

GRAND DUCHY OF LUXEMBOURG

Rating Analysis - 5/16/16

*EJR Sen Rating(Curr/Prj) AAA/ AAA

*EJR CP Rating: A1+

EJR's 7 yr. Default Probability: 0.0%

Strong credit position - Luxembourg has been a strong credit for two primary reasons: 1) its low Debt-to-GDP ratio of 23.4%, one of the best in the Eurozone region, and 2) its continuous fiscal surplus over the years. The Luxembourg government has a proven record of success in maintaining the fiscal surplus, as evidenced by its performance in the face of the 2008 financial crisis. Low overall debt coupled with a steady and robust revenue stream makes it unlikely for Luxembourg to default on its credit consumption.

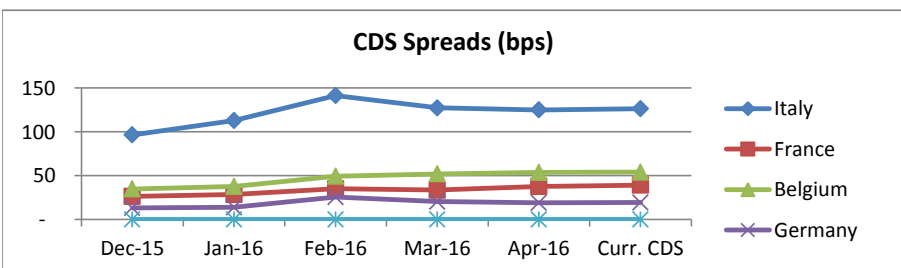
A major source of risk for Luxembourg is its overdependence on the financial sector, which contributes to almost one-third of the total GDP. The close linkage between GDP and the financial markets also underlies the volatility in its GDP growth. The size of the banking sector is giant, with a total assets amount of more than 10 times of GDP. Furthermore, Luxembourg's banking sector is dominated by foreign banks, which, despite the ongoing recovery of the financial sector, continues to pose potential threats in the long-term future. We are assigning a rating of "AAA".

Annual Ratios (source for past results: IMF)

CREDIT POSITION	2012	2013	2014	P2015	P2016	P2017
Debt/ GDP (%)	21.9	24.1	23.4	20.9	18.6	16.3
Govt. Sur/Def to GDP (%)	1.9	2.1	2.8	3.0	3.1	3.2
Adjusted Debt/GDP (%)	21.9	24.1	23.4	21.0	18.6	16.3
Interest Expense/ Taxes (%)	1.7	1.6	1.4	1.4	1.4	1.3
GDP Growth (%)	3.3	3.4	6.3	4.0	4.0	4.0
Foreign Reserves/Debt (%)	1.2	1.2	1.4	1.5	1.7	1.8
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

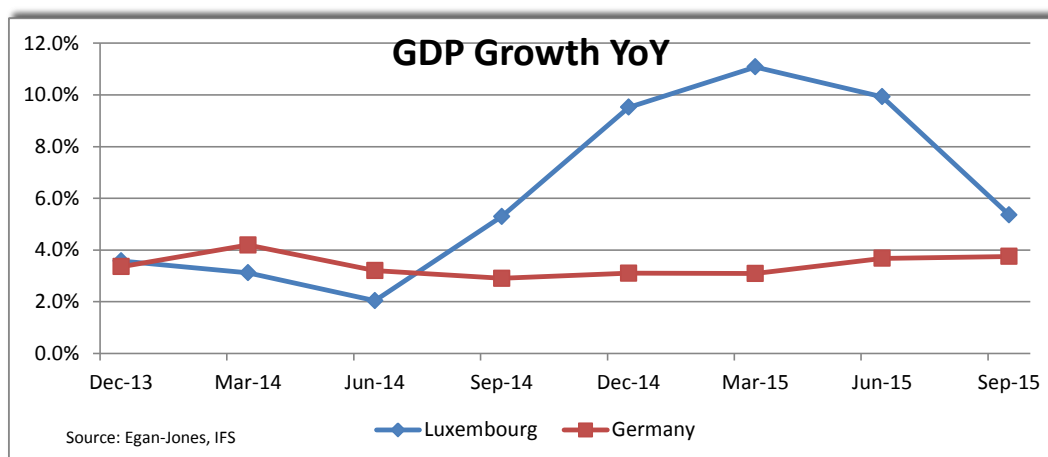
PEER RATIOS	Other NRSRO Sen.	Debt as a % of GDP	Govt. Surp. Def to GDP (%)	Adjusted Debt/ GDP	Interest Expense/ Taxes %	GDP Growth (%)	Ratio-Implied Rating*
Federal Republic Of Germany	AAA	75.2	0.2	75.2	7.7	3.4	AA
French Republic	AA	95.5	-3.6	95.5	7.5	0.7	A
Kingdom Of Belgium	AA	106.3	-3.0	106.3	10.3	1.7	A-
Republic Of Italy	BBB-	132.2	-3.6	132.2	15.4	0.4	BBB-
Portugal Republic	BB+	130.2	-8.1	130.2	19.5	1.9	BB+



