

# MOODY'S

## INVESTORS SERVICE

### CREDIT OPINION

22 September 2016

#### Update

Rate this Research >>

#### RATINGS

##### Rabobank

Domicile	Amsterdam, Netherlands
Long Term Debt	Aa2
Type	Senior Unsecured - Fgn Curr
Outlook	Stable
Long Term Deposit	Aa2
Type	LT Bank Deposits - Fgn Curr
Outlook	Stable

Please see the ratings section at the end of this report for more information. The ratings and outlook shown reflect information as of the publication date.

#### Contacts

**Guillaume Lucien-Baugas** 33-1-5330-3350  
VP-Senior Analyst  
guillaume.lucien-baugas@moodys.com

**Andrea Usai** 44-20-7772-1058  
Senior Vice President  
andrea.usai@moodys.com

**Alain Laurin** 33-1-5330-1059  
Associate Managing Director  
alain.laurin@moodys.com

**Nick Hill** 33-1-5330-1029  
Managing Director - Banking  
nick.hill@moodys.com

## Rabobank

### Semiannual Update

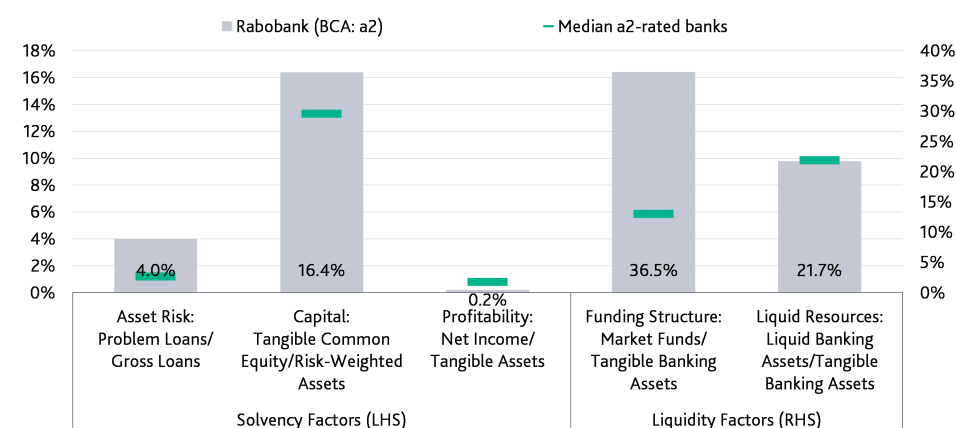
#### Summary Rating Rationale

Rabobank's long-term deposit and senior debt ratings of Aa2, stable outlook, reflect (1) the bank's baseline credit assessment (BCA) of a2; (2) two notches of uplift from our Advanced Loss Given Failure (LGF) analysis; and (3) one notch of uplift stemming from a moderate probability of government support. Rabobank's short-term deposit and senior debt ratings are Prime-1.

Rabobank's BCA of a2 is supported by the bank's conservative business profile, as well as its strong financial fundamentals. The bank's leading position in the Dutch banking sector and strong position in the agribusiness sector worldwide are the primary drivers for a relatively stable, albeit modest earnings generation capacity. Despite a recent period of lacklustre results owing to losses in Dutch commercial real estate (CRE) and a number of large extraordinary items, we consider Rabobank's profitability resilient overall.

Exhibit 1

#### Rating Scorecard - Key Financial Ratios



Source: Moody's Financial Metrics

The BCA is also underpinned by the bank's capital levels, which provide sound loss-absorption capacity, as well as its good asset quality overall. Rabobank has a high reliance on wholesale funding, but this credit weakness is mitigated by the long duration of its debt issuance and sizeable liquidity buffers.

## Credit Strengths

- » Leading market positions in the Netherlands offer pricing power and stable earnings generation
- » Asset quality is solid overall
- » Capitalisation levels provide sound loss absorption capacity
- » Underlying profitability is improving after period of lacklustre results
- » The bank has ample liquidity reserves and an extended term structure of funding
- » Large volume of subordinated debt and hybrid debt results in very low loss-given-failure for senior unsecured debt and deposits and a two-notch uplift from the BCA
- » Moderate probability of government support results in a one-notch uplift for senior unsecured debt and deposits

## Credit Challenges

- » Net interest margins may suffer from the low interest rate environment
- » Asset quality is inherently vulnerable to a deterioration in the domestic real estate markets
- » Profitability is modest and has recently been impacted by a series of large exceptional items
- » The bank has relatively large and structural wholesale funding needs

## Rating Outlook

The senior unsecured debt and deposit ratings carry a stable outlook, in line with the stabilisation of the bank's asset performance.

