

# KINGDOM OF DENMARK

Rating Analysis - 7/26/18

\*EJR Sen Rating(Curr/Prj) AA/ AA

\*EJR CP Rating: A1+

EJR's 3 yr. Default Probability: 1.0%

Minimal leverage - Denmark's Debt to GDP is merely ~35.2%, which is low compared to most peers. Furthermore, the government is running a surplus as indicated below.

Denmark GDP growth picked up in YOY terms from the prior quarter's weak performance according to data from the second quarter of 2018. Consumer confidence has been improved, reflecting higher wages and a strengthening labor market with the employment rate at a highest level for the recent years. Besides, business confidence was covered in Q2 after several negative readings in Q1. However, the average manufacturing PMI for the second quarter was lower than the average in the first quarter due to lower new orders which indicates a weaker overseas demand. This could hurt not only exports but also manufacturing activity. Private consumption growth is expected to increase in line with income, with household saving rate staying high. Regarding private non-residential investment, capital intensity has decreased leaving room for pent-up investment needs by businesses. Affirming.

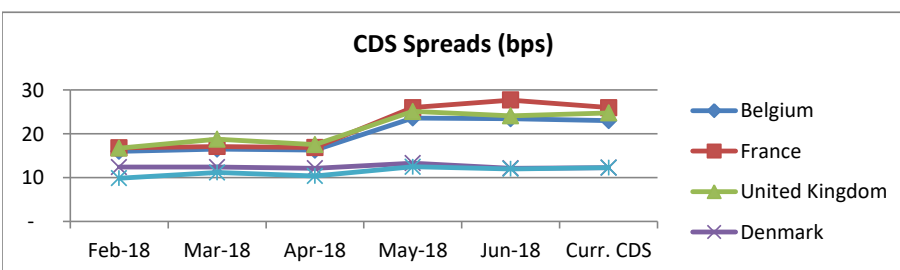
## CREDIT POSITION

	Annual Ratios (source for past results: IMF)					
	2015	2016	2017	P2018	P2019	P2020
Debt/ GDP (%)	37.9	36.0	35.2	32.6	29.9	27.3
Govt. Sur/Def to GDP (%)	-0.9	0.5	1.5	1.7	1.9	2.0
Adjusted Debt/GDP (%)	37.9	36.0	35.2	32.8	30.1	27.5
Interest Expense/ Taxes (%)	3.3	2.9	2.3	2.4	2.4	2.5
GDP Growth (%)	2.3	1.9	4.0	2.0	2.0	2.0
Foreign Reserves/Debt (%)	50.5	53.2	58.2	62.6	73.5	80.3
Implied Sen. Rating	AA	AA	AA+	AA+	AA+	AA+

## INDICATIVE CREDIT RATIOS

	AA	A	BBB	BB	B	CCC
Debt/ GDP (%)	100.0	115.0	130.0	145.0	170.0	200.0
Govt. Sur/Def to GDP (%)	2.5	0.5	-2.0	-5.0	-8.0	-10.0
Adjusted Debt/GDP (%)	95.0	110.0	125.0	140.0	160.0	190.0
Interest Expense/ Taxes (%)	9.0	12.0	15.0	22.0	26.0	35.0
GDP Growth (%)	3.5	3.0	2.0	1.0	-1.0	-5.0
Foreign Reserves/Debt (%)	3.0	2.5	2.0	1.5	1.0	0.5

	Other NRSRO Sen.	Debt as a % of GDP	Govt. Surp. Def to GDP (%)	Adjusted Debt/ GDP	Interest Expense/ Taxes %	GDP Growth (%)	Ratio-Implied Rating*
<b>PEER RATIOS</b>							
Federal Republic Of Germany	AAA	71.8	1.2	71.8	4.4	3.8	AA+
French Republic	AA	122.0	-2.4	122.0	5.9	2.8	A-
Kingdom Of Belgium	AA	121.8	-1.0	121.8	8.0	3.4	A
Republic Of Finland	AA+	73.3	-0.2	73.3	3.1	3.6	AA+

