MOODY'S INVESTORS SERVICE

CREDIT OPINION

23 September 2019

Update

Rate this Research

RATINGS

Danska Bank A/S

Danske bank A/S	
Domicile	Denmark
Long Term CRR	Aa3
Туре	LT Counterparty Risk Rating - Fgn Curr
Outlook	Not Assigned
Long Term Debt	A2
Туре	Senior Unsecured - Fgn Curr
Outlook	Negative
Long Term Deposit	A2
Туре	LT Bank Deposits - Fgn Curr
Outlook	Negative

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

Contacts

Louise Lundberg VP-Sr Credit Officer louise.lundberg@moodys	+46.8.5179.1280
Elena Ioannou, CFA Associate Analyst elena.ioannou@moodys.e	+44.20.7772.1716
Alexios Philippides VP-Senior Analyst alexios.philippides@moo	+357.2569.3031 dys.com
Simon Ainsworth Associate Managing Direct simon.ainsworth@moody	
Sean Marion MD-Financial Institutions sean.marion@moodys.co	+44.20.7772.1056 m

Danske Bank A/S

Update to credit analysis

Summary

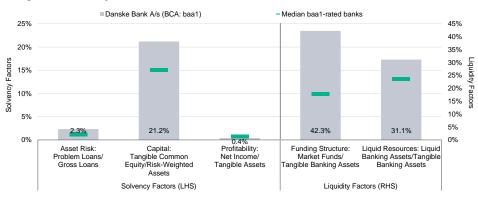
We assign a baa1 Baseline Credit Assessment (BCA) and A2 long-term (LT) deposit and senior unsecured debt ratings, along with Baa2 junior senior debt (often referred to as senior non-preferred) ratings to <u>Danske Bank A/S</u> (Danske). The long-term deposit and senior unsecured debt ratings carry a negative outlook.

Danske's baa1 BCA reflects the strengthening of its asset quality and capitalisation in the aftermath of the financial crisis, balanced against the profitability pressures the bank faces from higher funding costs and operational expenses related to ongoing investigations, at a time of low interest rates and increased competition. The negative outlook captures further related operational and reputational risks stemming from ongoing investigations, which could affect negatively Danske's franchise.

Danske's A2 LT deposit, senior unsecured and junior senior debt ratings incorporate our forward looking view incorporating the bank's MREL (Minimum Requirements for own funds and Eligible Liabilities) requirements.

Exhibit 1





These represent our Banks methodology scorecard ratios, whereby asset risk and profitability reflect the weaker of either the three-year average and the latest annual figure. Capital ratio is the latest reported figure. Funding structure and liquid resource ratios reflect the latest fiscal year-end figures. *Source: Moody's Investors Service*

Credit strengths

- » Improving asset quality, but still below those of its Nordic peers
- » Solid capitalisation

Credit challenges

- » Profitability under pressure from higher funding costs and operational expenses, at a time of low interest rates and increased competition
- » Potential fines and other regulatory penalties arising from past money laundering through the bank's Estonian branch between 2007-15
- » High dependence on market funding, mitigated by more stable covered bonds and adequate liquidity

Outlook

The negative outlook reflects the balance of forward-looking operational and reputational risks stemming from the ongoing investigations, which could strain Danske's financial profile and franchise.

In addition to the direct financial and potentially criminal impacts that could result from penalties, Danske faces reputational and operational risks because the money laundering findings could dampen the confidence of some customers, investors and counterparties.

Factors that could change the outlook to stable

- » The outlook could revert to stable if the company demonstrates it has fully addressed compliance shortcomings and that the repercussions of the historical issues in Estonia will not have a material negative impact on Danske's financial profile or its franchise compared with the current positioning of the BCA.
- » The bank would also need to demonstrate satisfactory levels of profitability without any significant deterioration in its funding profile, along with a reduction of the potential risk of further material financial penalties.

Factors that could lead to a downgrade

- » The ratings could be downgraded if we observe relapses in terms of governance, control functions or compliance, along with any indications of a renewed aggressive strategy resulting in heightened credit or operational risks.
- » The rating would also come under pressure if there is (1) a sustained loss in clients or business, which could strain the bank's financial profile; (2) firmer evidence of monetary penalties, which would strain not only the bank's earnings, but also its capital; or (3) an indication that funding has become significantly more costly or access to certain markets or instruments has become more limited.

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.moodys.com for the most updated credit rating action information and rating history.