## Factors that Could Lead to an Upgrade

Rabobank's ratings are at the high end of banks' ratings globally, reflecting our view of the strong credit profile of the institution.

An upgrade of the bank's BCA and long-term ratings is remote in view of:

- » weak profitability, despite underlying positive trends,
- » large wholesale funding requirements,
- » the challenging operating environment, with low interest rates and intense competition in the domestic mortgage market.

## Factors that Could Lead to a Downgrade

The BCA could be downgraded if:

- » the bank were unable to improve its profitability in line with long-term historical metrics,
- » asset risks increased due to renewed weakness in the Dutch real estate sector or rising deficiencies in the corporate loan portfolio,
- » the bank were to rely more on short-term wholesale funding or its liquidity buffer decreased.

Rabobank's long-term debt and deposit ratings would be downgraded as a consequence of:

- » a downgrade of the BCA and/or
- » increased loss-given-failure for senior debt and deposit holders due to lower levels of subordinated debt or a lower level of pari passu debt benefiting these creditors.

This publication does not announce a credit rating action. For any credit ratings referenced in this publication, please see the ratings tab on the issuer/entity page on [www.moody's.com](http://www.moody's.com) for the most updated credit rating action information and rating history.

## Key Indicators

Exhibit 2

### Rabobank (Consolidated Financials) [1]

	6-16 <sup>2</sup>	12-15 <sup>2</sup>	12-14 <sup>2</sup>	12-13 <sup>3</sup>	12-12 <sup>3</sup>	Avg.
Total Assets (EUR million)	643,634	634,326	637,891	638,603	699,814	-2.1 <sup>4</sup>
Total Assets (USD million)	715,045.6	689,065.4	771,882	879,957.8	922,628.9	-6.2 <sup>4</sup>
Tangible Common Equity (EUR million)	34,248.3	34,088.5	32,160.1	30,348.6	32,320.5	1.5 <sup>4</sup>
Tangible Common Equity (USD million)	38,048.1	37,030.2	38,915.5	41,818.6	42,611.1	-2.8 <sup>4</sup>
Problem Loans / Gross Loans (%)	4	3.8	3.9	3.5	2.3	3.5 <sup>5</sup>
Tangible Common Equity / Risk Weighted Assets (%)	16.4	16	15.2	14.4	14.5	15.9 <sup>6</sup>
Problem Loans / (Tangible Common Equity + Loan Loss Reserve) (%)	44.8	42.3	44.7	41.2	30.7	40.8 <sup>5</sup>
Net Interest Margin (%)	1.3	1.4	1.4	1.3	1.2	1.3 <sup>5</sup>
PPI / Average RWA (%)	1	1.6	2	0.9	1.8	1.5 <sup>6</sup>
Net Income / Tangible Assets (%)	0.2	0.2	0.3	0.2	0.3	0.2 <sup>5</sup>
Cost / Income Ratio (%)	81	71.9	66.4	82.8	69.2	74.3 <sup>5</sup>
Market Funds / Tangible Banking Assets (%)	36.4	36.5	39.4	39.1	42.8	38.9 <sup>5</sup>
Liquid Banking Assets / Tangible Banking Assets (%)	21.4	21.7	21	21.3	23	21.7 <sup>5</sup>
Gross loans / Due to customers (%)	137.6	138.3	144.4	142.4	146.3	141.8 <sup>5</sup>

[1] All figures and ratios are adjusted using Moody's standard adjustments [2] Basel III - fully-loaded or transitional phase-in; IFRS [3] Basel II; IFRS [4] Compound Annual Growth Rate based on IFRS reporting periods [5] IFRS reporting periods have been used for average calculation [6] Basel III - fully-loaded or transitional phase-in & IFRS reporting periods have been used for average calculation

Note: The definition of problem loans changed in H1 2015, as Rabobank switch to a definition of non-performing loans which does not take into account any collateral value. Therefore, the problem loan ratios are not fully comparable before and after June 2015.

Source: Moody's Financial Metrics

## Detailed Rating Considerations

### Leading market positions in the Netherlands offer pricing power and stable earnings generation

Rabobank holds a leading position in domestic retail banking, which represented 61% of its revenues in June 2016. The bank also has a strong international presence focusing on the food and agribusiness sector. We consider that Rabobank's franchise is one of the most robust amongst Dutch peers, resulting in strong pricing power and steady earnings generation.

In the Netherlands, Rabobank's operations are carried out by a large network of local Rabobanks and are supported by the central wholesale banking capacities. The group's market shares range from 20% to 41%, both in the retail and corporate areas, whilst it reaches 85% in the domestic food and agribusiness (market shares as of June 2016).