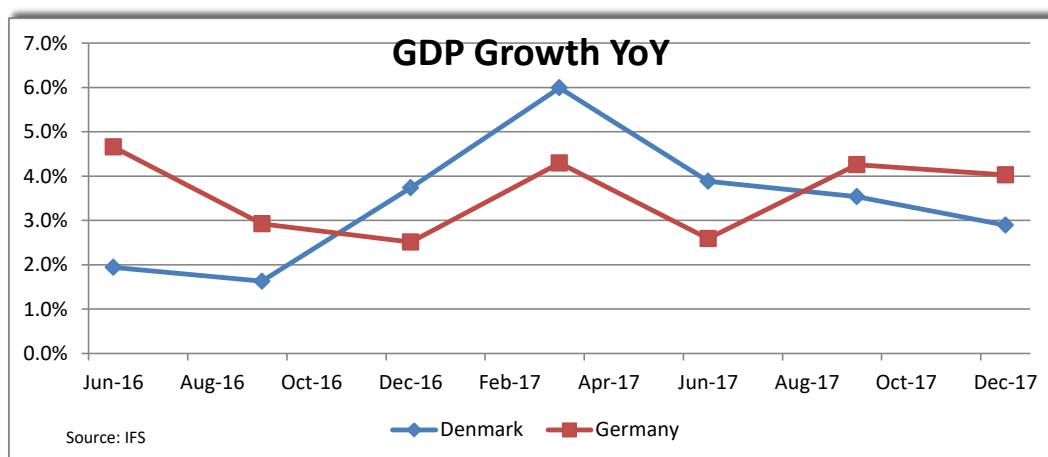


Country	CDS
Belgium	23
France	26
United Kingdom	25
Denmark	12
Germany	12

**Economic Growth**

The economy of Denmark has reached full potential and GDP growth is increasingly supported by strong domestic demand. Fiscal policy will also support the growth in 2018 and 2019, mostly due to the lower personal income tax, and some one-off transfers related to recent property tax and early retirement reforms. Improving economic conditions and solid housing market provide a great opportunity to shift tax structure from labor to immovable capital and reduce the price pressure on housing.

The economy is expected to grow at close to 2% in the near future with the help from increasing private consumption and private investment growth. Brexit continues to be the external uncertainty for Denmark.



**Fiscal Policy**

Denmark achieved a positive Surplus-to-GDP in 2017 while most of its peers had deficit. With close-to-potential economy growth, a contractive fiscal policy will be supported since monetary policy is likely to remain accommodative and the central bank aims to keep the krone pegged to euro. Measures like decreasing interest rate, tax deductibility and periodically updating property valuations are ways the government could employ to tighten the policy.

	Surplus-to-GDP (%)	Debt-to-GDP (%)	5 Yr. CDS Spreads
Denmark	1.50	35.16	12.24
Germany	1.20	64.13	12.28
France	-2.39	96.80	25.98
Belgium	-0.97	121.83	23.04
Finland	-0.23	73.33	13.27
United Kingdc	-0.89	117.57	24.79

Sources: Thomson Reuters and IFS

**Unemployment**

The unemployment rate has fallen and labor shortages are reported in the construction sector and are intensifying more broadly. A drop of the state welfare support for refugees (unemployed people) is one of the primary reason for the overall unemployment decrease. The tax reform will boost labor market participation and lower the unemployment rate.

