

Default, Transition, and Recovery:

2017 Annual Sovereign Default Study And Rating Transitions

May 8, 2018

In 2017, there were six defaults among the sovereign obligors that S&P Global Ratings rates. This is the highest number of sovereign defaults in a single year, though there were only five defaulting sovereigns, as El Salvador defaulted twice. The other defaulters were Belize, Congo-Brazzaville, Mozambique, and Venezuela. All but El Salvador had also defaulted in previous years. Last year's total was four more sovereign defaults than in 2016, and 2017 was the sixth consecutive year with at least one.

Including the defaults, we lowered 21 sovereign ratings and raised 14 in 2017. Rating actions in 2017 were less numerous and had a more positive bias than in 2016, with significantly more upgrades and fewer downgrades. The resulting ratio of downgrades to upgrades was lower in 2017 than in 2016, but downgrades still outnumbered upgrades.

Rating-action triggers were unusually varied in 2017. Defaults were the most common reason for downgrades, but six other factors were also cited as the main cause. Analysts cited six different main causes of upgrades as well. Regional differences were evident: European issuers accounted for most of the upgrades for the year, while Latin America, the Middle East, and Africa had nearly all of the downgrades.

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Overview

- There were six sovereign defaults in 2017, the highest number for any year.
- For the seventh consecutive year, sovereign downgrades outnumbered upgrades.
- The ratio of downgrades to upgrades declined to 1.5 in 2017 from 2.7 in 2016. In addition, the average number of notches for downgrades decreased to 1.18 in 2017 from 1.50 in 2016, and the average upgrade was 1.15 notches in 2017 compared with 1.00 in 2016.
- Of the 132 active sovereign ratings at the end of 2017, 53% were investment grade, the second-lowest percentage on record.
- The percentage of ratings with positive outlooks increased in several regions, suggesting that the frequency of downgrades could decrease in the next year or two.
- Gini coefficients, which show the cumulative proportion of defaults to the cumulative proportion of the sovereign rated universe, suggest a strong relationship between ratings and defaults. The Gini coefficients for the one-, three-, five-, and 10-year horizons are 92%, 79%, 74%, and 73%, respectively.

Sovereign ratings could be entering a period of growing stability. In early 2018, there were more sovereign ratings with positive outlooks than negative outlooks for the first time since the start of 2008. However, this does not suggest that sovereign ratings reflect improving credit strength. During the last 10 years, the average sovereign credit rating has declined. To illustrate: The percentage of high-investment-grade ('AA' category and 'AAA') ratings is the lowest on record at 22%. In addition, investment-grade ratings make up just 53% of the total, the second-lowest percentage (last year was the lowest). Correspondingly, 47% of ratings are speculative-grade, just slightly below the peak of 48% in 2017. The percentage of ratings in the 'B' category and lower has been at its high of 31% since 2016. The outlooks suggest that the distribution of ratings in the lower categories will continue over at least the next 18 months, with some potential for improvement.

Ratings Distribution

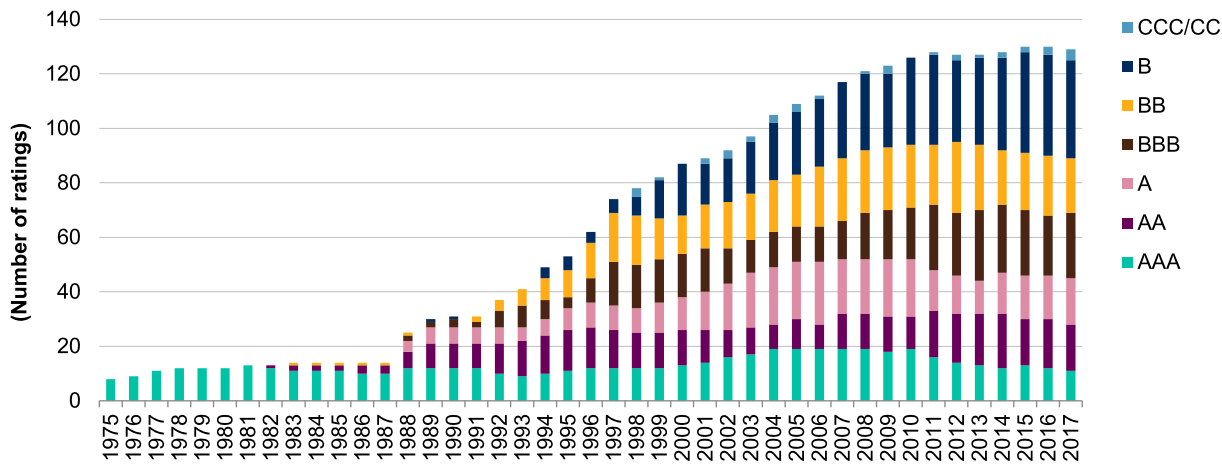
S&P Global Ratings maintained 132 sovereign ratings as of Jan. 1, 2018. This was one fewer than one year earlier. The net decrease of one stemmed from two withdrawals (Gabon and Kyrgyz Republic) and one new rating (Nicaragua). At the end of 2017, 21 of the 133 ratings at the start of the year were lower, 14 were higher, and 97 were unchanged.

Sovereign rating distribution has been trending lower since the late 1980s, when countries with smaller and less-diversified economies began to seek credit ratings. The percentage of speculative-grade ratings increased significantly to 37% in 1999 from 3% in 1990. This was mostly a result of new speculative-grade ratings being assigned as opposed to downgrades of formerly investment-grade sovereigns. Over this period, the number of speculative-grade ratings rose to 30 from one, while the number of investment-grade ratings increased to 52 from 30. The number of sovereigns that we rate has grown as more governments access the international bond markets. We've rated (foreign-currency ratings) 141 sovereigns since 1975.

During 2000-2009, growth in speculative-grade ratings continued to outpace investment-grade ratings, but the latter group grew as well. Speculative-grade ratings increased to 53 in 2009 from 33 in 2000, while investment-grade ratings grew to 70 from 54 over the same period. In 2009, 43% of ratings were speculative grade. During 2010-2017, the number and percentage of speculative-grade ratings increased to 60 and 47%, respectively, while the same figures for investment-grade ratings declined to 69 and 53%. In 2017, two low-investment-grade sovereigns were downgraded to speculative grade, while three speculative-grade sovereigns were upgraded to the lowest investment-grade rating: 'BBB-'.

Chart 1

Sovereign Local-Currency Rating Distribution



Source: S&P Global Fixed Income Research.
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By 2011, the size of the rated sovereign universe stabilized at about 130. Five years earlier, there were 112 sovereign ratings. Another such increase is unlikely given the relatively small and static number of nations in the world. For that reason, the profile of sovereign ratings will change almost exclusively with the movement of existing ratings.

As of year-end 2017, 16 local-currency sovereign ratings were higher than the corresponding foreign-currency credit ratings. This reflects S&P Global Ratings' view that a sovereign has flexibility in servicing its local-currency debt based on the unique powers it enjoys within its own borders, particularly in its control of domestic financial and monetary systems. This study focuses on foreign-currency ratings unless otherwise noted.

Table 1

Sovereigns With Local-Currency Ratings That Were Higher Than The Foreign-Currency Ratings As Of Dec. 31, 2017

Country	Foreign-currency rating	Local-currency rating
Barbados	CCC+/Negative/C	CCC/Negative/C
Chile	A+/Stable/A-1	AA-/Stable/A-1+
Colombia	BBB-/Stable/A-3	BBB/Stable/A-2
Congo (Republic of)	CCC+/Stable/C	B-/Stable/B
Czech Republic	AA-/Stable/A-1+	AA/Stable/A-1+
Guatemala	BB-/Stable/B	BB/Stable/B
Malaysia	A-/Stable/A-2	A/Stable/A-1
Mexico	BBB+/Stable/A-2	A-/Stable/A-2
Mozambique	SD/--/SD	B-/Stable/B
New Zealand	AA/Stable/A-1+	AA+/Stable/A-1+

Table 1

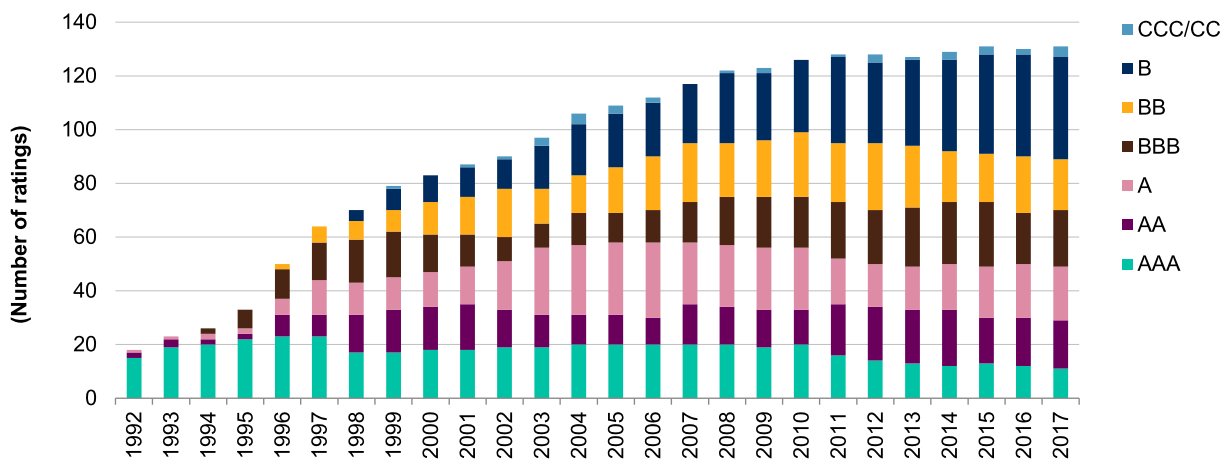
Sovereigns With Local-Currency Ratings That Were Higher Than The Foreign-Currency Ratings As Of Dec. 31, 2017 (cont.)

Country	Foreign-currency rating	Local-currency rating
Peru	BBB+/Stable/A-2	A-/Stable/A-2
Poland	BBB+/Stable/A-2	A-/Stable/A-2
Russia	BB+/Positive/B	BBB-/Positive/A-3
South Africa	BB/Stable/B	BB+/Stable/B
Thailand	BBB+/Stable/A-2	A-/Stable/A-2
Venezuela	SD/--/D	CCC-/Watch Neg/C

Source: S&P Global Fixed Income Research.

Chart 2

Sovereign Local-Currency Rating Distribution



Source: S&P Global Fixed Income Research.

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Regional Rating Distribution

S&P Global Ratings segments most of the sovereigns it rates into six regional categories: Middle East and North Africa, Sub-Saharan Africa, Latin America and the Caribbean, Asia-Pacific, eurozone, and Central and Eastern Europe and CIS (the Commonwealth of Independent States--the former Soviet republics). We further designate 20 nations, which come from all of the categories except the eurozone, as emerging markets. Twenty-five sovereigns--including the U.S., the U.K., and Canada--are not designated in any of these categories.

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Table 2

Sovereigns By Regional Category

Middle East and Africa	Latin America	Central and Eastern Europe and CIS*	Asia-Pacific	eurozone	Emerging markets
Abu Dhabi	Argentina	Albania	Australia	Austria	Argentina
Bahrain	Aruba	Azerbaijan	Bangladesh	Belgium	Brazil
Egypt	Bahamas	Belarus	China	Cyprus	China
Iraq	Barbados	Bosnia and Herzegovina	Cook Islands	Estonia†‡	Colombia
Jordan	Belize	Bulgaria	Fiji	Finland	Egypt
Kuwait	Bermuda	Croatia	Hong Kong	France	Hungary
Lebanon	Bolivia	Czech Republic	India	Germany	India
Morocco	Brazil	Estonia†‡	Indonesia	Greece	Indonesia
Oman	Chile	Georgia	Japan	Ireland	Malaysia
Qatar	Colombia	Hungary	Korea	Italy	Mexico
Ras Al Khaimah	Costa Rica	Kazakhstan	Malaysia	Latvia†‡	Pakistan
Saudi Arabia	Curacao	Latvia†‡	Mongolia	Lithuania†‡	Philippines
Sharjah	Dominican Republic	Lithuania†‡	New Zealand	Luxembourg	Poland
Angola	Ecuador	Macedonia	Pakistan	Malta	Qatar
Botswana	El Salvador	Montenegro	Papua New Guinea	Netherlands	Russia
Burkina Faso	Guatemala	Poland	Philippines	Portugal	Saudi Arabia
Cameroon	Honduras	Romania	Singapore	Slovak Republic	South Africa
Cape Verde	Jamaica	Russia	Sri Lanka	Slovenia†‡	Thailand
Congo	Mexico	Serbia	Taiwan	Spain	Turkey
Congo, D.R.	Montserrat	Slovakia	Thailand		Venezuela
Ethiopia	Nicaragua	Slovenia†‡	Vietnam		
Ghana	Panama	Tajikistan			
Kenya	Paraguay	Turkey			
Mozambique	Peru	Ukraine			
Nigeria	Suriname				
Rwanda	Trinidad and Tobago				
Senegal	Turks and Caicos				
South Africa	Uruguay				
Uganda	Venezuela				
Zambia					

*Commonwealth of Independent States, the alliance of 12 of the former republics of the Soviet Union. †‡Included in two European regions. Source: S&P Global Fixed Income Research.

The Middle East, Africa, and Latin America have added the most speculative-grade ratings over

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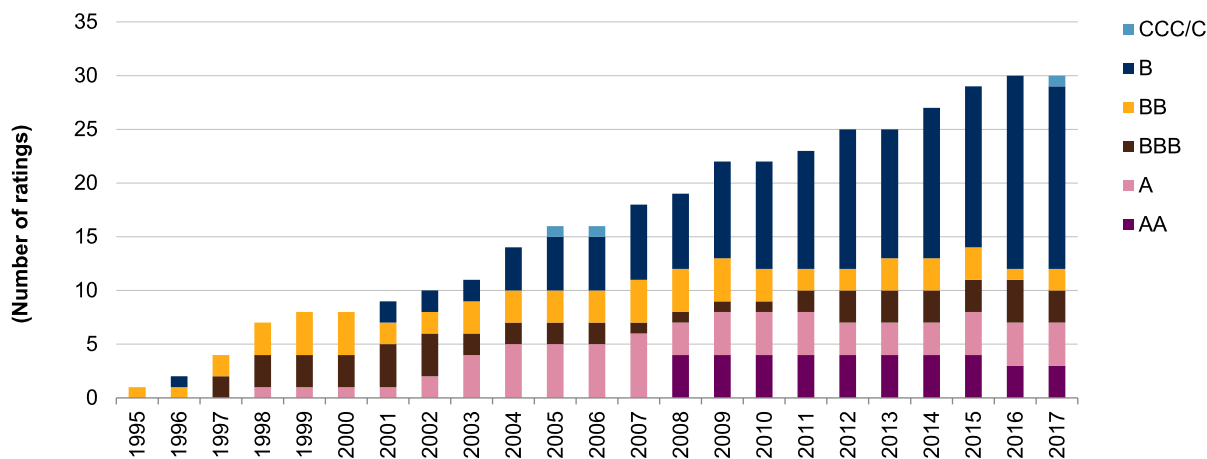
the last decade. While there are more speculative-grade ratings in Asia-Pacific and Europe, the increases in those regions haven't significantly affected the overall quality of sovereign ratings.

Most new sovereign ratings since 1998 have also come from the Middle East, Africa, and Latin America. The number of sovereign ratings in Central and Eastern Europe and CIS has also increased substantially on a percentage basis, though there aren't as many of them. Asia-Pacific has added fewer ratings still, and the eurozone has retained its tally of 19 ratings since 1998. The overall effect has been a reduction in the general credit quality of sovereign ratings.

Middle East and Africa

Chart 3

Distribution Of Middle East And Africa Sovereign Ratings



Source: S&P Global Fixed Income Research.

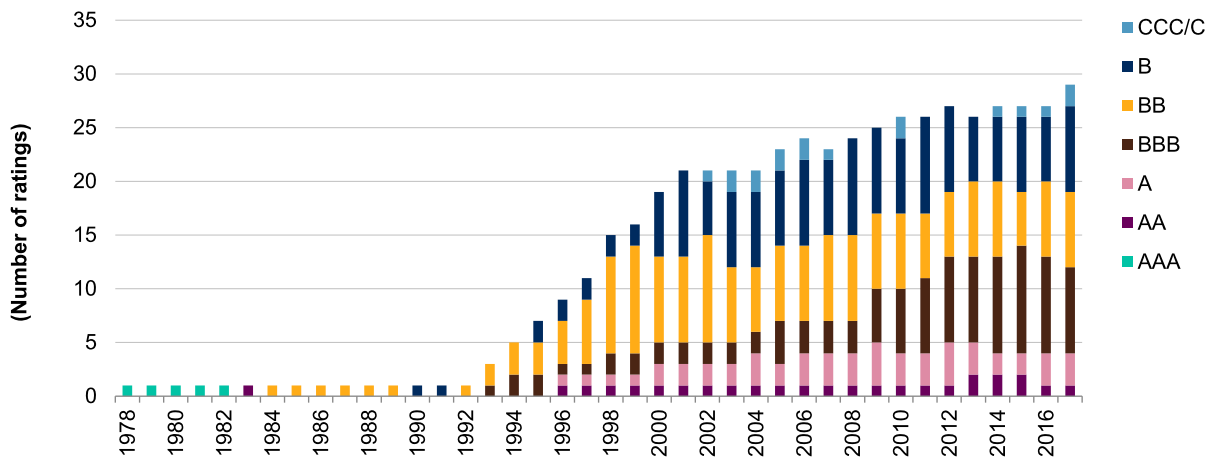
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The Middle East and Africa had one sovereign rating--'BB'--in 1995. The tally increased to seven ratings in 1998, four of which were investment grade. The number of ratings has increased steadily since then, and the portion that are speculative-grade has stayed fairly consistent. At the end of 2017, there were 30 ratings in the region, two-thirds of which were speculative grade.

Latin America

Chart 4

Distribution Of Latin America Sovereign Ratings



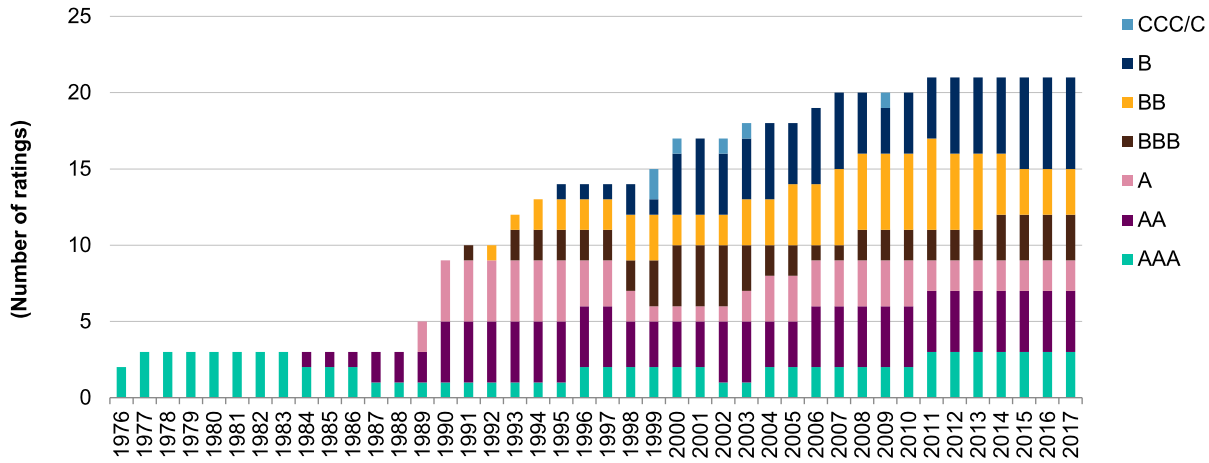
Source: S&P Global Fixed Income Research.
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Latin America had one rating--'AAA'--in 1982, and there was only one speculative-grade rating in either the 'BB' or 'B' categories from 1983 through 1992. The number of Latin American sovereign ratings increased steadily from 1993 through 2001, with more than three-quarters speculative grade. Latin American sovereign ratings have tended to be fairly low. They've improved since 2003, but even at their best, they were just below 50% speculative grade in 2015. At the end of 2017, 59% (17) of Latin America foreign-currency sovereign ratings were speculative grade, tied with 2006-2008 for the highest regional tally.

Asia-Pacific

Chart 5

Distribution Of Asia-Pacific Sovereign Ratings



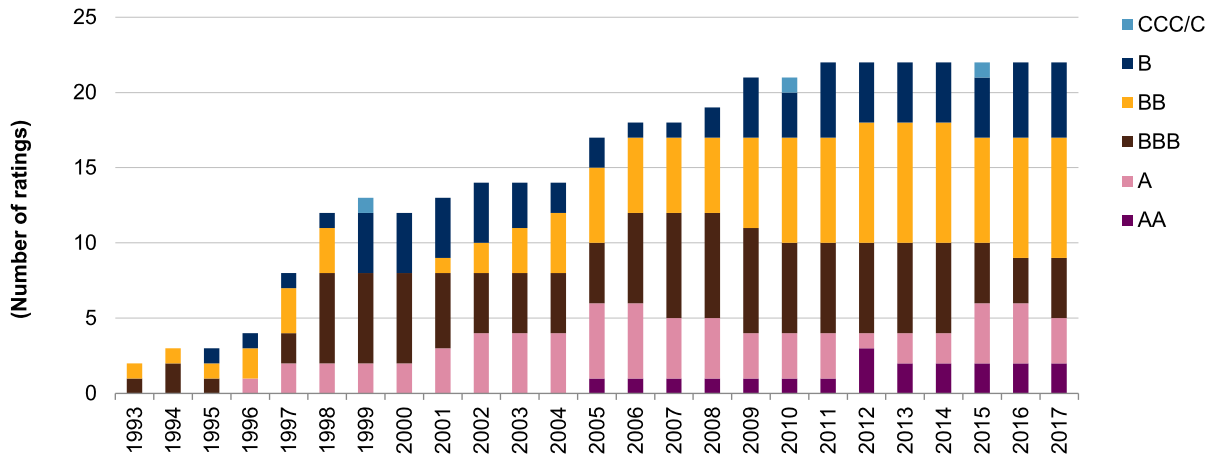
Source: S&P Global Fixed Income Research.
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We've rated 18 of our 21 Asia-Pacific sovereigns since 1988, and most of these ratings are investment grade. The region only had investment-grade ratings until 1992. Speculative-grade ratings became more prevalent and have averaged 44% of all ratings since 1999. There have also been seven ratings in the 'AA' category or 'AAA' in the region since 2011. At the end of 2017, there were 21 rated Asia-Pacific sovereigns, 43% of which were speculative grade.

Central and Eastern Europe and CIS

Chart 6

Distribution Of Central And Eastern Europe And CIS* Sovereign Ratings



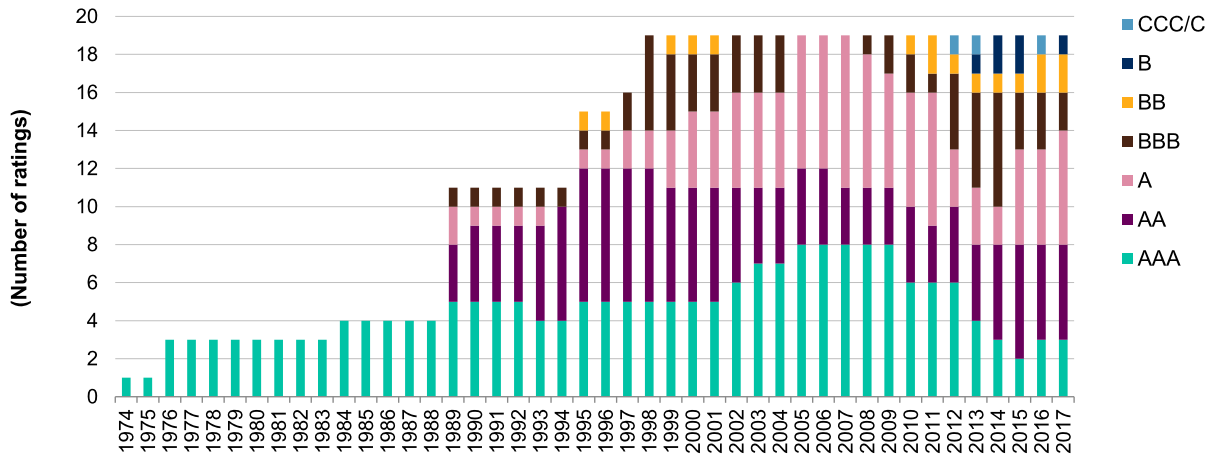
*Commonwealth of Independent States. Source: S&P Global Fixed Income Research.
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S&P Global Ratings assigned its first sovereign ratings in Central and Eastern Europe and the CIS in 1993. At least a third of the sovereign ratings in this region have always been speculative-grade. The highest percentage of speculative-grade ratings was 67% in 1995, and the percentage has been at least 50% since 2010. At the end of 2017, 59% of ratings in the region were speculative grade, with 'BB' category ratings the most common. There were also two 'AA' category ratings.

eurozone

Chart 7

Distribution Of eurozone Sovereign Ratings



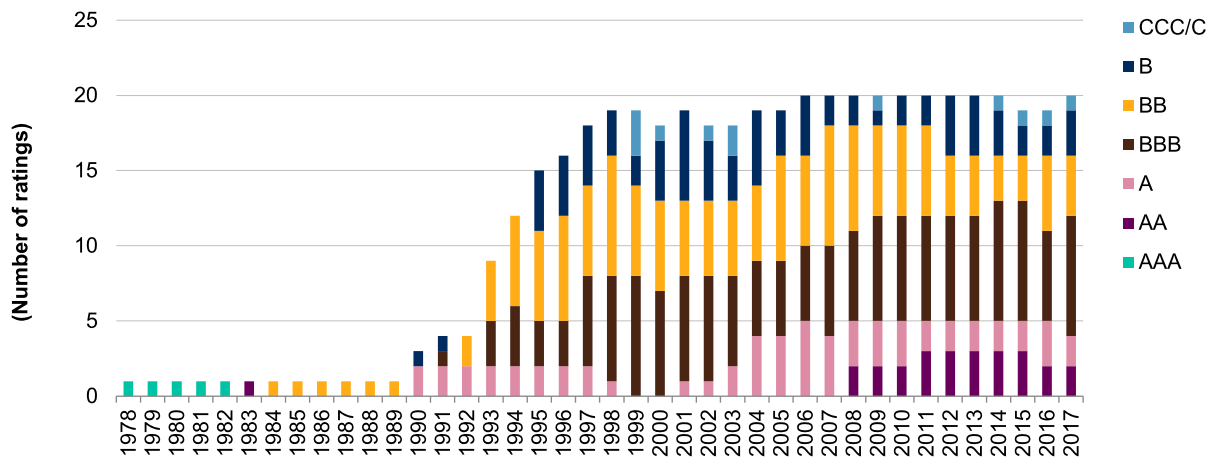
Source: S&P Global Fixed Income Research.
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Among our regional categories, the eurozone contains the fewest ratings, and the number has not changed since 1998. eurozone ratings are also the highest, with an average of just 6% of ratings that are speculative grade since 1995. In addition, more eurozone sovereign ratings are in the 'AA' category or 'AAA' than in other regions, despite the smaller number of ratings. Of ratings in the region, 16% have been speculative grade every year since 2013. This is the region's highest percentage of speculative-grade ratings, reflecting the after-effects of the financial crisis. By contrast, in 2009 there were no speculative-grade ratings in the region.

Emerging Markets

Chart 8

Distribution Of Emerging Market Sovereign Ratings



Source: S&P Global Fixed Income Research.
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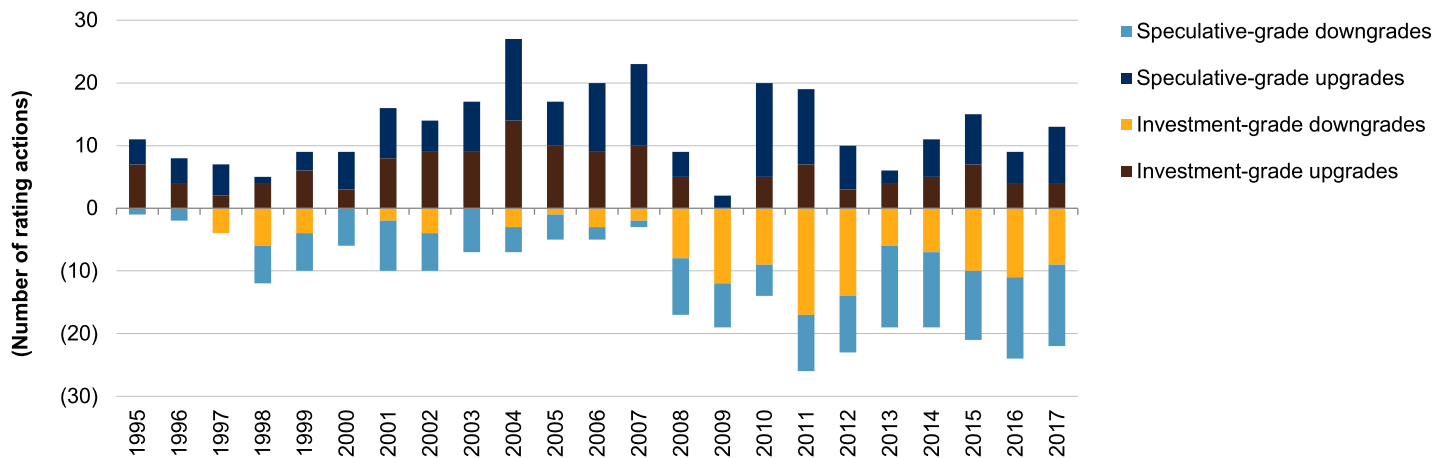
After stabilizing at about 20 ratings in the late 1990s, emerging market ratings have remained fairly evenly split between investment grade and speculative grade. The number and percentage of investment-grade ratings grew steadily from 2004 to 2014, falling back in 2016, and settling at 12 investment-grade ratings at the end of 2017. There has not been a 'AAA' emerging market sovereign rating since 1982, and 'BBB' category ratings have been the most numerous since 2009. Notably, the average credit quality of emerging market ratings didn't decline as a result of the financial crisis; rather, it dropped more recently with the increase of 'BB' ratings in 2016.

