

Rating Object	Rating Information	
KINGDOM OF DENMARK	Assigned Ratings/Outlook: AAA /stable	Type: Initial Rating, unsolicited
Long-term sovereign rating Foreign currency senior unsecured long-term debt Local currency senior unsecured long-term debt	Publication Date: 28-04-2017 Rating Date: - Rating Renewal: -	
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Rating Action

Neuss, 28 April 2017

Creditreform Rating has published the unsolicited long-term sovereign rating of "AAA" for the Kingdom of Denmark. Creditreform Rating has also published Denmark's unsolicited ratings for foreign and local currency senior unsecured long-term debt of "AAA". The outlook is stable.

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Key Rating Drivers

1. Extraordinarily strong economic, monetary and political institutions, which we view as forward-looking and stability- and reform-oriented
2. Very high fiscal sustainability, with government debt well below the levels seen in other high-income economies, and a strong fiscal framework
3. Despite the subdued development of its output growth, Denmark has a competitive and very prosperous economy - as reflected by high GDP per capita levels - as well as very high living standards and degree of social well-being
4. Very strong external finances as economy has displayed high and sustained current account surpluses, as well as a large and positive net international investment position
5. Challenge of high and rising house prices, coupled with a large debt position of private households, is currently balanced against a large asset position and the sovereign's policy-making, addressing these risks

Reasons for the Rating Decision

Our assessment of the Kingdom of Denmark's exceptionally high creditworthiness is reflected in the country's robust macroeconomic performance, very strong fiscal metrics, and its track record of sound and highly effective institutions.

First and foremost, Danish authorities exhibit a long-standing track record of very sound and solid policy-making, and Denmark's institutional set-up is of extraordinarily high quality – serving as a role model not only in the European Union but also by international comparison. This is illustrated by the World Governance Indicators, according to which the sovereign consistently ranks among the top-performers in terms of governance

standards. Thus, Denmark compares very well as regards the quality of policy formulation and implementation and the freedom of expression, as the World Bank places the country on rank 6 out of 209 economies on both counts. Better still, Denmark receives high scores when it comes to the quality of contract enforcement and property rights or the control of corruption (third and fifth rank, respectively).

The sovereign's highly effective and sound policy-making is consistent with its outstanding performance concerning key business environment indicators, which suggest that Denmark can be regarded as one of the most competitive and business-friendly economies worldwide. According to the World Bank's Doing Business report, Denmark is ranked third out of 190 economies, surpassed only by New Zealand and Singapore and thus the highest-ranking European economy. Moreover, the World Economic Forum's global competitiveness indicator reflects the economy's high degree of non-cost competitiveness, receiving high scores in particular for its education system, technological readiness and business sophistication.

At the same time, the Danish economy is characterized by very high R&D intensity, as expenditure on research and development across all sectors stood at 3.03% of GDP in 2015, the third-highest reading in Europe (behind Sweden and Austria), having hovered at around 3% since 2009. Business R&D intensity is among the highest in the EU-28, amounting to 1.87% of GDP in 2015. Also, Denmark is one of the most innovative economies in the European Union, ranking second to Sweden. Thus, the European Innovation Scoreboard identifies Denmark as an 'Innovation Leader', as the economy performs above EU average along all dimensions. What is more, Danish SMEs are performing well and the indicators monitored by the EU Commission suggest that the SBA (Small Business Act for Europe) profile is very strong – notably, the administrative burden and costs for SMEs have been significantly reduced as the public administration shows a high level of awareness of business needs.

In general, the government is very stability- and reform-oriented as the authorities are continuously committed to ensuring the Danes' high living standards and being responsive to the needs of the economy, i.e. addressing critical issues and swiftly putting these at the top of the policy agenda (e.g. Productivity Commission, labor market reforms; see below).