Country (EJR Rtg*)	CDS
Italy (CCC+)	127
France (BBB)	39
Belgium (BBB)	54
Germany (A)	19
Luxembourg (AAA)	N/A

Economic Growth

Luxemburg enjoyed high GDP growth YoY over the last 5 quarters starting from September 2014. As shown in the chart below, Luxembourg's GDP growth was significantly higher than Germany's in this period. However, the volatility of the growth is a concern. The growth rate dropped from around 3.5% in December 2013 to 2% in June 2014, bounced back and peaked at 11% in March 2015, and then dropped sharply in 2 quarters to about 5%. Considering the fact that Luxembourg's GDP experienced a decline in 2009, one possible explanation of the high volatility may be that the economy is mainly dependent on the financial sector. Given the ongoing recovery of the financial sector, we are expecting Luxembourg's future GDP growth to be respectable.



Fiscal Policy

Luxembourg's fiscal position is strong, with a Surplus-to-GDP ratio of 2.83% and a Debt-to-GDP ratio of 23.36%, the best among all the peer countries. Although the country's ruling coalition might be unstable, its fiscal policy is unlikely to be changed significantly. Hence we expect Luxembourg to maintain a stable and strong fiscal position.

	Deficit-to-GDP (%)	Debt-to-GDP (%)	5 Yr. CDS Spreads
Luxembourg	-2.83	23.36	N/A
Germany	-0.19	75.22	19.32
France	3.60	95.51	39.17
Belgium	3.01	106.29	54.08
Italy	3.55	132.15	126.51
Portugal	8.05	130.17	259.02

Sources: Thomson Reuters and IFS

Unemployment

Luxembourg's unemployment rate is at a comfortable level compared to its peers. As can be seen in the chart, the rate of 6.05% in 2014 is the lowest, even better than Germany. Although the rate increased slightly from 2013, the overall trend is stable. We don't consider the future unemployment as a potential drawback of Luxembourg's economy.

	Unemployment (%)	
	2013	2014
Luxembourg	5.88	6.05
Germany	6.88	6.70
France	10.28	10.30
Belgium	8.45	8.53
Italy	12.13	12.65
Portugal	16.46	14.13

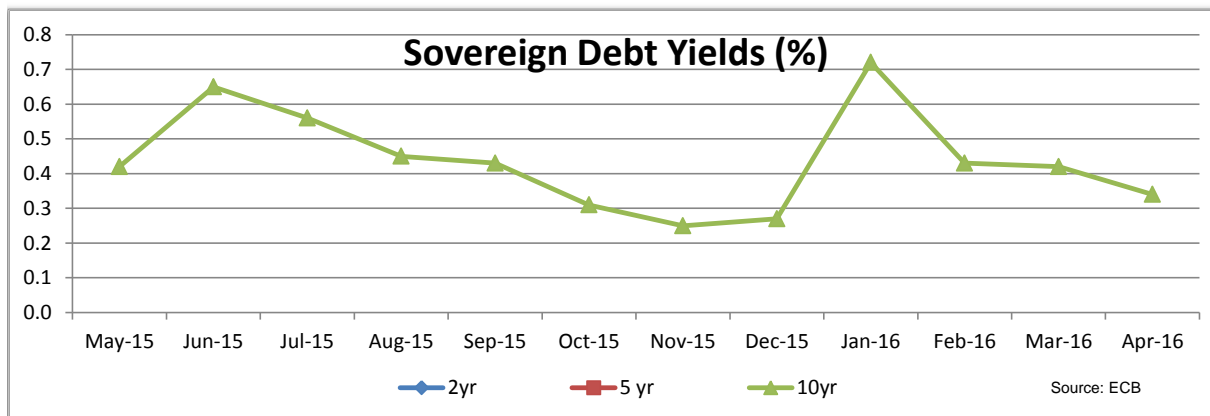
Source: Intl. Finance Statistics

Banking Sector

Luxembourg's banking sector is dominated by foreign banks and the banks total assets is more than 10x GDP, which makes the small economy volatile. This is also a major risk that Luxembourg is facing. Although the global financial market is recovering, we need to put eyes on it, particularly on the European Union.