Rating Movement In 2017

For the seventh consecutive year, in 2017 there were more downgrades than upgrades among sovereign ratings. Rating actions were more frequent among speculative-grade ratings, which accounted for 62% of the total despite being only 47% of all ratings. In 2017, 71% of the upgrades and 57% of the downgrades affected speculative-grade ratings.

Chart 9

Sovereign Rating Actions



Negative numbers signify downgrades. Source: S&P Global Fixed Income Research. Copyright © 2018 by Standard & Poor's Financial Services LLC. All rights reserved.

We track rating movement according to the number of ratings that changed in 2017 as opposed to the number of times a rating changed. For example, for the purposes of this study, a rating that we lowered twice in 2017 translates to one lower rating at the end of the year than at the beginning. Similarly, if we lowered a rating but then later raised it back to the former rating, the study wouldn't consider this a rating action because there was no net rating change.

Even though the number of rating actions was small in comparison with other sectors--such as corporates and U.S. public finance--the factors that triggered the rating activity were varied. Defaults were the most common reason for a downgrade.

Table 3 counts the magnitude of the sovereign rating changes in 2017. For instance, we lowered our rating on Congo-Brazzaville by six notches in two rating actions. The rating was 'B-' on Jan. 1, 2017, and was then lowered twice before defaulting on Aug. 1. The largest rating movements were defaults among speculative-grade credits. Venezuela defaulted on Nov. 13, 2017, after we lowered the rating twice from 'CCC' at the start of the year.

El Salvador had a series of rating actions: We lowered the rating to 'CCC+' from 'B-' on April 11, 2017, and we lowered it again--to 'SD'--on April 20. The default was cleared, and we assigned a new 'CC' rating on May 5, but then another default followed on Oct. 2. The next day, Oct. 3, the sovereign restructured its debt, leading to us to assign a 'CCC+' rating.

Table 3

Main Causes Of Sovereign Rating Changes In 2017

Number of notches	Finances	Economy	Debt	Political	Liquidity	Management	Default
(6)							Congo-Brazzaville, El Salvador
(4)							Venezuela

Table 3

Main Causes Of Sovereign Rating Changes In 2017 (cont.)

Number of notches	Finances	Economy	Debt	Political	Liquidity	Management	Default
(2)	Oman	South Africa	Sharjah				Belize, Mozambique
(1)	China, Ecuador, Hong Kong	Chile, Guatemala, Suriname	Angola, Jordan, Trinidad and Tobago	Qatar, Congo (Democratic Republic)	Bahrain	Barbados, Colombia	
1	Belarus, Bulgaria, Honduras, Indonesia, Serbia	Andorra, Cyprus, Italy, Portugal	Slovenia	Burkina Faso			
2	Iceland	Argentina					

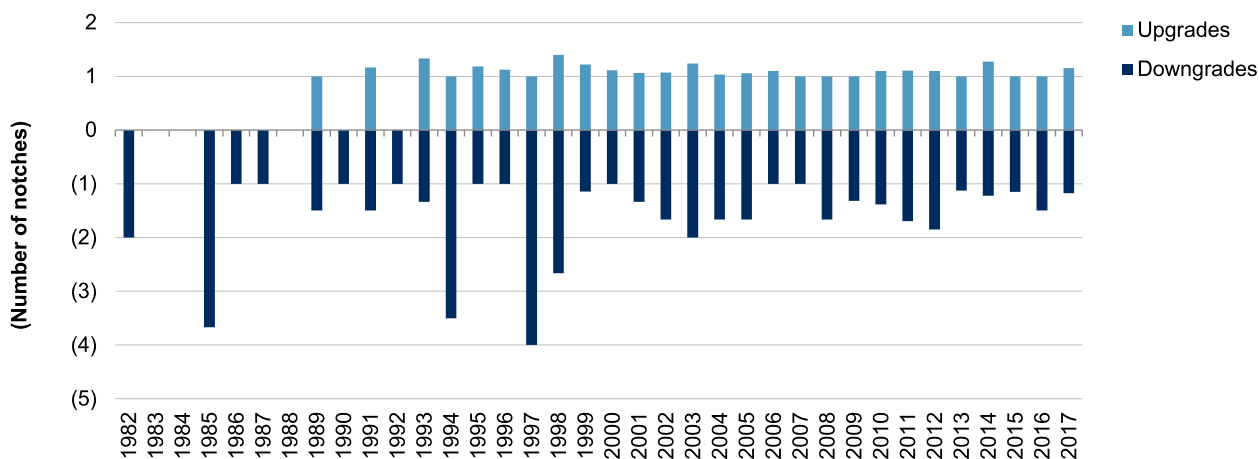
Negative numbers signify downgrades. Source: S&P Global Fixed Income Research.

Oman, South Africa, and Sharjah experienced two-notch downgrades and were the only issuers other than the defaulters to have downgrades of more than one notch.

Economic reasons were the most common trigger of rating actions in 2017, driving six one-notch upgrades and four downgrades (three of one notch and one of two notches). Argentina was the only sovereign to be upgraded by more than one notch in 2017; it ended the year at 'B+' following two one-notch upgrades for economic reasons. Thirteen nations had one-notch upgrades in 2017, with finances cited as the main factor of six of these actions and the economy close behind as the driver of five one-notch upgrades.

Chart 10

Average Annual Notch Changes (Foreign-Currency Ratings)



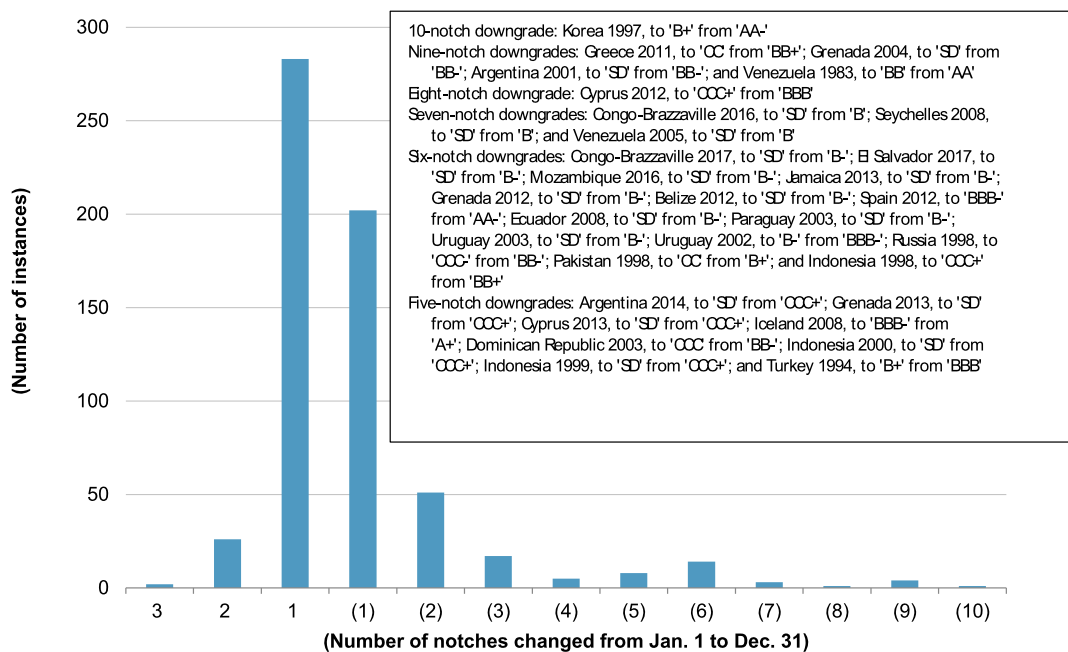
Defaults not included. Negative numbers signify downgrades. Source: S&P Global Fixed Income Research. Copyright © 2018 by Standard & Poor's Financial Services LLC. All rights reserved.

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Since 1975, 80% of sovereign rating actions have been one notch. The majority of all sovereign rating actions and one-notch rating actions have been upgrades. However, most rating actions of more than one notch have been downgrades, and so the aggregate rating movement--as measured by the cumulative number of notches changed--has been decidedly negative.

Chart 11

Foreign-Currency Sovereign Rating Changes (1975 - 2017)*



Jan. 1 versus Dec. 31. Positive numbers indicate upgrades; negative numbers indicate downgrades. Includes downgrades to 'SD' but excludes upgrades from 'SD'. Ratings are implied senior debt ratings through 1995 and sovereign credit ratings thereafter. Source: S&P Global Fixed Income Research. Copyright © 2018 by Standard & Poor's Financial Services LLC. All rights reserved.

The largest rating change over one year was a series of four downgrades to the Republic of Korea (South Korea) in 1997 to 'B+' from 'AA-', a 10-notch drop overall. This was during the Asian financial crisis, and South Korea was one of the nations hardest hit. South Korea's financial stress at the time was exacerbated by the famine in North Korea, which heightened discussion around South Korea absorbing the north and its economic plight. As Asia recovered, the possibility of such a scenario faded, and South Korea's economy and fiscal position also recovered. Since then, we've raised our rating on South Korea nine times, and it's now 'AA'.

S&P Global Ratings' credit ratings continue to serve as effective indicators of relative credit risk. This report uses the Gini coefficient as a measure of the relative representation of each rating category within the group of sovereigns that defaulted in 1975-2017. A Gini coefficient ranges from 0 to 1, with higher values indicating a stronger relationship between lower rating categories and higher default rates. (For details on the Gini methodology, see Appendix 1.) From 1975-2017, the one-, three-, five-, and 10-year average foreign-currency Gini coefficients were 91.7%, 78.5%, 73.8%, and 73.2%, respectively (see Charts 26-29). We used the number of sovereign ratings at the beginning of each year as the weights for the weighted averages. Moreover, we find that there is a strong negative correlation between higher ratings and default occurrences. In other words,

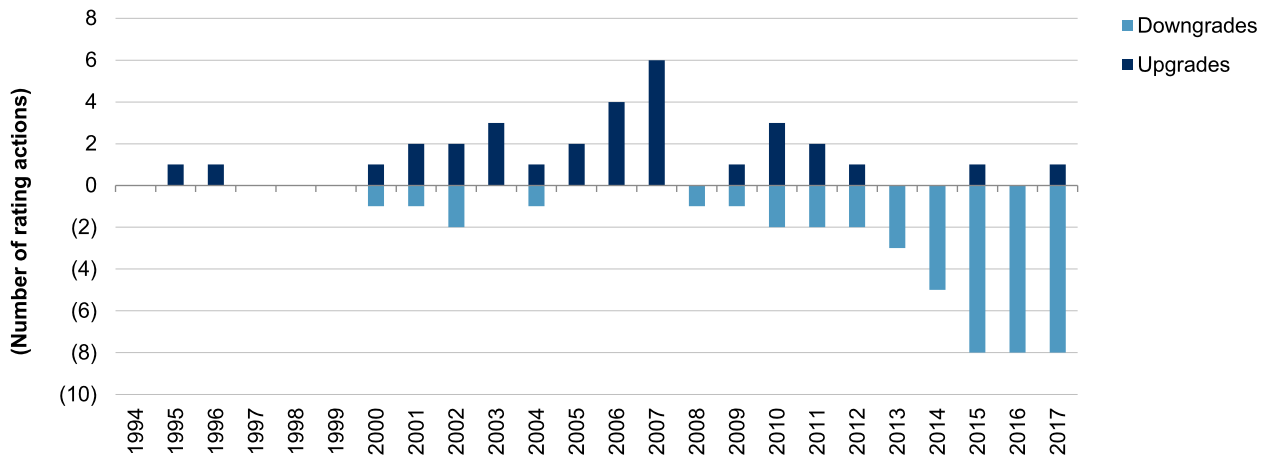
sovereigns that have defaulted were generally rated at the lower end of our ratings spectrum prior to doing so.

Regional Rating Movement

Middle East and Africa

Chart 12

Middle East And Africa Rating Actions



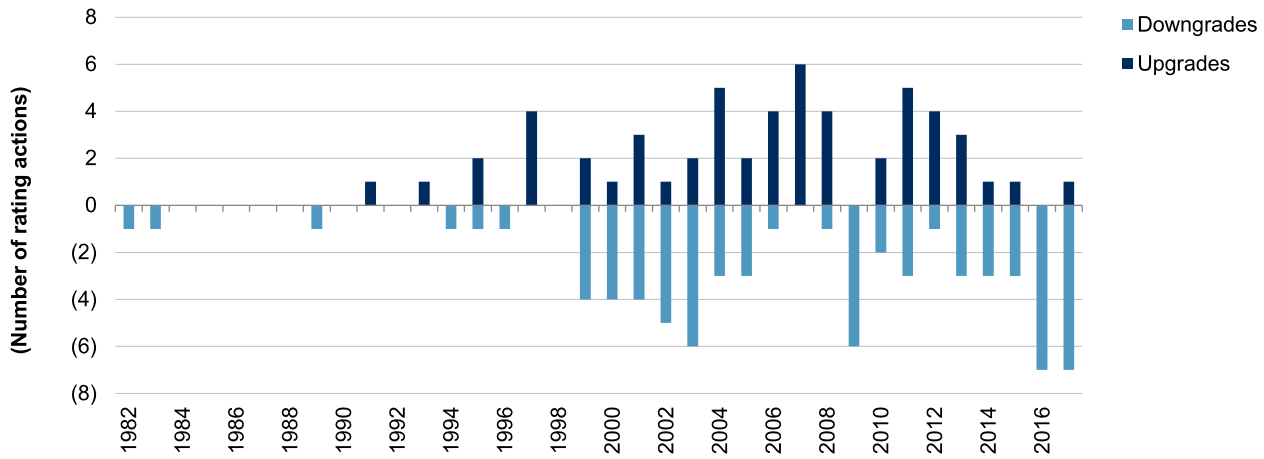
Negative numbers signify downgrades. Source: S&P Global Fixed Income Research. Copyright © 2018 by Standard & Poor's Financial Services LLC. All rights reserved.

Middle East and Africa ratings have trended strongly downward in the last six years. In fact, in 2017 alone we lowered a third of our sovereign ratings in the region. Since 2008, there have been 42 downgrades and nine upgrades. In the three years prior to the financial crisis, there were 12 upgrades and no downgrades. Since then, the number of ratings in the region has increased steadily, and they've mostly been speculative grade. The combination of new speculative-grade ratings and downgrades has led to the lower average rating.

Latin America

Chart 13

Latin America Rating Actions



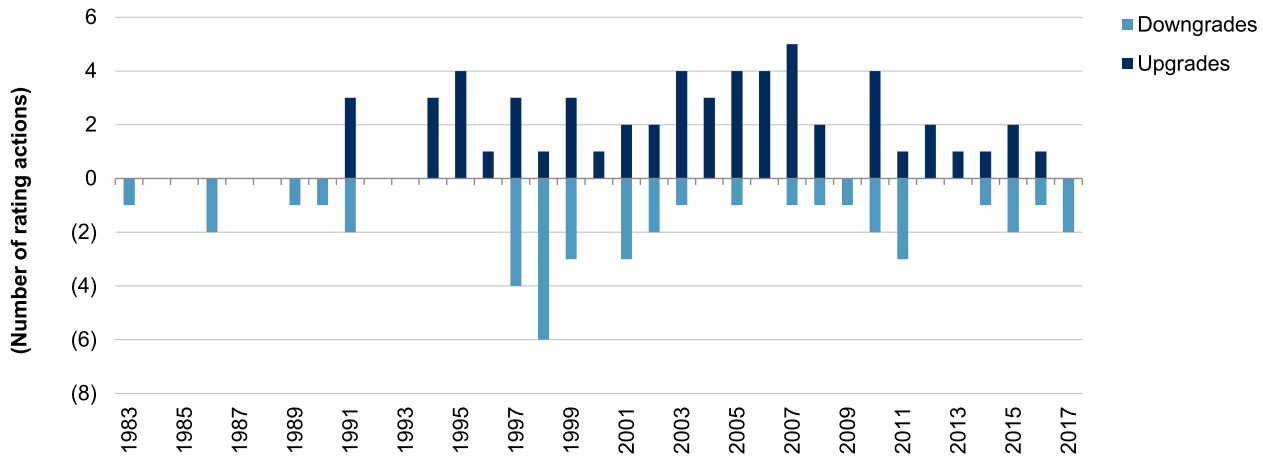
Negative numbers signify downgrades. Source: S&P Global Fixed Income Research. Copyright © 2018 by Standard & Poor's Financial Services LLC. All rights reserved.

For five consecutive years, we've lowered more sovereign ratings in Latin America than we've raised. There were 32 downgrades and 13 upgrades from 2013 through 2017. The region entered the financial crisis on a streak of positive rating movement, which it was able to sustain through 2008. However, Latin America then had six downgrades in 2009. There was a quick reversal in 2010, with upgrades outnumbering downgrades by six, and for 2010-2012 there were 21 upgrades and nine downgrades.

Asia-Pacific

Chart 14

Asia-Pacific Rating Actions



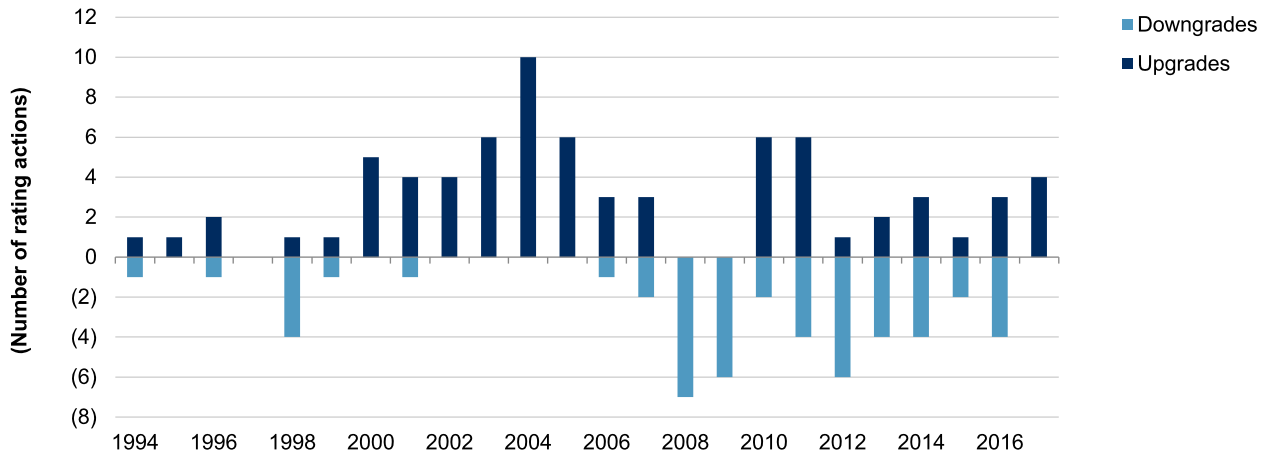
Negative numbers signify downgrades. Source: S&P Global Fixed Income Research. Copyright © 2018 by Standard & Poor's Financial Services LLC. All rights reserved.

Since 1991, this region has generally had positive rating movement, though there've been a few exceptions. As would be expected, the Asian financial crisis resulted in more downgrades than upgrades. Once emerging from that, sovereigns in the region had positive net rating movement every year from 1999 to 2007 except 2001. In 2011, we downgraded more Asia-Pacific sovereigns than we upgraded, but then through 2016 there were at least as many upgrades as downgrades. In 2017, there were two downgrades and one upgrade.

Central and Eastern Europe and CIS

Chart 15

Central Europe And CIS Rating Actions



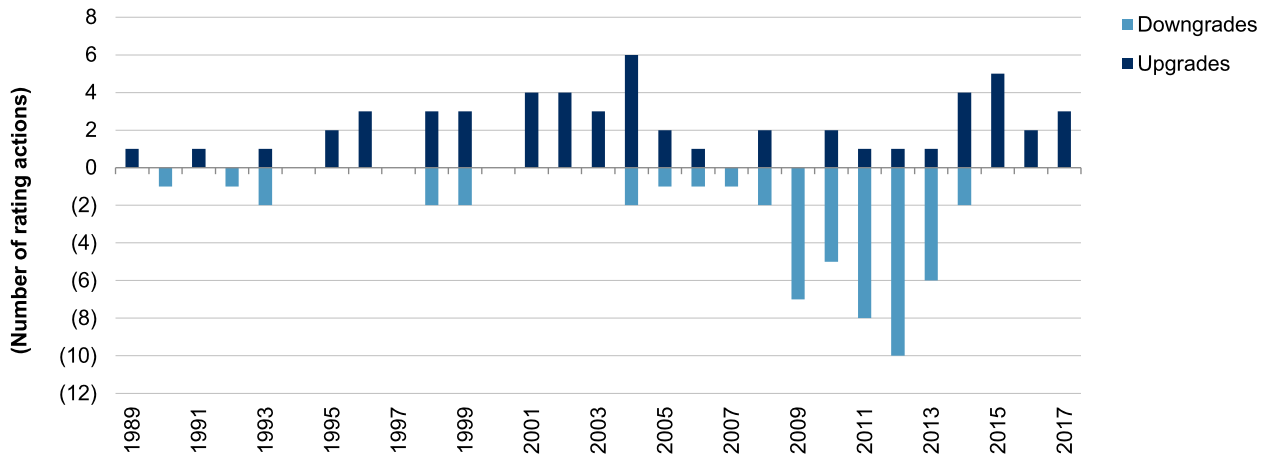
Negative numbers signify downgrades. Source: S&P Global Fixed Income Research. Copyright © 2018 by Standard & Poor's Financial Services LLC. All rights reserved.

This region had consistent positive rating movement from 2000 to 2007 but then a large negative trend from 2008 to 2016. The downward trend reversed in 2017, with upgrades to Belarus, Bulgaria, Serbia, and Slovenia. (We categorize Estonia, Latvia, Lithuania, and Slovenia as in both this region and the eurozone.)

eurozone

Chart 16

eurozone Rating Actions



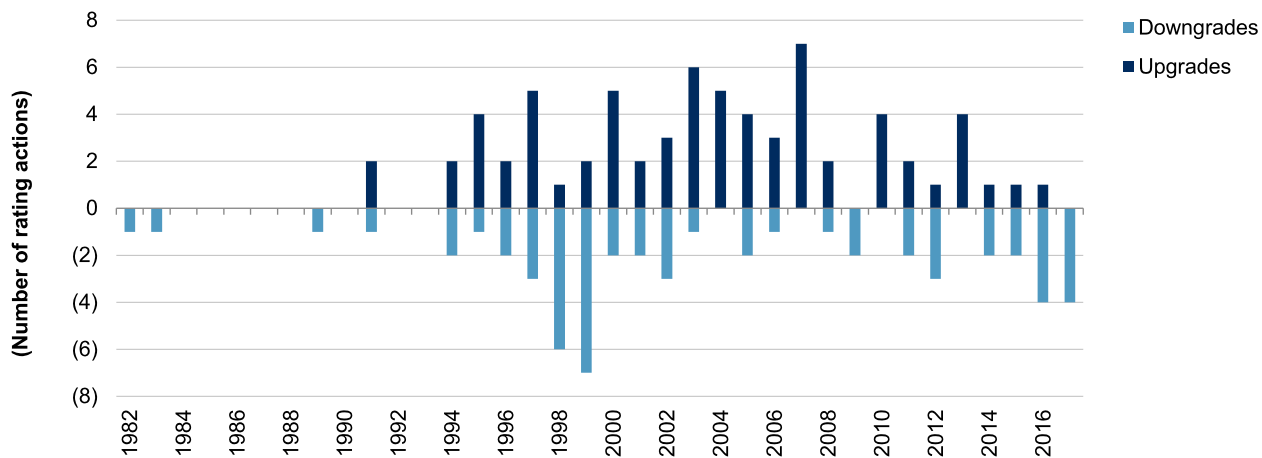
Negative numbers signify downgrades. Source: S&P Global Fixed Income Research. Copyright © 2018 by Standard & Poor's Financial Services LLC. All rights reserved.

eurozone sovereign ratings have moved positively in most years, with the major exception of the financial crisis and its aftermath. From 2009 to 2013, there were 34 downgrades and just seven upgrades. For 2014-2017, the trend reversed, with 10 upgrades and one downgrade. Nevertheless, the region's average credit quality is considerably lower than it was prior to the financial crisis.

Emerging Markets

Chart 17

Emerging Market Rating Actions



Source: S&P Global Fixed Income Research.
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Emerging market rating trends appear to match those of the Middle East and Africa, Latin America, and Central and Eastern Europe and CIS, which contain more of the lower-rated emerging market sovereigns. Asia-Pacific has the largest number of emerging market sovereigns, but Asia-Pacific has fewer speculative-grade emerging market ratings than the three other regions mentioned. Asia-Pacific has not had the large trend of downgrades since 2012 that occurred in emerging markets.

Rating And Default Activity In 2017

Not surprisingly, rating movement generally occurs less frequently at higher ratings than at lower ratings. Thus, sovereigns with higher ratings tend to keep the same ratings longer than lower-rated sovereigns. This is usually the case at both short and longer time horizons.

From 1975-2017, on average, 96.6% of sovereigns rated 'AAA' at the beginning of the year were rated 'AAA' at the end of the year, 90.3% after three years, 84.7% after five years, 74.5% after 10 years, and 69.1% after 15 years (see Tables 4-8). Moreover, over 15 years, 27.9% (on average) of sovereigns rated 'AAA' at the beginning of the period were rated in the 'AA' category at the end. The tables show that ratings were generally more stable when the time horizon is shorter and the rating is higher. Upgrades and downgrades are broadly balanced in the shorter time horizons, while there has been a greater preponderance of upgrades at longer time horizons for ratings that are in the 'BB' category or higher.

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Table 4

Sovereign Foreign-Currency Average One-Year Transition Rates (1975 - 2017*)

--Rating one year later (%)--

Rating as of 1st of the month	AAA	AA	A	BBB	BB	B	CCC/CC	SD	NR
AAA	96.64	3.27	0.02	0.00	0.08	0.00	0.00	0.00	0.00
AA	2.64	93.31	2.82	0.35	0.31	0.04	0.00	0.00	0.53
A	0.00	3.75	90.45	5.13	0.42	0.00	0.00	0.00	0.25
BBB	0.00	0.00	5.32	89.14	4.84	0.51	0.17	0.00	0.02
BB	0.00	0.00	0.00	5.89	87.06	5.76	0.63	0.51	0.15
B	0.00	0.00	0.00	0.02	5.51	87.24	3.07	2.87	1.29
CCC/CC	0.00	0.00	0.00	0.00	0.00	30.89	29.81	39.30	0.00

*Ratings are implied senior debt ratings through 1995 and sovereign credit ratings thereafter. Average transitions over each 12-month cohort between 1975 and 2017 annualized. Source: S&P Global Fixed Income Research.

Table 5

Sovereign Foreign-Currency Average Three-Year Transition Rates (1975 - 2017*)

--Rating three years later (%)--

Rating as of 1st of the month	AAA	AA	A	BBB	BB	B	CCC/CC	SD	NR
AAA	90.30	8.49	0.10	0.18	0.46	0.00	0.00	0.00	0.48
AA	8.23	81.58	6.80	2.39	0.34	0.00	0.00	0.00	0.66
A	0.00	10.97	72.97	12.65	1.82	0.12	0.34	0.56	0.56
BBB	0.00	0.00	16.50	69.26	11.18	1.08	0.31	1.25	0.43
BB	0.00	0.00	0.25	16.74	65.48	13.17	0.88	2.73	0.76
B	0.00	0.00	0.00	0.38	14.16	70.79	3.09	8.02	3.57
CCC/CC	0.00	0.00	0.00	0.00	1.26	30.60	12.93	55.21	0.00

*Ratings are implied senior debt ratings through 1995 and sovereign credit ratings thereafter. Average transitions over each 36-month cohort between 1975 and 2017 annualized. Source: S&P Global Fixed Income Research.