Key indicators

Exhibit 2

Danske Bank A/S (Consolidated Financials) [1]

	06-19 ²	12-18 ²	12-17 ²	12-16 ²	12-15 ²	CAGR/Avg. ³
Total Assets (DKK Million)	3,568,080.0	3,409,010.0	3,357,457.0	3,242,070.0	3,055,864.0	4.5 ⁴
Total Assets (USD Million)	544,412.6	522,217.5	541,490.4	459,897.4	444,825.8	5.9 ⁴
Tangible Common Equity (DKK Million)	161,441.0	161,674.0	165,604.0	159,638.0	154,726.0	1.2 ⁴
Tangible Common Equity (USD Million)	24,632.4	24,766.4	26,708.6	22,645.1	22,522.6	2.64
Problem Loans / Gross Loans (%)	2.3	2.4	1.9	2.6	3.0	2.4 ⁵
Tangible Common Equity / Risk Weighted Assets (%)	21.2	21.6	22.0	19.6	18.6	20.6 ⁶
Problem Loans / (Tangible Common Equity + Loan Loss Reserve) (%)	23.5	24.1	18.1	24.5	30.3	24.1 ⁵
Net Interest Margin (%)	0.8	0.9	0.9	1.0	1.1	0.9 ⁵
PPI / Average RWA (%)	2.5	2.5	3.1	3.0	2.5	2.7 ⁶
Net Income / Tangible Assets (%)	0.4	0.4	0.6	0.6	0.5	0.5 ⁵
Cost / Income Ratio (%)	59.7	60.3	51.5	50.4	53.4	55.1 ⁵
Market Funds / Tangible Banking Assets (%)	43.2	42.2	43.6	44.6	43.6	43.5 ⁵
Liquid Banking Assets / Tangible Banking Assets (%)	34.2	31.1	37.3	35.8	27.5	33.2 ⁵
Gross Loans / Due to Customers (%)	196.6	200.8	191.3	201.1	225.7	203.1 ⁵

[1]All figures and ratios are adjusted using Moody's standard adjustments. [2]Basel III - fully-loaded or transitional phase-in; IFRS. [3]May include rounding differences due to scale of reported amounts. [4]Compound Annual Growth Rate (%) based on time period presented for the latest accounting regime. [5]Simple average of periods presented for the latest accounting regime. [6]Simple average of Basel III periods presented.

Source: Moody's Investors Service; Company Filings

Profile

Danske Bank A/S is part of the Danske Bank Group, which also comprises Realkredit Denmark (a mortgage credit institution), Danica Pension (a life insurance company), Danske Hypotek AB (a covered bond issuer in Sweden), <u>Danske Mortgage Bank Plc</u> (a covered bond issuer in Finland), AO Danske Bank (provides corporate banking services in Russia) and Northern Bank Plc (commercial bank in Northern Ireland). As of the end of June 2019, the bank held 26% of the domestic market share in terms of loans and 29% in terms of deposits, and reported total consolidated assets of DKK3.8 trillion (€508.9 billion).

Danske is a universal bank, and it provides a broad range of products and services, including deposits, loans and other credit, insurance, pensions, leasing, asset management, and trading in fixed-income products, foreign exchange and equities. As of the end of December 2018, it distributed its products through 95 domestic and 142 international branches in Sweden, Norway, Finland, Northern Ireland, and the Baltic States, although the Baltic operations will be closed down.

Danske was established in 1871 as Den Danske Landmandsbank. In 1976, it was renamed Den Danske Bank. In 2000, the name was changed to Danske Bank. Its shares are listed on the NASDAQ OMX Copenhagen Stock Exchange (Ticker: DANSKE). As of year-end 2018, its largest shareholder was the A.P. Møller Holding Group, which held 20% of the bank's total share capital.

Detailed credit considerations

Improving asset quality, which is still below those of its peers

Our assigned baa1 Asset Risk score reflects our assessment that the recent positive underlying trends in asset quality are sustainable. The bank's problem loans (defined as IFRS 9 stage 3 loans) were 2.3% as of 30 June 2019. Problem segments are shipping and agriculture.

Exhibit 3

6.0%



Danske's problem loans as a percentage of gross loans

Source: Company reports, Moody's Investors Service

Danske has been gradually disposing its noncore assets, which were previously mainly performing residential mortgages in Estonia and Ireland only. In February 2019, Estonia's Financial Supervision Authority (FSA) ordered Danske to cease operating in Estonia within eight months. Danske also announced the same day the intention to close down its other Baltic operations in Lithuania and Latvia (with the exception of the bank's shared services centre in Lithuania), as well as in Russia because the bank wants to focus on its Nordic core markets.