	Unemployment (%)	
	2016	2017
Denmark	6.19	5.72
Germany	4.14	3.77
France	10.07	9.43
Belgium	7.86	7.16
Finland	8.79	8.63
United Kingd	4.91	4.40

Source: Intl. Finance Statistics

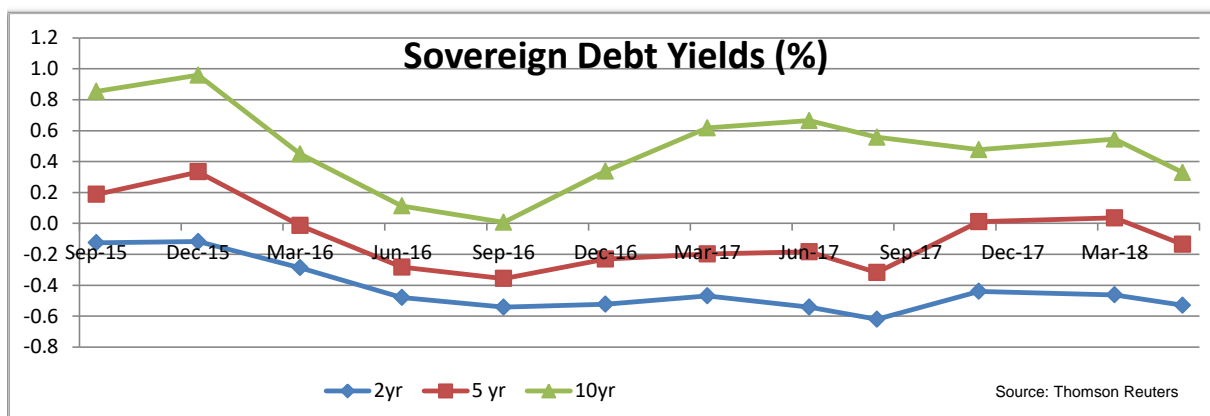
**Banking Sector**

The top 5 banks in Denmark have total asset equal to approximately 204% of the GDP. Danish bank's earning are challenged by low net interest income which is under pressure from subdued demand for new loans. Mortgage rates of Denmark has been declining since 2008 financial crisis and the short-term mortgage rates currently is below 0%. Overall, banks in Denmark have increased their capitalization since the 2008 financial crisis.

Bank Assets (billions of local currency)		
	Assets	Mkt Cap/ Assets %
DANSKE BANK A/S	3539.53	4.58
JYSKE BANK-REG	597.44	5.11
SYDBANK	138.49	11.10
SPAR NORD BANK	80.37	10.63
RINGKJOEBING LND	<u>25.80</u>	<u>43.09</u>
Total	4,381.6	
EJR's est. of cap shortfall at 10% of assets less market cap		210.4
Denmark's GDP		2,149.6

**Funding Costs**

As can be seen in the below graph, the bond yields have been relatively stable in last two years. Current 5-year CDS and 2-year CDS are still negative (-0.13% for 2-year and -0.53% for 5-year) while 10-year CDS is approximately 0.3%. We expect Denmark's borrowing cost to be maintained in a low level since ECB is reluctant to raise interest rate until middle of 2019 and Danish krone is pegged to euro.



**Ease of Doing Business**

Major factors for growing the economy are the ease of doing business and the economic freedom; although not the sole factor for determining economic growth, a country which makes it easy for businesses to operate and provides a reasonably free environment to conduct business has a good chance for growth. The chart on the right indicates that with an overall rank of 3 (1 is best, 189 worst) is extremely strong.

The World Bank's Doing Business Survey*			
	2018	2017	Change in
	Rank	Rank	Rank
<b>Overall Country Rank:</b>	<b>3</b>	<b>3</b>	<b>0</b>
<b>Scores:</b>			
Starting a Business	34	24	-10
Construction Permits	1	6	5
Getting Electricity	16	14	-2
Registering Property	11	12	1
Getting Credit	42	32	-10
Protecting Investors	33	19	-14
Paying Taxes	8	7	-1
Trading Across Borders	1	1	0
Enforcing Contracts	32	24	-8
Resolving Insolvency	7	8	1

\* Based on a scale of 1 to 189 with 1 being the highest ranking.

**Economic Freedom**

As can be seen below, Denmark is strong in its overall rank of 76.6 for Economic Freedom with 100 being best.