Table 6

Sovereign Foreign-Currency Average Five-Year Transition Rates (1975 - 2017*)

--Rating five years later (%)--

Rating as of 1st of the month	AAA	AA	A	BBB	BB	B	CCC/CC	SD	NR
AAA	84.68	12.64	0.15	0.94	0.89	0.00	0.00	0.00	0.69
AA	14.40	71.53	10.23	2.64	0.82	0.00	0.00	0.00	0.38
A	0.00	17.63	57.43	19.24	2.72	0.13	0.37	1.88	0.61
BBB	0.00	0.06	25.09	54.39	14.17	1.82	0.48	2.81	1.18
BB	0.00	0.00	1.88	22.00	55.73	14.06	1.24	4.39	0.69
B	0.00	0.00	0.05	3.04	17.24	58.13	2.55	13.88	5.12

Table 6

Sovereign Foreign-Currency Average Five-Year Transition Rates (1975 - 2017*) (cont.)

Rating as of 1st of the month	--Rating five years later (%)--								
	AAA	AA	A	BBB	BB	B	CCC/CC	SD	NR
CCC/CC	0.00	0.00	0.00	0.00	2.99	23.88	12.31	60.82	0.00

*Ratings are implied senior debt ratings through 1995 and sovereign credit ratings thereafter. Average transitions over each 60-month cohort between 1975 and 2017 annualized. Source: S&P Global Fixed Income Research.

Table 7

Sovereign Foreign-Currency Average 10-Year Transition Rates (1975 - 2017*)

Rating as of 1st of the month	--Rating 10 years later (%)--								
	AAA	AA	A	BBB	BB	B	CCC/CC	SD	NR
AAA	74.54	21.01	0.88	1.41	0.57	0.62	0.00	0.00	0.96
AA	29.25	51.20	10.96	5.99	2.61	0.00	0.00	0.00	0.00
A	2.09	26.02	41.96	18.83	5.63	0.15	0.53	4.79	0.00
BBB	0.00	5.01	36.69	33.97	14.36	2.46	0.42	5.05	2.05
BB	0.00	0.00	5.55	34.82	34.57	12.20	1.60	11.20	0.07
B	0.00	0.00	0.09	8.23	25.47	34.89	1.32	24.81	5.19
CCC/CC	0.00	0.00	0.00	0.00	4.15	8.81	0.00	87.05	0.00

*Ratings are implied senior debt ratings through 1995 and sovereign credit ratings thereafter. Average transitions over each 120-month cohort between 1975 and 2017 annualized. Source: S&P Global Fixed Income Research.

Table 8

Sovereign Foreign-Currency Average 15-Year Transition Rates (1975 - 2017*)

Rating as of 1st of the month	--Rating 15 years later (%)--								
	AAA	AA	A	BBB	BB	B	CCC/CC	SD	NR
AAA	69.09	27.92	0.53	0.00	0.56	0.98	0.00	0.00	0.93
AA	38.67	37.23	10.79	8.98	3.47	0.36	0.27	0.23	0.00
A	6.58	26.66	38.40	18.39	0.99	2.05	0.71	6.22	0.00
BBB	0.00	13.98	38.91	15.97	13.74	3.92	0.87	9.57	3.05
BB	0.00	0.00	7.59	43.73	21.69	8.73	0.42	17.83	0.00
B	0.00	0.00	0.21	13.16	23.02	27.54	0.00	36.07	0.00
CCC/CC	0.00	0.00	0.00	5.56	0.00	0.00	0.00	94.44	0.00

*Ratings are implied senior debt ratings through 1995 and sovereign credit ratings thereafter. Average transitions over each 180-month cohort between 1975 and 2017 annualized. Source: S&P Global Fixed Income Research.

Another gauge of ratings stability is the average time a sovereign spends at a particular rating. Table 9 shows the average number of years that the particular rating had been effective as of Dec. 31, 2017. 'AAA' ratings are much more stable than any other rating category. All rating categories

display more stability than those below them, with the exception of 'BB' category ratings, which are slightly less stable than 'B' category ratings. In addition, the average time spent with a rating below 'B-' is less than one year.

Table 9

Average Time Spent At All Ratings Prior To Dec. 31, 2017

Rating	Average years	Number of issuers
AAA	17.95	11
AA+	4.83	4
AA	4.35	7
AA-	3.60	6
A+	2.51	8
A	3.76	2
A-	2.99	7
BBB+	2.25	9
BBB	2.26	5
BBB-	2.83	10
BB+	2.51	4
BB	2.82	8
BB-	2.77	8
B+	2.31	12
B	2.07	13
B-	1.64	11
CCC/C	0.47	4

Source: S&P Global Fixed Income Research.

Sovereign Foreign-Currency Rating Changes And Migration

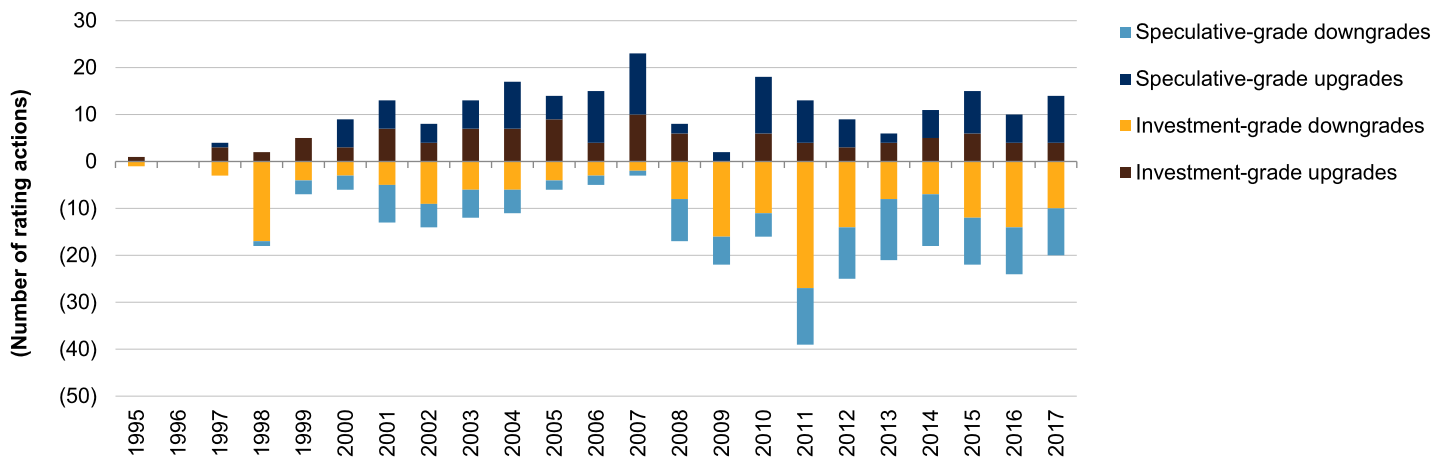
Large rating transitions are not common among sovereigns. The more pronounced, multi-notch downgrades were on sovereigns that defaulted. For example, lowering a rating to 'SD' from 'B' within the calendar year constitutes a seven-notch downgrade. Outside of these, the vast majority of downgrades are by one or--to a much lesser extent--two notches. Sovereign upgrades seldom exceed a notch over a calendar year. Argentina was an exception in 2017, though even with more upward movement than any other sovereign, it ended the year with only a 'B+' rating.

Sovereign Local-Currency Rating Transition Rates

As with foreign-currency sovereign credit ratings, local-currency ratings have generally been more stable at higher ratings than at lower ones.

Chart 18

Number Of Local-Currency Sovereign Ratings Raised Or Lowered (1995 - 2015)



Number of changed sovereign foreign-currency credit ratings, Jan. 1 versus Dec. 31. Positive numbers indicates an upgrade, and negative numbers are downgrades. Multiple rating actions within a calendar year are counted as a single action. Includes downgrades to 'SD'. Source: Global Fixed Income Research. Copyright © 2018 by Standard & Poor's Financial Services LLC. All rights reserved.

Table 10

Sovereign Local-Currency Average One-Year Transition Rates (1993 - 2017*)

Rating as of 1st of the month	--Rating one year later (%)--								
	AAA	AA	A	BBB	BB	B	CCC/CC	SD	NR
AAA	95.79	4.21	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA	1.61	91.17	5.59	0.99	0.00	0.00	0.00	0.00	0.64
A	0.00	2.57	90.27	6.34	0.39	0.19	0.00	0.00	0.24
BBB	0.00	0.00	5.41	86.88	6.89	0.68	0.13	0.00	0.03
BB	0.00	0.00	0.00	5.07	84.98	7.92	1.06	0.77	0.20
B	0.00	0.00	0.00	0.00	6.08	87.77	2.66	1.72	1.76
CCC/CC	0.00	0.00	0.00	0.00	0.00	51.03	39.00	9.97	0.00

*Ratings are implied senior debt ratings through 1995 and sovereign credit ratings thereafter. Average transitions over each 12-month cohort between 1993 and 2017 annualized. Source: S&P Global Fixed Income Research.

Table 11

Sovereign Local-Currency Average Five-Year Transition Rates (1993 - 2017*)

Rating as of 1st of the month	--Rating five years later (%)--								
	AAA	AA	A	BBB	BB	B	CCC/CC	SD	NR
AAA	80.65	17.08	0.17	1.21	0.00	0.00	0.00	0.00	0.89

Table 11

Sovereign Local-Currency Average Five-Year Transition Rates (1993 - 2017*) (cont.)

Rating as of 1st of the month	--Rating five years later (%)--								
	AAA	AA	A	BBB	BB	B	CCC/CC	SD	NR
AA	6.91	61.28	25.78	4.68	0.85	0.00	0.00	0.00	0.50
A	0.00	13.62	58.41	19.90	3.92	0.68	0.37	1.86	1.25
BBB	0.00	0.00	18.59	51.36	21.42	5.15	0.92	1.98	0.58
BB	0.00	0.00	1.94	18.97	46.90	26.45	2.10	2.69	0.95
B	0.00	0.00	0.32	2.47	22.22	58.26	2.97	6.55	7.22
CCC/CC	0.00	0.00	0.00	5.88	0.00	56.30	8.82	28.99	0.00

*Ratings are implied senior debt ratings through 1995 and sovereign credit ratings thereafter. Average transitions over each 60-month cohort between 1993 and 2017 annualized. Source: S&P Global Fixed Income Research.

Table 12

Sovereign Local-Currency Average 15-Year Transition Rates (1993-2017*)

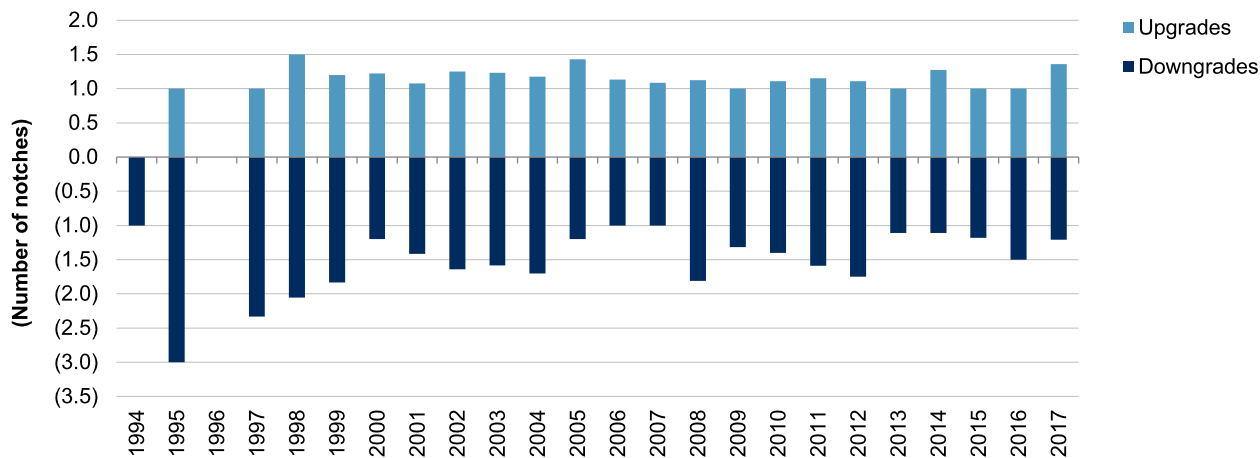
Rating as of 1st of the month	--Rating 15 years later (%)--								
	AAA	AA	A	BBB	BB	B	CCC/CC	SD	NR
AAA	67.36	24.45	3.28	2.73	0.68	0.00	0.00	0.00	1.49
AA	4.31	30.63	30.29	21.15	5.16	2.45	1.35	4.65	0.00
A	4.53	22.47	31.24	13.11	11.57	5.01	0.58	6.75	4.73
BBB	0.00	3.46	29.08	32.18	24.73	3.99	0.00	6.56	0.00
BB	0.00	0.00	7.55	26.99	36.92	19.58	0.56	8.39	0.00
B	0.00	0.00	0.00	22.90	19.95	49.21	0.00	7.94	0.00
CCC/CC	0.00	0.00	0.00	38.89	0.00	0.00	0.00	61.11	0.00

*Ratings are implied senior debt ratings through 1995 and sovereign credit ratings thereafter. Average transitions over each 180-month cohort between 1993 and 2017 annualized. Source: S&P Global Fixed Income Research.

The average magnitude of local-currency sovereign rating changes has remained close to one notch in recent years. The average number of notches of local-currency downgrades decreased to 1.21 in 2017 from 1.50 in 2016. The average magnitude of local-currency upgrades increased to 1.36 in 2017 from 1.00 in 2016.

Chart 19

Average Annual Notch Changes, Local-Currency Ratings



Negative numbers signify downgrades. Defaults not included. Source: S&P Global Fixed Income Research. Copyright © 2018 by Standard & Poor's Financial Services LLC. All rights reserved.

Sovereign Defaults

2017

Last year had more defaults than any other, with five nations defaulting a total of six times. The average number of defaults since 1999 is 1.4, and from 2010 through 2016, the average was 1.7. That makes 2017's tally more than three times the recent average. By the end of 2017, each of the sovereigns that defaulted in the year had done so at least twice since 2005, though El Salvador hadn't defaulted prior to 2017.

On Jan. 18, 2017, we lowered our long- and short-term foreign-currency ratings on Mozambique to 'SD/D' from 'CC/C'. We took this rating action after the nation missed a debt-service payment (see "Mozambique Foreign Currency Ratings Lowered To 'SD/D' On Missed Payment"). This was the second default for Mozambique; the first was in 2016.

On March 17, Belize defaulted for the third time following defaults in 2006 and 2012. The 2017 default resulted from a distressed-debt exchange, which we consider to be a default (see "Belize Long-Term Foreign Currency Rating Lowered To 'SD' From 'CC' Following Announced Debt Exchange").

El Salvador defaulted twice in 2017, the first time on April 20 following missed pension payments (See "Republic of El Salvador Sovereign Credit Ratings Lowered To 'SD' On Missed Pension Debt Payments"). On May 5, the default was cured, leading us to assign a new 'CC' rating. Then on Oct. 2, El Salvador defaulted again after announcing a debt exchange (see "Republic of El Salvador Long-Term Foreign-Currency Rating Lowered To 'SD' From 'CC' Following Announced Debt Exchange"). The next day, we assigned a 'CCC' rating following a debt restructuring.

The Republic of Congo, also known as Congo-Brazzaville, defaulted on Aug. 1 (see "Republic Of

Default, Transition, and Recovery: 2017 Annual Sovereign Default Study And Rating Transitions

Congo Foreign Currency Ratings Lowered To 'SD/D' After Trustee Unable To Unfreeze Bond Payments"). It had previously defaulted in 2016.

Venezuela was the final sovereign to default in 2017 (see "Venezuela Long-Term Foreign Currency Rating Lowered To 'SD'," Nov. 13, 2017). It was that nation's second default; the first was in 2005.

Default history

Over our rating history, 19 sovereigns have defaulted, with seven defaulting twice and three defaulting three times. Defaults of sovereign members of a monetary union are counted as foreign-currency defaults because they have no sovereign control over the common currency. In line with this reasoning, the local-currency ratings on eurozone sovereigns converged with the (often lower) foreign-currency ratings when they joined.

Table 13

Sovereign Foreign-Currency Selective Defaults

Country	Selective default date	Emergence date	Time in selective default	Rating one year before selective default	Rating three years before selective default
Russia	Jan. 27, 1999	Dec. 8, 2000	22 months	BB-	-
Pakistan	Jan. 29, 1999	Dec. 21, 1999	11 months	B+	B+
Indonesia, first default	Mar. 29, 1999	Mar. 30, 1999	One day	B-	BBB
Indonesia, second default	Apr. 17, 2000	Oct. 2, 2000	Six months	CCC+	BBB
Argentina, first default	Nov. 6, 2001	Jun. 01, 2005	54 months	BB	BB
Indonesia, third default	Apr. 22, 2002	Sept. 5, 2002	Four months	B-	CCC+
Paraguay	Feb. 13, 2003	Jul. 26, 2004	18 months	B	B
Uruguay	May. 16, 2003	Jun. 02, 2003	One month	BB-	BBB-
Grenada, first default	Dec. 30, 2004	Nov. 18, 2005	11 months	BB-	-
Venezuela, first default	Jan. 18, 2005	Mar. 03, 2005	One month	B-	B
Dominican Republic	Feb. 1, 2005	Jun. 29, 2005	Five months	CCC	BB-
Belize, first default	Dec. 7, 2006	Feb. 20, 2007	Three months	CCC-	B+
Seychelles*	Aug. 7, 2008	-	-	B	-
Ecuador	Dec. 15, 2008	Jun. 15, 2009	Six months	B-	CCC+
Jamaica, first default	Jan. 14, 2010	Feb. 24, 2010	One month	B	B
Greece, first default	Feb. 27, 2012	May. 2, 2012	Two months	BB+	A-
Belize, second default	Aug. 21, 2012	Mar. 20, 2013	Seven months	B-	B
Grenada, second default	Oct. 8, 2012	Oct. 16, 2012	One week	B-	B-
Greece, second default	Dec. 5, 2012	Dec. 18, 2012	Two weeks	CC	A-
Jamaica, second default	Feb. 12, 2013	Mar. 06, 2013	22 days	B-	SD
Grenada [†] , third default	Mar. 12, 2013	-	-	B-	B-
Cyprus	Jun. 28, 2013	Jul. 03, 2013	Five days	BB+	A+
Argentina, second default	Jul. 30, 2014	May. 06, 2016	22 months	B-	B
Ukraine	Sept. 25, 2015	Oct. 19, 2015	One month	CCC	B+
Mozambique, first default	April 1, 2016	April 15, 2016	15 days	B	B+

Default, Transition, and Recovery: 2017 Annual Sovereign Default Study And Rating Transitions

Table 13

Sovereign Foreign-Currency Selective Defaults (cont.)

Country	Selective default date	Emergence date	Time in selective default	Rating one year before selective default	Rating three years before selective default
Congo-Brazzaville, first default	Aug. 02, 2016	Aug. 09, 2016	One week	B	-
Belize, third default	March 17, 2017	March 23, 2017	Six days	B-	B-
Congo-Brazzaville, second default	Aug. 01, 2017	Sept. 5, 2015	One month	B-	B+
El Salvador, first default	April 20, 2017	May 5, 2017	15 days	B+	BB-
El Salvador, second default	Oct. 02, 2017	Oct. 03, 2017	One day	B+	BB-
Mozambique, second default	Jan. 18, 2017	-	-	B-	B+
Venezuela, second default	Nov. 13, 2017	-	-	CCC	CCC+

Mali defaulted in 2012; we withdrew the rating in 2008. *We withdrew the rating on Seychelles while it was still in default. †We withdrew the rating on Grenada while it was still in default in 2014. Source: S&P Global Fixed Income Research.

Table 14

Sovereign Local-Currency Selective Defaults

Country	Selective default date	Emergence date	Time in selective default	Rating one year before selective default	Rating three years before selective default
Dominican Republic	Apr. 9, 1999	Jun. 12, 2001	26 months	BB	-
Suriname	Jan. 1, 2000	Feb. 2, 2001	13 months	-	-
Argentina	Nov. 6, 2001	Jun. 1, 2005	43 months	BBB-	BBB-
Cameroon	Sep. 1, 2004	Dec. 3, 2004	Three months	-	-
Grenada, first default	Jan. 1, 2005	Nov. 18, 2005	11 months	BB-	-
Grenada, second default*	Dec. 1, 2006	Apr. 2, 2007	Four months	B-	BB-
Ecuador	Dec. 15, 2008	Jun. 15, 2009	Six months	B-	CCC+
Jamaica, first default	Jan. 14, 2010	Feb. 24, 2010	One month	B	B
Greece, first default	Feb. 27, 2012	May. 2, 2012	Two months	BB+	A-
Greece, second default*	Dec. 5, 2012	Dec. 18, 2012	Two weeks	CC	A-
Jamaica, second default	Feb. 12, 2013	March 6, 2013	22 days	B-	B-
Grenada, third default	March 12, 2013	-	-	B-	B-

Table 14

Sovereign Local-Currency Selective Defaults (cont.)

Country	Selective default date	Emergence date	Time in selective default	Rating one year before selective default	Rating three years before selective default
Cyprus	June 28, 2013	July 3, 2013	Five days	BB+	A+
El Salvador, first default	April 20, 2017	May 5, 2017	15 days	B+	BB-
El Salvador, second default*	Oct. 02, 2017	Oct. 03, 2017	One day	B+	BB-

Cameroon and Grenada (excluding the third default) cured their local-currency defaults before the ratings were changed. Mali defaulted in 2012; we withdrew the rating in 2008. *These defaults followed a prior default that occurred within the stated horizon. When an issuer reemerges from default, we treat it as a new issuer. Source: S&P Global Fixed Income Research.

During 1975-2017, no sovereign rated 'AAA' at the beginning of a month defaulted within the ensuing 180 months (15 years). Moreover, the cumulative default rates were generally higher at lower rating levels, as one would expect. For example, from 1975-2015, the five-year average cumulative default rate for sovereigns rated in the 'A' category was only about 1.5%. By comparison, the five-year average cumulative default rate for sovereigns rated in the 'BBB' category was 2.7%; the 'BB' category, 4.2%; the 'B' category, 15.0%; and the 'CCC'/'CC' categories, 62.2%. Fifteen-year cumulative default rates averaged 3.1% for sovereigns with investment-grade ratings and 26.3% for sovereigns with speculative-grade ratings. The same trends are generally true when calculating default rates disaggregated by rating category. Apart from the 'A+' and 'A' ratings, which include the defaults of Greece and Cyprus, the cumulative default rates for ratings with modifiers were higher at lower ratings. These statistics, which comprise many years of monthly data, suggest that foreign-currency ratings have been strong indicators of default probability and the imminence of default.

Table 15

Sovereign Foreign-Currency Cumulative Average Default Rate* Without Rating Modifiers (1975 - 2017)

Rating	--Time horizon (years)--														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
AAA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A	0.00	0.00	0.28	0.88	1.50	2.14	2.82	3.55	4.34	5.20	6.13	7.17	8.33	8.99	9.74
BBB	0.00	0.53	1.38	1.99	2.66	3.38	3.77	3.77	3.77	3.77	3.77	3.77	3.77	4.47	5.23
BB	0.44	1.61	2.35	3.12	4.22	5.41	6.99	9.04	10.52	11.73	12.62	13.61	14.70	15.94	16.64
B	2.40	5.86	8.90	11.93	14.95	17.34	19.97	22.55	24.21	25.62	27.79	29.69	30.44	31.33	32.44
CCC/CC	41.03	48.72	56.82	59.51	62.21	67.61	70.31	70.31	70.31	70.31	70.31	70.31	70.31	70.31	70.31
Investment grade	0.00	0.12	0.37	0.64	0.92	1.21	1.44	1.60	1.77	1.96	2.15	2.36	2.58	2.82	3.07
Speculative grade	3.03	5.61	7.79	9.75	11.85	13.83	15.98	18.16	19.64	20.87	22.25	23.55	24.44	25.47	26.27

Table 15

Sovereign Foreign-Currency Cumulative Average Default Rate* Without Rating Modifiers (1975 - 2017) (cont.)

Rating	--Time horizon (years)--														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
All rated	1.11	2.11	3.05	3.91	4.81	5.68	6.54	7.36	7.95	8.45	8.99	9.51	9.90	10.34	10.72

N/A--Not applicable; there are no observations for this horizon. *Default rates conditional on survival. Ratings are implied senior debt ratings through 1995 and sovereign credit ratings thereafter. Horizons consist of monthly cohorts for specified periods annualized. Source: S&P Global Fixed Income Research.

Generally, the cumulative default rates by rating category have been higher for foreign-currency sovereign credit ratings than for local-currency sovereign credit ratings (see Tables 22 and 23). The discrepancy may be attributable to the smaller local-currency universe compared with the foreign-currency universe (the foreign-currency series begins in 1975, and the local-currency one begins in 1992). Also, the local-currency sovereign default rates could be understated because it is hard to detect forced rollovers of domestic bank debt or coerced exchanges of local-law, local-currency debt when domestic financial institutions hold the debt. But also, as our "Sovereign Rating Methodology" explains, we consider that--other things being equal--the probability of default on a sovereign's local-currency obligation could be lower than on a foreign-currency obligation.

Table 16

Sovereign Local-Currency Cumulative Average Default Rate* Without Rating Modifiers (1993 - 2017)

Rating	--Time horizon (years)--														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
AAA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.68	1.42	2.22	3.10	4.09
A	0.00	0.00	0.28	0.87	1.48	2.13	2.82	3.56	4.38	5.27	5.76	6.34	7.02	7.84	8.88
BBB	0.00	0.61	1.27	1.63	2.02	2.44	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90
BB	0.58	1.50	1.83	2.18	2.55	2.97	3.43	4.45	5.59	6.24	7.00	7.89	8.95	10.20	11.67
B	1.42	2.46	3.61	4.25	5.32	6.53	7.45	8.50	8.50	9.23	10.07	10.07	10.07	10.07	10.07
CCC/C	16.13	19.62	23.64	28.41	33.53	39.07	44.61	44.61	44.61	44.61	44.61	44.61	44.61	44.61	44.61
Investment grade	0.00	0.14	0.36	0.59	0.84	1.10	1.37	1.57	1.79	2.02	2.28	2.56	2.87	3.22	3.61
Speculative grade	1.63	2.71	3.59	4.24	5.12	6.11	6.99	7.98	8.54	9.20	9.96	10.41	10.96	11.64	12.51
All rated	0.56	1.02	1.46	1.83	2.27	2.76	3.21	3.64	3.95	4.29	4.67	4.99	5.35	5.76	6.24

N/A--Not applicable; there are no observations for this horizon. *Default rates conditional on survival. Ratings are implied senior debt ratings through 1995 and sovereign credit ratings thereafter. Horizons consist of monthly cohorts for specified periods annualized. Source: S&P Global Fixed Income Research.

On average, there is a negative correlation between the initial rating on a sovereign and its time to default, if that occurs. For example, for the entire pool of sovereign defaults (1975-2016), the average times to default for issuers that were originally rated in the 'AA' and 'BBB' categories were 19.38 years and 15.09 years, respectively, from the initial ratings, whereas issuers in the 'B' rating

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category had an average time to default of only 6.78 years. When an issuer emerges from a default (including selective default), we treat it as a new entity. Similarly, we consider the first rating we assign after the default event to be the original rating on this new entity. Tables 18 and 19 display the median, average, and standard deviations for the time to default from the original rating for foreign- and local-currency ratings. Tables 20 and 22 present the average and median times to default from each rating category and include both rating originations and transitions to each category. In both cases, the standard deviation of the times to default shrinks progressively as the rating gets lower. Generally speaking, the average time to default for each rating category is longer when based on the initial rating on a sovereign than it is based on later ratings.

Table 17

Length Of Time To Default

Government	Date of default	Date of initial rating	Highest rating/outlook before default	Last date of highest rating	Number of intermediate rating actions
Foreign-currency sovereign credit rating defaults					
Russia	Jan. 27, 1999	Oct. 7, 1996	BB-/Stable	Jun. 08, 1998	4
Pakistan	Jan. 29, 1999	Nov. 21, 1994	B+/Positive	May. 31, 1998	4
Indonesia, first default	Mar. 29, 1999	Jul. 20, 1992	BBB/Stable	Oct. 9, 1997	7
Indonesia, second default	Apr. 17, 2000	Mar. 30, 1999	CCC+/Stable	Apr. 16, 2000	0
Argentina, first default	Nov. 6, 2001	Aug. 25, 1993	BB/Stable	Nov. 13, 2000	7
Indonesia, third default	Apr. 22, 2001	Oct. 2, 2000	B-/Stable	May. 20, 2001	2
Paraguay	Feb. 13, 2003	Oct. 23, 1995	BB-/Stable	Feb. 3, 1999	3
Uruguay	May. 16, 2003	Feb. 14, 1994	BBB-/Stable	Feb. 13, 2002	6
Grenada, first default	Dec. 30, 2004	Mar. 22, 2002	BB-/Stable/B	Sep. 16, 2004	2
Venezuela, first default	Jan. 18, 2005	Oct. 5, 1977	AAA	Aug. 12, 1982	14
Dominican Republic	Feb. 1, 2005	Feb. 13, 1997	BB-/Stable	Jun. 9, 2003	5
Belize, first default	Dec. 7, 2006	Aug. 22, 2000	BB/Stable	Oct. 22, 2001	7
Seychelles*	Aug. 7, 2008	Sep. 14, 2006	B/Stable	July. 31, 2008	1
Ecuador	Dec. 15, 2008	Aug. 25, 2000	B-/Stable	Nov. 13, 2008	6
Jamaica, first default	Jan. 14, 2010	Nov. 9, 1999	B+/Stable	Jul. 27, 2003	5
Greece, first default	Feb. 27, 2012	Sep. 9, 1988	A+/Stable	Nov. 16, 2004	13

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Table 17

Length Of Time To Default (cont.)