We expect the low interest rates and the relatively robust economic growth in Denmark to continue to support the bank's asset quality over the next 12-18 months.

The bank's Asset Risk score includes negative adjustments to reflect our view that Danske faces potential reputational and operational risks because the money laundering findings and the bank's delayed response to previous concerns by internal and external stakeholders have cast doubts over the corporate culture of the bank.

Solid capitalisation

Danske's solid capital buffers is a relative strength for its credit profile. The bank's capital ratios improved up to year-end 2017, increasing the bank's ability to absorb potential future losses, although we note a weakening by 1 percentage point since then. As of 30 June 2019, the bank's Common Equity Tier 1 (CET1) capital ratio was 16.6% (see Exhibit 4).

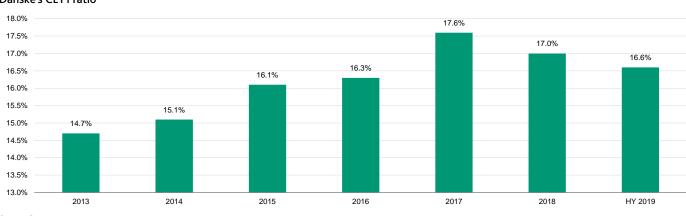


Exhibit 4 Danske's CET1 ratio

Source: Company reports

As a response to the Danish FSA's decision that Danske needs to set aside a minimum of DKK10 billion (around \$1.7 billion) in Pillar II capital (in the form of CET1) to cover for what the Danish regulatory authority characterised as "heightened compliance and

reputational risks," the bank has increased its short- to medium-term CET1 target to around 16% from the previous 14%-15%. Danske also cancelled its share buyback program in response.

The bank's capital requirements are subject to change because the bank anticipates that the Danish FSA will impose an additional Pillar II add-on in the mid-single digit billion range. This is as a result of a "general product governance risk," following inspection of the bank's IT governance structure in response to the ongoing investigation on the overcharging of clients who invested in the bank's Flexinvest Fri product.

The bank has a target of a 40%-60% payout ratio of net profit.

Our assigned a1 Capital score reflects the bank's solid capital position, but also takes into account the bank's high leverage. Tangible common equity stood at 4.5% of total assets as of 30 June 2019, which is at the lower end of its large Nordic peers.

Profitability under pressure from margin compression and increased costs

We expect Danske's profitability to continue to be under pressure because competition and more expensive senior non-preferred debt issuances are compressing margins during a period of extremely low interest rates and elevated costs from additional remediation relating to the Estonia case.

Danske's net income fell to 0.4% of tangible assets in the first half of 2019 (first half of 2018: 0.5%) because of a combination of lower net interest income and higher costs. The bank's primary source of revenue is net interest income (around half of total income in the first half of 2019), which declined by 8% in H1 2019 compared with H1 2018, mainly because of a fall in lending margin and higher funding costs from the issuance of more expensive (compared with deposits and senior unsecured) senior non-preferred debt.

Net income was importantly negatively affected by lower trading income, which fell to DKK 2.1 billion in H1 2019 (from 2.5 bn in H1 2018), and had an even more significant impact on the full year of 2018 4.7 bn (from 7.1 bn in 2017).

The bank's operating expenses increased by 12% in H1 2019 compared with H1 2018 mainly because of upstaffing and investments in compliance and Anti-Money Laundering (AML) capabilities, the compensation payable to Flexivest Fri customers, and finally the continuous ambitious digital transformation.

As a result, the bank's efficiency metrics have deteriorated, with a cost/income (as per our definition) of 60% in H1 2019, up from 54% in H1 2018, widening the efficiency gap against its peers.

Danske recorded low impairments in core activities during H1 2019, with loan-loss provisions at 0.09% of gross loans, reflecting the stable macroeconomic environment and focus on a high quality loan book. This is, however, higher than in the year-earlier period, when the bank had reversals.

In this environment, we see Danske's ability to maintain tight cost control as very important.

We expect the bank's net income to continue to be negatively affected going forward by additional remediation costs, higher funding costs along with potential fines linked to the Estonian affair, which is reflected in our forward-looking assigned ba2 profitability score. While we acknowledge the high degree of uncertainty surrounding the magnitude of any potential fines resulting from the US investigations, an analysis of past money laundering cases involving US authorities suggests financial penalties alone (that is, excluding internal operational and remediation costs) could represent a sizable figure relative to the bank's annual net income.