<b>Heritage Foundation 2018 Index of Economic Freedom</b>				
<b>World Rank 76.6*</b>				
	<b>2018</b>	<b>2017</b>	<b>Change in</b>	<b>World</b>
	<b>Rank**</b>	<b>Rank</b>	<b>Rank</b>	<b>Avg.</b>
<b>Property Rights</b>	<b>84.8</b>	<b>86.7</b>	<b>-1.9</b>	<b>51.5</b>
<b>Government Integrity</b>	<b>83.6</b>	<b>84.9</b>	<b>-1.3</b>	<b>46.9</b>
<b>Judicial Effectiveness</b>	<b>84.1</b>	<b>68.5</b>	<b>15.6</b>	<b>42.1</b>
<b>Tax Burden</b>	<b>41.4</b>	<b>37.2</b>	<b>4.2</b>	<b>76.7</b>
<b>Gov't Spending</b>	<b>10.6</b>	<b>5.7</b>	<b>4.9</b>	<b>63.5</b>
<b>Fiscal Health</b>	<b>96.7</b>	<b>95.4</b>	<b>1.3</b>	<b>66.3</b>
<b>Business Freedom</b>	<b>92.5</b>	<b>93.9</b>	<b>-1.4</b>	<b>64.8</b>
<b>Labor Freedom</b>	<b>82.8</b>	<b>85.8</b>	<b>-3.0</b>	<b>58.9</b>
<b>Monetary Freedom</b>	<b>86.4</b>	<b>85.5</b>	<b>0.9</b>	<b>76.0</b>
<b>Trade Freedom</b>	<b>86.9</b>	<b>87.0</b>	<b>-0.1</b>	<b>75.9</b>

\*Based on a scale of 1-100 with 100 being the highest ranking.  
 \*\*The ten economic freedoms are based on a scale of 0 (least free) to 100 (most free).  
 Source: The Heritage Foundation

**Credit Quality Driver: Taxes Growth:**

KINGDOM OF DENMARK has grown its taxes of 3.2% per annum in the last fiscal year which is disappointing. We expect tax revenues will grow approximately 1.5% per annum over the next couple of years and 1.2% per annum for the next couple of years thereafter.

**Credit Quality Driver: Total Revenue Growth:**

KINGDOM OF DENMARK's total revenue growth has been less than its peers and we assumed a 1.0% growth in total revenue over the next two years.

Income Statement	Peer Median	Issuer Avg.	Assumptions	
			Yr 1&2	Yr 3,4,5
Taxes Growth%	5.0	3.2	1.5	1.2
Social Contributions Growth %	3.2	(2.2)	0.8	0.7
Grant Revenue Growth %	0.0	NMF		
Other Revenue Growth %	0.0	NMF		
Other Operating Income Growth%	0.0	4.3	2.0	2.0
Total Revenue Growth%	4.3	3.2	1.0	1.0
Compensation of Employees Growth%	0.0	0.0		
Use of Goods & Services Growth%	2.3	2.3	1.8	1.6
Social Benefits Growth%	2.1	1.4	1.4	1.4
Subsidies Growth%	3.1	1.3		
Other Expenses Growth%	0.0			
Interest Expense	1.8	3.0	4.0	
Currency and Deposits (asset) Growth%	0.0	0.0		
Securities other than Shares LT (asset) Growth%	(5.1)	0.0		
Loans (asset) Growth%	2.5	(1.4)	(1.4)	(1.4)
Shares and Other Equity (asset) Growth%	0.0	0.0		
Insurance Technical Reserves (asset) Growth%	0.0	0.0		
Financial Derivatives (asset) Growth%	0.0	0.0		
Other Accounts Receivable LT Growth%	2.7	25.9	1.5	1.5
Monetary Gold and SDR's Growth %	0.0	0.0	5.0	5.0
Other Assets Growth%	0.0	0.0		
Other Accounts Payable Growth%	0.0			
Currency & Deposits (liability) Growth%	0.0	0.0		
Securities Other than Shares (liability) Growth%	(1.8)	(2.2)	(1.0)	(0.8)
Loans (liability) Growth%	(2.1)	(0.4)	1.5	1.5
Insurance Technical Reserves (liability) Growth%	0.0	0.0		
Financial Derivatives (liability) Growth%	0.0	0.0		
Additional ST debt (1st year)(billions DKK)	0.0	0.0		

**ANNUAL INCOME STATEMENTS**

Below are KINGDOM OF DENMARK's annual income statements with the projected years based on the assumptions listed on page 5.