Government	Date of default	Date of initial rating	Highest rating/outlook before default	Last date of highest rating	Number of intermediate rating actions
Belize, second default	Aug. 21, 2012	Feb. 20, 2007	B/Stable	Aug. 3, 2011	4
Grenada, second default	Oct. 8, 2012	Nov. 18, 2005	B-/Stable	Oct. 7, 2012	2
Greece, second default	Dec. 5, 2012	May. 2, 2012	CCC/Stable	Dec. 4, 2012	0
Jamaica, second default	Feb. 12, 2013	Feb. 24, 2010	B-/Stable	Feb. 11, 2013	0
Grenada, third default*	Mar. 12, 2013	Oct. 16, 2012	CCC+/Negative	Mar. 11, 2013	0
Cyprus	Jun. 28, 2013	Feb. 14, 1994	AA-/Stable	Nov. 8, 1998	12
Argentina, second default	Jul. 30, 2014	Jun. 01, 2005	B+/Stable	Aug. 10, 2008	8
Ukraine	Sep. 25, 2015	Dec. 21, 2001	BB-/Stable	Jun. 11, 2008	14
Mozambique, first default	Apr. 1, 2016	Jul. 7, 2004	B+/Stable	Feb. 13, 2014	4
Congo-Brazzaville, first default	Aug. 2, 2016	Oct. 22, 2013	B+/Stable	Feb. 8, 2015	1
Belize, third default	Mar. 17, 2017	Mar. 20, 2013	B-/Positive	Nov. 13, 2016	2
Congo-Brazzaville, second default	Aug. 1, 2017	Aug. 9, 2016	B-/Stable	Jul. 6, 2017	1
El Salvador, first default	Apr. 20, 2017	Aug. 26, 1996	BB+/Stable	May. 11, 2009	7
El Salvador, second default	Oct. 2, 2017	May. 5, 2017	CC/Negative	Oct. 1, 2017	0
Mozambique, second default	Jan. 18, 2017	Apr. 15, 2016	B-/Stable	May. 26, 2016	2
Venezuela, second default	Nov. 13, 2017	Mar. 3, 2005	BB-/Positive	Aug. 18, 2011	9
Local-currency sovereign credit rating defaults					
Dominican Republic	Apr. 9, 1999	Nov. 12, 1997	BB/Stable	Apr. 8, 1999	0
Suriname	Jan. 1, 2000	Nov. 23, 1999	B/Stable	Dec. 31, 1999	0
Argentina	Nov. 6, 2001	Sep. 1, 1994	BBB-/Stable	Nov. 13, 2000	6
Ecuador	Dec. 15, 2008	Aug. 25, 2000	B-/Stable	Nov. 13, 2008	6
Jamaica, first default	Jan. 14, 2010	Nov. 9, 1999	BB-/Stable	Jul. 27, 2003	6

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Table 17

Length Of Time To Default (cont.)

Government	Date of default	Date of initial rating	Highest rating/outlook before default	Last date of highest rating	Number of intermediate rating actions
Greece, first default	Feb. 27, 2012	Mar. 26, 1997	A+/Stable	Nov. 16, 2004	10
Greece, second default	Dec. 5, 2012	May. 2, 2012	CCC/Stable	Dec. 4, 2012	0
Jamaica, second default	Feb. 12, 2013	Feb. 24, 2010	B-/Stable	Feb. 11, 2013	0
Grenada, third default	Mar. 12, 2013	Apr. 2, 2007	B-/Stable	Oct. 7, 2012	2
Cyprus	Jun. 28, 2013	Jul. 16, 1996	AA+/Stable	Nov. 8, 1998	14
El Salvador, first default	Apr. 20, 2017	Aug. 26, 1996	BBB+/Stable	Jan. 22, 2001	7
El Salvador, second default	Oct. 2, 2017	May. 5, 2017	CC/Negative	Oct. 1, 2017	0

Mali defaulted in 2012; we withdrew the rating in 2008. Grenada cured its first two local-currency defaults before ratings were changed. *We withdrew the ratings on Seychelles and Grenada while they were still in default. Source: S&P Global Fixed Income Research.

Table 18

Time To Default From Original Rating, Foreign-Currency Ratings

	Average (years)	Median (years)	Standard deviation	Number of defaults
AAA	27.31	27.31	-	1
AA	19.38	19.38	-	1
A	-	-	-	0
BBB	15.09	15.09	11.87	2
BB	8.12	7.32	6.12	7
B	6.29	6.20	4.16	18
CCC/C	0.62	0.50	0.30	4
Total	7.78	6.79	6.93	33

Source: S&P Global Fixed Income Research.

Table 19

Time To Default From Original Rating, Local-Currency Ratings

	Average (years)	Median (years)	Standard deviation	Number of defaults
AAA	-	-	-	0
AA	16.96	16.96	-	1
A	14.93	14.93	-	1
BBB	7.19	7.19	-	2
BB	2.09	2.09	0.97	2

Table 19

Time To Default From Original Rating, Local-Currency Ratings (cont.)

	Average (years)	Median (years)	Standard deviation	Number of defaults
B	4.58	2.97	4.32	7
CCC/C	3.27	3.27	3.79	3
Total	6.43	4.46	6.49	16

Source: S&P Global Fixed Income Research.

Table 20

Time To Default From All But Original Rating, Foreign-Currency Ratings

	Average (years)	Median (years)	Standard deviation	Number of defaults
AAA	-	-	-	0
AA	22.45	22.45	-	1
A	14.64	14.64	-	1
BBB	10.50	5.93	9.69	3
BB	7.78	4.86	6.84	4
B	5.18	4.03	4.64	11
CCC/C	2.17	0.65	3.12	7
NR	3.75	3.75	-	1
Total	5.49	3.85	6.40	28

Source: S&P Global Fixed Income Research.

Table 21

Time To Default From All But Original Rating, Foreign-Currency Ratings

	Average (years)	Median (years)	Standard deviation	Number of defaults
AAA	-	-	-	0
AA	22.45	22.45	-	1
A	14.64	14.64	-	1
BBB	10.50	5.93	9.69	3
BB	7.78	4.86	6.84	4
B	5.18	4.03	4.64	11
CCC/C	2.17	0.65	3.12	7
NR	3.75	3.75	-	1
Total	5.49	3.85	6.40	28

Source: S&P Global Fixed Income Research.

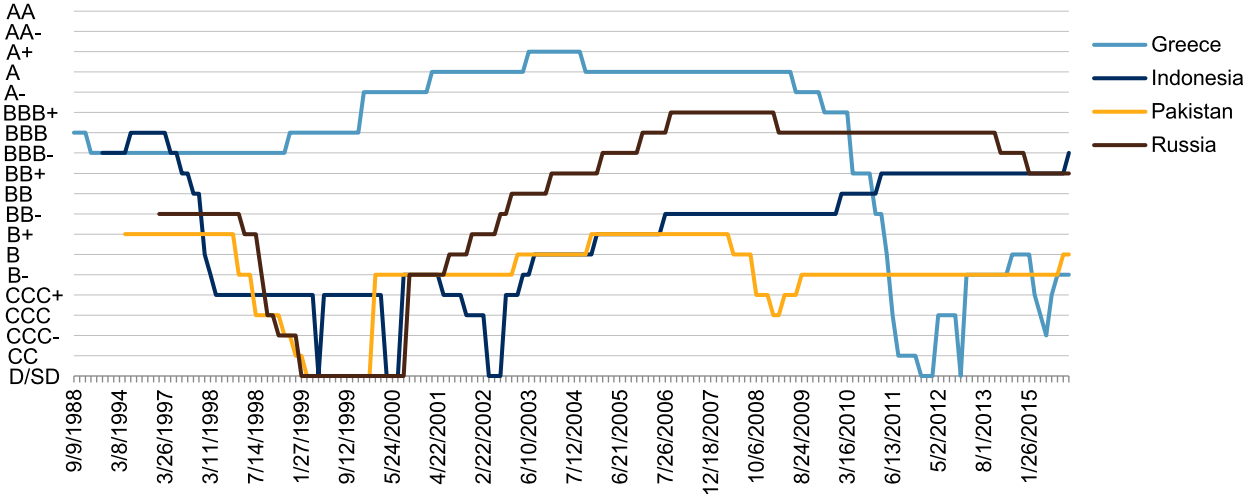
Sovereigns that approach default usually experience multiple successive downgrades as the likelihood of default increases. Table 13 shows the last date of the highest rating, the number of

Default, Transition, and Recovery: 2017 Annual Sovereign Default Study And Rating Transitions

intermediate rating actions (including outlook revisions) before default, and the date of the sovereign's default. Charts 20-25 depict the rating movements and show how defaulted sovereigns that were rated higher generally took longer to default than lower-rated sovereigns.

Chart 20

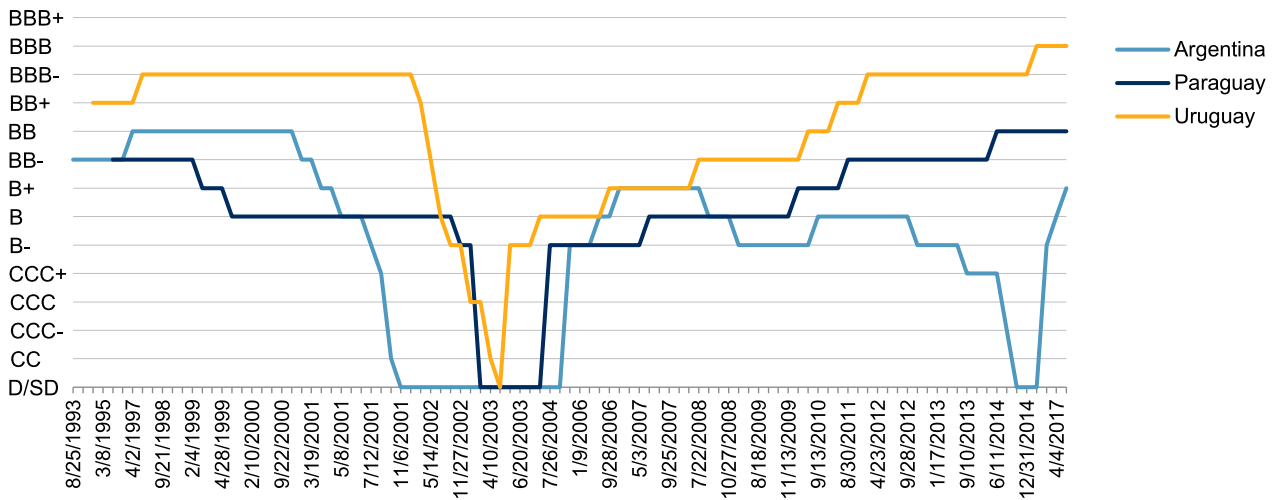
Sovereign Foreign-Currency Ratings Before And After Default For Indonesia, Pakistan, Russia, And Greece



Source: S&P Global Fixed Income Research.
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Chart 21

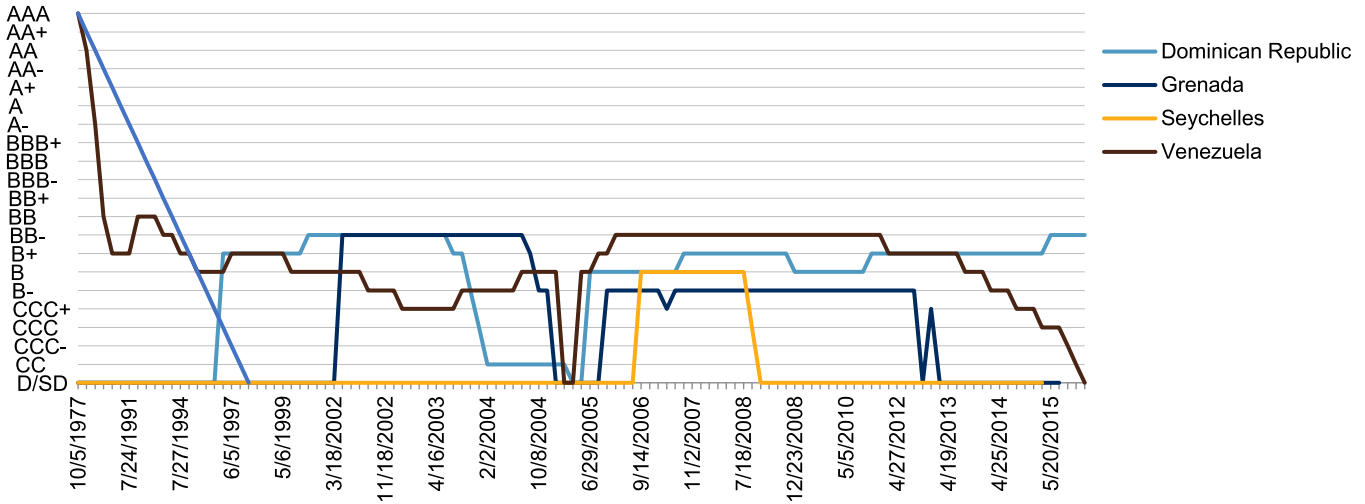
Sovereign Foreign-Currency Ratings Before And After Default For Argentina, Paraguay, And Uruguay



Source: S&P Global Fixed Income Research.
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Chart 22

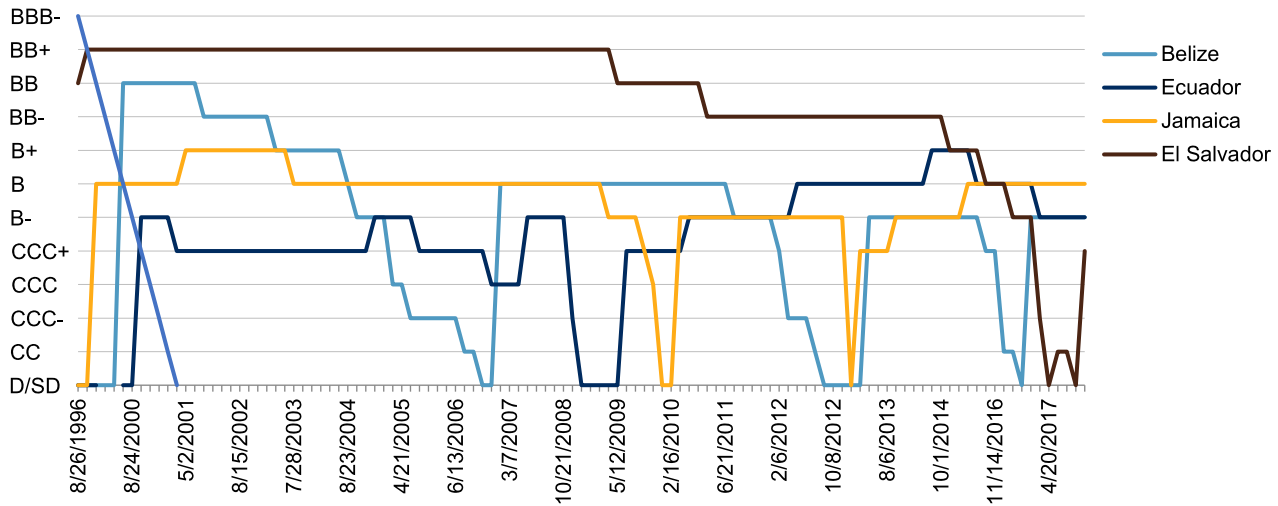
Sovereign Foreign-Currency Ratings Before And After Default For The Dominican Republic, Venezuela, Grenada, And Seychelles



Source: S&P Global Fixed Income Research.
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Chart 23

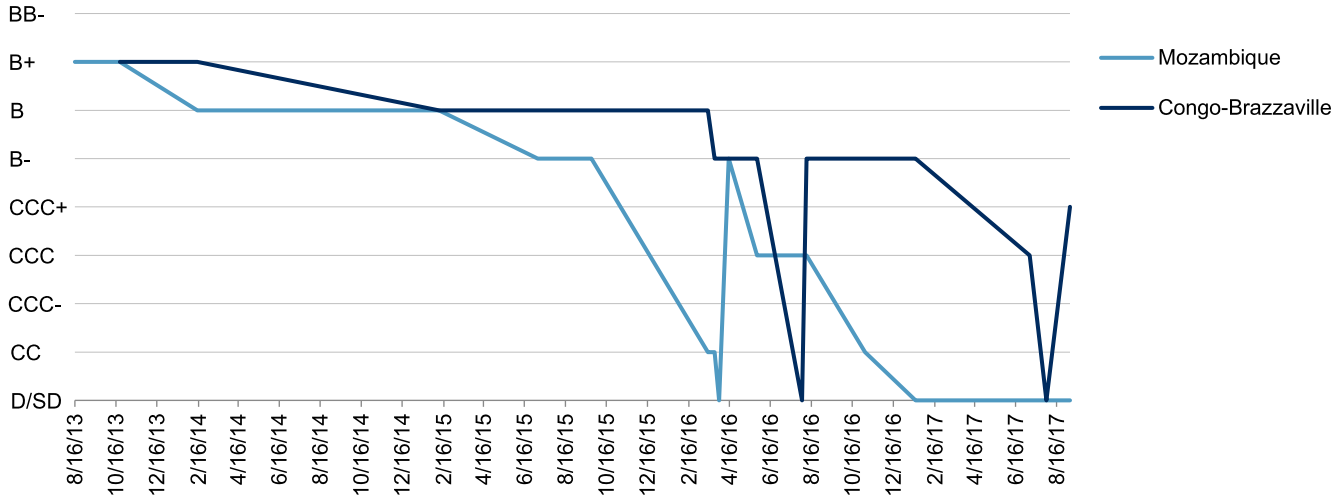
Sovereign Foreign-Currency Ratings Before And After Default For Belize, Ecuador, Jamaica And El Salvador



Source: S&P Global Fixed Income Research.
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Chart 24

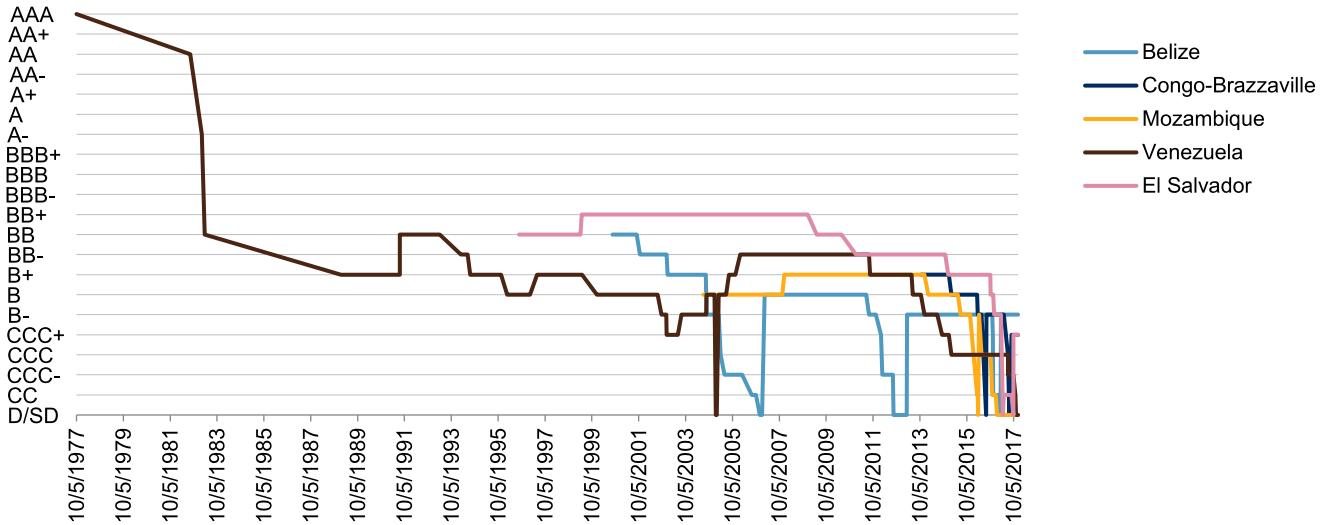
Sovereign Foreign-Currency Ratings Before And After Default For Mozambique And Congo-Brazzaville



Source: S&P Global Fixed Income Research.
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Chart 25

Sovereign Foreign-Currency Ratings Before And After Default For Belize, Congo-Brazzaville, Mozambique, Venezuela, And El Salvador



Source: S&P Global Fixed Income Research.
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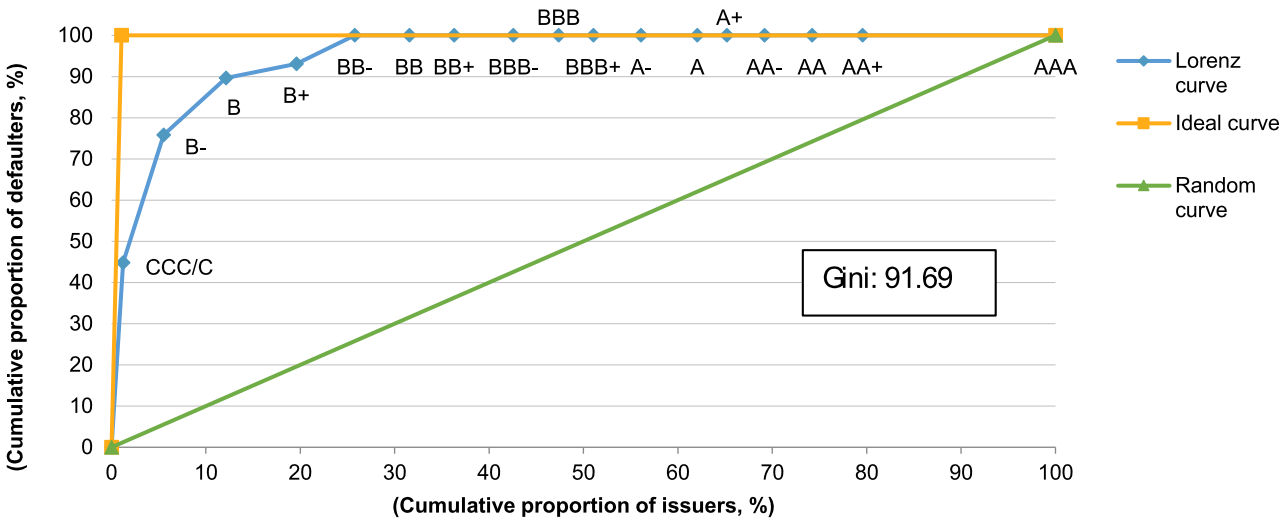
Appendix 1: Gini Ratios

In addition to examining the absolute performance of ratings, we examine their relative performance. One technique we use to measure relative performance is the Gini coefficient. The Gini coefficient--a summary statistic of the Lorenz curve--is a measure of the relative ability of ratings to differentiate risk. We believe that comparing Lorenz curves and Gini coefficients is useful. Sovereign Lorenz curves for foreign- and local-currency ratings resemble the ideal Lorenz curves, though the small sample size results in less-accurate readings than in other sectors. A larger number of data points would register a smooth line that curves as in Chart 27. Many of the other charts show lines that take sharp turns, resulting in angles rather than curves.

Chart 26 shows the one-year Lorenz curve for sovereign foreign-currency ratings. The points along the Lorenz curve represent different ratings, starting with bonds in the 'CCC' and lower categories on the far left. The first point indicates that the one-year transition to default was 45% at 'CCC' and lower ratings. As the ratings increase, the number of defaults decreases, yielding points that continue to climb through the remainder of the speculative-grade scale before turning sharply to the right when reaching 100% at the 'BB-' rating. As there are no defaults at any higher rating than 'BB-', the chart shows a strong relationship between speculative-grade ratings and defaults.

Chart 26

Sovereign Foreign-Currency One-Year Rating Performance

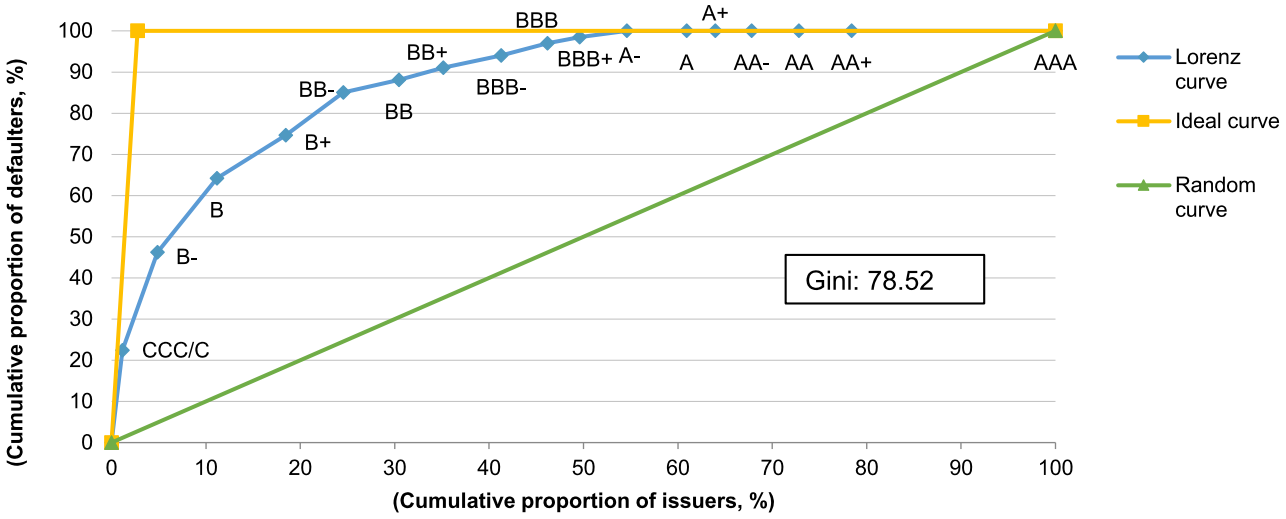


Source: S&P Global Fixed Income Research.

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Chart 27

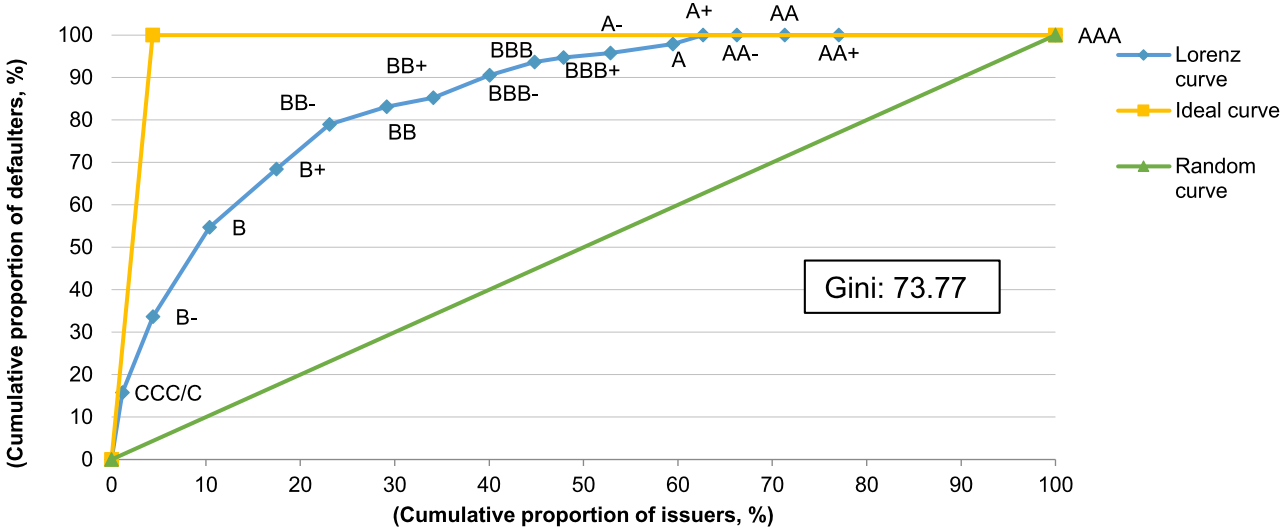
Sovereign Foreign-Currency Three-Year Rating Performance



Source: S&P Global Fixed Income Research.
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Chart 28

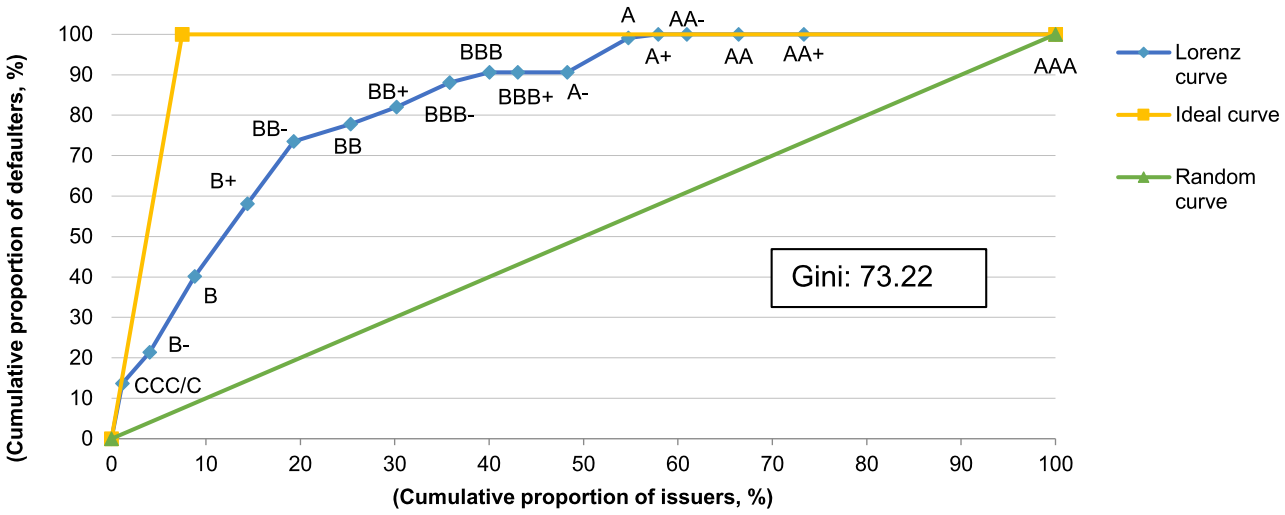
Sovereign Foreign-Currency Five-Year Rating Performance



Source: S&P Global Fixed Income Research.