As regards Denmark's monetary framework, we view the highly credible and transparent monetary policy conducted by the Danmarks Nationalbank (DN) as supportive to Denmark's macroeconomic performance and the stability of the Danish krone (DKK). To be sure, the DN's only policy objective is to keep the krone – which has been pegged to the euro (Deutsche mark) since 1982 – stable, and the monetary policy interest rates are set to maintain the rate of DKK 746.038 per EUR 100 within a band of +/- 2.25%. The Swiss National Bank's decision to lift its euro ceiling in January 2015 prompted significant interest rate cuts and foreign exchange market interventions by the DN. The DN successfully defended the peg to the euro, as the central bank lowered the certificates of deposit rate (CD) from -0.05% on 19 January to -0.75% on 6 February 2015 – resulting in a marked widening of the spread with the ECB rate – and accumulated additional reserve assets (total) worth DKK 295.5bn or 14.6% of 2015 GDP during Q1-15 (to a total reserve asset

volume of DKK 756.9bn). As pressure on the exchange rate had eased, the volume of total reserve assets was reduced, returning to DKK 445.2bn by the end of 2015. Last year, the spread between the ECB's deposit rate and the DN's CD narrowed, after the DN raised the CD policy rate slightly to -0.65% and the ECB lowered its rate on the deposit facility to -0.40%.

Meanwhile, upward pressure on the krone intensified from the end of Q1-16 onwards and the DKK/EUR rate has been fluctuating between 7.430 and 7.445 since Q4-16. It has to be noted that the DN is highly dependent on the ECB's monetary policy and expectations regarding the developments in the euro area. While the DN's flexibility is thus restricted to some extent, we believe that the Danish central bank will maintain the fixed exchange rate in the medium term and will be determined to mitigate a further appreciation of the krone. As a strong krone would have adverse effects on Danish exports and the private sector's asset position (Q4-16: 38.2% of NFCs and private households total external assets denominated in euro), we may see further cuts to the CD rate and purchases of foreign exchange.

Still, Denmark's external position is credit positive as the sovereign has large external buffers, making the economy resilient to potential external shocks. The Danish current account has been characterized by large and growing surpluses over the last decade (2007-16 avg.: 6.1% of GDP), with all current account items contributing to the surplus except for secondary income. After the Danish current account surplus stood at 1.4% of GDP in 2007, the country's external balance improved steadily to 9.2% of GDP in 2015 before decreasing slightly to 8.1% of GDP last year. The upward-trending current account is mainly due to high savings accumulated by Danish NFCs in the wake of the financial crisis – corporate savings as measured by GDP increased by 5.2 p.p. from 11.9 to 17.1% in 2009-15. While business investment remained depressed, with the investment-to-GDP ratio hovering around the 10%-mark, it should gain momentum going forward, thus contributing to some narrowing of the current account surplus. Sustained current account surpluses have also boosted Denmark's net international investment position (NIIP). The country's net external asset position, which turned positive in Q4-09 has increased sharply in recent years, reaching 34.0% of GDP in 2015 and improving further to 56.1% of GDP by the end of 2016 – with portfolio investment accounting for almost half (45.0%) of Denmark's external assets.

Macroeconomic performance is a further rating strength, as rather modest real GDP growth figures have to be set against Denmark's wealthy and flexible economy. After economic activity expanded by 1.7 and 1.6% in 2014 and 2015, respectively, Danish real GDP growth slowed in 2016 – posting at 1.3%. Output growth was dented by net exports, with imports growing more dynamically (+2.4%) than external demand (+1.7%). Exports were curtailed by modest global trade and the development of sea freight. According to Statistics Denmark, the current receipts of sea transport plummeted in 2016, declining by 18.1% as compared to the previous year's volume. In contrast, economic expansion was bolstered by private consumption, which continued to grow robustly (1.9% in 2015 and 2016, respectively), contributing 0.9 p.p. to real GDP growth. Household spending was

boosted by employment growth (Q4-16: +1.6% y-o-y), stable consumer prices (HICP 2016: 0.0%) and accelerating wage growth (quarterly average in 2016: +1.8%).

Looking ahead, we expect that GDP growth will increase to 1.6% in 2017, with output growth becoming more broad-based. Although domestic demand should remain the most important driver of growth, thanks to robust consumption spending and a pick-up in investment, recent data also points to a strengthening of external demand. Business sentiment has picked up and the 3-month moving average of annual export growth is trending upward since the second half of 2016, reaching 8.7% in Feb-17. Moreover, Denmark's real effective exchange rate, which has weakened somewhat for most of 2016, should provide additional tailwinds to export performance.