High dependence on market funding, particularly covered bonds; liquidity is adequate

While the share of deposit funding has increased in recent years to around 28% of total non-equity funding as of June 2019, Danske relies heavily on wholesale funding. Market funds accounted for 43.2% of its tangible banking assets as of June 2019.

This high reliances exposes the bank to changes in market conditions, and renders Danske more sensitive to swings in investor confidence. The current situation, with increased regulatory scrutiny around the money laundering in Estonia, has resulted in widening spreads for the bank's senior unsecured and senior non-preferred debt, and downside risks to funding costs remain. Nevertheless, the bank has retained good access to the market, and issued about DKK65 billion of senior non-preferred instruments since 2018.

Most of the group's market funds are covered bonds (mainly taken up by Realkredit Danmark, the bank's mortgage subsidiary). As indicated in our Banks methodology, we reflect the greater stability of covered bonds compared with unsecured market funding through a standard adjustment to the funding structure ratio. Given the long history of the Danish covered bond markets, local currency and deep domestic investor base, we make additional (positive) adjustments for local-currency denominated covered bonds issued in this market. The assigned ba2 Funding Structure score also reflects our view of the Danish covered bond market.

We take some comfort from Danske's sizeable reported liquidity buffer — most of which can be used as collateral for central bank liquidity — amounting to DKK512 billion, or 15% of tangible banking assets as of 30 June 2019, leading to a baa1 assigned Liquidity score. As of the same date, Danske's liquidity coverage ratio, according to the new European Union standards, was 129% (down from 171% as of year-end 2017 because of reduced carry-trades in US dollars).

Environmental, social and governance considerations

In line with our general view for the banking sector, Danske has a low exposure to environmental risks (See our <u>Environmental risk heat</u> <u>maps</u>) and moderate exposure to social risks.

In terms of governance, Danske is being affected by a range of past governance failures, revealed in September 2018, that allowed money laundering of a significant scale at its Estonian branch between 2007-2015. In October 2018, the US Department of Justice announced that Danske is subject to criminal investigations, running in parallel with investigations in Denmark and Estonia, including for potential criminal activities.

We recognise that Danske has already taken a number of steps to address its Board and Executive level governance and control, and specifically its money laundering process control deficiencies since 2015 (following earlier investigations by the Danish regulator). However, with the recently launched investigations, the bank is now exposed to (1) a heightened risk of material monetary penalties, and (2) reputational strain that could lead to loss of business and franchise erosion.

The identified governance failures are influencing the assigned scores in our scorecard, as well as our negative outlook, thereby capturing our assessment of the likely near-term crystallization of governance failing risks. The risks manifest themselves in higher capital requirements and higher funding costs and operational costs, on the back of dampened customer and investor confidence and higher spending on AML capabilities. Given the remedial actions taken by the bank in terms of its governance structure, we do not apply a qualitative adjustment under corporate behavior in our scorecard. However, our negative outlook also takes into account potential fines linked to the Estonian affair, which whilst highly uncertain could be significant.

Support and structural considerations

Loss Given Failure analysis

Danske is subject to the European Union's Bank Recovery and Resolution Directive, which we consider to be an operational resolution regime. We apply our Advanced LGF analysis to Danske's liabilities, considering the risks faced by the different deposit and debt classes across its liability structure at failure. 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 and a 5% run-off in preferred deposits. These are in line with our standard assumptions.

Our LGF reflects our expectation that Danske will continue to issue senior non-preferred debt to comply with the Danish MREL decision. The deposit and senior unsecured debt ratings therefore reflect our advanced LGF analysis of the group's current balance sheet structure and its capital and funding plans up to 1 January 2022, when the subordination requirement for MREL is applicable. Our Advanced LGF analysis indicates that Danske's depositors and senior creditors are likely to face low loss given failure, because of the loss absorption provided by additional loss-absorbing debt, generated by the senior non-preferred issuance. This results in a one notch of uplift for junior deposits and senior unsecured debt.

We attach a high degree of confidence to the likelihood that the bank will fullfil the regulatory MREL requirement, along with a buffer, with the subordination required as of 2022, and therefore apply a forward-looking time horizon as per our updated methodology. We expect that depositors and senior unsecured creditors of Danske would benefit from sufficient subordination in the liability structure by year-end 2021, which would likely reduce the loss given failure, resulting in a one notch uplift.