Chart 29

Sovereign Foreign-Currency 10-Year Rating Performance

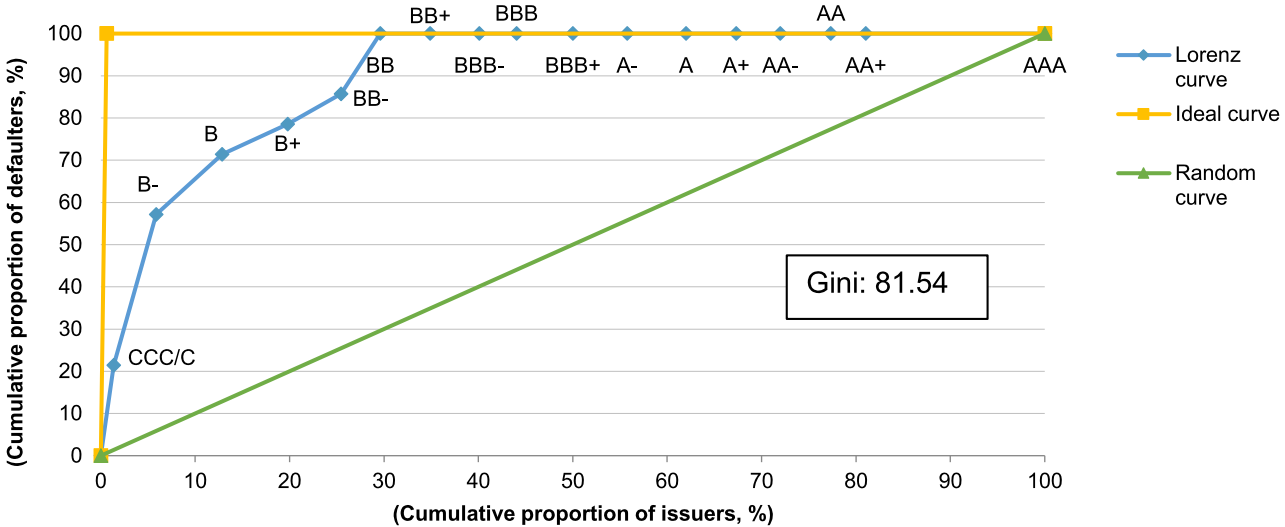


Source: S&P Global Fixed Income Research.
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The sovereign foreign-currency Gini coefficients for the one-, three-, five-, and 10-year horizons are 92%, 79%, 74%, and 73%, respectively. The sovereign local-currency Gini coefficients for the one-, three-, five-, and 10-year horizons are 82%, 73%, 67%, and 60%, respectively (see Charts 26-33).

Chart 30

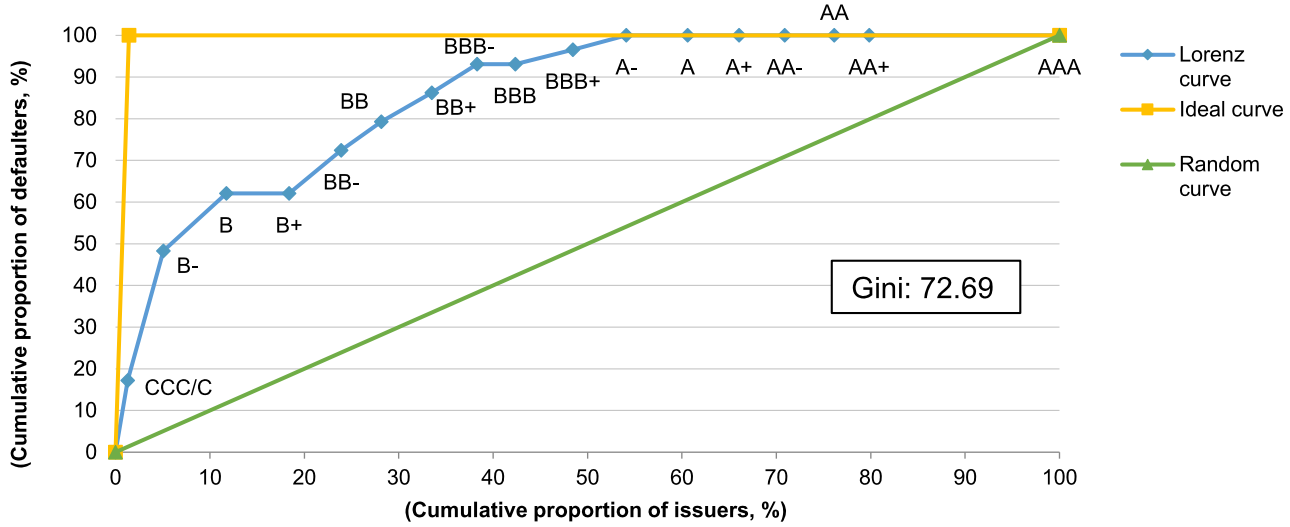
Sovereign Local-Currency One-Year Rating Performance



Source: S&P Global Fixed Income Research.

Chart 31

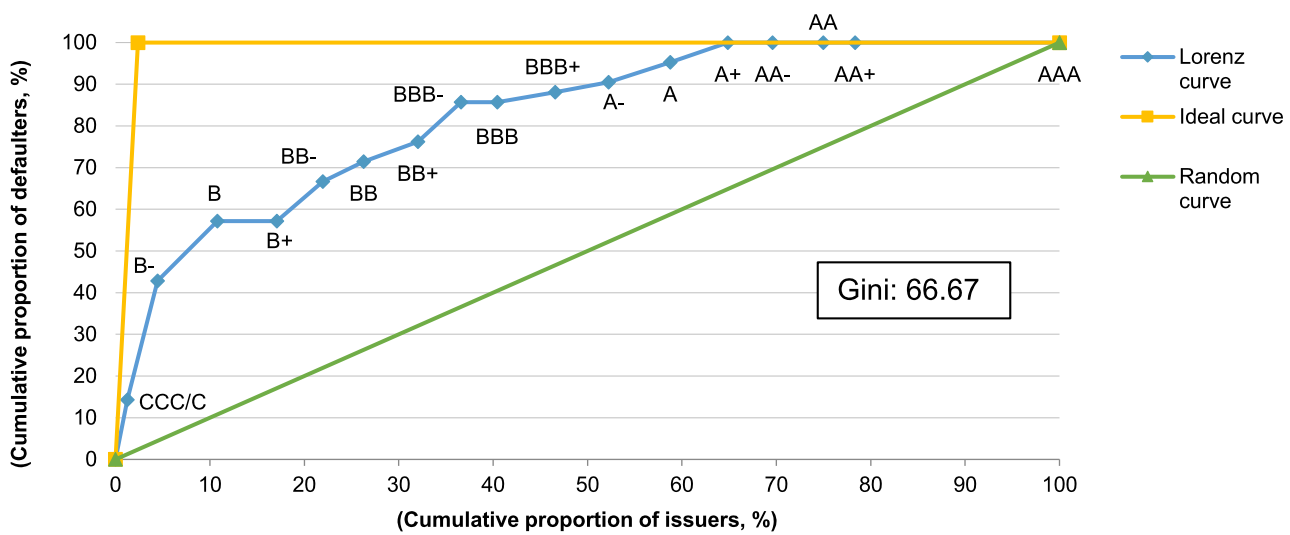
Sovereign Local-Currency Three-Year Rating Performance



Source: S&P Global Fixed Income Research.
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Chart 32

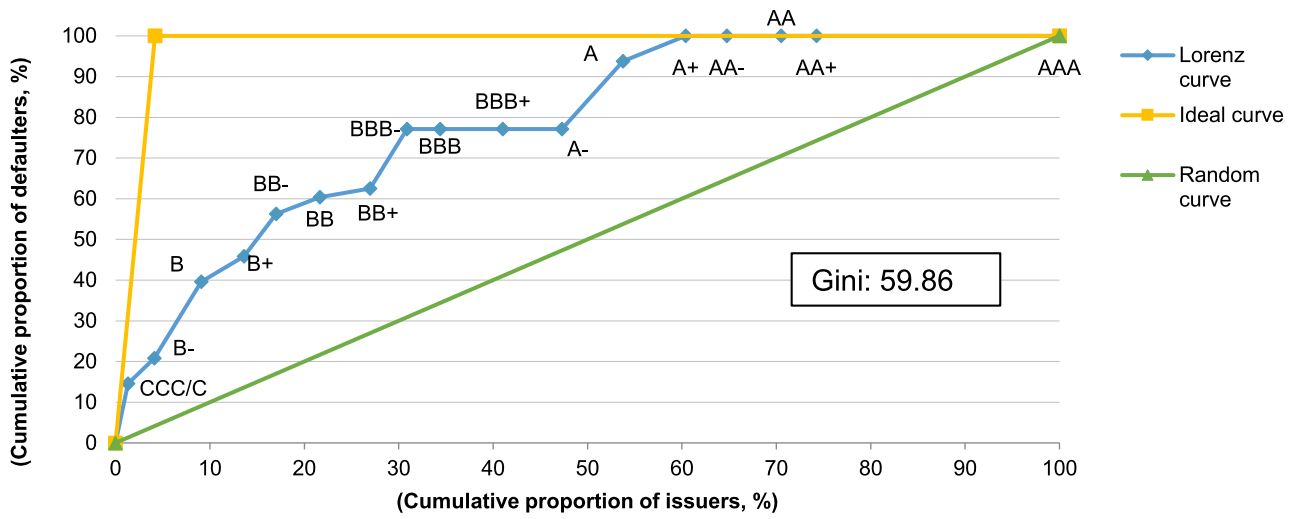
Sovereign Local-Currency Five-Year Rating Performance



Source: S&P Global Fixed Income Research.

Chart 33

Sovereign Local-Currency 10-Year Rating Performance



Source: S&P Global Fixed Income Research.

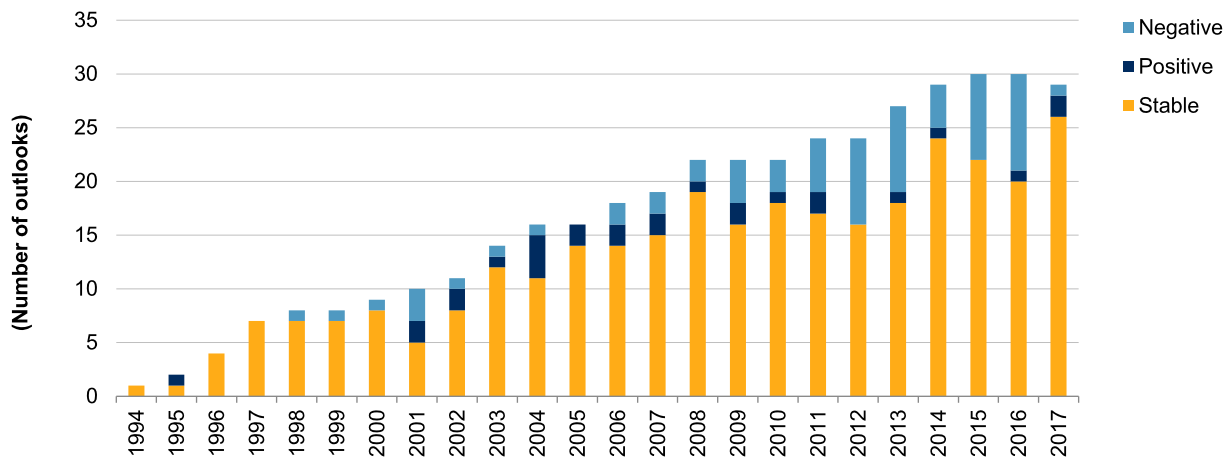
Appendix 2: Regional Outlooks

Middle East and Africa

After nine years of more negative outlooks than positive, the Middle East and Africa entered 2018 with two positive outlooks and one negative. The change was mostly from ratings being assigned a stable outlook after being downgraded. Egypt was the only sovereign to have its outlook revised to positive from stable in 2017. There were eight more negative outlooks than positive in both 2016 and 2017. The outlooks suggest a slight improvement in ratings in the coming year or two.

Chart 34

Middle East And North Africa Outlooks



Source: S&P Global Fixed Income Research.
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In sub-Saharan Africa, we anticipate modest improvement in economic conditions. A slight increase in oil prices and stable prices among other important export commodities should help bolster the region. Easing drought conditions in many countries should also be beneficial.

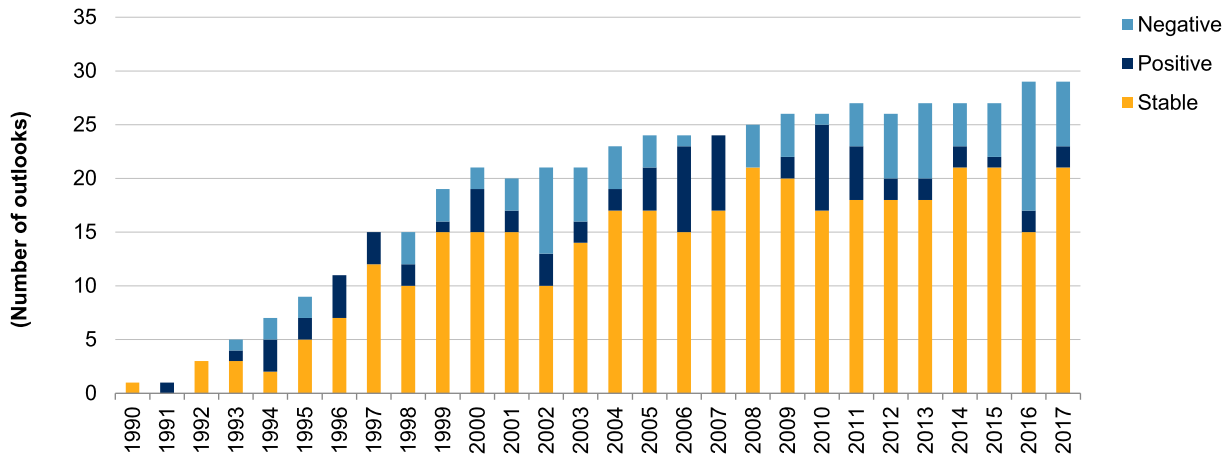
Latin America

Latin America has six sovereign ratings with negative outlooks and two with positive ones. This negative bias in Latin America sovereign ratings has been the norm since 2012. The outlook distribution significantly improved in 2017, primarily because many sovereigns with negative outlooks were downgraded. (The region had nine sovereign downgrades overall in 2017.) The current outlook distribution suggests a less-negative rating trend in 2018, as there are fewer ratings with negative outlooks.

We anticipate moderately better economic performance in 2018, with the region's economy growing about 2.2% in 2018 compared to 1.1% in 2017. While the GDPs of seven nations fell in 2017, only Venezuela's is expected to be lower in 2018 than in 2017. Excluding Venezuela, GDP in the region is expected to grow 2.5%.

Chart 35

Latin America Outlooks



Source: S&P Global Fixed Income Research.
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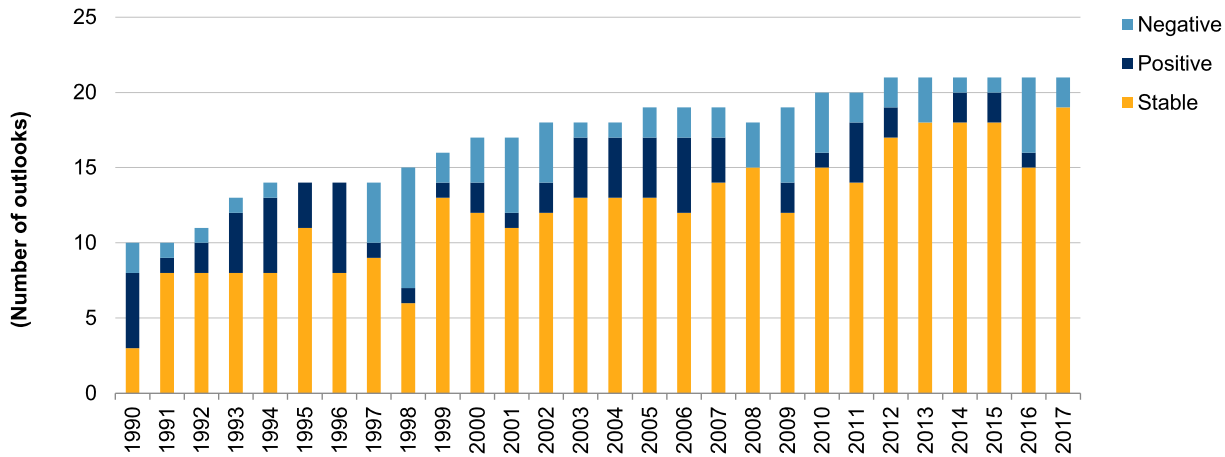
Several Latin America sovereigns are perceived to have a relatively high degree of corruption. For example, Brazil's fluid political situation stems in large part from the revelation of systemic corruption. Peru's president Pedro Pablo Kuczynski narrowly avoided impeachment based on alleged improprieties with a Brazilian construction firm. And Columbia and Costa Rica have had corruption allegations pertaining to presidential candidates and national elections. In Mexico, corruption is expected to be a significant issue in this year's national elections.

Asia-Pacific

All but two Asia-Pacific ratings have stable outlooks, indicating rating changes should be infrequent through at least 2020. Asia-Pacific's outlook distribution improved in 2017, though only as a result of downgrades. The number of sovereign ratings in the region with negative outlooks peaked in 2009 in the midst of the financial crisis, with the highest number of positive outlooks following in late 2011. Asia-Pacific sovereigns are enjoying very strong external factors like liquidity and international investment.

Chart 36

Asia-Pacific Outlooks



Source: S&P Global Fixed Income Research.
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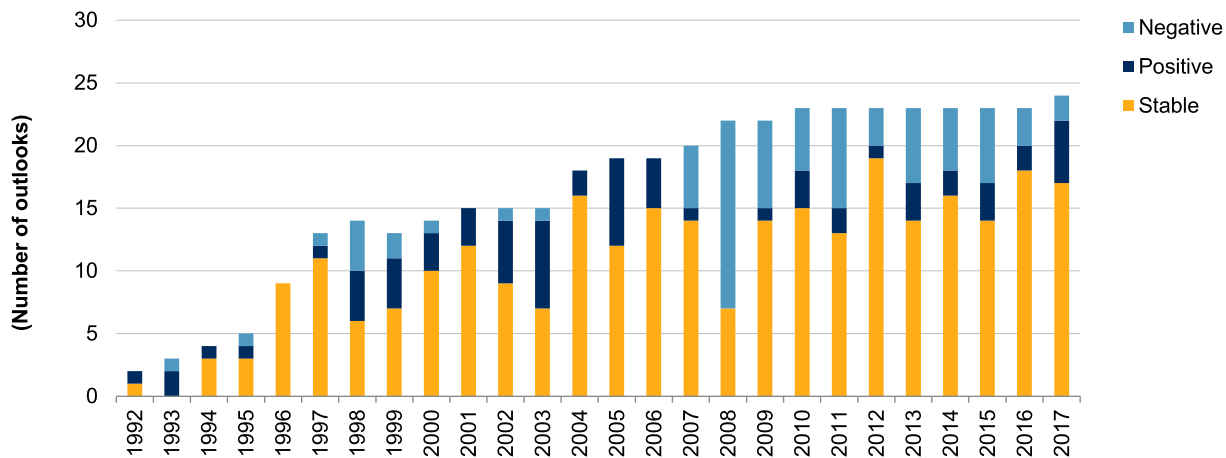
The economic conditions for the region improved in 2017, and we expect that trend to continue in 2018. Asia-Pacific is susceptible to capital outflows, though these have not materialized. Rising interest rates in the U.S. or a loss of investor confidence in the region could facilitate large withdrawals of funds from Asia-Pacific. Abrupt capital outflows would be particularly problematic. Other threats to the region could be an unexpected military conflict on the Korean peninsula or deteriorating U.S.-China trade relations. Nonetheless, none of these instances are anticipated at this time, as the region's preponderance of stable outlooks demonstrates.

Central and Eastern Europe and CIS

Five sovereign ratings in the region that encompasses Central and Eastern Europe (CEE) and the CIS have positive outlooks.

Chart 37

Central And Eastern Europe And CIS Outlooks



Source: S&P Global Fixed Income Research.
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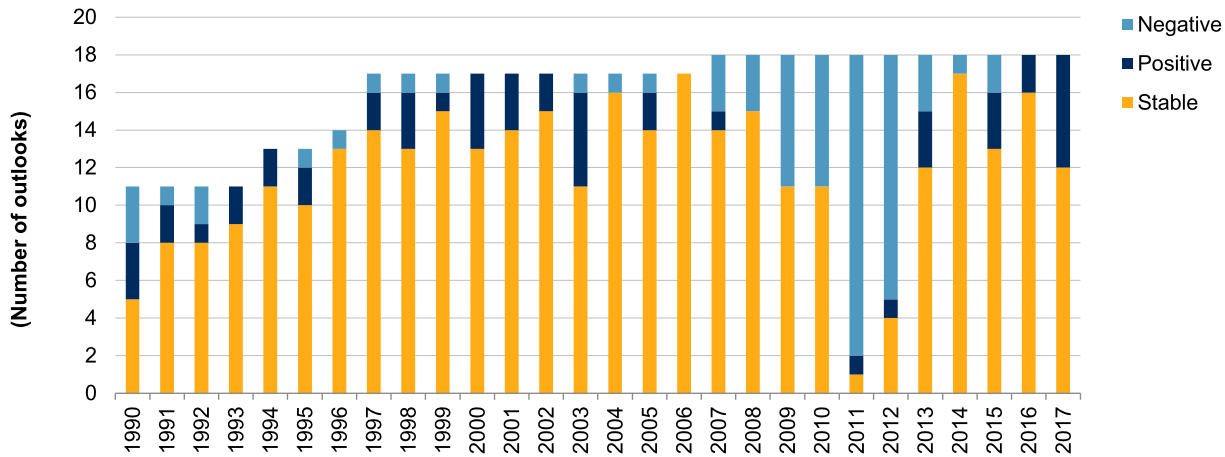
Economic growth in the region is expected to remain steady. The CEE is expected to expand 3.6% in 2018, down from 4.1% in 2017 but still strong. Romania, Slovenia, Poland, and Latvia have some of the fastest growth rates among the 131 sovereigns we rate. Factors such as growing external demand, strong consumption, labor market improvements, and wage growth have assisted this economic performance. CIS's economic performance will lag that of CEE because of weak commodity markets, poor governance, and inefficient public sectors. Other strains the CIS faces include weak institutions, low wealth, weak external profiles of the oil exporters, and limited monetary flexibility.

eurozone

eurozone sovereign ratings have improved over the past five years, and the outlook distribution suggests that could continue. The average rating in the region is above 'A'. In addition, six sovereigns have positive outlooks, the highest number in 10 years. Any positive rating movements would help rebuild the region's average creditworthiness, which was above 'AA' at the onset of the financial crisis.

Chart 38

eurozone Outlooks



Source: S&P Global Fixed Income Research.
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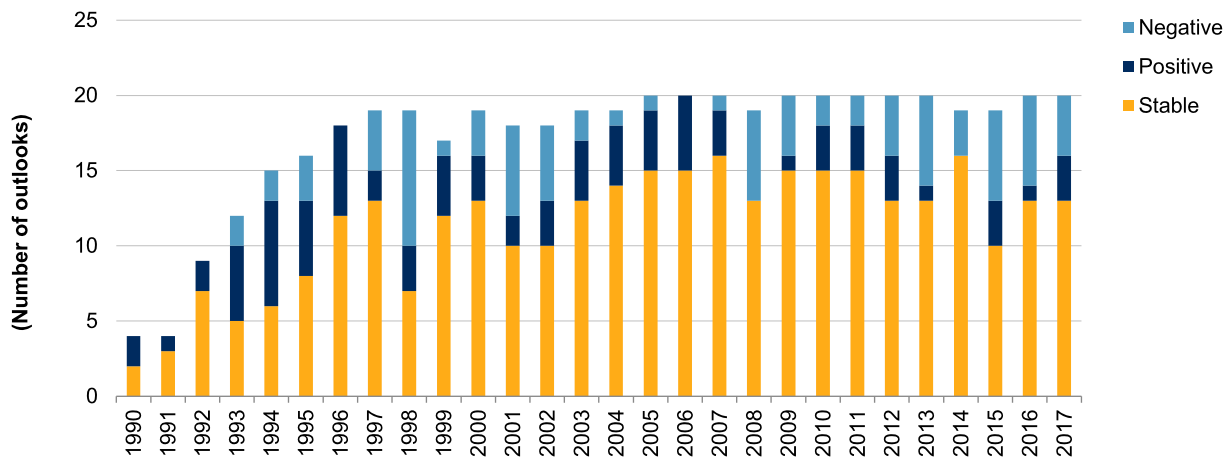
Economic growth is one of the strongest factors supporting ratings in the region, with GDP growth of 2.3% in 2017 and 2.0% in 2018. However, the growth in the region has not fully alleviated other areas of challenge, as unemployment has declined slowly. Recent elections in Italy, Germany, and Austria highlight rising populism and threats to governability, but S&P Global Ratings does not anticipate a wave of such sentiment leading to counterproductive economic or budgetary policy.

Emerging Markets

Outlooks for emerging market sovereign ratings are slightly more negative, with four negative and three positive. This balance is typical, as just twice in the past 10 years has the number of positive outlooks matched or exceeded the number of negative outlooks at the beginning of a year. S&P Global Ratings' list of emerging market sovereigns contains just 20 ratings, so it's significant that there are seven with non-stable outlooks.

Chart 39

Emerging Markets Outlooks



Source: S&P Global Fixed Income Research.
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The general rating distribution is slightly lower than it was in 2014. Sixty percent of emerging market ratings are investment grade, down slightly from 65% in 2014. Within the lower categories, the rating deterioration is more evident. There is just one rating in the 'AA' category, that of Qatar ('AA-'), which has a negative outlook. It is therefore quite possible that in the next two years, the highest emerging market sovereign rating will be in the 'A' category.

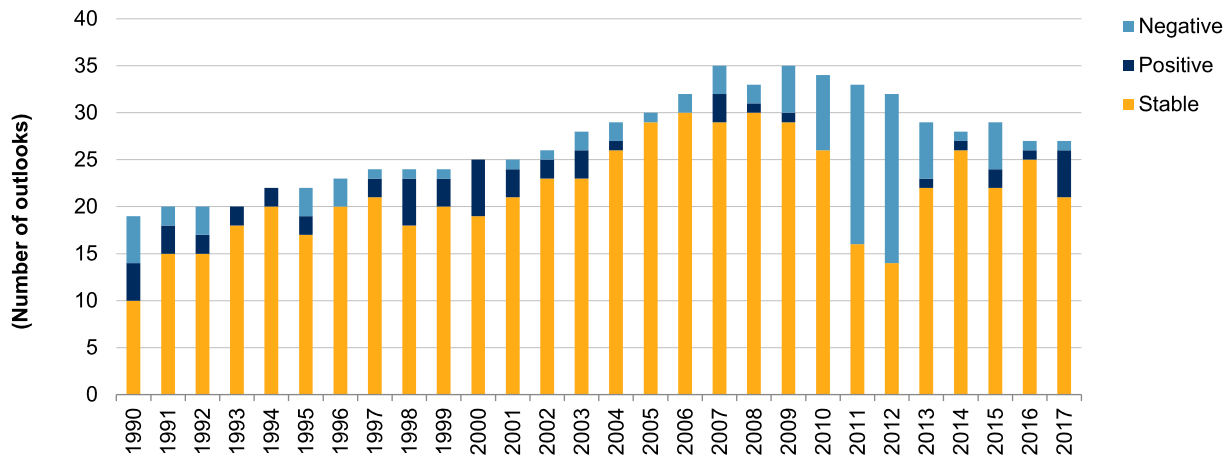
Emerging market sovereigns are in four geographic regions: Latin America, Asia-Pacific, Central and Eastern Europe, and the Middle East and Africa. There is no strong link among the 20 sovereigns, but many of them share particular characteristics. For example, they tend to have more modest wealth and weaker institutional frameworks than more advanced economies.