In the medium term, we expect growth dynamics of the Danish economy to be moderate, as the country has experienced subdued productivity growth for some time. Thus, slowing productivity growth is mirrored by Denmark's average growth rate of 0.4% between 2007 and 2016, which is significantly lower than growth reported by AAA peers, such as Sweden (1.7%) or Germany (1.3%). To identify barriers for productivity growth, a Productivity Commission was set up in 2012. While some recommendations put forward by this commission have been addressed by legislation (e.g. enhancing competition in public procurement), others are currently under discussion (e.g. lifting retail store size restrictions, simplification of building permit procedures). More recently, the authorities have published the '2025 plan for a stronger Denmark' ('Helhedsplan – for et stærkere Danmark', DK2025), which lays out reform proposals for policy areas such as education, welfare and pensions, and is geared towards fostering productivity and employment.

By and large, we believe that recent productivity trends have to be assessed against Denmark's already high levels of wealth and productivity. In 2016, Denmark's per capita income posted at USD 46,603 PPP (23rd out of 189 countries) and labor productivity stood 32.0% above the average EU-28 level. The favorable labor market development is also reflected by other indicators we reference. While unemployment stabilized at a moderate 6.2% (2016), the Danish economy has seen brisk employment growth over recent years, increasing by 5.0% between Q4-13 and Q4-16. Consequently, Denmark's labor participation rate, which is traditionally one of the highest in the EU-28, further increased from 78.1 to 80.0% in 2013-16.

To some extent, high activity rates can be explained by the institutional set-up of the Danish labor market ("Flexicurity model"), which combines flexible rules for hiring and dismissing employees, significant spending on active labor market policies, and comparatively generous unemployment grants. At the same time, reforms of the unemployment insurance passed since 2010 are targeted towards creating stronger work incentives. A first reform passed in 2010, which cut the unemployment insurance period, was supplemented by additional labor rules in 2014-16, e.g. hours worked during the unemployment period can be used to extend the benefit period up to three years. With the introduction of a social assistance benefit ceiling, eligibility criteria were further tightened in October 2016.

That said, social protection is still extensive – leading to high costs in terms of government expenditure. The Danish State plays a more important role in the domestic economy than is the case for most other European sovereigns. Posting at 52.7 and 53.6% (2016), both the revenue-to-GDP as well as the expenditure-to-GDP ratio are well above the respective EU-28 readings of 44.9 and 46.6%, respectively, mirroring a substantial reallocation of funds by the Danish government. High tax revenues are spent on maintaining the country's generous social safety net, which has proven quite effective in terms of reducing income inequality. As indicated by the most recent data, the Gini coefficient of disposable income, among the OECD members only Norway and Iceland were characterized by a higher degree of income equality.

Yet, safeguarding social welfare and the standard of living has not resulted in excessive deficit spending and debt accumulation. After having posted an EMU-deficit of 1.3% of GDP in 2015, Denmark's budget deficit surprised on the upside last year. While estimates of the Ministry of Finance from December 2016 suggested a stabilization of net borrowing on 2015 levels, the country's budget deficit narrowed to 0.9% of GDP. To be sure, the Danish budget is characterized by some volatile revenue items, such as proceeds from oil and gas sales and the pension yield tax. The latter experienced strong growth in 2016 (+46.5% y-o-y) contributing positively to the final budget outcome. In addition, budget performance benefitted from lower-than-expected spending on social welfare due to the robust labor market development and further decreasing interest expenditure (-12.8%). With regard to this year, Denmark's headline deficit should widen to 1.5% of GDP, as the projected budget points to lower income from current taxes on income and wealth as well as higher current transfers to households (Statistics Denmark data). What is more, Denmark's funding costs are set to remain favorable. Government bond auctions in 2016 met vivid investor demand, mirrored by a record-low average yield to maturity of 0.1%. In the medium term, the DK2025 unveiled in August 2016 and to be substantiated throughout 2017 will likely result in a deterioration of the structural balance, due to tax reliefs for businesses, lower capital and income taxes and student grants. Nevertheless, we believe that DK2025 will buttress long-term fiscal sustainability, as it should boost Denmark's potential growth and labor input.

