investment (in percent change)				
Baseline	**11.6**	**6.6**	**4.6**	**4.0**
Contribution of common EA layer		-1.6	-7.2	-5.6
Contribution of country-specific layer		-5.5	-14.3	-2.6
Adverse IMF	**11.6**	**-0.5**	**-16.9**	**-4.2**
Consumer price inflation rate (in percent)				
Baseline	**0.2**	**0.2**	**0.9**	**1.0**
Contribution of common EA layer		-0.2	-1.9	-3.0
Contribution of country-specific layer		0.0	-0.3	-0.5
Adverse IMF	**0.2**	**0.0**	**-1.4**	**-2.5**
Unemployment rate (in percent)				
Baseline	**6.9**	**6.6**	**6.4**	**6.1**
Contribution of common EA layer		0.4	1.8	2.0
Contribution of country-specific layer		0.2	0.5	0.5
Adverse IMF	**6.9**	**7.2**	**8.8**	**8.6**
Fiscal balance ratio (in percent)				
Baseline	**-1.8**	**-1.6**	**-1.0**	**-0.7**
Contribution of common EA layer		0.1	0.2	-0.1
Contribution of country-specific layer		-0.1	-0.6	-0.8
Adverse IMF	**-1.8**	**-1.7**	**-1.4**	**-1.5**

		Paths in Stress Period		
	2015	2016	2017	2018
Short term interest rate (in percent)				
Baseline	**0.0**	**-0.3**	**-0.4**	**-0.2**
Contribution of common EA layer		0.1	0.2	0.2
Contribution of country-specific layer		0.3	0.8	0.7
Adverse IMF	**0.0**	**0.1**	**0.7**	**0.7**
Long term interest rate (in percent)				
Baseline	**0.8**	**0.3**	**0.5**	**0.6**
Contribution of common EA layer		0.2	0.4	0.4
Contribution of country-specific layer		0.3	0.8	0.7
Adverse IMF	**0.8**	**0.8**	**1.6**	**1.7**
Mortgage interest rate (new business, in percent)				
Baseline	**2.9**	**2.5**	**2.0**	**1.6**
Contribution of common EA layer		0.0	0.1	0.1
Contribution of country-specific layer		0.2	0.4	0.4
Adverse IMF	**2.9**	**2.7**	**2.6**	**2.0**
Interest rate on corporate loans (in percent)				
Baseline	**1.7**	**1.3**	**1.3**	**1.5**
Contribution of common EA layer		0.0	0.1	0.1
Contribution of country-specific layer		0.2	0.4	0.4
Adverse IMF	**1.7**	**1.5**	**1.9**	**2.0**

Appendix I. Status of Key Recommendations of the 2011 FSAP Update

Recommendation	Status
Macroprudential Management	
Assign priority to developing macroprudential instruments.	**Fully implemented.** The CRR and CRD IV, which entered into force on January 1, 2014, provide the DNB (and the ECB) with a number of instruments: countercyclical capital buffer, sectoral capital requirements (e.g., risk weights, minimum loss given default (LGD) floors), G-SII and O-SII buffer, systemic risk buffer, Pillar 2 requirements, leverage ratio, and national flexibility measures. Liquidity measures, such as the liquidity coverage ratio (LCR) and the net stable funding ratio, are also incorporated in the CRR, as part of flexibility measures, and are subject to an observation period. The WFT, the Decree on Conduct of Business Supervision of Financial Undertakings, and a Ministerial Degree also allow the government to implement limits on LTV and DSTI ratios.
Announce maximum loan-to-value (LTV) ratios for new lending, and consider linking higher LTVs to higher capital ratios.	***Fully implemented.*** The 2011 Code of Conduct set the official limits on LTV ratio of residential mortgage loans at 106 percent (including costs such as stamp duties), which has been reducing by 1 percent per year until it reaches 100 percent by 2018. In May 2015, the FSC recommended further reduction of the LTV limits to 90 percent after 2018, by keeping up the current pace of 1 percentage point decrease per year. Cap on DSTI ratio was officially imposed on mortgage loans in 2013. Before 2013, the cap was part of a 'voluntary' Mortgage Code of Conduct. Higher risk weights are linked to higher LTV ratios in the CRR.
Provide supervisors with powers to vary the level of designated macroprudential instruments in response to developments.	***Fully implemented.*** As shown above, a range of macroprudential instruments is now available to the Dutch authorities with powers to calibrate them according to the level of systemic risks in the financial sector. Limits on LTV and DSTI ratios can also be changed via a Ministerial Decree.
Announce plans to reduce mortgage interest deductibility over the medium–term.	***Fully implemented.*** From January 2014, households taking out new mortgage loans will only be eligible for the mortgage interest deductibility (MID) only if they amortize mortgage loans within 30 years, and the MID rate has been reduced by 0.5 percentage point per year from 52 percent to 38 percent in 2042. However, the incentive to borrow the maximum mortgage amount has not disappeared with this policy measure.
Twin Peaks	
Provide the DNB and AFM greater discretion to put in place enforceable rules. The lack of sufficient rule making authority leads to ad hoc approaches that risk becoming arbitrary and subject to legal challenge.	***Not implemented.*** The DNB and AFM derive their rule making authority, from regulation that is determined by government (parliament). There is a well-structured and transparent process if the DNB or AFM are of the opinion that regulation is not sufficient and additional rules or powers are needed. In addition to regular, top-level discussions with the MoF (as prime responsible legislator), the DNB and AFM each year send a letter, which is made public, in which the DNB and AFM express their proposals for legislative changes that are deemed necessary for the conduct of their supervision. The Minister of Finance responds to these requests in a letter to Parliament (see latest version in link below). Increasingly, supervisory rules are determined by directly

