Article Title: ARCHIVE | General Criteria: Methodology For Revisions To Standard & Poor's Stressed Reinvestment Rate Assumptions For Fixed-Rate U.S. Debt Obligations Data: (EDITOR'S NOTE: — This criteria article is no longer current. It has been superseded by "Methodology And Assumptions For Stressed Reinvestment Rates For Fixed-Rate U.S. Debt Obligations," published Dec. 22, 2016. We originally published this criteria article on May 20, 2013. We republished this article following our periodic review completed on April 19, 2016. As a result of our review, we\rquote ve updated the contact information, the Related Criteria and Research list, and criteria references. Previously, as a result of our 2015 review, we updated the author contact information. This criteria partially supersedes "Methodology For Certain Housing Bond Transactions Supported By U.S. Government Agencies And Government-Sponsored Entities", published Dec. 17, 2014. This article is related to a commentary, "Standard & Poor's Revises Its Stressed Reinvestment Rate Assumptions For Fixed-Rate U.S. Debt Obligations", published May 20, 2013.) 1. Standard & Poor's Ratings Services is republishing its methodology for revising reinvestment interest rates for fixed-rate bonds where the investment income on reinvested periodic cash flow contributes toward debt service coverage. This most often applies to U.S. structured finance and U.S. municipal housing bonds. This article is related to our criteria article "Principles Of Credit Ratings," published Feb 16, 2011, and to a commentary, "Standard & Poor's Revises Its Stressed Reinvestment Rate Assumptions For Fixed-Rate U.S. Debt Obligations," published May 20, 2013. SCOPE OF THE CRITERIA 2. These criteria apply to fixed-rate U.S. structured finance and municipal housing bonds, as well as any other obligations, that rely on income generated from reinvesting periodic cash flows to meet debt service payments and do not have a guaranteed investment contract (GIC) or other investment vehicle with a stated interest rate in place. SUMMARY OF THE CRITERIA 3. Standard & Poor's uses stressed reinvestment rate assumptions to determine the amount of reinvestment income it should use in its cash flow analysis of a transaction where there is no other stated interest rate, such as in the case of a GIC. We derive these stressed reinvestment rate assumptions by analyzing three-month U.S. Treasury bill yields and federal funds rates, as well as the relationship between the two. METHODOLOGY A. Analytical Approach 4. Our criteria for stressed reinvestment rates reflect the expected short-term rates that we derive from analyzing three-month U.S. Treasury bill yields and overnight federal funds rates, as well as the relationship between the two. Under our analysis, we apply a bivariate autoregressive (AR) model of appropriate order to these data series, and then use the fitted model to estimate interest rate paths over the next six years. ("Appropriate order" refers to the order of the best-fitting model. An AR model reflects the number of lags on which the current value depends. An AR(1) means the value at time t depends on the value at time t-1; AR(2) means the value at time t depends on the value at time t-1 and at t-2, etc.) We also apply a univariate AR model to the spread between the three-month U.S. Treasury bill yields and the overnight federal funds rates. 5. The analysis to determine these rates also considers the Federal Reserve Board's policies and the economic forecasts from Standard & Poor's and other leading econometrics firms, as available. In deriving the assumed stressed reinvestment rates, in some cases we may discount these economic forecasts by as much as 75%. While the forecasts reflect an expected scenario, the assumed reinvestment rates apply to securities rated as high as 'AAA' and the discount to the forecasts reflects a stressed interest rate scenario. B. Frequency Of Updates To The Reinvestment Rate Assumptions 6. Standard & Poor's will review the reinvestment rate assumptions derived from this methodology at least annually--as part of its periodic criteria reviews--and upon any market event that may materially change interest rates relative to the then-current reinvestment rate assumptions. Data Related To Initial Publication 7. These criteria became effective on May 20, 2013. 8. This article supersedes "Revised Minimum Reinvestment Rate Assumptions For Fixed-Rate U.S. Structured Finance And Municipal Housing Bonds", published June 7, 2010, and partially supersedes "Methodology For Certain Housing Bond Transactions Supported By U.S. Government Agencies And Government-Sponsored Entities", published Dec. 17, 2014. RELATED CRITERIA AND RESEARCH Principles Of Credit Ratings, Feb 16, 2011 Standard & Poor's Revises Its Stressed Reinvestment Rate Assumptions For Fixed-Rate U.S. Debt Obligations, May 20, 2013 Affordable Multifamily Housing Bonds, June 19, 2014 Single-Family Mortgage-Backed Securities Programs, June 13, 2007 Single-Family Whole Loan Programs, June 14, 2007 Revised Assumptions For U.S. Tobacco Settlement-Backed Transactions, Oct 28, 2011 Overview of S&P;'s Tobacco Securitization Rating

Methodology, Oct. 25, 2000 Revised Framework For Applying U.S. Tobacco Securitization Criteria, May 18, 2007 Student Loan Criteria: Evaluating Risk In Student Loan Transactions, Oct. 1, 2004 Methodology And Assumptions For U.S. Private Student Loan ABS Credit Analysis, Feb. 13, 2013 Student Loan Criteria: Rating Methodology For Student Loan Transactions, Oct. 1, 2004 Student Loan Criteria: Structural Elements In Student Loan Transactions, Oct. 1, 2004 Methodology For Certain Housing Bond Transactions Supported By U.S. Government Agencies And Government-Sponsored Entities, Dec. 17, 2014 U.S. Tobacco Settlement Securitization: Ratings Methodology And Assumptions, March 24, 2016 These criteria represent the specific application of fundamental principles that define credit risk and ratings opinions. Their use is determined by issuer- or issue-specific attributes as well as Standard & Poor's Ratings Services' assessment of the credit and, if applicable, structural risks for a given issuer or issue rating. Methodology and assumptions may change from time to time as a result of market and economic conditions, issuer- or issue-specific factors, or new empirical evidence that would affect our credit judgment.