Denmark exhibits a strong fiscal framework, which we view as a strong anchor for future fiscal policies. The framework includes a structurally balanced budget rule (-0.5% of GDP) as well as binding expenditure ceilings for central government, municipalities, and regions. Compliance with the expenditure ceilings and the budget rule is monitored by an independent advisory body, the Danish Economic Council. Given its extensive fiscal framework and a track record of prudent fiscal policy-making, Denmark's general government gross debt should continue to decline over the medium term from an already low 37.8% of GDP (2016, EMU definition). Having said this, we believe that the increase of age-related expenditures will be moderate. Measures to curb future spending on pensions, such as a shortening of the period for which early retirement benefits can be received, were already implemented by the Danish government back in 2011. The 2011 pension reform was amended by a law passed in November 2015, according to which the statutory retirement age will gradually be lifted from 65 to 68 years by 2030. Further in-

creases are possible, as the new pension framework establishes a link between life expectancy and retirement age after 2030.

The significant size of Denmark's financial sector, which is reflected in an asset-to-GDP ratio of 588.3% (2016, deposit-takers and MMFs: 387.9%), represents a contingent liability risk to public finances. However, we believe that Denmark's prudent regulatory framework, together with the moderate debt burden, provides the authorities with sufficient fiscal buffers. Furthermore, soundness indicators signal that the banking sector is in good shape. Bolstered by increasing profitability and improving asset quality, Danish banks continued to strengthen their capital buffers in 2016. While return on assets increased from 0.1 to 0.7% between Q3-15 and Q3-16, the ratio of NPLs dropped by 1 p.p. to a low 3.3%. As a result, regulatory tier 1 capital to RWA was reported at 17.6% (Q3-16), up from 17.2% a year before. Notwithstanding, Danish financial institutions are carrying comparably large funding risks. According to DN data, debt securities contributed almost half (Feb-17: 44.7%) to total liabilities of MFIs residing in Denmark, due to the strong presence of mortgage banks in the Danish financial market. The pivotal role of mortgage lending is also highlighted by ECB data, suggesting that mortgage loans account for 90.3% (Jan-17) of credit outstanding to private households. Hence, the banking sector's exposure to mortgage lending is higher only in the Netherlands (93.0%). As a consequence, Danish banks are susceptible to a sharp decline of property prices. Driven by population growth, favorable financing conditions, and tax incentives, residential property prices have been constantly rising over the last five years. As of Q4-16, house prices recovered by 22.1% from their lowest level in Q4-11, almost reaching their all-time high dating back from Q3-07.

We believe that risks surrounding the housing market at the national level are limited, as affordability indicators such as the price-to-rent and price-to-income ratio are well below their historic highs. Still, future price dynamics warrant close monitoring with regard to the balance sheet situation of Danish households. Despite passive deleveraging since 2009, when household debt peaked at 148.6% of GDP, the current level of indebtedness (Q3-16: 132.6% of GDP) is one of the highest in the EU-28. Given the large share of domestic mortgages with variable interest rates, rising rates could negatively impact debt affordability of Danish households. However, liabilities are matched by the households' large – though rather illiquid – asset position (302.2% of GDP), with equity (incl. real estate) and pension entitlements making up for 79.7% of total assets in Q3-16.

Also, the Danish Financial Supervisory Authority (DFSA) introduced a broad set of regulatory measures to prevent the build-up of financial imbalances and to reduce financial stability risks stemming from high household indebtedness and the large mortgage exposure of banks. A first set of measures was adopted in 2015, including a 5% amortization requirement for new loans and the issuance of new risk management practices ('7 best practices') applying to mortgage banks with a high exposure to regions with a dynamic real estate price development (e.g. Copenhagen). Going forward, the stepwise implementation of the so-called 'Supervisory Diamond' should result in tighter lending standards for mortgage banks. The revised regulatory framework, phased in over 2018-20, will limit the banks' short-term funding opportunities, as well as their maximum exposure to certain

property types. Moreover, it is introducing caps on non-amortizing loans and variable lending to borrowers with high LTVs.