Funding Costs

Due to the limited data, we use the 10-year bond yields issued by banks in place of the sovereign debt. As shown below, the yield fluctuated within the range of 0.25% to 0.7% over the last 12 months. The rate is relatively stable compared to peer countries. Given a stable outlook for Luxembourg's economy and no sign for the ECB to significantly change the monetary policy, we expect the funding costs to remain at the current level.



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 61 (1 is best, 189 worst) is average.

	2015	2014	Change in
	Rank	Rank	Rank
Overall Country Rank:	61	57	-4
Scores:			
Starting a Business	80	76	-4
Construction Permits	14	14	0
Getting Electricity	28	28	0
Registering Property	89	87	-2
Getting Credit	167	165	-2
Protecting Investors	122	121	-1
Paying Taxes	21	20	-1
Trading Across Borders	1	1	0
Enforcing Contracts	17	16	-1
Resolving Insolvency	80	77	-3

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

Economic Freedom

As can be seen below, Luxembourg is above average in its overall rank of 73.2 for Economic Freedom with 100 being best.

Heritage Foundation 2015 Index of Economic Freedom				
World Rank 73.2*				
	2015 Rank**	2014 Rank	Change in Rank	World Avg.
Property Rights	90	90	0	42.2
Freedom from Corruption	80	84.1	-4.1	41.9
Fiscal Freedom	62.3	62.8	-0.5	77.4
Government Spending	42.2	47.6	-5.4	61.7
Business Freedom	71.3	72.6	-1.3	64.1
Labor Freedom	42.1	43.1	-1	61.3
Monetary Freedom	80.7	78.9	1.8	75.0
Trade Freedom	88	87.8	0.2	75.4
Investment Freedom	95	95	0	54.8
Financial Freedom	80	80	0	48.6

*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

Valuation Driver: Taxes Growth:

GRAND DUCHY OF LUXEMBOURG has grown its taxes of 5.0% per annum in the last fiscal year which is more than the average for its peers. We expect tax revenues will grow approximately 4.0% per annum over the next couple of years and 4.0% per annum for the next couple of years thereafter.

Valuation Driver: Total Revenue Growth:

GRAND DUCHY OF LUXEMBOURG's total revenue growth has been more than its peers and we assumed no growth in total revenue growth over the next two years.

Income Statement	Peer Median	Co. Avg.	Assumptions	
			Yr 1&2	Yr 3,4,5
Taxes Growth%	1.5	5.0	4.0	4.0
Social Contributions Growth %	1.0	4.8	3.0	3.0
Grant Revenue Growth %	0.0	NMF		
Other Revenue Growth %	0.0	NMF		
Other Operating Income Growth%	0.0	2.3	2.3	2.3
Total Revenue Growth%	0.7	4.7	4.7	4.2
Compensation of Employees Growth%	1.7	4.2	4.2	4.2
Use of Goods & Services Growth%	2.6	(0.0)	(0.0)	(0.0)
Social Benefits Growth%	2.4	3.9	3.9	3.9
Subsidies Growth%	6.9	13.6		
Other Expenses Growth%	0.0			
Interest Expense	0.0	1.7	1.7	
Currency and Deposits (asset) Growth%	0.0	0.0		
Securities other than Shares LT (asset) Growth%	0.0	0.0		
Loans (asset) Growth%	0.1	20.8	5.0	5.0
Shares and Other Equity (asset) Growth%	4.5	7.0	7.0	7.0
Insurance Technical Reserves (asset) Growth%	0.0	0.0		
Financial Derivatives (asset) Growth%	0.0	(99.9)	(10.0)	(10.0)
Other Accounts Receivable LT Growth%	1.6	1.7	1.7	1.7
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%	6.7	4.6	4.6	4.6
Securities Other than Shares (liability) Growth%	11.1	14.4	10.1	10.1
Loans (liability) Growth%	3.9	3.0	3.0	3.0
Insurance Technical Reserves (liability) Growth%	0.0	0.0		
Financial Derivatives (liability) Growth%	0.0	0.0		
Additional ST debt (1st year)(millions EUR)	0.0	0.0		

ANNUAL INCOME STATEMENTS

Below are GRAND DUCHY OF LUXEMBOURG's annual income statements with the projected years based on the assumptions listed on page 3.