International operations support Dutch clients operating internationally via the foreign branch network and allow the bank to capitalise on its knowledge and experience in the food and agribusiness sector with clients outside the Netherlands. This strategy is being pursued through its "wholesale banking and international rural and retail banking" entities in a selected number of countries. These include the United States, Brazil and Chile, accounting altogether for 10.1% of Rabobank's private sector loan book, Europe outside the Netherlands (3.8%) and Australia and New Zealand (4.2%).

### Asset quality is solid, yet vulnerable to deterioration in the domestic real estate markets

We view Rabobank's asset quality as sound due to (1) its relatively conservative underwriting and investment policy and (2) its very limited exposure to countries in riskier parts of the euro area. Nevertheless, with 73% of its private sector lending in the Netherlands, Rabobank is exposed to a deterioration of the Dutch economy and more particularly of its real estate sector. In 2012, 2013 and 2014, the bulk of the deterioration in asset quality came from the CRE portfolio. While the overall quality of Rabobank's CRE portfolio has largely improved and the bank has reduced this exposure by approximately 15% in the last eighteen months, some segments of the Dutch CRE market remain under pressure.

The domestic retail banking segment represented 65% of the bank's private-sector lending and produced very low impairment charges in H1 2016, with greenhouse horticulture and shipping being the only segments recording difficulties. The strong performance

of domestic retail banking is an illustration of the recovery of both the Dutch economy and the housing market. The residential mortgage portfolio continued to perform well with a cost of risk of just 4 bps in the first six months of 2016, but its specific features with high loan-to-value (LTV) ratios and a high proportion of bullet rather than amortising loans make it vulnerable to a scenario of severe macroeconomic deterioration. New mortgages now have the statutory obligation to amortise in order to benefit from the tax deductibility of interests. In addition, LTVs are currently following a downward trend due to mortgage repayments and increasing house prices.

The performance of other portfolios was also strong in H1 2016, all reporting significant decreases in cost of risk. Loan loss provisions more than halved to 23 bps in the wholesale and international rural & retail banking portfolio. The real estate segment, which had reported significant losses linked to Dutch CRE exposures in the recent past, reported net write-backs during H1 2016.

Our assigned asset risk score of baa1 reflects the past performance of Dutch real estate assets, but also the bank's good track record and conservative lending policy.

### Capitalisation levels provide sound loss absorption capacity

We consider Rabobank's strong loss absorption capacity to be a key credit strength. At end-June 2016, Rabobank's Basel 3 Common Equity Tier 1 (CET1) ratio and Tier 1 ratio were 13.4% and 16.8% respectively, which provides good resilience under our stress tests and comfortable room above the minimum required CET1 ratio of 9.5% given by the European Central Bank through the Supervisory Review and Evaluation Process (SREP) plus the 0.75% systemic risk buffer imposed by the Dutch central bank for 2016 (progressively increasing to 3% in 2019). Under our calculations, Rabobank's Tangible Common Equity was 16.4% at end-June 2016, benefiting from approximately 2.2 percentage points of high-trigger contingent capital instruments.

The bank's Tier 2 capital was 6.7% of risk-weighted assets at end-June 2016, bringing the group's total capital ratio to 23.5%. Rabobank intends to further increase the level of loss absorption capital and subordinated 'bail-in-able' debt to protect senior unsecured bondholders. In its Strategic Framework 2016-2020, Rabobank targets a CET1 ratio above 14% and a total capital ratio above 25% by 2020.

Rabobank disclosed a buffer of equity, subordinated debt and Senior Contingent Notes, of €56.6 billion which protects senior unsecured debt at end-June 2016, equivalent to 27% of risk-weighted assets. This bail-in buffer, which is Rabobank's own measurement of bail-in-able cushion, appears higher than the Financial Stability Board's (FSB) Total Loss-Absorbing Capital (TLAC) because it is based on gross numbers (i.e. it does not include any regulatory deductions to CET1 and/or grandfathering of old-style Tier 1 and Tier 2 instruments).

Our assigned capital score of aa2 reflects the bank's strong ratios and our belief that the bank's capitalisation is a strength.

### Underlying profitability is improving after period of lacklustre results

After a period of lacklustre results, Rabobank's profitability rebounded along with the improving performance of Dutch CRE exposures. Rabobank's loan loss provisions represented only 7 bps of average gross loans in the first half of 2016 versus 24 bps in 2015 and a long-run historical average of around 36 bps. Despite these improvements, profitability has remained relatively low lately due to a series of large exceptional items.