	ANNUAL REVENUE AND EXPENSE STATEMENT					
	(BILLIONS DKK)					
	2014	2015	2016	2017	P2018	P2019
Taxes	982	956	963	994	1,009	1,024
Social Contributions	20	20	20	19	20	20
Grant Revenue						
Other Revenue						
Other Operating Income	114	104	116	121	121	121
Total Revenue	1,117	1,081	1,099	1,134	1,149	1,165
Compensation of Employees						
Use of Goods & Services	181	183	186	190	194	197
Social Benefits	371	376	379	384	390	395
Subsidies	41	41	39	39	39	39
Other Expenses				406	406	406
Grant Expense						
Depreciation	57	57	59	60	60	60
Total Expenses excluding interest	1,047	1,066	1,061	1,079	1,088	1,097
Operating Surplus/Shortfall	70	14	38	55	61	68
Interest Expense	<u>29</u>	<u>32</u>	<u>28</u>	<u>23</u>	<u>24</u>	<u>25</u>
Net Operating Balance	41	-17	10	32	37	43

**ANNUAL BALANCE SHEETS**

Below are KINGDOM OF DENMARK's balance sheets with the projected years based on the assumptions listed on page 5.

	<b>ANNUAL BALANCE SHEETS (BILLIONS DKK)</b>					
<b>Base Case</b>	2014	2015	2016	2017	P2018	P2019
<b>ASSETS</b>						
Currency and Deposits (asset)					31	31
Securities other than Shares LT (asset)	67	68	62	61	61	61
Loans (asset)	180	184	186	183	181	178
Shares and Other Equity (asset)						
Insurance Technical Reserves (asset)					0	0
Financial Derivatives (asset)						
Other Accounts Receivable LT	125	87	103	129	131	133
Monetary Gold and SDR's						
<b>Other Assets</b>					696	696
<b>Additional Assets</b>	<u>703</u>	<u>654</u>	<u>655</u>	<u>696</u>		
<b>Total Financial Assets</b>	<b>1,074</b>	<b>994</b>	<b>1,006</b>	<b>1,069</b>	<b>1,099</b>	<b>1,099</b>
<b>LIABILITIES</b>						
Other Accounts Payable						
Currency & Deposits (liability)					0	0
Securities Other than Shares (liability)	831	737	730	714	707	700
Loans (liability)	165	170	171	171	133	90
Insurance Technical Reserves (liability)						
Financial Derivatives (liability)						
Other Liabilities	<u>176</u>	<u>184</u>	<u>182</u>	<u>194</u>	<u>194</u>	<u>194</u>
<b>Liabilities</b>	<b>1,172</b>	<b>1,090</b>	<b>1,084</b>	<b>1,079</b>	<b>1,072</b>	<b>1,028</b>
<b>Net Financial Worth</b>	<u>-98</u>	<u>-97</u>	<u>-78</u>	<u>-10</u>	<u>28</u>	<u>71</u>
<b>Total Liabilities &amp; Equity</b>	<b>1,074</b>	<b>994</b>	<b>1,006</b>	<b>1,069</b>	<b>1,099</b>	<b>1,099</b>

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**Comments on the Difference between the Model and Assigned Rating**

In this case, there has been little change in the recent results and therefore we have used our best judgement in making adjustments which are reflected in the results for the projected ratings. We have assigned a rating of "AA" whereas the ratio-implied rating for the most recent period is "AA+"; we expect results to decline slightly.