	ANNUAL REVENUE AND EXPENSE STATEMENT					
	(MILLIONS EUR)					
	2011	2012	2013	2014	P2015	P2016
Taxes	11,325	11,963	12,619	13,255	13,785	14,337
Social Contributions	5,230	5,527	5,734	6,012	6,192	6,378
Grant Revenue						
Other Revenue						
Other Operating Income	1,929	1,996	2,110	2,159	2,159	2,159
Total Revenue	18,484	19,485	20,464	21,426	22,136	22,873
Compensation of Employees	3,781	3,990	4,169	4,345	4,529	4,721
Use of Goods & Services	1,581	1,706	1,741	1,741	1,741	1,741
Social Benefits	8,610	9,183	9,726	10,109	10,507	10,920
Subsidies	521	608	614	698	698	698
Other Expenses				1,871	1,871	1,871
Grant Expense						
Depreciation	916	991	1,084	1,111	1,111	1,111
Total Expenses excluding interest	17,204	18,427	19,324	19,875	20,457	21,062
Operating Surplus/Shortfall	1,280	1,058	1,140	1,550	1,679	1,812
Interest Expense	<u>201</u>	<u>208</u>	<u>201</u>	<u>190</u>	<u>193</u>	<u>197</u>
Net Operating Balance	1,078	850	939	1,360	1,486	1,615

ANNUAL BALANCE SHEETS

Below are GRAND DUCHY OF LUXEMBOURG's balance sheets with the projected years based on the assumptions listed on page 3.

Base Case ASSETS	ANNUAL BALANCE SHEETS (MILLIONS EUR)					
	2011	2012	2013	2014	P2015	P2016
Currency and Deposits (asset)					761	761
Securities other than Shares LT (asset)						
Loans (asset)	1,255	1,484	1,634	1,973	2,071	2,175
Shares and Other Equity (asset)	12,881	15,499	17,158	18,352	19,630	20,996
Insurance Technical Reserves (asset)					0	0
Financial Derivatives (asset)	5,754	5	6,183	6	5	5
Other Accounts Receivable LT	4,843	4,771	4,115	4,187	4,260	4,334
Monetary Gold and SDR's						
Other Assets					14,531	14,531
Additional Assets	<u>6,100</u>	<u>12,666</u>	<u>7,199</u>	<u>14,531</u>		
Total Financial Assets	30,833	34,426	36,289	39,049	41,258	42,801
LIABILITIES						
Other Accounts Payable						
Currency & Deposits (liability)	221	237	249	260	260	260
Securities Other than Shares (liability)	4,296	5,456	6,247	7,149	7,872	8,668
Loans (liability)	3,886	4,378	4,595	4,734	3,248	1,633
Insurance Technical Reserves (liability)						
Financial Derivatives (liability)						
Other Liabilities	<u>2,990</u>	<u>3,270</u>	<u>2,860</u>	<u>4,321</u>	<u>4,321</u>	<u>4,321</u>
Liabilities	11,393	13,342	13,951	16,464	17,187	17,115
Net Financial Worth	<u>19,440</u>	<u>21,084</u>	<u>22,338</u>	<u>22,585</u>	<u>24,071</u>	<u>25,686</u>
Total Liabilities & Equity	30,833	34,426	36,289	39,049	41,258	42,801

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Comments on the Difference between the Model and Assigned Rating

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 GRAND DUCHY OF LUXEMBOURG with the ticker of 1110Z LX we have assigned the senior unsecured rating of AAA. 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 May 10, 2015 available via 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%	4.0	8.0	-	AA+	AA+	AA+
Social Contributions Growth %	3.0	-	6.0	AA+	AA+	AA+
Other Revenue Growth %		(3.0)	3.0	AA+	AA+	AA+
Total Revenue Growth%	4.7	2.7	6.7	AA+	AA+	AA+
Monetary Gold and SDR's Growth %	5.0	3.0	7.0	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

Mike Huang

May 16, 2016

Mike Huang
Rating Analyst

Reviewer Signature:

Today's Date

Caroline Ding

May 16, 2016

Caroline Ding
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.