	applicable European regulation (CRR or binding technical standards by EBA) based on maximum harmonization. While the DNB and the AFM have rule making powers, the MoF plays a dominant role. https://www.rijksoverheid.nl/documenten/kamerstukken/2015/07/02/aanbiedingsbrief-tweede-kamer-wetgeving-financiele-markten
Afford legal protection to the DNB and the AFM as institutions, for their official actions, except in cases of gross negligence or willful misconduct, in line with practice in many neighboring countries.	***Fully implemented.*** Since July 1, 2012, new legislation is in force to limit the liability of the DNB and the AFM. This legislation also affords protection to the members of the governing boards of the supervisors and to the staff. http://www.eerstekamer.nl/wetsvoorstel/33058_wet
Continue integration of the DNB staff across banking, insurance, and pensions functions, so as to draw the synergies of having a single regulator.	***Fully implemented.*** A new organizational structure has been implemented with the creation of a cross-sectional Division that contains expertise centers for specific elements of supervision. In addition, a separate risk management department has been created to strengthen internal procedures and risk management. In addition, the governance of the Board was changed, effective February 16, 2012, to emphasize the different responsibilities of the DNB with the President responsible for central bank tasks and a Chairman of Supervision, primarily responsible for prudential supervision. http://www.dnb.nl/en/about-dnb/organisation/governance/index.jsp This is supported by the creation of a Supervisory Council, where all relevant supervisory issues are discussed. The Supervisory Council is chaired by the Chairman of supervision, and contains all Division Directors from the different supervisory Divisions. The new Board of Directors of the DNB has also renewed the Mission Statement of the DNB (project Polaris). One of the pillars that have been identified is to strengthen synergy within the DNB. This is further developed in an internal project with proposals to assign cross-sectoral responsibilities to one responsible Division Director. For example, Division Directors have been given a coordinating role in the most important cross-sectoral policy themes. Also, several initiatives have been set-up to promote job-shifting between Divisions.
Microprudential Bank and Insurance Supervision	
Establish routine reporting requirements to strengthen monitoring and risk modeling.	***Partially Implemented.*** An internal project (Cesar) has been set up to strengthen data management within the DNB. The Ministry of Finance (MoF) has introduced a draft legislative proposal to strengthen the powers of the DNB to collect and use data needed to fulfill its task of financial stability. http://www.internetconsultatie.nl/uitvoeringsbesluitbankwet1998
Intensify supervision of large international financial institutions, with greater emphasis on group supervision and soundness of business models. Greater international cooperation, beyond	***Fully implemented.*** With the creation of the Banking Union, the primary responsibility of the large, significant institutions is transferred to the ECB, which is expected to intensify supervision. In addition, the DNB will continue to fulfill its role in supervision for other banks. Every four years, the DNB publishes a *Vision on Supervision*, which sets out the strategic orientation of the DNB for the upcoming years. In the *Vision 2010–2014*, the DNB