**Changes in Indicative Ratios**

We have not made any adjustment in the indicative ratios at this time.



**SEC Rule 17g-7(a) Disclosure**

Below are the disclosures as required by Paragraph (a) of Rule 17g-7.

**1. The symbol in the rating scale used to denote the credit rating categories and notches within categories and the identity of the obligor, security, or money market instrument as required by Paragraph (a)(1)(ii)(A) of Rule 17g-7:**

For the issuer KINGDOM OF DENMARK with the ticker of 1271Z DC we have assigned the senior unsecured rating of AA. There are three notches in our rating categories (e.g., A-, A, and A+) other than those deep into speculative grade; for CC, C, and D there are no notches.

**2. The version of the procedure or methodology used to determine the credit rating as required by Paragraph (a)(1)(ii)(B) of Rule 17g-7:**

We are using the methodology available in our Form NRSRO Exhibit #2 dated Feb 24, 2017 available via [egan-jones.com](http://egan-jones.com) under the tab at the bottom of the page "Methodologies".

**3. The main assumptions and principles used in constructing the procedures and methodologies used to determine the credit rating as required by Paragraph (a)(1)(ii)(C) of Rule 17g-7:**

The credit rating assigned reflects our judgement regarding the future credit quality of the issuer. Regarding the specific assumptions used, please refer to page 3 of this Rating Analysis Report.

**4. The potential limitations of the credit rating as required by Paragraph (a)(1)(ii)(D) of Rule 17g-7:**

Our rating pertains solely to our view of current and prospective credit quality. Our rating does not address pricing, liquidity, or other risks associated with holding investments in the issuer.

**5. Information on the uncertainty of the credit rating as required by Paragraph (a)(1)(ii)(E) of Rule 17g-7:**

Our rating is dependant on numerous factors including the reliability, accuracy, and quality of the data relied upon in determining the credit rating. The data is sourced from publicly-available 10Q and 10K statements, quarterly reports, 8K filings, earnings reports, and other similar sources. In some cases, the information is limited because of issues such as short operating histories, the lack of reported data, a delay in reporting data, restatements, inaccurate accounting, and other issues. Such shortcomings are not always readily apparent. EJR aims to identify such shortcomings and make adjustments using its best judgement.

**6. Whether and to what extent third-party due diligence services have been used in taking the rating action as required by Paragraph (a)(1)(ii)(F) of Rule 17g-7:**

EJR does not utilize third-party due diligence services.

**7. How servicer or remittance reports were used, and with what frequency, to conduct surveillance of the credit rating as required by Paragraph (a)(1)(ii)(G) of Rule 17g-7:**

Servicer or remittance reports normally pertain to structured finance issuers; this report does not pertain to a structured finance issuer (EJR is not an NRSRO for structured finance or sovereigns/ municipal issuers). Regarding surveillance, the minimum time period for corporation issuers is normally one year.

**8. A description of the data that were relied upon for the purpose of determining the credit rating as required by Paragraph (a)(1)(ii)(H) of Rule 17g-7:**

EJR uses 10Q and 10K statements, quarterly reports, 8K filings, earnings reports, and other similar sources for ratings on publicly-traded issuers. In the case of private issuers, EJR relies on information provided mainly by issuers.

**9. A statement containing an overall assessment of the quality of information available and considered in the credit rating as required by Paragraph (a)(1)(ii)(I) of Rule 17g-7: The information is generally high quality and readily avail.****10. Information relating to conflicts of interest as required by Paragraph (a)(1)(ii)(J) of Rule 17g-7:**

This rating is unsolicited.

**11. An explanation or measure of the potential volatility of the credit rating as required by Paragraph (a)(1)(ii)(K) of Rule 17g-7:**

Our rating aims to assess the probability of the payment of obligations in full and on-time. Factors which affect such probability, and in turn our rating, include changes in the operating performance of the issuer, changes in capital structure, and merger and acquisition events.