Other sovereign ratings

Only one of 27 other sovereign ratings has a negative outlook, while five have positive outlooks. This is the second consecutive year with an improving outlook profile for this group. More than half of these sovereigns had negative outlooks in 2012.

Chart 40

Outlooks On Sovereigns Not Part Of Our Regional Categories, Including The U.S., The U.K., And Canada



Source: S&P Global Fixed Income Research.
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Appendix 3: Methodology And Definitions

This study is based on long-term sovereign credit ratings. The methodology tracks rating migrations over time and includes revisions to 'SD' (selective default). An 'SD' rating is more common for sovereign issuers than a 'D' rating because defaulting sovereigns often continue to service some of their debt. This is an issuer ratings-based study as opposed to being based on issue ratings. In other words, we look at the sovereign ratings on the central governments themselves, not the ratings on the individual securities these governments might have issued.

Our metrics treat all issuers equally and are not adjusted for size or influence. Therefore, for the purposes of this study, a default by Argentina counts the same as a default by Mali, even though the latter has a much smaller economy. Our study tracks defaults on a sovereign's commercial debt, including both bonds and bank loans.

Withdrawn ratings (as indicated with the abbreviation 'NR,' which stands for "not rated") are included up until the date of withdrawal. We record defaults after the date of withdrawal if we obtain knowledge of those defaults. As of Dec. 31, 2017, S&P Global Ratings had withdrawn 11 public sovereign ratings: Benin, Cambodia, Gabon, Guernsey, Isle of Man, Kyrgyz Republic, Libya, Madagascar, Mali, Seychelles, and Tunisia. (We reinstated the rating on Guernsey in October 2014.) There are a total of 170 rating records for sovereigns, including those of defaulted ratings.

S&P Global Ratings generally defines "default" as the failure to meet a principal or interest payment on the due date contained in the original terms of a debt issue (see "Methodology: Timeliness Of Payments: Grace Periods, Guarantees, And Use Of 'D' And 'SD' Ratings," Oct. 24, 2013). However, questions can arise when applying this definition to sovereign obligations. We consider a sovereign to be in default under any of the following circumstances:

- For local- and foreign-currency bonds, notes, and bills issued by the central government and

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held outside the public sector of the country, a sovereign default occurs when the central government either fails to pay scheduled debt service on the due date or tenders an exchange offer of new debt with less-favorable terms than the original issue.

- For private-sector bank loans incurred by the central government, a sovereign default occurs when the central government either fails to pay scheduled debt service on the due date or negotiates with the bank creditors a rescheduling of principal or interest at less-favorable terms than in the original loan.

Emergence from default also can be a complicated analytical issue for sovereigns. Sovereigns often undertake debt restructurings through exchange offers that, we find, rarely close the books on the restructured debt. For a number of reasons, ranging from difficulty in contacting all debtholders to holdouts seeking payment in accordance with original terms, we have observed that participation in sovereign distressed debt exchanges usually does not reach 100%. This stands in contrast with debt restructurings in the U.S. and in many other jurisdictions, where all obligations are typically addressed in bankruptcy reorganization. An entity reorganizing outside of bankruptcy generally must continue payments on the holdouts' debt or face the prospect of an involuntary bankruptcy filing.

Less common among sovereign defaults is the repudiation of debt, which most often follows a revolutionary change of regime (as occurred in Russia in 1917, China in 1949, and Cuba in 1960). S&P Global Ratings takes no position on the propriety of government debt defaults, repudiations, and the like. S&P Global Ratings also does not take a position on the course of negotiations (or the absence thereof) between creditors and the government about working out debt that is repudiated or on the parameters of any settlements between creditors and governments that could occur. Instead, our ratings are an opinion of the probability of default on a forward-looking basis. We analyze historical defaults to form our own view as to the extent that they could affect the likelihood of the sovereign defaulting in the future.

In general, S&P Global Ratings' sovereign ratings apply only to debt that the present government acknowledges as its own. If there is no resolution of a default through the courts or by the parties involved, S&P Global Ratings eventually withdraws the default ratings based on the diminished prospects for resolution and the lack of relevance of the default ratings in the context of the market. For example, S&P Global Ratings has no rating on direct and guaranteed debt of the government of China issued prior to the founding of the People's Republic of China in 1949 because S&P Global Ratings first rated China in 1992, long after the new government repudiated pre-1949 debt. The default is included in S&P Global Fixed Income Research's sovereign default survey, which covers defaults by rated and unrated issuers.

The data set includes sovereign ratings that were removed following a default. In those cases, if the sovereign has been rated again, a new record would have been established, and the new rating would not be connected to the defaulted rating. This created more than one record for defaulted sovereigns. Therefore, there are 166 foreign-currency records for 141 sovereigns that we have rated, as some of the ratings were reestablished following defaults.

Static pool methodology

S&P Global Fixed Income Research conducts its default studies on the basis of groupings called static pools. For the purposes of this study, we form static pools by grouping issuers by rating category at the beginning of each year, quarter, or month that the database covers. Each static pool is followed from that point forward. All issuers included in the study are assigned to one or more static pools. When an issuer defaults, we assign that default back to all of the static pools to

which the issuer belonged.

S&P Global Fixed Income Research uses the static pool methodology to avoid certain pitfalls in estimating default rates. This is to ensure that default rates account for rating migration and to allow for default rates to be calculated across multiperiod time horizons. Some methods for calculating default and rating transition rates might charge defaults against only the initial rating on the issuer, ignoring more recent rating changes that supply more current information. Other methods may calculate default rates using only the most recent year's default and rating data, which may yield comparatively low default rates during periods of high rating activity because they ignore prior years' default activity.

The pools are static in the sense that their membership remains constant over time. Each static pool can be interpreted as a buy-and-hold portfolio. Because errors, if any, are corrected by every new update and because the criteria for inclusion or exclusion of sovereigns in the default study are subject to minor revisions as time goes by, it is not possible to compare static pools across different studies. Therefore, every new update revises results back to the same starting date of Dec. 31, 1975, so as to avoid continuity problems.

For instance, the 1976 static pool consists of all sovereigns rated as of 12:01 a.m. on Jan. 1, 1976. Adding those sovereigns first rated in 1976 to the surviving members of the 1976 static pool forms the 1977 static pool. All rating changes that took place are reflected in the newly formed 1977 static pool through the ratings on these entities as of 12:01 a.m. on Jan. 1, 1977. We used the same method to form static pools for 1978 through 2017.

Consider the following example for annual static pools: A sovereign is originally rated 'BB' in mid-1986 and is downgraded to 'B' in 1988. This is followed by a default in 1993. We would include this hypothetical issuer in the 1987 and 1988 pools with the 'BB' rating, which it was rated at the beginning of those years. Likewise, it would be included in the 1989 through 1993 pools with the 'B' rating. Yet each of the seven pools in which this sovereign was included (1987-1993) would record its 1993 default at the appropriate time horizon.

Default rate calculations

Cumulative default rates average the experience of all static pools in a select period of time by calculating marginal weighted-average default rates conditional on survival (survivors being nondefaulters) for each possible time horizon and accumulating marginal default rates. We calculate conditional-on-survival default rates by dividing the number of issuers in a static pool that default within a specific time horizon by the number of issuers that had survived (had not defaulted) up to that point in time. In the context of sovereign ratings, we treat governments that selectively default as a complete default. We based weights on the number of issuers in each static pool and base these calculations on monthly start dates for 12-month increments.

Transition analysis

Transition rates compare issuer ratings at the beginning of a time period with ratings at the end of the period. To compute one-year rating transition rates by rating category, we compared the rating on each entity at the end of a particular year with the rating at the beginning of the same year. An issuer that remained rated for more than one year was counted as many times as the number of years it was rated. For instance, an issuer continually rated from the middle of 1984 to the middle of 1991 would appear in the seven consecutive one-year transition matrices from 1985 to 1991. If the rating on the issuer was withdrawn in the middle of 1991, it would be included in the column representing transitions to 'NR' in the 1991 transition matrix. Similarly, if it defaulted in the middle

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of 1991, it would be included in the column representing transitions to 'D' in the 1991 one-year transition matrix.

All 1975 static pool members still rated on Jan. 1, 2018, had 44 one-year transitions, while sovereigns first rated on Jan. 1, 2017, had only one. Table 1 displays the summary of one-year transitions in the investment-grade and speculative-grade rating categories. Each one-year transition matrix displays all rating movements between letter categories from the beginning of the year through year-end. For each rating listed in the matrix's left-most column, there are nine ratios listed in the rows, corresponding to the ratings from 'AAA' to 'SD', plus an entry for 'NR'.

The only ratings considered in these calculations are those on entities at the beginning of each static pool and those at the end. All rating changes that occur in between are ignored. For example, if an entity was rated 'A' on Jan. 1, 2015, and was downgraded to 'BBB' in the middle of the year and then later upgraded to 'A' later in the year (with no other subsequent rating changes), this entity would only be included in the percentage of issuers that began the year as 'A' that ended the year as 'A'. This also applies to transition matrices that span longer time horizons. If an issuer defaults, we consider the rating as of Dec. 31 of that particular year to be 'D'. Similarly, if we withdraw our rating on an issuer, the methodology considers the rating as of Dec. 31 of that year to be 'NR'.

Multiyear transitions

Multiyear transitions were also calculated for periods of two to 15 years. In this case, we compared the rating at the beginning of the multiyear period with the rating at the end. For example, three-year transition matrices were the result of comparing ratings at the beginning of the years 1975-2015 with the ratings at the end of the years 1977-2017. Otherwise, the methodology was identical to that used for single-year transitions.

We calculated average transition matrices on the basis of the multiyear matrices described. These average matrices are a true summary, the ratios of which represent the historical incidence of the ratings listed on the first column, changing to the ones listed on the top row over the course of the multiyear period. Transition matrices that present averages over multiple time horizons are also calculated as issuer-weighted averages.

For inclusion in the matrix, the issuer must be in at least one year. In the case of the three-year matrix, we must have rated the sovereign by Jan. 1, 2013; in the case of the 15-year matrix, we must have rated it by Jan. 1, 2001. Thus, there are progressively fewer observations the longer the transition period is, given the growth of sovereign ratings and, of course, given that there will be fewer static pools for each added set of 12 monthly cohorts in the matrix.

Rating modifiers

Our calculations of the upgrade and downgrade percentages as well as the magnitude of rating changes considered the specific rating as opposed to the rating category. (To illustrate the difference, 'A-', 'A', and 'A+' are the ratings that fall within the 'A' rating category.) However, for practical reasons, some transition tables may use rating categories. Doing so means that actions, such as a downgrade to 'AA-' from 'AA' or an upgrade to 'BBB+' from 'BBB-', are not considered to be transitions because the ratings remained within the same rating category.

Appendix 4: Default And Transition Tables

Table 22

Sovereign Foreign-Currency Cumulative Average Default Rates Without Rating Modifiers (1975 - 2017)

Rating	--Time horizon (years)--														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
AAA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A	0.00	0.00	0.28	0.88	1.50	2.14	2.82	3.55	4.34	5.20	6.13	7.17	8.33	8.99	9.74
BBB	0.00	0.53	1.38	1.99	2.66	3.38	3.77	3.77	3.77	3.77	3.77	3.77	3.77	4.47	5.23
BB	0.44	1.61	2.35	3.12	4.22	5.41	6.99	9.04	10.52	11.73	12.62	13.61	14.70	15.94	16.64
B	2.40	5.86	8.90	11.93	14.95	17.34	19.97	22.55	24.21	25.62	27.79	29.69	30.44	31.33	32.44
CCC/CC	41.03	48.72	56.82	59.51	62.21	67.61	70.31	70.31	70.31	70.31	70.31	70.31	70.31	70.31	70.31

Default rates conditional on survival. Ratings are implied senior debt ratings through 1995 and sovereign credit ratings thereafter. Horizons consist of monthly cohorts for specified periods annualized. Source: S&P Global Fixed Income Research.

Table 23

Sovereign Local-Currency Cumulative Average Default Rates Without Rating Modifiers (1993 - 2017)

Rating	--Time horizon (years)--														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
AAA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.68	1.42	2.22	3.10	4.09
A	0.00	0.00	0.28	0.87	1.48	2.13	2.82	3.56	4.38	5.27	5.76	6.34	7.02	7.84	8.88
BBB	0.00	0.61	1.27	1.63	2.02	2.44	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90	2.90
BB	0.58	1.50	1.83	2.18	2.55	2.97	3.43	4.45	5.59	6.24	7.00	7.89	8.95	10.20	11.67
B	1.42	2.46	3.61	4.25	5.32	6.53	7.45	8.50	8.50	9.23	10.07	10.07	10.07	10.07	10.07
CCC/CC	16.13	19.62	23.64	28.41	33.53	39.07	44.61	44.61	44.61	44.61	44.61	44.61	44.61	44.61	44.61

Default rates conditional on survival. Ratings are implied senior debt ratings through 1995 and sovereign credit ratings thereafter. Horizons consist of monthly cohorts for specified periods annualized. Source: S&P Global Fixed Income Research.

Table 24

Sovereign Foreign-Currency Average One-Year Transition Rates With Rating Modifier (1975 - 2017*)

Rating as of 1st of the month	--Rating one year later (%)--																					
	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC+	CCC	CCC-	CC	SD	NR
AAA	96.64	2.81	0.46	0.00	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA+	7.06	82.34	7.24	1.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.41

Table 24

Sovereign Foreign-Currency Average One-Year Transition Rates With Rating Modifier (1975 - 2017*) (cont.)

--Rating one year later (%)--

Rating as of 1st of the month	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC+	CCC	CCC-	CC	SD	NR
AA	0.00	6.82	83.83	7.08	0.63	0.51	0.13	0.63	0.00	0.00	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA-	0.00	0.00	10.40	79.76	7.62	0.24	0.71	0.24	0.00	0.24	0.63	0.00	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A+	0.00	0.00	0.10	14.53	69.51	10.37	2.95	1.32	0.20	0.91	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A	0.00	0.00	0.00	1.29	11.64	77.91	5.74	1.39	0.86	1.07	0.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A-	0.00	0.00	0.00	0.00	1.10	11.14	77.29	6.49	0.49	1.84	0.80	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67
BBB+	0.00	0.00	0.00	0.00	0.00	3.08	15.60	67.52	10.11	2.31	0.86	0.34	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09
BBB	0.00	0.00	0.00	0.00	0.00	0.00	2.27	18.56	65.95	10.61	1.07	0.13	0.00	0.60	0.27	0.13	0.40	0.00	0.00	0.00	0.00	0.00
BBB-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.16	15.62	73.21	6.82	2.32	0.34	0.10	0.19	0.15	0.10	0.00	0.00	0.00	0.00	0.00
BB+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.61	19.18	67.83	9.83	0.94	0.20	0.07	0.00	0.20	0.40	0.00	0.54	0.20	0.00
BB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.88	14.69	72.72	9.24	1.27	0.77	0.17	0.00	0.00	0.00	0.06	0.11	0.11
BB-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.28	10.88	72.41	11.19	1.48	0.56	0.20	0.15	0.20	0.20	1.12	0.31
B+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.04	1.16	11.53	66.14	16.14	2.80	0.43	0.26	0.17	0.22	0.69	0.39
B	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.80	16.04	67.20	7.38	1.89	1.09	0.28	0.05	2.32	2.93	
B-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.66	16.14	66.75	3.87	1.05	0.97	0.48	7.91	0.16
CCC+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.39	5.85	33.66	24.88	7.32	0.49	0.00	23.41	0.00
CCC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.16	21.05	0.00	23.16	8.42	7.37	36.84	0.00
CCC-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.03	0.00	0.00	6.06	12.12	78.79	0.00
CC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00

*Ratings are implied senior debt ratings through 1995 and sovereign credit ratings thereafter. Average transitions over each 12-month cohort between 1975 and 2017 annualized. Source: S&P Global Fixed Income Research.

Table 25

Sovereign Foreign-Currency Average Five-Year Transition Rates With Rating Modifier (1975 - 2017*)

--Rating five years later (%)--

Rating as of 1st of the month	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC+	CCC	CCC-	CC	SD	NR
AAA	84.68	8.25	2.68	1.70	0.00	0.10	0.05	0.69	0.00	0.25	0.00	0.89	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.69
AA+	27.93	42.93	21.87	5.11	0.00	0.00	0.00	0.20	0.74	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.94
AA	8.34	17.93	39.67	17.15	7.09	3.59	4.36	0.94	0.47	0.00	0.00	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA-	0.77	11.38	30.28	27.96	9.72	5.64	4.86	1.22	1.99	3.54	0.00	2.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A+	0.00	2.91	8.96	31.23	17.19	12.47	2.18	3.27	6.78	7.87	1.33	1.82	0.00	0.24	0.00	0.00	0.00	0.24	0.00	0.00	3.51	0.00
A	0.00	0.00	2.09	13.81	23.37	32.04	8.79	4.36	4.78	6.46	1.43	0.24	0.12	0.00	0.18	0.00	0.18	0.12	0.00	0.42	1.61	0.00

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Table 25

Sovereign Foreign-Currency Average Five-Year Transition Rates With Rating Modifier (1975 - 2017*) (cont.)

--Rating five years later (%)--

Rating as of 1st of the month	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC+	CCC	CCC-	CC	SD	NR
A-	0.00	0.00	0.00	3.50	5.06	27.24	32.76	14.63	6.15	4.05	1.87	1.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.17	1.79
BBB+	0.00	0.00	0.00	0.24	7.22	8.20	21.66	23.99	17.63	13.10	4.65	1.47	0.86	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.86	0.12
BBB	0.00	0.00	0.00	0.00	4.80	9.43	17.73	17.38	17.82	7.95	9.17	5.33	2.10	0.09	2.97	0.00	0.00	0.00	0.00	0.00	2.88	2.36
BBB-	0.00	0.00	0.00	0.00	0.31	4.18	9.56	18.30	19.93	24.05	9.99	6.06	0.06	0.00	1.19	0.69	0.87	0.12	0.00	0.06	3.75	0.87
BB+	0.00	0.00	0.00	0.00	0.00	0.80	4.22	2.39	16.41	24.06	16.49	19.36	9.64	0.56	0.80	2.55	0.96	0.00	0.00	0.00	1.75	0.00
BB	0.00	0.00	0.00	0.00	0.00	0.00	1.04	1.89	3.91	11.67	18.58	33.25	15.51	8.47	0.78	0.52	0.00	0.00	0.78	0.13	2.93	0.52
BB-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.14	1.49	5.69	9.96	23.26	18.99	13.09	6.90	7.82	0.36	1.28	0.00	0.21	8.32	1.49
B+	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.46	0.69	3.52	1.56	3.12	13.16	28.85	25.39	10.62	0.87	0.75	0.23	0.87	8.37	1.44
B	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.20	0.20	1.38	0.59	2.89	13.84	17.44	23.67	11.02	1.25	0.20	0.39	0.13	15.02	11.80
B-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.76	1.15	1.53	2.93	11.34	17.20	19.24	18.47	2.93	0.00	0.25	0.13	23.82	0.25
CCC+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.94	7.41	5.56	15.43	5.56	12.35	2.47	0.00	46.30	0.00
CCC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	32.08	1.89	0.00	0.00	0.00	0.00	66.04	0.00
CCC-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00
CC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00

*Ratings are implied senior debt ratings through 1995 and sovereign credit ratings thereafter. Average transitions over each 60-month cohort between 1975 and 2017 annualized. Source: S&P Global Fixed Income Research.

Table 26

Sovereign Foreign-Currency Average 15-Year Transition Rates With Rating Modifier (1975 - 2017*)

--Rating 15 years later (%)--

Rating as of 1st of the month	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC+	CCC	CCC-	CC	SD	NR
AAA	69.09	15.47	7.21	5.25	0.53	0.00	0.00	0.00	0.00	0.00	0.00	0.45	0.11	0.56	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.93
AA+	42.65	20.21	14.07	13.00	3.74	0.53	0.53	3.56	1.51	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA	36.32	12.19	5.06	11.80	10.38	1.30	0.26	6.36	2.59	7.13	3.11	2.72	0.00	0.78	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA-	30.43	15.53	3.42	2.80	14.29	9.94	4.66	0.93	0.93	3.11	2.17	7.76	0.00	0.00	0.62	0.00	0.93	0.93	0.00	0.00	1.55	0.00
A+	13.57	1.18	2.65	5.60	5.01	22.42	20.94	7.67	1.77	15.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.83	0.00
A	7.37	4.55	16.14	12.54	7.37	9.09	19.12	10.03	0.16	4.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.25	0.00
A-	0.00	0.00	1.60	28.83	25.63	2.06	7.09	14.87	0.46	3.66	2.06	0.00	1.14	0.46	4.81	1.37	2.29	0.00	0.00	0.00	3.66	0.00
BBB+	0.00	0.00	10.43	34.60	9.00	20.38	9.48	11.37	0.00	0.00	4.27	0.47	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BBB	0.00	0.00	12.52	12.92	13.70	9.59	18.00	2.74	1.37	4.11	3.13	3.13	3.91	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.22	6.65
BBB-	0.00	0.00	0.00	0.00	3.72	14.77	19.05	9.81	4.40	7.33	8.68	8.12	1.13	0.11	1.69	5.30	0.68	0.11	0.00	0.79	12.63	1.69

Table 26

Sovereign Foreign-Currency Average 15-Year Transition Rates With Rating Modifier (1975 - 2017*) (cont.)

--Rating 15 years later (%)--

Rating as of 1st of the month	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC+	CCC	CCC-	CC	SD	NR
BB+	0.00	0.00	0.00	0.00	6.51	10.96	0.00	15.58	22.77	23.63	3.08	0.86	1.37	3.77	0.34	2.05	0.00	0.00	0.00	0.00	9.08	0.00
BB	0.00	0.00	0.00	0.00	0.00	0.00	1.69	9.29	16.72	22.13	0.51	11.82	10.98	3.55	5.57	1.52	1.18	0.00	0.00	0.00	15.03	0.00
BB-	0.00	0.00	0.00	0.00	2.89	0.00	0.00	9.92	5.79	0.62	8.88	11.16	19.42	0.62	4.34	4.55	0.00	0.00	0.00	0.00	31.82	0.00
B+	0.00	0.00	0.00	0.00	0.43	0.00	0.00	3.63	2.56	9.19	9.40	14.10	2.14	11.97	1.07	4.06	0.00	0.00	0.00	0.00	41.45	0.00
B	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.28	7.82	12.38	4.89	0.00	19.54	3.26	7.82	0.00	0.00	0.00	0.00	42.02	0.00
B-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.63	8.08	9.09	8.59	20.20	11.62	15.66	0.00	0.00	0.00	0.00	14.14	0.00
CCC+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	92.73	0.00
CCC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00
CCC-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00
CC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00

*Ratings are implied senior debt ratings through 1995 and sovereign credit ratings thereafter. Average transitions over each 180-month cohort between 1975 and 2017 annualized. Source: S&P Global Fixed Income Research.

Table 27

Sovereign Local-Currency Average One-Year Transition Rates With Rating Modifier (1993 - 2017*)

--Rating one year later (%)--

Rating as of 1st of the month	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC+	CCC	CCC-	CC	SD	NR
AAA	95.79	2.87	1.21	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA+	5.90	77.58	10.13	3.54	0.20	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.36
AA	0.00	3.18	84.23	8.92	0.76	0.76	0.97	1.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA-	0.00	0.00	6.26	78.91	11.97	0.32	0.95	1.35	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A+	0.00	0.00	0.85	6.79	75.02	12.53	2.90	1.13	0.07	0.07	0.00	0.00	0.14	0.14	0.00	0.35	0.00	0.00	0.00	0.00	0.00	0.00
A	0.00	0.00	0.00	0.73	10.94	73.07	11.25	2.86	0.85	0.18	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A-	0.00	0.00	0.00	0.00	0.43	13.85	70.75	10.37	1.37	1.55	0.75	0.12	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.68
BBB+	0.00	0.00	0.00	0.00	0.00	1.13	11.41	70.74	10.34	3.47	1.45	0.69	0.19	0.00	0.25	0.25	0.00	0.00	0.00	0.00	0.00	0.06
BBB	0.00	0.00	0.00	0.00	0.00	0.00	1.50	12.36	67.60	15.73	1.31	0.94	0.28	0.00	0.19	0.00	0.09	0.00	0.00	0.00	0.00	0.00
BBB-	0.00	0.00	0.00	0.00	0.00	0.00	0.07	1.87	10.08	70.65	11.73	3.21	0.82	0.82	0.22	0.22	0.00	0.15	0.00	0.15	0.00	0.00
BB+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	1.19	12.54	70.29	11.00	3.15	0.00	0.63	0.00	0.14	0.28	0.00	0.49	0.21	0.00
BB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.72	15.85	62.32	13.22	2.45	1.90	1.18	0.54	0.00	0.00	0.00	1.63	0.18
BB-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.46	7.88	71.48	12.44	3.18	0.93	0.46	0.79	0.00	0.33	0.66	0.40
B+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.39	1.61	11.75	65.81	16.43	2.78	0.00	0.00	0.00	0.22	0.50	0.50

Table 27

Sovereign Local-Currency Average One-Year Transition Rates With Rating Modifier (1993 - 2017*) (cont.)

--Rating one year later (%)--

Rating as of 1st of the month	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC+	CCC	CCC-	CC	SD	NR
B	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21	1.58	13.25	69.14	8.62	1.95	0.26	0.00	0.00	1.10	3.89
B-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.07	2.95	15.83	67.89	5.64	0.98	0.18	0.54	4.74	0.18
CCC+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.46	7.37	44.70	35.48	6.91	0.00	0.00	5.07	0.00
CCC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.19	42.55	2.13	28.72	6.38	2.13	14.89	0.00
CCC-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.00	0.00	0.00	0.00	0.00	50.00	0.00
CC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	42.86	14.29	0.00	0.00	0.00	14.29	28.57	0.00

*Ratings are implied senior debt ratings through 1995 and sovereign credit ratings thereafter. Average transitions over each 12-month cohort between 1993 and 2017 annualized. Source: S&P Global Fixed Income Research.

Table 28

Sovereign Local-Currency Average 15-Year Transition Rates With Rating Modifier (1993 - 2017*)

--Rating 15 years later (%)--

Rating as of 1st of the month	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC+	CCC	CCC-	CC	SD	NR
AAA	67.36	14.80	6.66	2.99	2.30	0.43	0.55	2.01	0.00	0.73	0.00	0.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.49
AA+	0.24	6.73	13.46	8.89	14.90	9.86	4.81	16.59	6.73	12.50	1.68	0.48	0.00	0.00	0.48	0.00	0.72	0.72	0.00	0.00	1.20	0.00
AA	3.63	7.26	21.09	9.52	11.79	4.99	12.70	0.45	4.54	10.88	5.44	4.76	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.95	0.00
AA-	10.46	1.23	14.77	6.77	26.46	0.92	4.92	9.54	0.00	0.00	0.00	2.15	0.00	0.00	6.46	1.85	1.85	1.23	0.00	0.00	11.38	0.00
A+	15.93	9.83	29.15	0.34	1.02	5.76	13.22	11.19	0.00	4.75	8.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A	0.00	0.00	1.59	11.16	3.59	25.90	3.59	5.18	0.40	0.80	3.59	9.56	4.38	0.40	1.59	0.00	0.00	0.00	0.00	0.00	8.76	19.52
A-	0.00	0.00	2.85	14.46	3.05	12.63	21.38	7.33	2.24	5.30	7.54	2.65	0.00	0.20	2.04	7.33	1.22	0.00	0.00	0.00	9.78	0.00
BBB+	0.00	0.00	3.89	1.65	3.29	22.90	15.87	3.74	12.87	13.02	5.69	7.49	5.99	1.95	0.00	1.65	0.00	0.00	0.00	0.00	0.00	0.00
BBB	0.00	0.00	0.00	0.00	0.00	6.11	5.00	18.89	5.00	47.78	8.33	4.44	0.00	0.00	0.00	4.44	0.00	0.00	0.00	0.00	0.00	0.00
BBB-	0.00	0.00	0.00	0.71	0.00	0.00	9.64	2.86	1.07	8.93	9.64	6.43	29.64	4.64	0.00	0.00	0.00	0.00	0.00	0.00	26.43	0.00
BB+	0.00	0.00	0.00	0.00	0.00	0.00	14.69	6.88	16.25	9.38	4.38	25.00	11.56	2.81	0.63	5.63	0.00	0.00	0.00	0.00	2.81	0.00
BB	0.00	0.00	0.00	0.00	0.00	0.00	2.38	5.71	10.00	3.33	7.62	15.24	3.81	14.76	10.00	15.24	0.00	0.00	0.00	1.90	10.00	0.00
BB-	0.00	0.00	0.00	0.00	0.00	0.00	1.08	15.14	3.78	7.57	10.81	22.16	8.65	9.19	0.54	4.86	0.00	0.00	0.00	0.00	16.22	0.00
B+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.81	20.97	6.45	0.81	2.42	20.16	11.29	20.97	0.00	0.00	0.00	0.00	16.13	0.00
B	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.91	20.97	6.99	1.08	1.08	29.57	9.68	22.58	0.00	0.00	0.00	0.00	2.15	0.00
B-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.53	16.79	45.04	0.00	0.00	21.37	0.00	6.87	0.00	0.00	0.00	0.00	8.40	0.00
CCC+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	19.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	80.77	0.00
CCC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	88.89	11.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Default, Transition, and Recovery: 2017 Annual Sovereign Default Study And Rating Transitions

Table 28

Sovereign Local-Currency Average 15-Year Transition Rates With Rating Modifier (1993 - 2017*) (cont.)