In the first half of 2016, net profit was notably impacted by restructuring charges (€190 million) and an additional provision for the industry-wide alleged mis-selling of interest rate derivatives to wholesale customers (€514 million). Adjusting for these elements and other fair value items impacting revenues, the cost-to-income ratio was 59% (74% unadjusted) in H1 2016, notably thanks to a reduction of 6% in staff costs. Rabobank targets an improvement in efficiency of more than €2.1 billion by 2019 and a cost-to-income ratio of 50% by 2020 in its Strategic Framework 2016-2020.

Going forward, we expect revenue growth to remain modest at best and the low interest rate environment, which had a moderate impact in recent semesters, is likely to progressively erode net interest margins. Nonetheless, we expect profitability to improve overall via continued efforts on operating expenses, as the restructuring progresses and staff reductions take place.

Our baa2 assigned score for profitability reflects the historical stability and quality of earnings of the bank, as well as the expected improvements.

### Structural reliance on wholesale funding is mitigated by ample liquidity reserves and term structure of funding

Despite high reliance on wholesale funding, Rabobank's funding structure is robust and high liquidity buffers mitigate this structural feature of the Dutch banking system.

At end-June 2016, the group disclosed a loan-to-deposit ratio of 124%, significantly lower than the 132% level disclosed in H1 2015. The customer funding deficit remains elevated at €84 billion at end-June 2016, despite significant improvements. Rabobank is structurally reliant on wholesale funding (which totals €201 billion as of end-June 2016, as disclosed by the bank) and a portion (36%) of its deposits is derived from (inter)national institutional and corporate investors, which may prove less stable than retail deposits.

Nevertheless, we believe that Rabobank's reliance on wholesale funding, which is a feature of the Dutch banking system, is largely mitigated by its conservative asset and liability management, based on an adequate duration of the bank's funding and a substantial liquidity portfolio. Of the €201 billion gross wholesale funding outstanding at end-June 2016, approximately €118 billion was long-term debt (excluding the portion of long-term debt with residual maturity of less than one year). Out of this, €47 billion had residual maturities of five years or more. As of end-June 2016, the bank's liquidity buffer, consisting of cash, high-quality government bonds and central bank-eligible internal RMBS amounted to €144 billion, representing around 206% of the bank's net interbank borrowings and short-term debt securities (including the portion of long-term debt, the residual maturity of which is less than one year), resulting in a very robust liquidity profile.

The Basel 3 liquidity coverage ratio (LCR) and net stable funding ratio (NSFR) of Rabobank stood at 127% and 116% respectively at end-June 2016, which we view as relatively strong.

The assigned combined liquidity score of a3 is the result of significant upward adjustments to account for the favourable term structure of market funding, the quality of liquid assets and the low asset encumbrance.

Overall, our assigned BCA is a2, in line with our assessment of the bank's Financial Profile.

## Notching Considerations

### LOSS GIVEN FAILURE AND ADDITIONAL NOTCHING

Rabobank is subject to the EU Bank Resolution and Recovery Directive (BRRD), which we consider to be an Operational Resolution Regime. We assume residual tangible common equity of 3% and losses post-failure of 8% of tangible banking assets, a 25% run-off in "junior" wholesale deposits, a 5% run-off in preferred deposits, a proportion of junior deposits of 26% of total customer deposits and assign a 25% probability to deposits being preferred to senior unsecured debt. These assumptions are in keeping with our standard assumptions.

Our LGF analysis indicates very low loss-given-failure for deposits and senior unsecured debt, leading us to position their Preliminary Rating Assessments two notches above the Adjusted BCA.

Our LGF analysis indicates high loss-given-failure for junior debt securities, leading us to position their Preliminary Rating Assessments one notch below the Adjusted BCA. We also incorporate additional notching for junior subordinated and hybrid debt instruments reflecting the coupon features.

### GOVERNMENT SUPPORT

We expect a moderate probability of government support for deposits and debt, resulting in one notch of uplift for both the long-term deposits and senior unsecured debt of the bank.

For subordinated and other junior securities, we continue to believe that the probability of government support is low and these ratings do not therefore include any related uplift. Junior securities also include additional downward notching from the BCA reflecting coupon suspension risk ahead of a potential failure.

### COUNTERPARTY RISK ASSESSMENT

The Counterparty Risk (CR) assessment is positioned at Aa1(cr)/Prime-1(cr), four notches above the Adjusted BCA of a2, based on the cushion against default provided to the senior obligations represented by the CR assessment by subordinated instruments and one notch of uplift from our assumption for a moderate probability of government support. The main difference with our

Advanced LGF approach used to determine instrument ratings is that the CR assessment captures the probability of default on certain senior obligations, rather than expected loss, therefore we focus purely on subordination and take no account of the volume of the instrument class.