participation in colleges of supervisors, is warranted.	announced a shift in the focus of its supervision by (i) looking beyond individual institutions and intensifying the macro-approach of supervision; and (ii) explicitly including business models, strategy and behavior, and culture into their supervisory strategy. http://www.dnb.nl/en/binaries/DNB%20Supervisory%20Strategy%202010-2014_tcm47-238092.pdf In 2012, a new supervisory approach was introduced ("Focus!") reflecting the reorientation of the supervision of the DNB. The new approach internalizes the broader scope of supervision and encompasses qualitative elements of supervision, with the inclusion of two separate risk drivers: (i) business models and strategy; and (ii) behavior, culture and governance. The new supervisory approach makes more use of a risk based approach through ex-ante classification. It also includes a multi-disciplined and sector wide approach by strengthening the macro-orientation and thematic supervision. http://www.toezicht.dnb.nl/en/4/2/14/51-225810.jsp
Adopt more proactive and decisive approach, including timely off-site inspection and corrective actions that rely less on moral suasion.	***Fully implemented.*** In August 2010, an action plan was announced to make supervision of DNB more comprehensive and intrusive. http://www.dnb.nl/en/binaries/From%20Analysis%20to%20Action_tcm47-239499.pdf The identified actions were supported by a change in the organization of the DNB, including—inter alia—the creation of a separate Intervention Department to intervene timely and effectively when needed. This Department coordinates the supervisory approach of troubled institutions and advises on the use of formal measures. In addition, a dedicated risk management department has been set-up to strengthen internal control within the DNB.
Securities Market	
Strengthen the AFM's ability to enforce issuers' compliance with financial reporting standards.	***Partially implemented.*** The AFM's ability to enforce issuers' compliance with financial reporting standards has been strengthened by amendments to the Act on financial reporting by (i) removing the limitations faced by the AFM when requesting information from issuers in order to assess the accuracy of their financial statements (effective January 1, 2014); and (ii) removing the Chinese walls preventing the sharing of information between the departments of the AFM (effective January 1, 2013). The AFM still may not take action directly against issuers for breach of accounting standards, but must go to an outside tribunal for enforcement.
Strengthen the regulatory and supervisory framework for management companies of CIS.	***Partially implemented.*** The EU Alternative Investment Fund Managers Directive (AIFMD) was implemented in Dutch legislation as of July 22, 2013. The directive imposes an extensive regulatory framework applicable to the managers of funds, other than those subject to the Undertakings for Collective Investment in Transferable Securities Directive. Additional attention to on-going oversight, particularly via on-site examinations, is needed.
Pensions	
Develop a communication plan on recent and prospective changes in payouts to stakeholders.	**Fully implemented.** Communication with stakeholders about changes in benefits is the responsibility the pension funds. New communication legislation for pension was adopted by Parliament in March 2015. This new legislation requires pension information to be such that participants are able to make adequate financial planning for retirement. All information must be

	accurate, clear and balanced. Pension funds and insurance companies will be required to inform individual participants on their pension income not only in an average scenario but also in a good and in bad economic scenarios. The Ministry of Social Affairs is working on the implementation of this together with the AFM, DNB, and various organizations from the pension and insurance industry.
Require incorporation of professional Board members for pension funds beyond a minimum size, and provide legal authority that allows direct supervision of core pension activities independently of the entity performing them.	***Fully implemented.*** In August 2013, new legislation has been introduced to strengthen the governance of pension funds. Several governance models are possible, including a board fully consisting of professionals. It is also possible to add a maximum of two external professionals to a joint board of employers, employees and pension beneficiaries. Through the board of pension funds, the DNB has powers to supervise all core pension activities, even when they are outsourced.
Crisis Management and Bank Resolution	
Reform the Deposit Guarantee Scheme so that it is: (i) ex ante funded; (ii) authorized to fund bank resolution operations; and (iii) enjoys depositor preference.	***Partially Implemented:*** The Dutch Deposit Guarantee Scheme (DGS) was launched by the DNB on November 26, 2015. It is authorized to contribute to resolution funding and depositors enjoy preference in liquidation and other resolution mechanisms. The BRRD introduced depositor preference in the EU. Constraints on the ability of the DGS to finance resolution remain.
Strengthen the institutional framework for crisis management by: (i) shifting decision-making power from the Judiciary to the DNB in the context of bank resolution; and (ii) specifying more clearly the respective roles of the MoF and DNB in bank resolution.	***Partially implemented:*** The Intervention Act, that entered into force in June 2012 with retroactive effect as of January 20, 2012, included new powers for the DNB allowing it to transfer to a third party part or whole of a bank or insurer experiencing serious financial problems. The Minister of Finance is granted powers to intervene in the affairs of financial institutions or expropriate assets, liabilities or securities if this is necessary to safeguard the stability of the financial system. The Intervention Act was subsequently amended to implement the BRRD in 2015, however the powers of the Minister under the Intervention Act remain in place and the intersection between those powers and the Single Resolution Mechanism powers of the SRB and the DNB is unclear.
Improve the framework for official financial support by establishing a standing budgetary authorization for the Government to fund solvency support in a manner that avoids risk of moral hazard.	***Not implemented:*** There is no standing budgetary authorization procedure for the Government to fund solvency support, given reforms to address too big to fail.
Improve the framework for bank resolution by establishing a single regime for resolving banks under official control; such regime should set appropriate objectives (including financial stability), as well as tasks and powers for the official administrators.	***Partially implemented:*** While implementation of the Single Resolution Mechanism substantially strengthened the resolution framework, there is still no single regime given that the legacy powers of the Minister under the Intervention Act and other court-based resolution powers of the DNB (i.e., the "Emergency Rule" under the Wft) coexist with the new regime. Plans are in place to repeal the Emergency Rule.