--Rating 15 years later (%)--

Rating as of 1st of the month	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC+	CCC	CCC-	CC	SD	NR
CCC-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00

*Ratings are implied senior debt ratings through 1995 and sovereign credit ratings thereafter. Average transitions over each 180-month cohort between 1993 and 2017 annualized. Source: S&P Global Fixed Income Research.

Table 29

Foreign-Currency Static Pools And Default Rates (1992 - 2017)

--Time horizon (years)--

Date	Number of issuers	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
01/01/1992	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01/01/1993	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01/01/1994	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01/01/1995	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01/01/1996	8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01/01/1997	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01/01/1998	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
01/01/1999	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.11
01/01/2000	11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.09	18.18	18.18
01/01/2001	12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.33	16.67	16.67	16.67
01/01/2002	14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.14	14.29	14.29	14.29	14.29
01/01/2003	17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.88	11.76	11.76	11.76	11.76	11.76
01/01/2004	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	10.00	10.00	10.00	10.00	10.00	
01/01/2005	21	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.76	9.52	9.52	9.52	9.52	9.52		
01/01/2006	21	0.00	0.00	0.00	0.00	0.00	0.00	4.76	9.52	9.52	9.52	9.52	9.52			
01/01/2007	23	0.00	0.00	0.00	0.00	0.00	4.35	8.70	8.70	8.70	8.70	8.70				
01/01/2008	20	0.00	0.00	0.00	0.00	5.00	10.00	10.00	10.00	10.00	10.00					
01/01/2009	20	0.00	0.00	0.00	5.00	10.00	10.00	10.00	10.00	10.00						
01/01/2010	21	0.00	0.00	0.00	4.76	4.76	4.76	4.76	4.76							
01/01/2011	21	0.00	0.00	4.76	4.76	4.76	4.76	4.76								
01/01/2012	15	0.00	0.00	0.00	0.00	0.00	0.00									
01/01/2013	14	0.00	0.00	0.00	0.00	0.00										
01/01/2014	12	0.00	0.00	0.00	0.00											

Default, Transition, and Recovery: 2017 Annual Sovereign Default Study And Rating Transitions

Table 29

Foreign-Currency Static Pools And Default Rates (1992 - 2017) (cont.)

Date	Number of issuers	--Time horizon (years)--														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
01/01/2015	15	0.00	0.00	0.00												
01/01/2016	16	0.00	0.00													
01/01/2017	16	0.00														
Cumulative default rate (%)*		0.00	0.00	0.28	0.88	1.50	2.14	2.82	3.55	4.34	5.20	6.13	7.17	8.33	8.99	9.74

Ratings are implied senior debt ratings through 1995 and sovereign credit ratings thereafter. *From the Rating Category row in Table 22. Source: S&P Global Fixed Income Research.

Table 30

Foreign-Currency 'BBB' Static Pools And Default Rates (1992 - 2017)

Dates	Number of issuers	--Time horizon (years)--														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1/1/1992	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/1/1993	6	0.00	0.00	0.00	0.00	0.00	0.00	16.67	16.67	16.67	16.67	16.67	16.67	16.67	16.67	16.67
1/1/1994	8	0.00	0.00	0.00	0.00	0.00	12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50
1/1/1995	7	0.00	0.00	0.00	0.00	14.29	14.29	14.29	14.29	14.29	14.29	14.29	14.29	14.29	14.29	14.29
1/1/1996	4	0.00	0.00	0.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00	25.00
1/1/1997	9	0.00	0.00	11.11	11.11	11.11	11.11	11.11	11.11	11.11	11.11	11.11	11.11	11.11	11.11	11.11
1/1/1998	16	0.00	0.00	0.00	0.00	0.00	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	12.50
1/1/1999	16	0.00	0.00	0.00	0.00	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	12.50	12.50
1/1/2000	16	0.00	0.00	0.00	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25
1/1/2001	16	0.00	0.00	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25
1/1/2002	16	0.00	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25	6.25
1/1/2003	13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/1/2004	12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
1/1/2005	13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		
1/1/2006	13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
1/1/2007	13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				
1/1/2008	14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00					
1/1/2009	17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00							
1/1/2010	18	0.00	0.00	5.56	5.56	5.56	5.56	5.56	5.56							
1/1/2011	19	0.00	0.00	0.00	0.00	0.00	0.00	0.00								
1/1/2012	24	0.00	4.17	4.17	4.17	4.17	4.17									

Default, Transition, and Recovery: 2017 Annual Sovereign Default Study And Rating Transitions

Table 30

Foreign-Currency 'BBB' Static Pools And Default Rates (1992 - 2017) (cont.)

Dates	Number of issuers	--Time horizon (years)--														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1/1/2013	23	0.00	0.00	0.00	0.00	0.00										
1/1/2014	26	0.00	0.00	0.00	0.00											
1/1/2015	25	0.00	0.00	0.00												
1/1/2016	24	0.00	0.00													
1/1/2017	22	0.00														
Cumulative default rate (%)*		0.00	0.53	1.38	1.99	2.66	3.38	3.77	3.77	3.77	3.77	3.77	3.77	3.77	4.47	5.23

Ratings are implied senior debt ratings through 1995 and sovereign credit ratings thereafter. *From the Rating Category row in Table 22. Source: S&P Global Fixed Income Research.

Table 31

Foreign-Currency 'BB' Static Pools And Default Rates (1992 - 2017)

Dates	Number of issuers	--Time horizon (years)--														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1/1/1992	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.00	50.00
1/1/1993	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.00	25.00	25.00
1/1/1994	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.67	16.67	16.67	16.67	33.33	33.33	33.33	33.33
1/1/1995	8	0.00	0.00	0.00	0.00	0.00	0.00	12.50	12.50	25.00	25.00	25.00	25.00	25.00	25.00	25.00
1/1/1996	10	0.00	0.00	0.00	0.00	0.00	10.00	10.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00
1/1/1997	13	0.00	0.00	7.69	7.69	15.38	15.38	30.77	30.77	30.77	30.77	30.77	30.77	30.77	30.77	30.77
1/1/1998	18	0.00	11.11	11.11	16.67	16.67	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22
1/1/1999	18	0.00	0.00	5.56	5.56	11.11	11.11	11.11	11.11	11.11	11.11	11.11	11.11	11.11	11.11	11.11
1/1/2000	15	0.00	6.67	6.67	6.67	6.67	6.67	6.67	6.67	6.67	6.67	6.67	6.67	6.67	6.67	6.67
1/1/2001	14	7.14	7.14	7.14	7.14	7.14	14.29	14.29	14.29	14.29	14.29	14.29	14.29	14.29	14.29	14.29
1/1/2002	16	0.00	0.00	0.00	6.25	12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50	12.50
1/1/2003	17	0.00	5.88	11.76	11.76	11.76	11.76	11.76	11.76	11.76	11.76	11.76	11.76	11.76	11.76	17.65
1/1/2004	17	5.88	5.88	5.88	5.88	5.88	5.88	5.88	5.88	5.88	5.88	5.88	5.88	5.88	11.76	
1/1/2005	19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.26		
1/1/2006	19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.26	5.26	10.53			
1/1/2007	22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.55	4.55	13.64				
1/1/2008	23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.35	4.35	13.04					
1/1/2009	23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.70						
1/1/2010	23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.70							

Table 31

Foreign-Currency 'BB' Static Pools And Default Rates (1992 - 2017) (cont.)

Dates	Number of issuers	--Time horizon (years)--														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1/1/2011	23	0.00	4.35	4.35	4.35	4.35	4.35	13.04								
1/1/2012	22	0.00	0.00	0.00	0.00	0.00	4.55									
1/1/2013	26	0.00	0.00	0.00	0.00	3.85										
1/1/2014	24	0.00	0.00	0.00	4.17											
1/1/2015	20	0.00	0.00	0.00												
1/1/2016	21	0.00	0.00													
1/1/2017	22	0.00														
Cumulative default rate (%)*		0.44	1.61	2.35	3.12	4.22	5.41	6.99	9.04	10.52	11.73	12.62	13.61	14.70	15.94	16.64

Ratings are implied senior debt ratings through 1995 and sovereign credit ratings thereafter. *From the Rating Category row in Table 22. Source: S&P Global Fixed Income Research.

Table 32

Foreign-Currency 'B' Static Pools And Default Rates (1995 - 2017)

Dates	Number of issuers	--Time horizon (years)--														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1/1/1995	4	0.00	0.00	0.00	0.00	25.00	25.00	25.00	25.00	25.00	25.00	50.00	50.00	50.00	50.00	50.00
1/1/1996	5	0.00	0.00	0.00	20.00	20.00	20.00	20.00	20.00	20.00	40.00	40.00	40.00	40.00	40.00	40.00
1/1/1997	4	0.00	0.00	25.00	25.00	25.00	25.00	25.00	25.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00
1/1/1998	5	0.00	20.00	20.00	20.00	20.00	20.00	20.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00	60.00
1/1/1999	7	0.00	0.00	0.00	0.00	0.00	0.00	28.57	28.57	28.57	28.57	28.57	28.57	28.57	28.57	28.57
1/1/2000	14	0.00	0.00	0.00	7.14	7.14	21.43	21.43	21.43	21.43	21.43	28.57	28.57	28.57	28.57	28.57
1/1/2001	20	0.00	5.00	10.00	10.00	20.00	20.00	20.00	25.00	25.00	30.00	30.00	30.00	30.00	30.00	30.00
1/1/2002	15	0.00	6.67	6.67	13.33	13.33	13.33	13.33	13.33	20.00	20.00	20.00	20.00	20.00	26.67	26.67
1/1/2003	16	12.50	12.50	12.50	18.75	18.75	18.75	18.75	25.00	25.00	25.00	25.00	25.00	31.25	31.25	31.25
1/1/2004	19	0.00	5.26	10.53	10.53	10.53	10.53	15.79	15.79	15.79	15.79	15.79	21.05	21.05	21.05	
1/1/2005	21	4.76	9.52	9.52	9.52	9.52	14.29	14.29	19.05	19.05	19.05	23.81	28.57	28.57		
1/1/2006	23	0.00	0.00	0.00	0.00	4.35	4.35	13.04	13.04	17.39	17.39	21.74	26.09			
1/1/2007	25	0.00	4.00	4.00	8.00	8.00	16.00	16.00	20.00	20.00	24.00	24.00				
1/1/2008	29	6.90	6.90	10.34	10.34	20.69	20.69	24.14	24.14	27.59	27.59					
1/1/2009	28	0.00	3.57	3.57	10.71	10.71	14.29	17.86	21.43	21.43						
1/1/2010	27	0.00	0.00	7.41	7.41	11.11	11.11	14.81	14.81							
1/1/2011	32	0.00	6.25	9.38	12.50	15.63	18.75	18.75								

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Table 32

Foreign-Currency 'B' Static Pools And Default Rates (1995 - 2017) (cont.)

Dates	Number of issuers	--Time horizon (years)--														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1/1/2012	33	6.06	9.09	12.12	15.15	18.18	21.21									
1/1/2013	30	3.33	6.67	10.00	13.33	16.67										
1/1/2014	32	0.00	3.13	9.38	15.63											
1/1/2015	34	0.00	5.88	11.76												
1/1/2016	37	5.41	10.81													
1/1/2017	37	5.41														
Cumulative default rate (%)*		2.40	5.86	8.90	11.93	14.95	17.34	19.97	22.55	24.21	25.62	27.79	29.69	30.44	31.33	32.44

Ratings are implied senior debt ratings through 1995 and sovereign credit ratings thereafter. *From the Rating Category row in Table 22. Source: S&P Global Fixed Income Research.

Table 33

Foreign-Currency 'CCC'/'CC' Static Pools And Default Rates (1999 - 2017)

Dates	Number of issuers	--Time horizon (years)--														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1/1/1999	3	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
1/1/2000	1	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
1/1/2001	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1/1/2002	3	33.33	33.33	33.33	33.33	33.33	33.33	66.67	66.67	66.67	66.67	66.67	66.67	66.67	66.67	66.67
1/1/2003	4	0.00	0.00	25.00	25.00	25.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00
1/1/2004	3	0.00	33.33	33.33	33.33	66.67	66.67	66.67	66.67	66.67	66.67	66.67	66.67	66.67	66.67	66.67
1/1/2005	4	25.00	25.00	25.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00
1/1/2006	4	25.00	25.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00
1/1/2007	2	0.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00
1/1/2008	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1/1/2009	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1/1/2010	3	33.33	33.33	33.33	33.33	33.33	66.67	66.67	66.67							
1/1/2011	0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A							
1/1/2012	1	100.00	100.00	100.00	100.00	100.00	100.00									
1/1/2013	2	100.00	100.00	100.00	100.00	100.00										
1/1/2014	1	100.00	100.00	100.00	100.00											
1/1/2015	2	50.00	50.00	100.00												
1/1/2016	2	0.00	50.00													

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Table 33

Foreign-Currency 'CCC'/'CC' Static Pools And Default Rates (1999 - 2017) (cont.)

Dates	Number of issuers	--Time horizon (years)--														
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1/1/2017	3	100.00														
Cumulative default rate (%)*		41.03	48.72	56.82	59.51	62.21	67.61	70.31	70.31	70.31	70.31	70.31	70.31	70.31	70.31	70.31

N/A--Not applicable; there are no observations for this horizon. Ratings are implied senior debt ratings through 1995 and sovereign credit ratings thereafter. *From the Rating Category row in Table 22. Source: S&P Global Fixed Income Research.

Table 34

Sovereign Foreign-Currency Cumulative Average Default Rate* With Rating Modifiers (1975 - 2017)

Rating	--Time horizon (annualized months)--														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
AAA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A+	0.00	0.00	0.00	1.39	2.82	2.82	2.82	2.82	4.62	4.62	4.62	4.62	4.62	4.62	7.80
A	0.00	0.00	0.65	1.32	2.01	3.44	4.95	6.60	7.50	9.49	11.75	13.03	14.48	16.06	16.06
A-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.41	3.02	3.02	3.02
BBB+	0.00	0.00	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20	1.20
BBB	0.00	0.79	1.63	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	2.51	4.46	4.46
BBB-	0.00	0.63	1.29	2.01	3.54	5.18	6.08	6.08	6.08	6.08	6.08	6.08	6.08	6.08	7.53
BB+	0.00	1.64	1.64	1.64	1.64	1.64	2.66	3.75	6.09	7.40	8.84	10.42	12.11	13.90	15.81
BB	0.00	0.67	1.37	2.10	2.10	2.90	3.76	4.69	4.69	4.69	4.69	5.95	7.31	8.91	8.91
BB-	1.20	2.46	3.81	5.26	8.52	11.27	14.26	18.55	20.91	23.59	25.12	25.12	25.12	25.12	25.12
B+	0.00	1.57	4.37	6.76	9.91	11.96	14.99	19.37	21.34	22.46	25.18	26.81	26.81	26.81	29.63
B	1.68	4.67	7.92	11.43	14.51	17.05	19.88	20.92	22.12	24.95	28.14	31.83	34.03	36.67	36.67
B-	7.63	15.25	18.42	21.97	24.66	27.56	29.10	30.75	32.52	32.52	32.52	32.52	32.52	32.52	32.52
CCC+	20.83	25.00	38.24	42.65	47.06	55.88	60.29	60.29	60.29	60.29	60.29	60.29	60.29	60.29	60.29
CCC	42.86	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	71.43	n/a	n/a
CCC-	100.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
CC	100.00	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Investment grade	0.00	0.12	0.37	0.64	0.92	1.21	1.44	1.60	1.77	1.96	2.15	2.36	2.58	2.82	3.07
Speculative grade	3.03	5.61	7.79	9.75	11.85	13.83	15.98	18.16	19.64	20.87	22.25	23.55	24.44	25.47	26.27

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Table 34

Sovereign Foreign-Currency Cumulative Average Default Rate* With Rating Modifiers (1975 - 2017) (cont.)

Rating	--Time horizon (annualized months)--														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
All rated	1.11	2.11	3.05	3.91	4.81	5.68	6.54	7.36	7.95	8.45	8.99	9.51	9.90	10.34	10.72

N/A--Not applicable; there are no observations for this horizon. *Default rates conditional on survival. Ratings are implied senior debt ratings through 1995 and sovereign credit ratings thereafter. Source: S&P Global Fixed Income Research.

Table 35

Sovereign Foreign-Currency Cumulative Average Default Rate* With Rating Modifiers (1975 - 2017)

Rating	--Time horizon (months)--																					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
A+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BBB+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.18
BBB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.27	0.41	0.48	0.55
BBB-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.20	0.25	0.30	0.35	0.40	0.45	
BB+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.20	0.40	0.61	0.88	1.02	1.15	1.22	1.29	1.36	1.43	1.50
BB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.05	0.11	0.11	0.11	0.16	0.22	0.28	0.33	0.39	0.44	0.50	0.56	0.61	0.67
BB-	0.00	0.00	0.00	0.05	0.10	0.15	0.20	0.30	0.45	0.65	0.91	1.11	1.21	1.32	1.42	1.52	1.63	1.73	1.84	1.95	2.11	2.27
B+	0.00	0.00	0.04	0.04	0.04	0.08	0.21	0.34	0.42	0.51	0.59	0.68	0.76	0.85	0.94	1.03	1.16	1.29	1.47	1.65	1.79	1.92
B	0.09	0.18	0.27	0.40	0.63	0.86	1.09	1.32	1.55	1.78	2.02	2.26	2.59	2.93	3.22	3.51	3.80	4.09	4.34	4.59	4.84	5.14
B-	0.43	1.15	1.80	2.46	3.06	3.73	4.48	5.16	5.93	6.55	7.25	8.04	8.60	9.08	9.65	10.23	10.73	11.23	11.57	11.91	12.44	12.87
CCC+	1.05	2.46	4.25	6.43	8.62	10.46	11.93	13.41	14.90	16.39	17.14	17.51	17.88	17.88	17.88	17.88	17.88	17.88	18.26	19.00	19.38	19.75
CCC	4.46	8.93	13.39	16.96	22.32	25.89	28.57	31.25	32.14	33.93	35.71	37.50	40.18	43.75	46.43	49.11	51.79	54.46	58.04	60.71	62.50	64.29
CCC-	13.16	23.68	34.21	42.11	47.37	55.26	60.53	65.79	71.05	73.68	76.32	78.95	81.58	84.21	86.84	89.47	92.11	94.74	94.74	94.74	94.74	94.74
CC	25.58	41.86	55.81	69.77	79.07	83.72	88.37	90.70	93.02	95.35	97.67	100.00	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Investment grade	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.02	0.04	0.05	0.07	0.08	0.10
Speculative grade	0.26	0.53	0.80	1.07	1.34	1.59	1.85	2.10	2.35	2.59	2.83	3.08	3.32	3.55	3.78	3.99	4.21	4.42	4.62	4.82	5.02	5.22
All rated	0.10	0.19	0.29	0.39	0.49	0.58	0.67	0.76	0.85	0.94	1.03	1.12	1.20	1.28	1.37	1.45	1.53	1.62	1.70	1.78	1.86	1.94

N/A--Not applicable; there are no observations for this horizon. *Default rates conditional on survival. Ratings are implied senior debt ratings through 1995 and sovereign credit ratings thereafter. For expanded table, see HTML file on Capital IQ. Source: S&P Global Fixed Income Research.

Default, Transition, and Recovery: 2017 Annual Sovereign Default Study And Rating Transitions

Table 36

Sovereign Local-Currency Cumulative Average Default Rate* With Rating Modifiers (1993 - 2017)

Rating	--Time horizon (annualized months)--														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
AAA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.56
AA-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.22	4.61	7.33	10.42	10.42
A+	0.00	0.00	0.00	0.91	1.83	1.83	1.83	1.83	2.96	4.23	4.23	4.23	4.23	4.23	4.23
A	0.00	0.00	0.76	1.57	2.43	4.28	6.29	8.55	9.77	11.14	12.75	12.75	12.75	12.75	12.75
A-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.59	3.38	5.48	8.03
BBB+	0.00	0.00	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81	0.81
BBB	0.00	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15	1.15
BBB-	0.00	0.92	1.95	3.08	4.32	5.69	7.26	7.26	7.26	7.26	7.26	7.26	7.26	7.26	7.26
BB+	0.00	0.88	0.88	0.88	0.88	0.88	0.88	0.88	2.29	3.89	5.67	7.73	9.98	12.48	15.39
BB	2.11	3.22	3.22	3.22	3.22	3.22	4.73	6.34	6.34	6.34	6.34	6.34	6.34	6.34	6.34
BB-	0.00	0.83	1.72	2.70	3.86	5.22	5.22	7.07	9.23	9.23	9.23	9.23	9.23	9.23	9.23
B+	0.00	0.68	1.41	1.41	1.41	1.41	2.59	2.59	2.59	4.50	6.88	6.88	6.88	6.88	6.88
B	1.25	1.93	2.67	3.49	5.29	7.31	8.45	9.78	9.78	9.78	9.78	9.78	9.78	9.78	9.78
B-	3.88	6.15	8.75	10.25	12.08	14.12	14.12	16.51	16.51	16.51	16.51	16.51	16.51	16.51	16.51
CCC+	10.53	15.79	21.80	29.62	38.42	48.68	58.95	58.95	58.95	58.95	58.95	58.95	N/A	N/A	N/A
CCC	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22	22.22
CCC-	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
CC	33.33	33.33	33.33	33.33	33.33	33.33	33.33	33.33	33.33	33.33	33.33	33.33	33.33	N/A	N/A
Investment grade	0.00	0.14	0.36	0.59	0.84	1.10	1.37	1.57	1.79	2.02	2.28	2.56	2.87	3.22	3.61
Speculative grade	1.63	2.71	3.59	4.24	5.12	6.11	6.99	7.98	8.54	9.20	9.96	10.41	10.96	11.64	12.51
All rated	0.56	1.02	1.46	1.83	2.27	2.76	3.21	3.64	3.95	4.29	4.67	4.99	5.35	5.76	6.24

N/A--Not applicable; there are no observations for this horizon. *Default rates conditional on survival. Ratings are implied senior debt ratings through 1995 and sovereign credit ratings thereafter. Horizons consist of monthly cohorts for specified periods annualized. Source: S&P Global Fixed Income Research.

Table 37

Sovereign Foreign-Currency Average Three-Year Transition Rates With Rating Modifier (1975 - 2017*)

Rating as of 1st of the month	--Rating three years later (%)--																						
	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC+	CCC	CCC-	CC	SD	NR	
AAA	90.30	6.40	1.25	0.83	0.00	0.05	0.05	0.18	0.00	0.00	0.00	0.46	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.48

Default, Transition, and Recovery: 2017 Annual Sovereign Default Study And Rating Transitions

Table 37

Sovereign Foreign-Currency Average Three-Year Transition Rates With Rating Modifier (1975 - 2017*) (cont.)

--Rating three years later (%)--

Rating as of 1st of the month	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC+	CCC	CCC-	CC	SD	NR		
AA+	20.36	57.32	15.90	3.58	0.00	0.19	0.00	0.57	0.00	0.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.70	
AA	0.99	18.07	58.43	14.96	2.05	1.41	1.41	0.99	0.35	0.92	0.00	0.42	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA-	0.00	3.46	24.16	48.13	12.03	3.37	3.46	0.27	1.37	3.01	0.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A+	0.00	0.00	6.06	29.63	31.58	16.02	2.29	2.63	3.55	3.43	1.14	1.95	0.00	0.23	0.23	0.00	0.34	0.34	0.00	0.00	0.57	0.00		
A	0.00	0.00	0.00	7.24	25.35	46.33	8.41	3.53	3.81	3.48	0.95	0.11	0.11	0.00	0.06	0.00	0.00	0.06	0.00	0.34	0.22	0.00		
A-	0.00	0.00	0.00	0.69	3.37	24.64	50.10	12.25	2.62	1.86	0.41	1.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	0.96	1.58		
BBB+	0.00	0.00	0.00	0.00	3.87	8.36	22.02	33.13	19.27	10.81	1.02	0.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.71	0.10		
BBB	0.00	0.00	0.00	0.00	0.58	4.23	13.99	19.17	33.67	11.95	8.31	2.33	1.31	1.46	0.36	0.07	0.73	0.00	0.00	0.00	1.60	0.22		
BBB-	0.00	0.00	0.00	0.00	0.00	0.99	4.18	12.71	24.33	38.86	9.47	5.39	0.83	0.00	0.83	0.22	0.00	0.11	0.00	0.06	1.27	0.77		
BB+	0.00	0.00	0.00	0.00	0.00	0.00	0.89	2.53	5.73	31.10	32.74	19.12	3.05	0.22	1.79	0.74	0.45	0.00	0.00	0.00	1.64	0.00		
BB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60	2.22	9.05	20.80	40.89	16.91	5.64	0.96	0.78	0.00	0.00	0.00	0.06	1.56	0.54		
BB-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.00	4.63	20.91	35.54	15.09	6.80	4.80	1.26	0.11	0.34	0.29	4.69	1.54		
B+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	0.80	1.40	4.26	14.29	38.80	25.36	7.22	0.75	1.60	0.70	0.90	3.76	0.05		
B	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.04	0.55	10.17	20.50	36.58	12.19	1.09	0.44	0.38	0.00	7.87	9.19		
B-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62	1.45	4.66	9.12	25.60	37.72	2.18	0.73	0.21	0.41	17.10	0.21		
CCC+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.02	1.02	9.18	15.31	15.82	14.29	5.10	1.53	0.00	36.73	0.00		
CCC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.76	1.52	0.00	0.00	0.00	0.00	72.73	0.00		
CCC-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00		
CC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00		

*Ratings are implied senior debt ratings through 1995 and sovereign credit ratings thereafter. Average transitions over each 36-month cohort between 1975 and 2017 annualized. Source: S&P Global Fixed Income Research.

Table 38

Sovereign Foreign-Currency Average 10-Year Transition Rates With Rating Modifier (1975 - 2017*)

--Rating 10 years later (%)--

Rating as of 1st of the month	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC+	CCC	CCC-	CC	SD	NR		
AAA	74.54	12.24	6.05	2.73	0.64	0.12	0.12	1.21	0.21	0.00	0.00	0.57	0.00	0.62	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.96		
AA+	38.05	24.77	22.81	10.78	0.00	0.47	0.16	0.94	0.55	1.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA	25.00	25.93	11.11	9.26	12.65	1.65	1.44	2.37	1.85	3.91	0.00	4.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA-	17.06	12.12	5.80	25.77	4.44	13.14	8.02	1.88	1.88	5.29	4.10	0.51	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A+	9.35	2.29	24.69	1.59	5.29	11.64	17.99	1.59	4.94	17.11	0.53	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00	0.00		

Table 38

Sovereign Foreign-Currency Average 10-Year Transition Rates With Rating Modifier (1975 - 2017*) (cont.)

--Rating 10 years later (%)--

Rating as of 1st of the month	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC+	CCC	CCC-	CC	SD	NR
A	0.18	2.51	12.09	18.80	16.56	8.50	16.20	8.50	1.43	0.36	1.16	1.07	1.25	0.09	0.27	0.00	0.27	0.36	0.00	0.63	9.76	0.00
A-	0.00	0.00	1.48	14.29	18.31	13.44	15.24	2.96	9.84	13.23	6.98	3.28	0.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BBB+	0.00	0.00	2.63	3.75	2.25	18.57	29.46	13.51	3.56	10.69	7.50	0.38	0.75	0.00	3.94	1.13	1.88	0.00	0.00	0.00	0.00	0.00
BBB	0.00	0.00	1.03	10.08	3.88	14.21	14.73	10.34	9.69	7.49	5.68	8.79	0.78	0.39	0.90	1.81	0.00	0.00	0.00	0.00	3.88	6.33
BBB-	0.00	0.00	0.00	0.00	1.84	20.57	10.38	15.70	14.78	11.11	10.38	6.06	0.09	0.46	0.28	0.00	0.00	0.00	0.00	0.00	8.36	0.00
BB+	0.00	0.00	0.00	0.00	3.98	3.41	9.90	9.22	5.57	16.27	7.74	12.06	13.77	3.64	1.02	6.71	0.68	0.00	0.00	0.00	6.03	0.00
BB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.21	18.32	20.80	7.82	15.65	12.50	6.68	2.86	1.05	0.67	0.00	0.00	0.00	5.44	0.00
BB-	0.00	0.00	0.00	0.00	0.00	0.00	0.45	2.15	11.41	10.17	6.33	17.74	9.83	5.42	3.39	6.10	0.79	1.92	0.45	0.45	23.16	0.23
B+	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.00	6.72	6.28	4.30	3.85	8.92	22.69	8.37	8.48	0.00	1.21	0.44	0.11	23.79	4.63
B	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.45	1.26	3.08	2.05	16.55	15.75	9.93	7.53	0.11	1.37	0.00	0.11	29.11	8.68
B-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.23	2.66	8.38	26.58	12.88	5.93	5.73	17.59	0.00	0.00	0.00	0.00	19.02	0.00
CCC+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	92.86	0.00
CCC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	40.48	0.00	0.00	0.00	0.00	0.00	59.52	0.00
CCC-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00
CC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00

*Ratings are implied senior debt ratings through 1995 and sovereign credit ratings thereafter. Average transitions over each 120-month cohort between 1975 and 2017 annualized. Source: S&P Global Fixed Income Research.