#### **ABOUT MOODY'S BANK SCORECARD**

Our Scorecard is designed to capture, express and explain in summary form our Rating Committee's judgment. When read in conjunction with our research, a fulsome presentation of our judgment is expressed. As a result, the output of our Scorecard may materially differ from that suggested by raw data alone (though it has been calibrated to avoid the frequent need for strong divergence). The Scorecard output and the individual scores are discussed in rating committees and may be adjusted up or down to reflect conditions specific to each rated entity.

## Rating Methodology and Scorecard Factors

Exhibit 3

Rabobank						
Macro Factors						
Weighted Macro Profile		Strong +				
Financial Profile						
Factor	Historic Ratio	Macro Adjusted Score	Credit Trend	Assigned Score	Key driver #1	Key driver #2
Solvency						
Asset Risk						
Problem Loans / Gross Loans	4.0%	baa1	↔	baa1	Quality of assets	Sector concentration
Capital						
TCE / RWA	16.4%	aa2	↔	aa2	Risk-weighted capitalisation	
Profitability						
Net Income / Tangible Assets	0.2%	b1	↔	baa2	Earnings quality	
Combined Solvency Score		a3		a2		
Liquidity						
Funding Structure						
Market Funds / Tangible Banking Assets	36.5%	ba2	↔	baa2	Term structure	Deposit quality
Liquid Resources						
Liquid Banking Assets / Tangible Banking Assets	21.7%	baa1	↔	a1	Quality of liquid assets	Asset encumbrance
Combined Liquidity Score		baa3		a3		
Financial Profile				a2		
Qualitative Adjustments				Adjustment		
Business Diversification				0		
Opacity and Complexity				0		
Corporate Behavior				0		
Total Qualitative Adjustments				0		
Sovereign or Affiliate constraint				Aaa		
Scorecard Calculated BCA range				a1 - a3		
Assigned BCA				a2		
Affiliate Support notching				0		
Adjusted BCA				a2		
Failure Balance Sheet						
Balance Sheet	in-scope (EUR)	% In-scope	At-failure (EUR)	% At-failure		
Other liabilities	147,426	22.9%	182,406	28.4%		
Deposits	342,940	53.4%	307,960	47.9%		
Preferred deposits	253,776	39.5%	241,087	37.5%		
Junior Deposits	89,164	13.9%	66,873	10.4%		
Senior unsecured bank debt	113,415	17.7%	113,415	17.7%		
Dated subordinated bank debt	15,479	2.4%	15,479	2.4%		
Preference shares (bank)	3,972	0.6%	3,972	0.6%		
Equity	19,275	3.0%	19,275	3.0%		
Total Tangible Banking Assets	642,507	100.0%	642,507	100.0%		
Instrument Class						
	Loss Given Failure notching	Additional notching	Preliminary Rating Assessment	Government Support notching	Local Currency rating	Foreign Currency rating
Deposits	2	0	aa3	1	Aa2	Aa2
Senior unsecured bank debt	2	0	aa3	1	Aa2	Aa2
Dated subordinated bank debt	-1	0	a3	0	A3	A3
Non-cumulative bank preference shares	-1	-2	baa2	0	Baa2(hyb)	Baa2(hyb)