**12. Information on the content of the credit rating as required by Paragraph (a)(1)(ii)(L) of Rule 17g-7:**

Regarding the historical performance of the credit rating, our rating transition matrix is available in our Form NRSRO, exhibit 1. The expected probability of default and the expected loss in the event of default is listed on the first page of this report.

**13. Information on the sensitivity of the credit rating to assumptions as required by Paragraph (a)(1)(ii)(M) of Rule 17g-7:**

Below is a summary of the impact of the 5 assumptions which independently would have the greatest impact on our "ratio-implied rating":

	Assumptions			Resulting Ratio-Implied Rating		
	Base	Optimistic	Pessimistic	Base	Optimistic	Pessimistic
Taxes Growth%	1.5	5.5	(2.5)	AA	AA	AA
Social Contributions Growth %	0.8	3.8	(2.2)	AA	AA	AA
Other Revenue Growth %		3.0	(3.0)	AA	AA	AA
Total Revenue Growth%	1.0	3.0	(1.0)	AA	AA	AA
Monetary Gold and SDR's Growth %	5.0	7.0	3.0	AA	AA	AA

**14. If the credit rating is assigned to an asset-backed security, a description of: (i) the representations, warranties, and enforcement mechanisms available to investors; and (ii) how they differ from the representations, warranties, and enforcement mechanisms in issuances of similar securities, as required by Paragraph (a)(1)(ii)(N) of Rule 17g-7:**

This credit rating is not assigned to an asset-backed security.

**ATTESTATION FORM**

In compliance with the US Securities and Exchange Commission (SEC) Rule 17g-7(a), the Egan-Jones analyst who published the report is responsible for the rating action and to the best knowledge of the person:

- 1) No part of the credit rating was influenced by any other business activities,
- 2) The credit rating was based solely upon the merits of the obligor, security, or money market instrument being rated, and
- 3) The credit rating was an independent evaluation of the credit risk of the obligor, security, or money market instrument.

**Analyst Signature:**

**Today's Date**

*Chris Liao*

July 26, 2018

Chris Liao  
Rating Analyst

**Reviewer Signature:**

**Today's Date**

*Steve Zhang*

July 26, 2018

Steve Zhang  
Senior Rating Analyst

## **Sovereign Rating Methodology (Non-NRSRO)**

**Scope and Limitations: Sovereign Issuer Credit Quality Ratings (CQR) are a forward-looking assessment of a sovereign's capacity and willingness to honor its existing and future obligations in full and on time. Sovereigns are assigned two CQRs: a Local-Currency CQR, which reflects the likelihood of default on debt issued and payable in the currency of the sovereign, and a Foreign-Currency CQR, which is an assessment of the credit risk associated with debt issued and payable in foreign currencies.**

**Key Rating Drivers: EJR's approach to sovereign risk analysis is a synthesis of quantitative and qualitative judgments. The quantitative factors EJR uses are:**

- Debt in relation to GDP.
- Surplus or deficit in relation to GDP.
- Debt plus potential under-funding of major banks in relation to GDP.
- Interest expense in relation to taxes.
- GDP growth.
- Foreign reserves in relation to debt.

Debt levels for many sovereign issuers have increased at an accelerating rate over the past decade, affecting implied ratings. EJR also considers unemployment levels and funding costs. EJR recognizes that no model can fully capture all the relevant influences on sovereign creditworthiness, meaning that the its sovereign ratings can and do differ from those implied by the rating model. Some of the qualitative factors that impact its ultimate assessment of credit quality include the flexibility, stability and overall strength of the economy, efficiency of tax collection, acceptance of contract law, ease of doing business, trade balances, prospects for future growth and health and monetary policy, and economic freedom. These subjective and dynamic qualitative issues are not captured by the model but affect sovereign ratings

*For additional information, please see Exhibit 2: Methodologies in EJR's Form NRSRO.*