Table 39

Sovereign Foreign-Currency Ratings One-Year Most Recent Transition Matrices (2017)

--Rating one year later (%)--

Rating as of 1st of the year	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC+	CCC	CCC-	CC	SD	NR
AAA	91.67	8.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA+	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA	0.00	0.00	87.50	12.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA-	0.00	0.00	0.00	71.43	28.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A+	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A	0.00	0.00	0.00	0.00	33.33	33.33	0.00	33.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A-	0.00	0.00	0.00	0.00	0.00	0.00	87.50	12.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BBB+	0.00	0.00	0.00	0.00	0.00	12.50	0.00	87.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BBB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	75.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 39

Sovereign Foreign-Currency Ratings One-Year Most Recent Transition Matrices (2017) (cont.)

--Rating one year later (%)--

Rating as of 1st of the year	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC+	CCC	CCC-	CC	SD	NR
BBB-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	60.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BB+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.29	71.43	14.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BB-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.11	66.67	22.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.09	81.82	9.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	83.33	16.67	0.00	0.00	0.00	0.00	0.00	0.00
B-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.14	14.29	50.00	14.29	0.00	0.00	0.00	14.29	0.00
CCC+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CCC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00
CCC-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00

*Ratings are implied senior debt ratings through 1995 and sovereign credit ratings thereafter. Source: S&P Global Fixed Income Research.

Table 40

Sovereign Foreign-Currency Ratings Three-Year Most Recent Transition Matrices (2015 - 2017)

--Rating three years later (%)--

Rating as of 1st of the year	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC+	CCC	CCC-	CC	SD	NR
AAA	83.33	8.33	8.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA+	16.67	50.00	0.00	33.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA	0.00	0.00	83.33	16.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA-	0.00	0.00	0.00	37.50	50.00	0.00	12.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A+	0.00	0.00	50.00	0.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A	0.00	0.00	0.00	0.00	33.33	16.67	0.00	33.33	0.00	0.00	0.00	16.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A-	0.00	0.00	0.00	0.00	14.29	0.00	71.43	14.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BBB+	0.00	0.00	0.00	0.00	0.00	0.00	12.50	62.50	12.50	12.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BBB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.67	33.33	16.67	16.67	0.00	0.00	16.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BBB-	0.00	0.00	0.00	0.00	0.00	9.09	0.00	0.00	18.18	36.36	18.18	18.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BB+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	66.67	0.00	33.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	28.57	0.00	42.86	28.57	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BB-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	40.00	10.00	20.00	10.00	0.00	0.00	0.00	0.00	0.00	10.00

Table 40

Sovereign Foreign-Currency Ratings Three-Year Most Recent Transition Matrices (2015 - 2017) (cont.)

--Rating three years later (%)--

Rating as of 1st of the year	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC+	CCC	CCC-	CC	SD	NR
B+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.69	0.00	7.69	46.15	7.69	15.38	0.00	0.00	0.00	0.00	15.38	0.00
B	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.33	16.67	50.00	8.33	8.33	0.00	0.00	0.00	8.33	0.00
B-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	44.44	33.33	11.11	0.00	0.00	0.00	11.11	0.00
CCC+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00
CCC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CCC-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00
CC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

*Ratings are implied senior debt ratings through 1995 and sovereign credit ratings thereafter. Source: S&P Global Fixed Income Research.

Table 41

Sovereign Foreign-Currency Ratings 10-Year Most Recent Transition Matrices (2008 - 2017)

--Rating 10 years later (%)--

Rating as of 1st of the year	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC+	CCC	CCC-	CC	SD	NR
AAA	57.89	15.79	10.53	0.00	5.26	0.00	0.00	5.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.26
AA+	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA	0.00	16.67	16.67	0.00	50.00	0.00	0.00	0.00	16.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA-	0.00	0.00	20.00	40.00	0.00	0.00	20.00	0.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A+	0.00	0.00	0.00	0.00	33.33	33.33	0.00	0.00	33.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A	0.00	0.00	7.69	15.38	23.08	0.00	23.08	0.00	0.00	0.00	0.00	7.69	0.00	7.69	0.00	0.00	0.00	0.00	0.00	0.00	15.38	0.00
A-	0.00	0.00	0.00	0.00	0.00	0.00	25.00	50.00	0.00	0.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BBB+	0.00	0.00	0.00	0.00	0.00	0.00	12.50	25.00	0.00	25.00	12.50	12.50	0.00	0.00	0.00	0.00	12.50	0.00	0.00	0.00	0.00	0.00
BBB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.00
BBB-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BB+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.50	0.00	25.00	0.00	12.50	12.50	12.50	0.00	12.50	0.00	0.00	0.00	0.00	12.50	0.00
BB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.67	0.00	0.00	50.00	33.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BB-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.11	11.11	0.00	22.22	0.00	0.00	11.11	11.11	0.00	0.00	0.00	0.00	22.22	11.11
B+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.14	0.00	0.00	0.00	14.29	28.57	21.43	7.14	0.00	0.00	0.00	0.00	14.29	7.14
B	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	10.00	20.00	0.00	0.00	0.00	0.00	0.00	30.00	30.00
B-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.00	0.00	0.00	0.00	25.00	0.00	0.00	0.00	0.00	50.00	0.00
CCC+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 41

Sovereign Foreign-Currency Ratings 10-Year Most Recent Transition Matrices (2008 - 2017) (cont.)

--Rating 10 years later (%)--

Rating as of 1st of the year	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC+	CCC	CCC-	CC	SD	NR
CCC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CCC-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

*Ratings are implied senior debt ratings through 1995 and sovereign credit ratings thereafter. Source: S&P Global Fixed Income Research.

Table 42

Sovereign Foreign-Currency Ratings Original-To-Last Transition Matrices

Rating as of Jan. 1	Total	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC+	CCC	CCC-	CC	D	NR
AAA	20	50.00	15.00	15.00	5.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	5.00
AA+	3	0.00	0.00	33.33	33.33	0.00	0.00	0.00	0.00	33.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA	5	20.00	0.00	20.00	20.00	20.00	0.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA-	2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.00	0.00
A+	3	0.00	33.33	33.33	0.00	33.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A	9	0.00	0.00	11.11	0.00	11.11	22.22	33.33	11.11	0.00	11.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A-	8	0.00	0.00	0.00	0.00	0.00	0.00	25.00	25.00	0.00	0.00	12.50	0.00	0.00	12.50	0.00	0.00	12.50	0.00	0.00	0.00	0.00	12.50
BBB+	2	0.00	0.00	0.00	50.00	0.00	0.00	0.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BBB	8	0.00	0.00	0.00	25.00	25.00	0.00	12.50	0.00	0.00	12.50	0.00	12.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.50	0.00
BBB-	9	0.00	0.00	0.00	0.00	11.11	0.00	11.11	0.00	0.00	22.22	0.00	22.22	0.00	0.00	0.00	11.11	0.00	0.00	0.00	0.00	11.11	11.11
BB+	6	0.00	0.00	0.00	0.00	0.00	0.00	0.00	33.33	16.67	16.67	16.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.67	0.00
BB	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	10.00	0.00	10.00	30.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00
BB-	15	0.00	0.00	0.00	0.00	6.67	0.00	0.00	0.00	6.67	13.33	0.00	6.67	13.33	6.67	6.67	6.67	0.00	0.00	0.00	0.00	26.67	6.67
B+	22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.55	9.09	31.82	22.73	9.09	0.00	0.00	0.00	0.00	13.64	9.09
B	17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.88	0.00	5.88	5.88	0.00	23.53	5.88	0.00	0.00	0.00	0.00	35.29	17.65
B-	20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00	5.00	5.00	0.00	10.00	10.00	25.00	5.00	0.00	0.00	0.00	35.00	0.00
CCC+	8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.50	12.50	0.00	0.00	0.00	12.50	12.50	25.00	0.00	0.00	0.00	25.00	0.00
CCC	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CCC-	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CC	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00

Original-to-last transition rates compare the issuer rating from the time of first rating to the last rating, regardless of the time elapsed in the interim. Ratings are implied senior debt ratings through 1995 and sovereign credit ratings thereafter. Source: S&P Global Fixed Income Research.

Table 43

Sovereign Local-Currency Average One-Year Transition Rates With Rating Modifier (1993 - 2017*)

--Rating one year later (%)--

Rating as of 1st of the month	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC+	CCC	CCC-	CC	SD	NR
AAA	95.79	2.87	1.21	0.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA+	5.90	77.58	10.13	3.54	0.20	0.00	0.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.36
AA	0.00	3.18	84.23	8.92	0.76	0.76	0.97	1.18	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA-	0.00	0.00	6.26	78.91	11.97	0.32	0.95	1.35	0.00	0.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A+	0.00	0.00	0.85	6.79	75.02	12.53	2.90	1.13	0.07	0.07	0.00	0.00	0.14	0.14	0.00	0.35	0.00	0.00	0.00	0.00	0.00	0.00
A	0.00	0.00	0.00	0.73	10.94	73.07	11.25	2.86	0.85	0.18	0.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A-	0.00	0.00	0.00	0.00	0.43	13.85	70.75	10.37	1.37	1.55	0.75	0.12	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.68
BBB+	0.00	0.00	0.00	0.00	0.00	1.13	11.41	70.74	10.34	3.47	1.45	0.69	0.19	0.00	0.25	0.25	0.00	0.00	0.00	0.00	0.00	0.06
BBB	0.00	0.00	0.00	0.00	0.00	0.00	1.50	12.36	67.60	15.73	1.31	0.94	0.28	0.00	0.19	0.00	0.09	0.00	0.00	0.00	0.00	0.00
BBB-	0.00	0.00	0.00	0.00	0.00	0.00	0.07	1.87	10.08	70.65	11.73	3.21	0.82	0.82	0.22	0.22	0.00	0.15	0.00	0.15	0.00	0.00
BB+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.07	1.19	12.54	70.29	11.00	3.15	0.00	0.63	0.00	0.14	0.28	0.00	0.49	0.21	0.00
BB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.72	15.85	62.32	13.22	2.45	1.90	1.18	0.54	0.00	0.00	0.00	1.63	0.18
BB-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.46	7.88	71.48	12.44	3.18	0.93	0.46	0.79	0.00	0.33	0.66	0.40
B+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.39	1.61	11.75	65.81	16.43	2.78	0.00	0.00	0.00	0.22	0.50	0.50
B	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.21	1.58	13.25	69.14	8.62	1.95	0.26	0.00	0.00	0.00	1.10	3.89
B-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.07	2.95	15.83	67.89	5.64	0.98	0.18	0.54	4.74	0.18	
CCC+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.46	7.37	44.70	35.48	6.91	0.00	0.00	5.07	0.00
CCC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.19	42.55	2.13	28.72	6.38	2.13	14.89	0.00
CCC-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.00	0.00	0.00	0.00	0.00	50.00	0.00
CC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	42.86	14.29	0.00	0.00	0.00	14.29	28.57	0.00

*Ratings are implied senior debt ratings through 1995 and sovereign credit ratings thereafter. Average transitions over each 12-month cohort between 1993 and 2017 annualized. Source: S&P Global Fixed Income Research.

Table 44

Sovereign Local-Currency Average Three-Year Transition Rates With Rating Modifier (1993 - 2017*)

--Rating three year later (%)--

Rating as of 1st of the month	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC+	CCC	CCC-	CC	SD	NR
AAA	87.43	7.66	3.26	0.71	0.00	0.06	0.04	0.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.61
AA+	16.40	46.70	13.55	13.21	0.34	1.82	1.59	2.62	0.00	0.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.08
AA	1.11	5.38	67.22	15.36	2.30	1.98	2.85	1.35	1.43	1.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA-	0.00	1.05	15.03	46.05	23.11	5.36	5.45	2.37	0.35	1.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Default, Transition, and Recovery: 2017 Annual Sovereign Default Study And Rating Transitions

Table 44

Sovereign Local-Currency Average Three-Year Transition Rates With Rating Modifier (1993 - 2017*) (cont.)

--Rating three year later (%)--

Rating as of 1st of the month	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC+	CCC	CCC-	CC	SD	NR
A+	0.00	0.00	2.75	19.37	39.66	21.51	7.93	2.36	2.21	0.08	0.53	1.30	0.00	0.00	0.15	1.30	0.23	0.23	0.00	0.00	0.38	0.00
A	0.00	0.00	0.00	2.20	20.23	43.98	14.90	8.92	5.92	1.66	1.13	0.13	0.13	0.00	0.07	0.00	0.00	0.07	0.00	0.40	0.27	0.00
A-	0.00	0.00	0.00	0.71	8.90	25.27	35.23	14.52	3.91	4.41	0.43	2.99	0.43	0.00	0.43	0.00	0.00	0.00	0.00	0.07	1.00	1.71
BBB+	0.00	0.00	0.00	0.00	3.01	5.04	19.66	38.49	12.53	11.55	5.46	1.19	0.14	0.00	0.84	1.12	0.00	0.14	0.00	0.14	0.49	0.21
BBB	0.00	0.00	0.00	0.00	0.00	0.00	5.93	18.00	37.88	19.46	12.90	2.71	1.25	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.31	1.46
BBB-	0.00	0.00	0.00	0.00	0.00	1.11	1.86	6.50	12.81	41.60	15.51	6.69	5.11	0.56	4.36	1.02	0.56	0.00	0.00	0.09	2.23	0.00
BB+	0.00	0.00	0.00	0.00	0.00	0.00	1.23	3.99	6.76	14.29	44.01	17.82	7.76	0.15	1.84	0.77	0.00	0.00	0.00	0.00	1.38	0.00
BB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.63	3.66	7.01	21.65	18.39	20.12	9.25	2.34	10.98	1.73	0.00	0.00	0.00	2.34	0.91
BB-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.15	2.84	2.68	11.27	37.73	19.71	10.43	5.29	1.53	1.53	0.00	0.69	3.07	2.07
B+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.41	0.55	1.36	3.54	16.02	42.94	25.56	5.39	1.02	1.09	0.00	0.20	0.27	1.64
B	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.37	1.55	3.03	10.32	16.93	40.11	12.24	2.53	0.56	0.00	0.00	2.66	9.70
B-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.84	5.29	3.49	6.13	22.84	43.15	3.61	0.84	0.24	0.48	12.26	0.24
CCC+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.69	1.08	1.08	1.61	29.57	27.96	15.05	5.38	2.69	0.00	12.90	0.00
CCC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.82	0.00	7.04	2.82	30.99	22.54	0.00	0.00	0.00	0.00	33.80	0.00
CCC-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00
CC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	34.62	34.62	0.00	0.00	0.00	0.00	30.77	0.00

*Ratings are implied senior debt ratings through 1995 and sovereign credit ratings thereafter. Average transitions over each 36-month cohort between 1993 and 2017 annualized. Source: S&P Global Fixed Income Research.

Table 45

Sovereign Local-Currency Average 10-Year Transition Rates With Rating Modifier (1993 - 2017*)

--Rating 10 year later (%)--

Rating as of 1st of the month	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC+	CCC	CCC-	CC	SD	NR
AAA	75.83	12.10	3.95	3.07	1.42	0.17	0.17	1.68	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.33
AA+	7.14	12.27	22.34	10.44	11.36	11.17	0.37	7.33	4.95	12.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA	5.03	5.03	32.98	9.54	17.75	6.36	7.28	3.18	2.38	5.03	0.00	5.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA-	10.91	0.17	6.38	29.36	13.93	6.54	10.23	3.36	1.34	7.89	7.38	0.84	0.00	0.00	0.34	0.00	0.50	0.50	0.00	0.00	0.34	0.00
A+	0.24	3.31	19.88	20.00	8.40	13.02	12.43	7.10	3.08	3.67	3.67	0.24	1.07	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.91	0.00
A	0.00	0.00	6.25	6.37	8.95	17.52	16.54	5.64	5.88	4.53	0.98	6.00	2.45	0.12	0.61	0.00	0.00	0.12	0.00	0.86	11.15	6.00
A-	0.00	0.00	1.59	5.78	4.88	24.60	22.45	9.07	4.88	11.45	8.84	1.81	0.45	0.00	2.38	0.68	0.68	0.45	0.00	0.00	0.00	0.00
BBB+	0.00	0.00	0.93	4.08	21.91	14.45	2.80	3.61	8.04	9.56	20.16	9.09	3.15	1.86	0.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Default, Transition, and Recovery: 2017 Annual Sovereign Default Study And Rating Transitions

Table 45

Sovereign Local-Currency Average 10-Year Transition Rates With Rating Modifier (1993 - 2017*) (cont.)

--Rating 10 year later (%)--

Rating as of 1st of the month	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC+	CCC	CCC-	CC	SD	NR
BBB	0.00	0.00	0.00	0.00	0.00	4.98	0.00	23.16	14.29	33.55	3.25	1.73	11.04	2.60	3.68	1.08	0.65	0.00	0.00	0.00	0.00	0.00
BBB-	0.00	0.00	0.00	0.00	0.41	0.00	2.87	8.81	21.93	19.47	2.25	3.69	6.35	0.00	4.10	14.34	0.61	0.00	0.00	0.00	15.16	0.00
BB+	0.00	0.00	0.00	0.00	0.00	0.00	6.75	14.37	9.34	11.78	19.40	10.92	14.22	4.60	3.30	4.02	0.00	0.00	0.00	0.00	1.29	0.00
BB	0.00	0.00	0.00	0.00	0.00	0.00	3.42	5.81	16.41	4.62	15.73	0.00	15.38	8.55	8.55	14.19	3.76	0.00	0.00	0.00	3.59	0.00
BB-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.30	10.74	0.48	2.86	0.24	10.50	35.32	5.73	9.79	0.72	4.06	1.43	0.00	13.37	0.48
B+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.39	4.17	2.19	6.16	0.00	7.75	33.40	5.96	19.68	0.99	1.59	0.00	0.00	5.17	11.53
B	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.88	5.30	6.04	2.06	2.06	24.15	8.69	9.87	14.73	0.88	0.88	0.00	0.15	15.46	8.84
B-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.05	1.11	9.42	16.07	29.64	1.94	0.55	9.14	16.34	2.22	0.00	0.00	0.00	10.53	0.00
CCC+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00	3.16	71.58	0.00
CCC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	15.52	0.00	3.45	0.00	1.72	27.59	3.45	29.31	0.00	0.00	0.00	0.00	0.00	18.97	0.00
CCC-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.53	0.00	0.00	5.26	78.95	0.00	0.00	0.00	0.00	0.00	0.00	5.26	0.00

*Ratings are implied senior debt ratings through 1995 and sovereign credit ratings thereafter. Average transitions over each 120-month cohort between 1993 and 2017 annualized. Source: S&P Global Fixed Income Research.

Table 46

Sovereign Local-Currency Ratings One-Year Most Recent Transition Matrices (2017)

--Rating one year later (%)--

Rating as of 1st of the year	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC+	CCC	CCC-	CC	SD	NR
AAA	91.67	8.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA+	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA	0.00	0.00	77.78	22.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA-	0.00	0.00	0.00	80.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A+	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A	0.00	0.00	0.00	0.00	20.00	40.00	20.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A-	0.00	0.00	0.00	0.00	0.00	0.00	90.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BBB+	0.00	0.00	0.00	0.00	0.00	20.00	0.00	60.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BBB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	75.00	0.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BBB-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	70.00	0.00	10.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BB+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	42.86	42.86	14.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	80.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table 46

Sovereign Local-Currency Ratings One-Year Most Recent Transition Matrices (2017) (cont.)

--Rating one year later (%)--

Rating as of 1st of the year	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC+	CCC	CCC-	CC	SD	NR
BB-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.11	66.67	22.22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.09	81.82	9.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00
B	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	83.33	16.67	0.00	0.00	0.00	0.00	0.00	0.00
B-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	6.67	13.33	60.00	6.67	6.67	0.00	0.00	6.67	0.00
CCC+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CCC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00
CCC-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00

*Ratings are implied senior debt ratings through 1995 and sovereign credit ratings thereafter. Source: S&P Global Fixed Income Research.

Table 47

Sovereign Local-Currency Ratings Three-Year Most Recent Transition Matrices (2015 - 2017)

--Rating three years later (%)--

Rating as of 1st of the year	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC+	CCC	CCC-	CC	SD	NR
AAA	83.33	8.33	8.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA+	12.50	50.00	0.00	37.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA	0.00	0.00	83.33	16.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA-	0.00	0.00	14.29	28.57	42.86	0.00	14.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A+	0.00	0.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A	0.00	0.00	0.00	0.00	22.22	22.22	22.22	22.22	0.00	0.00	0.00	11.11	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A-	0.00	0.00	0.00	0.00	14.29	0.00	85.71	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BBB+	0.00	0.00	0.00	0.00	0.00	0.00	12.50	25.00	25.00	12.50	12.50	12.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BBB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.29	28.57	14.29	28.57	0.00	0.00	14.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BBB-	0.00	0.00	0.00	0.00	0.00	12.50	0.00	0.00	25.00	50.00	12.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BB+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	66.67	0.00	33.33	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	33.33	0.00	50.00	16.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BB-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	40.00	10.00	20.00	10.00	0.00	0.00	0.00	0.00	0.00	10.00
B+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.69	0.00	7.69	46.15	7.69	23.08	0.00	0.00	0.00	0.00	7.69	0.00
B	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.33	16.67	50.00	16.67	0.00	8.33	0.00	0.00	0.00	0.00
B-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	44.44	44.44	11.11	0.00	0.00	0.00	0.00	0.00

Table 47

Sovereign Local-Currency Ratings Three-Year Most Recent Transition Matrices (2015 - 2017) (cont.)

--Rating three years later (%)--

Rating as of 1st of the year	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC+	CCC	CCC-	CC	SD	NR
CCC+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	33.33	0.00	33.33	0.00	0.00	33.33	0.00	0.00	0.00
CCC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CCC-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

*Ratings are implied senior debt ratings through 1995 and sovereign credit ratings thereafter. Source: S&P Global Fixed Income Research.

Table 48

Sovereign Local-Currency Ratings 10-Year Most Recent Transition Matrices (2008 - 2017)

--Rating 10 years later (%)--

Rating as of 1st of the year	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC+	CCC	CCC-	CC	SD	NR
AAA	55.00	20.00	10.00	0.00	5.00	0.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00
AA+	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA	0.00	12.50	12.50	12.50	37.50	12.50	0.00	0.00	12.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA-	0.00	0.00	16.67	33.33	16.67	0.00	16.67	0.00	0.00	16.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A+	0.00	0.00	25.00	0.00	0.00	12.50	25.00	12.50	12.50	0.00	12.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A	0.00	0.00	0.00	8.33	16.67	0.00	33.33	0.00	0.00	0.00	0.00	8.33	0.00	8.33	0.00	0.00	0.00	0.00	0.00	0.00	16.67	8.33
A-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	33.33	33.33	0.00	0.00	0.00	0.00	0.00	0.00	33.33	0.00	0.00	0.00	0.00
BBB+	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	20.00	40.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BBB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	60.00	0.00	20.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BBB-	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	40.00	0.00	0.00	20.00	0.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00
BB+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.29	14.29	0.00	14.29	28.57	14.29	0.00	0.00	0.00	0.00	0.00	0.00	14.29	0.00
BB	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.29	0.00	14.29	0.00	0.00	14.29	42.86	14.29	0.00	0.00	0.00	0.00	0.00	0.00
BB-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.50	0.00	37.50	12.50	12.50	0.00	0.00	12.50	0.00	0.00	12.50
B+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	0.00	0.00	0.00	20.00	30.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	20.00
B	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.50	0.00	0.00	25.00	12.50	0.00	0.00	0.00	0.00	25.00	25.00
B-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.00	0.00	0.00	0.00	25.00	0.00	0.00	0.00	0.00	50.00	0.00
CCC+	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CCC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CCC-	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CC	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

*Ratings are implied senior debt ratings through 1995 and sovereign credit ratings thereafter. Source: S&P Global Fixed Income Research.

Table 49

Sovereigns Local-Currency Ratings Original-To-Last Transition Matrices

Rating as of		Rating																					
Jan. 1	Total	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC+	CCC	CCC-	CC	D	NR
AAA	25	44.00	16.00	12.00	4.00	8.00	0.00	0.00	4.00	4.00	4.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.00
AA+	6	0.00	0.00	0.00	33.33	0.00	33.33	16.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	16.67	0.00
AA	7	0.00	0.00	42.86	14.29	28.57	0.00	14.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
AA-	4	0.00	0.00	0.00	0.00	25.00	0.00	25.00	0.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	25.00	0.00	0.00	0.00	0.00
A+	6	0.00	16.67	16.67	0.00	0.00	0.00	33.33	0.00	16.67	16.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
A	5	0.00	0.00	0.00	0.00	20.00	20.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00
A-	11	0.00	0.00	0.00	9.09	0.00	0.00	27.27	9.09	0.00	9.09	9.09	9.09	0.00	0.00	0.00	9.09	0.00	0.00	0.00	0.00	9.09	9.09
BBB+	8	0.00	0.00	0.00	12.50	12.50	0.00	12.50	25.00	0.00	12.50	12.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.50	0.00
BBB	4	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	50.00	25.00	0.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
BBB-	6	0.00	0.00	0.00	0.00	0.00	0.00	16.67	0.00	0.00	33.33	0.00	16.67	0.00	16.67	0.00	0.00	0.00	0.00	0.00	0.00	16.67	0.00
BB+	8	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.50	12.50	12.50	25.00	25.00	0.00	0.00	12.50	0.00	0.00	0.00	0.00	0.00	0.00
BB	9	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.11	11.11	33.33	22.22	11.11	0.00	0.00	0.00	0.00	11.11	0.00
BB-	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	40.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	20.00
B+	19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.26	5.26	15.79	15.79	21.05	15.79	0.00	0.00	0.00	0.00	5.26	15.79
B	14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	7.14	0.00	0.00	0.00	0.00	35.71	21.43	0.00	0.00	0.00	0.00	21.43	14.29
B-	10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	30.00	10.00	0.00	10.00	0.00	30.00	0.00
CCC+	5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	20.00	0.00	0.00	0.00	20.00	20.00	20.00	0.00	0.00	0.00	20.00	0.00
CCC	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CCC-	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CC	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00

Original-to-last-transition rates compare the rating on the issuer from the time of the first rating to the last rating, regardless of the time elapsed in the interim. Ratings are implied senior debt ratings through 1995 and sovereign credit ratings thereafter. Source: S&P Global Fixed Income Research.

Related Criteria And Research:

- Sovereign Ratings History, March 6, 2018
- Latin American And Caribbean Sovereign Rating Trends 2018, Jan. 11, 2018
- Asia-Pacific Sovereign Rating Trends 2018, Jan. 10, 2018
- Emerging Markets Sovereign Rating Trends 2018, Jan. 10, 2018
- eurozone Sovereign Rating Trends 2018, Jan. 10, 2018
- Middle East And North Africa Sovereign Rating Trends 2018, Jan. 10, 2018
- Sub-Saharan Africa Sovereign Rating Trends 2018, Jan. 10, 2018
- Sovereign Ratings List, Jan. 5, 2018
- Sovereign Rating Methodology, Dec. 18, 2017

Default, Transition, and Recovery: 2017 Annual Sovereign Default Study And Rating Transitions

- Venezuela Long-Term Foreign Currency Rating Lowered To 'SD', Nov. 13, 2017
- Republic Of El Salvador Long-Term Foreign-Currency Rating Lowered To 'SD' From 'CC' Following Announced Debt Exchange, Oct. 2, 2017
- Republic Of Congo Foreign Currency Ratings Lowered To 'SD/D' After Trustee Unable To Unfreeze Bond Payments, Aug. 1, 2017
- Republic Of El Salvador Sovereign Credit Ratings Lowered To 'SD' On Missed Pension Debt Payments, April 20, 2017
- Belize Long-Term Foreign Currency Rating Lowered To 'SD' From 'CC' Following Announced Debt Exchange, March 17, 2017
- Mozambique Foreign Currency Ratings Lowered To 'SD/D' On Missed Payment, Jan. 18, 2017

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