Source: Moody's Financial Metrics

## Ratings

Exhibit 4

Category	Moody's Rating
<b>RABOBANK</b>	
Outlook	Stable
Bank Deposits	Aa2/P-1
Baseline Credit Assessment	a2
Adjusted Baseline Credit Assessment	a2
Counterparty Risk Assessment	Aa1(cr)/P-1(cr)
Issuer Rating	Aa2
Senior Unsecured	Aa2
Subordinate	A3
Pref. Stock Non-cumulative -Fgn Curr	Baa2 (hyb)
Pref. Stock Non-cumulative -Dom Curr	Baa3 (hyb)
Commercial Paper	P-1
Other Short Term -Fgn Curr	(P)P-1
Other Short Term -Dom Curr	(P)P-1
<b>RABOBANK AUSTRALIA LIMITED</b>	
Outlook	Stable
Bkd Bank Deposits -Dom Curr	Aa2/P-1
<b>RABOBANK CURACAO N.V.</b>	
Outlook	Stable
Bkd Sr Unsec MTN	(P)Aa2
Bkd Other Short Term	(P)P-1
<b>RABOBANK NEDERLAND, SINGAPORE BRANCH</b>	
Counterparty Risk Assessment	Aa1(cr)/P-1(cr)
Commercial Paper -Dom Curr	P-1
<b>RABOHYPOTHEEK N.V.</b>	
Outlook	Stable
Senior Unsecured MTN -Dom Curr	(P)Aa2
<b>RABOBANK NEDERLAND, AUSTRALIA BRANCH</b>	
Outlook	Stable
Counterparty Risk Assessment	Aa1(cr)/P-1(cr)
Senior Unsecured	Aa2
Commercial Paper	P-1
Other Short Term	(P)P-1
<b>RABOBANK INTERNATIONAL EQUITY DERIVATIVES</b>	
Outlook	Stable
Senior Unsecured MTN -Dom Curr	(P)Aa2
Subordinate MTN -Dom Curr	(P)A3
Other Short Term -Dom Curr	(P)P-1
<b>RABOBANK NEDERLAND, NEW YORK BRANCH</b>	
Outlook	Stable
Bank Deposits	Aa2/--
Counterparty Risk Assessment	Aa1(cr)/P-1(cr)
Senior Unsecured	Aa2
Commercial Paper	P-1
Other Short Term	(P)P-1
<b>RABOBANK NEDERLAND, NEW ZEALAND BRANCH</b>	
Outlook	Stable



Counterparty Risk Assessment	Aa1(cr)/P-1(cr)
Senior Unsecured -Dom Curr	Aa2
Other Short Term	(P)P-1
<b>RABOBANK USA FINANCIAL CORPORATION</b>	
Bkd Commercial Paper	P-1
<b>RABO FINANCIAL PRODUCTS B.V.</b>	
Outlook	Stable
Senior Unsecured -Dom Curr	Aa2
Bkd Subordinate MTN	(P)A3
Other Short Term -Dom Curr	(P)P-1
<b>RABOBANK NEDERLAND, THE NETHERLANDS BRANCH</b>	
Outlook	Stable
Counterparty Risk Assessment	Aa1(cr)/P-1(cr)
Senior Unsecured MTN	(P)Aa2
Other Short Term	(P)P-1
<b>FRIESLAND BANK N.V.</b>	
Outlook	Stable
Bank Deposits	Aa2/P-1
Senior Unsecured MTN -Dom Curr	(P)Aa2
Subordinate MTN -Dom Curr	(P)A3
Other Short Term -Dom Curr	(P)P-1
<b>RABOBANK NEDERLAND, HONG KONG BRANCH</b>	
Outlook	Stable
Counterparty Risk Assessment	Aa1(cr)/P-1(cr)
<b>RABOBANK NEDERLAND, PARIS BRANCH</b>	
Counterparty Risk Assessment	Aa1(cr)/P-1(cr)
<b>RABOBANK CAPITAL FUNDING TRUST III</b>	
Pref. Stock Non-cumulative	Baa2 (hyb)
<b>RABOBANK CAPITAL FUNDING TRUST IV</b>	
Pref. Stock Non-cumulative	Baa2 (hyb)
<b>RABO CAPITAL SECURITIES LIMITED</b>	
Pref. Stock Non-cumulative -Dom Curr	Baa2 (hyb)
<b>RI FINANCIAL STRUCTURES B.V.</b>	
Outlook	Stable
Bkd Sr Unsec MTN -Dom Curr	(P)Aa2
Bkd Other Short Term -Dom Curr	(P)P-1
<b>RABOBANK POLSKA SA</b>	
Bkd Commercial Paper -Dom Curr	P-1
<b>RABOBANK IRELAND PLC</b>	
Outlook	Stable
Bkd Sr Unsec MTN -Dom Curr	(P)Aa2
Bkd Commercial Paper	P-1
Bkd Other Short Term -Dom Curr	(P)P-1

Note: Rabobank's Senior Contingent Notes are rated Baa2 (hyb).

Source: Moody's Investors Service

© 2016 Moody's Corporation, Moody's Investors Service, Inc., Moody's Analytics, Inc. and/or their licensors and affiliates (collectively, "MOODY'S"). All rights reserved.