Government support considerations

Although the implementation of the Bank Recovery and Resolution Directive has prompted us to reconsider the potential for government support to benefit certain creditors, we continue to consider a moderate probability of government support for Danske, resulting in a one notch of government support uplift in the bank's A2 long-term deposit and senior unsecured debt ratings. This reflects the fact that Danske is Denmark's largest financial institution, and the market leader in most financial products.

Counterparty Risk (CR) Assessment

CR Assessments are opinions of how counterparty obligations are likely to be treated if a bank fails and are distinct from debt and deposit ratings in that they (1) consider only the risk of default rather than both the likelihood of default and the expected financial loss suffered in the event of default, and (2) apply to counterparty obligations and contractual commitments rather than debt or deposit instruments. The CRA is an opinion of the counterparty risk related to a bank's covered bonds, contractual performance obligations (servicing), derivatives (for example, swaps), letters of credit, guarantees and liquidity facilities.

Danske's CR Assessment is positioned at Aa3(cr)/Prime-1(cr)

The CR Assessment is positioned four notches above the Adjusted BCA of baa1, based on the substantial buffer against default provided to the senior obligations represented by the CRA by subordinated instruments. The main difference with our Advanced LGF approach used to determine instrument ratings is that the CRA 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.

Counterparty Risk Ratings (CRRs)

CRRs are opinions of the ability of entities to honour the uncollateralised portion of non-debt counterparty financial liabilities (CRR liabilities) and also reflect the expected financial losses in the event such liabilities are not honoured. CRRs are distinct from ratings assigned to senior unsecured debt instruments and from issuer ratings because they reflect that, in a resolution, CRR liabilities might benefit from preferential treatment compared with senior unsecured debt. Examples of CRR liabilities include the uncollateralised portion of payables arising from derivatives transactions and the uncollateralised portion of liabilities under sale and repurchase agreements.

Danske's CRRs are positioned at Aa3/Prime-1

The CRR of Aa3 reflects the Adjusted BCA of baa1, four notches of uplift reflecting the extremely low loss given failure from the high volume of instruments that are subordinated to CRR liabilities. The CRR also benefits from one notch of systemic support, as an assumption of a moderate likelihood of government support. The short-term CRR is P-1.

Rating methodology and scorecard factors

Exhibit 5

Danske Bank A/S

Macro Factors	1000/								
Weighted Macro Profile Strong +	100%	-							
Factor	Historic Ratio	Initial Score	Expected Trend	Assignee	d Score	Key dr	iver #1	Key dri	ver #2
Solvency									
Asset Risk									
Problem Loans / Gross Loans	2.3%	a2	$\leftarrow \rightarrow$	baa	1	Operati	onal risk	Collate provisionin	
Capital Tangible Common Equity / Risk Weighted Assets	21.2%	aa1	$\leftarrow \rightarrow$	a1 Nominal leverage					
(Basel III - transitional phase-in)			~ /				U		
Profitability									
Net Income / Tangible Assets	0.4%	ba1	$\leftarrow \rightarrow$	ba	2	Expecte	ed trend		
Combined Solvency Score		a2		baa	a1				
Liquidity									
Funding Structure									
Market Funds / Tangible Banking Assets	42.2%	b1	$\leftarrow \rightarrow$	ba	2	Maı funding	rket quality		
Liquid Resources									
Liquid Banking Assets / Tangible Banking Assets	31.1%	a2	$\leftarrow \rightarrow$	baa	a1	Qual liquid	ity of assets		
Combined Liquidity Score		ba1		baa	13				
Financial Profile				baa	12				
Qualitative Adjustments				Adjust	ment				
Business Diversification				0					
Opacity and Complexity				0					
Corporate Behavior		0							
Total Qualitative Adjustments				0					
Sovereign or Affiliate constraint			Aaa						
Scorecard Calculated BCA range				baa1 -	baa3				
Assigned BCA				baa	a1				
Affiliate Support notching				0					
Adjusted BCA				baa	a1				
						_			
Balance Sheet			scope Million)	% in-s	соре	at-fa (DKK N		% at-1	failure
Other liabilities			6,269	60.5		1,911		63.	
Deposits		93	5,211	31.1	31.1%		,819	28.0%	
Preferred deposits			2,056	23.0	23.0%		453	21.9%	
Junior deposits		24	3,155	8.1	%	182,	366	6.1%	
Senior unsecured bank debt			,677	2.8% 84,677			2.8%		
Junior senior unsecured bank debt			,243	2.2%		65,		2.2%	
Dated subordinated bank debt			,255			0.4			
Equity			,082			90,082		3.0%	
Total Tangible Banking Assets)2,737			100			
	waterfall		waterfall	Notc		LGF		Additional	
Instrumer		Instrumer		-	De Facto	Notching		Notching	-
volume + subordinati		n volume 4 subordinati	- ordination			Guidance	notening		Assessmen
Subordinati	5 110	uvu ullati				vs. Adjusted BCA			
Counterparty Risk Rating 14.4%	14.4%	14.4%	14.4%	3	3	3	3	0	a1
Counterparty Risk Assessment 14.4%	14.4%	14.4%	14.4%	3	3	3	3	0	a1 (cr)
Deposits 14.4%	5.5%	14.4%	8.4%	1	2	1	1	0	ai (ci) a3
Serier unsecured bank debt 14.4%	5.5%	8.4%	5 5%	1	0	1	1	0	- 2