Rating Outlook and Sensitivity

Our Rating outlook on the long-term sovereign rating of AAA is stable, as we assume that the risk situation underlying the key factors affecting sovereign credit risk – including macroeconomic performance, institutional structure, fiscal sustainability, and foreign exposure – will remain fundamentally unchanged in the near term.

We could consider a downgrade if medium-term growth turns out to be substantially lower than projected. In our opinion, Denmark would be disproportionately affected by a longer period of subdued growth in the world economy, as the country can be characterized as a small, open economy (2016 trade-to-GDP ratio: 99.7%) which is highly integrated in global value chains. Generally, Danish exports are well diversified across industries and countries, but the country's main exports are relatively sensitive to changes in global investment activities. While capital goods (machinery, chemicals and transport equipment) accounted for almost half (46.9%) of total goods exports in 2016, service exports were dominated by sea freight transport (40.6%), which we regard as a highly cyclical industry.

Apart from unfavorable external developments, a sharp correction of property prices presents another downside risk for growth. Declining property prices would likely hit private consumption via negative wealth effects. In addition, debt affordability of households could be constrained in an environment of increasing risk aversion. Tighter lending standards could easily translate into a higher interest burden for households given the structure of mortgage debt. As of Feb-17, 63.3% of the outstanding loan volume of mortgage banks had a variable interest rate and 37.5% had an interest fixation period of one year or less. As the ECB's expansionary monetary policy is set to stay with us and will likely continue into 2018, the DN's monetary policy may become too accommodative for the Danish economy, and may also contribute to increased financial stability risks.

Our AAA rating could also be lowered if we observed a material deterioration in the government's fiscal policy and fiscal metrics in the years to come. Thus, substantial fiscal slippages over an extended period of time without the implementation of appropriate measures to correct the budget deficit could result in a downgrade.

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Ratings*

Long-term sovereign rating	AAA /stable
Foreign currency senior unsecured long-term debt	AAA /stable
Local currency senior unsecured long-term debt	AAA /stable

*) Unsolicited

Economic Data

[in %, otherwise indicated]	2011	2012	2013	2014	2015	2016	2017e
Real GDP growth	1.3	0.2	0.9	1.7	1.6	1.3	1.6
GDP per capita (PPP, USD)	42,879	43,48	43,901	45,054	45,723	46,603	48,087
Inflation rate, y-o-y change	2.7	2.4	0.5	0.4	0.2	0.0	1.2
Default history (years since default)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Life expectancy at birth (years)	79.8	80.1	80.3	80.7	81.1	n.a.	n.a.
Fiscal balance/GDP	-2.1	-3.5	-1.0	1.4	-1.3	-0.9	-1.5
Current account balance/GDP	6.6	6.3	7.8	8.9	9.2	8.1	n.a.
External debt/GDP	166.9	179.5	177.5	153.3	155.6	161.5	n.a.

Appendix

Regulatory Requirements

This sovereign rating is an unsolicited credit rating. Danmarks Nationalbank (DN) participated in the credit rating process as the authorities commented on a draft version of this report. Thus, the report represents an updated version which was augmented in response to the factual remarks of DN. The rating outcome as well as the related outlook remained unchanged.

The rating was conducted on the basis of Creditreform Rating's "Sovereign Ratings" methodology. Creditreform Rating AG ensures that methodologies, models and key rating assumptions for determining sovereign credit ratings are properly maintained, up-to-date, and subject to a comprehensive review on a periodic basis. A complete description of Creditreform Rating's rating methodologies is published on the following internet page: www.creditreform-rating.de.

A Rating Committee was called consisting of highly qualified analysts of Creditreform Rating AG. The quality of information available on the rated entity was considered satisfactory. The analysts and committee members declared that the rules of the Code of Conduct were complied with and that the rating action was and is free of any existing or potential conflicts of interest. The analysts presented the results of the quantitative and qualitative analyses and provided the Committee with a recommendation for the rating decision. After the discussion of the relevant quantitative and qualitative risk factors, the Rating Committee arrived at a unanimous rating decision. The weighting of all risk factors is described in Creditreform Rating's "Sovereign Ratings" methodology. The main arguments that were raised in the discussion are summarized in the "Reasons for the Rating Decision".

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