CREDIT RATINGS ISSUED BY MOODY'S INVESTORS SERVICE, INC. AND ITS RATINGS AFFILIATES ("MIS") ARE MOODY'S CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES, AND CREDIT RATINGS AND RESEARCH PUBLICATIONS PUBLISHED BY MOODY'S ("MOODY'S PUBLICATIONS") MAY INCLUDE MOODY'S CURRENT OPINIONS OF THE RELATIVE FUTURE CREDIT RISK OF ENTITIES, CREDIT COMMITMENTS, OR DEBT OR DEBT-LIKE SECURITIES. MOODY'S DEFINES CREDIT RISK AS THE RISK THAT AN ENTITY MAY NOT MEET ITS CONTRACTUAL, FINANCIAL OBLIGATIONS AS THEY COME DUE AND ANY ESTIMATED FINANCIAL LOSS IN THE EVENT OF DEFAULT. CREDIT RATINGS DO NOT ADDRESS ANY OTHER RISK, INCLUDING BUT NOT LIMITED TO: LIQUIDITY RISK, MARKET VALUE RISK, OR PRICE VOLATILITY. CREDIT RATINGS AND MOODY'S OPINIONS INCLUDED IN MOODY'S PUBLICATIONS ARE NOT STATEMENTS OF CURRENT OR HISTORICAL FACT. MOODY'S PUBLICATIONS MAY ALSO INCLUDE QUANTITATIVE MODEL-BASED ESTIMATES OF CREDIT RISK AND RELATED OPINIONS OR COMMENTARY PUBLISHED BY MOODY'S ANALYTICS, INC. CREDIT RATINGS AND MOODY'S PUBLICATIONS DO NOT CONSTITUTE OR PROVIDE INVESTMENT OR FINANCIAL ADVICE, AND CREDIT RATINGS AND MOODY'S PUBLICATIONS ARE NOT AND DO NOT PROVIDE RECOMMENDATIONS TO PURCHASE, SELL, OR HOLD PARTICULAR SECURITIES. NEITHER CREDIT RATINGS NOR MOODY'S PUBLICATIONS COMMENT ON THE SUITABILITY OF AN INVESTMENT FOR ANY PARTICULAR INVESTOR. MOODY'S ISSUES ITS CREDIT RATINGS AND PUBLISHES MOODY'S PUBLICATIONS WITH THE EXPECTATION AND UNDERSTANDING THAT EACH INVESTOR WILL, WITH DUE CARE, MAKE ITS OWN STUDY AND EVALUATION OF EACH SECURITY THAT IS UNDER CONSIDERATION FOR PURCHASE, HOLDING, OR SALE.

MOODY'S CREDIT RATINGS AND MOODY'S PUBLICATIONS ARE NOT INTENDED FOR USE BY RETAIL INVESTORS AND IT WOULD BE RECKLESS AND INAPPROPRIATE FOR RETAIL INVESTORS TO USE MOODY'S CREDIT RATINGS OR MOODY'S PUBLICATIONS WHEN MAKING AN INVESTMENT DECISION. IF IN DOUBT YOU SHOULD CONTACT YOUR FINANCIAL OR OTHER PROFESSIONAL ADVISER. ALL INFORMATION CONTAINED HEREIN IS PROTECTED BY LAW, INCLUDING BUT NOT LIMITED TO, COPYRIGHT LAW, AND NONE OF SUCH INFORMATION MAY BE COPIED OR OTHERWISE REPRODUCED, REPACKAGED, FURTHER TRANSMITTED, TRANSFERRED, DISSEMINATED, REDISTRIBUTED OR RESOLD, OR STORED FOR SUBSEQUENT USE FOR ANY SUCH PURPOSE, IN WHOLE OR IN PART, IN ANY FORM OR MANNER OR BY ANY MEANS WHATSOEVER, BY ANY PERSON WITHOUT MOODY'S PRIOR WRITTEN CONSENT.

All information contained herein is obtained by MOODY'S from sources believed by it to be accurate and reliable. Because of the possibility of human or mechanical error as well as other factors, however, all information contained herein is provided "AS IS" without warranty of any kind. MOODY'S adopts all necessary measures so that the information it uses in assigning a credit rating is of sufficient quality and from sources MOODY'S considers to be reliable including, when appropriate, independent third-party sources. However, MOODY'S is not an auditor and cannot in every instance independently verify or validate information received in the rating process or in preparing the Moody's Publications.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability to any person or entity for any indirect, special, consequential, or incidental losses or damages whatsoever arising from or in connection with the information contained herein or the use of or inability to use any such information, even if MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers is advised in advance of the possibility of such losses or damages, including but not limited to: (a) any loss of present or prospective profits or (b) any loss or damage arising where the relevant financial instrument is not the subject of a particular credit rating assigned by MOODY'S.