Senior unsecured bank debt

14.4%

5.5%

8.4%

5.5%

1

0

1

1

a3

0

Junior senior unsecured bank debt	5.5%	3.4%	5.5%	3.4%	-1	-1	-1	-1	0	baa2
Non-cumulative bank preference shares	3.0%	3.0%	3.0%	3.0%	-1	-1	-1	-1	-2	ba1
Instrument Class	Loss	Given	Additional	Prelimina	ry Rating	Gover	nment	Local Cu	rency	Foreign
	Failure ı	notching	notching	Assess	ment	Support	notching	Ratir	ng	Currency
										Rating
Counterparty Risk Rating		3	0	a´	1		1	Aa3	1	Aa3
Counterparty Risk Assessment		3	0	a1 (cr)		1	Aa3(o	cr)	
Deposits		1	0	a	3		1	A2		A2
Senior unsecured bank debt		1	0	a	3		1			A2
Junior senior unsecured bank debt	-	1	0	baa	a2)			Baa2
Non-cumulative bank preference shares	-	1	-2	ba	1)	Ba1 (h	yb)	Ba1 (hyb)
[1])) / la sua da sua sua sua sua fan a santi su lan fa stan (

[1]Where dashes are shown for a particular factor (or sub-factor), the score is based on non-public information. Source: Moody's Investors Service

Ratings

Exhibit 6

Exhibit 6	
Category	Moody's Rating
DANSKE BANK A/S	
Outlook	Negative
Counterparty Risk Rating	Aa3/P-1
Bank Deposits	A2/P-1
Baseline Credit Assessment	baa1
Adjusted Baseline Credit Assessment	baa1
Counterparty Risk Assessment	Aa3(cr)/P-1(cr)
Issuer Rating	A2
Senior Unsecured	A2
Junior Senior Unsecured	Baa2
Junior Senior Unsecured MTN	(P)Baa2
Pref. Stock Non-cumulative	Ba1 (hyb)
Commercial Paper	P-1
Other Short Term	(P)P-1
DANSKE BANK A/S (LONDON BRANCH)	
Outlook	Negative
Deposit Note/CD Program	(P)A2/(P)P-1
DANSKE CORPORATION	
Bkd Commercial Paper	P-1
Source: Moody's Investors Service	

© 2019 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 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 OR IMPAIRMENT. SEE MOODY'S RATING SYMBOLS AND DEFINITIONS PUBLICATION FOR INFORMATION ON THE TYPES OF CONTRACTUAL FINANCIAL OBLIGATIONS ADDRESSED BY MOODY'S RATINGS. 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 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 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 AND 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.

CREDIT RATINGS AND MOODY'S PUBLICATIONS ARE NOT INTENDED FOR USE BY ANY PERSON AS A BENCHMARK AS THAT TERM IS DEFINED FOR REGULATORY PURPOSES AND MUST NOT BE USED IN ANY WAY THAT COULD RESULT IN THEM BEING CONSIDERED A BENCHMARK.

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 CREDIT 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 ratings opinions and services rendered by it fees ranging from \$1,000 to approximately \$2,700,000. 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.moodys.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 657AFSL 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.

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 ratings opinions and services rendered by it fees ranging from JPY125,000 to approximately JPY250,000,000.

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

REPORT NUMBER 1194530

CLIENT SERVICES

Americas	1-212-553-1653
Asia Pacific	852-3551-3077
Japan	81-3-5408-4100
EMEA	44-20-7772-5454

MOODY'S INVESTORS SERVICE