Appendix II. Risk Assessment Matrix

Source of Risks	Relative Likelihood	Impact
Economic fallout from political fragmentation		
• **Rise in populism and nationalism in large economies** could reverse international integration and policy coordination, weighing on global growth and exacerbating financial market volatility. • **Protracted uncertainty associated with negotiating post-Brexit arrangements** could weigh on confidence and investment more than expected—most prominently in the U.K. and the rest of Europe with possible knock-on effects elsewhere. Increased barriers could also dampen the longer-run economic performance of affected countries more than expected.	High Medium	• Slower than anticipated external demand associated with diminished confidence and investment in Europe would negatively affect net exports, business confidence, and investment in the Netherlands. Lower domestic growth would exacerbate credit risks. (see below on the impact of higher financial market volatility). • A depreciation of the Euro could have a negative impact on solvency in un-hedged financial and nonfinancial institutions. On the positive side, it could improve the financial strength of nonfinancial corporates (NFCs), which are highly dependent on exports.
Tighter or more volatile global financial conditions		
• **Sharp rise in risk premia with flight to safety.** Investors withdraw from specific risk asset classes as they reassess underlying economic and financial risks in large economies, or respond to unanticipated Fed tightening, and increases in U.S. term premia, with poor market liquidity amplifying volatility. Surge in safe haven currencies—especially the U.S. dollar—creates balance sheet strains for FX debtors.	Medium	• A drop in stock and bond prices would affect the solvency of insurers and reduce coverage ratios in the pension sector, and will also have important effects on banks' capital ratio as 28 percent of their assets are in securities. It could also trigger redemptions in investment funds. • Renewed stress in global wholesale funding markets would increase funding costs for Dutch banks that rely on wholesale funding, with adverse effects on their profitability and solvency. It could also result in funding liquidity strains.
Weaker-than-expected global growth		
• **Structurally weak growth in key advanced and emerging** economies. Weak demand, low productivity growth, and persistently low inflation from a failure to fully address crisis legacies and undertake structural reforms, lead to lower medium-term potential growth and exacerbate financial imbalances especially among banks (high likelihood). Tighter financial conditions and insufficient	High/ Medium	• The Netherlands has strong trade linkages with other European and EM countries. Close to 70 percent of exports are to European countries and the Netherlands' AEX stock market index is the third most EM-exposed stock market in Europe. Weakness in the EU or EMs could reduce demand for Dutch exports, thus affecting the profitability and solvency of NFCs, which could also lead to deterioration in

Source of Risks	Relative Likelihood	Impact
reforms undermine medium-term growth in emerging markets (medium likelihood). • **Significant China slowdown and its spillovers.** Key near term risks are a loss of investor confidence, disorderly corporate defaults, a sharp fall in asset prices, and a quicker fading of the stimulus impact. Weak domestic demand further suppresses commodity prices, roils global financial markets, and reduces global growth (low likelihood in the short-term, medium thereafter). • **Significant slowdown in other large EMs/frontier economies.** Turning of the credit cycle and fallout from excess household and corporate (FX) leverage as investors withdraw from EM corporate debt, generate disorderly deleveraging, with potential spillbacks to advanced economies.	Low/ Medium Medium	domestic consumer and business confidence, increasing strains on banks' asset quality. • Deflation in the Netherlands could exacerbate real debt, compounding vulnerabilities associated with the household debt overhang and the high indebtedness of the NFC sector. • Continued low interest rates and low returns in equity markets could threaten the solvency of insurance companies and prolong pension sector stress.
Lower-than-expected domestic growth:		
• **Renewed weaknesses in housing** markets**.** While the housing market seems to have turned the corner, a reversal of the recent recovery in house prices could weaken household balance sheets and dampen domestic demand.	Low	• Dutch banks are highly exposed to households and NFCs. A halt or reversal of the ongoing domestic economic recovery will impact the ability of these borrowers to service their loans worsening banks' asset quality. It would also have implications on economic growth through macrofinancial linkages (lower consumption).