To the extent permitted by law, MOODY'S and its directors, officers, employees, agents, representatives, licensors and suppliers disclaim liability for any direct or compensatory losses or damages caused to any person or entity, including but not limited to by any negligence (but excluding fraud, willful misconduct or any other type of liability that, for the avoidance of doubt, by law cannot be excluded) on the part of, or any contingency within or beyond the control of, MOODY'S or any of its directors, officers, employees, agents, representatives, licensors or suppliers, arising from or in connection with the information contained herein or the use of or inability to use any such information.

NO WARRANTY, EXPRESS OR IMPLIED, AS TO THE ACCURACY, TIMELINESS, COMPLETENESS, MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OF ANY SUCH RATING OR OTHER OPINION OR INFORMATION IS GIVEN OR MADE BY MOODY'S IN ANY FORM OR MANNER WHATSOEVER.

Moody's Investors Service, Inc., a wholly-owned credit rating agency subsidiary of Moody's Corporation ("MCO"), hereby discloses that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by Moody's Investors Service, Inc. have, prior to assignment of any rating, agreed to pay to Moody's Investors Service, Inc. for appraisal and rating services rendered by it fees ranging from \$1,500 to approximately \$2,500,000. MCO and MIS also maintain policies and procedures to address the independence of MIS's ratings and rating processes. Information regarding certain affiliations that may exist between directors of MCO and rated entities, and between entities who hold ratings from MIS and have also publicly reported to the SEC an ownership interest in MCO of more than 5%, is posted annually at [www.moody.com](http://www.moody.com) under the heading "Investor Relations — Corporate Governance — Director and Shareholder Affiliation Policy."

Additional terms for Australia only: Any publication into Australia of this document is pursuant to the Australian Financial Services License of MOODY'S affiliate, Moody's Investors Service Pty Limited ABN 61 003 399 657 AFSL 336969 and/or Moody's Analytics Australia Pty Ltd ABN 94 105 136 972 AFSL 383569 (as applicable). This document is intended to be provided only to "wholesale clients" within the meaning of section 761G of the Corporations Act 2001. By continuing to access this document from within Australia, you represent to MOODY'S that you are, or are accessing the document as a representative of, a "wholesale client" and that neither you nor the entity you represent will directly or indirectly disseminate this document or its contents to "retail clients" within the meaning of section 761G of the Corporations Act 2001. MOODY'S credit rating is an opinion as to the creditworthiness of a debt obligation of the issuer, not on the equity securities of the issuer or any form of security that is available to retail investors. It would be reckless and inappropriate for retail investors to use MOODY'S credit ratings or publications when making an investment decision. If in doubt you should contact your financial or other professional adviser.

Additional terms for Japan only: Moody's Japan K.K. ("MJKK") is a wholly-owned credit rating agency subsidiary of Moody's Group Japan G.K., which is wholly-owned by Moody's Overseas Holdings Inc., a wholly-owned subsidiary of MCO. Moody's SF Japan K.K. ("MSFJ") is a wholly-owned credit rating agency subsidiary of MJKK. MSFJ is not a Nationally Recognized Statistical Rating Organization ("NRSRO"). Therefore, credit ratings assigned by MSFJ are Non-NRSRO Credit Ratings. Non-NRSRO Credit Ratings are assigned by an entity that is not a NRSRO and, consequently, the rated obligation will not qualify for certain types of treatment under U.S. laws. MJKK and MSFJ are credit rating agencies registered with the Japan Financial Services Agency and their registration numbers are FSA Commissioner (Ratings) No. 2 and 3 respectively.

MJKK or MSFJ (as applicable) hereby disclose that most issuers of debt securities (including corporate and municipal bonds, debentures, notes and commercial paper) and preferred stock rated by MJKK or MSFJ (as applicable) have, prior to assignment of any rating, agreed to pay to MJKK or MSFJ (as applicable) for appraisal and rating services rendered by it fees ranging from JPY200,000 to approximately JPY350,000,000.

MJKK and MSFJ also maintain policies and procedures to address Japanese regulatory requirements.

REPORT NUMBER 1041301

## Contacts

Guillaume Lucien-  
Baugas 33-1-5330-3350  
VP-Senior Analyst  
guillaume.lucien-baugas@moodys.com

Andrea Usai 44-20-7772-1058  
Senior Vice President  
andrea.usai@moodys.com

Alain Laurin 33-1-5330-1059  
Associate Managing  
Director  
alain.laurin@moodys.com

Andreea Prodea 33-1-5330-1055  
Associate Analyst  
andreea.prodea@moodys.com

Nick Hill 33-1-5330-1029  
Managing Director -  
Banking  
nick.hill@moodys.com

## CLIENT SERVICES

Americas 1-212-553-1653

Asia Pacific 852-3551-3077

Japan 81-3-5408-4100

EMEA 44-20-7772-5454