

# Exhibit 11




EXECUTIVE OFFICE OF THE PRESIDENT  
OFFICE OF MANAGEMENT AND BUDGET  
WASHINGTON, D.C. 20503

January 24, 2013

M-13-04

MEMORANDUM FOR THE HEADS OF DEPARTMENTS AND AGENCIES

FROM: Jeffrey D. Zients   
Deputy Director for Management

SUBJECT: 2013 Discount Rates for OMB Circular No. A-94

On October 29, 1992, OMB issued a revision to OMB Circular No. A-94, "Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs." The revision established new discount rate guidelines for use in benefit-cost and other types of economic analysis.

The revised Circular specifies certain discount rates that will be updated annually when the interest rate and inflation assumptions in the budget are changed. These discount rates are found in Appendix C of the revised Circular. The attachment to this memorandum is an update of Appendix C. It provides discount rates that will be in effect for the calendar year 2013.

The rates presented in Appendix C do not apply to regulatory analysis or benefit-cost analysis of public investment. They are to be used for lease-purchase and cost-effectiveness analysis, as specified in the Circular.

Attachment

**APPENDIX C**  
(Revised December 2012)

**DISCOUNT RATES FOR COST-EFFECTIVENESS, LEASE PURCHASE,  
AND RELATED ANALYSES**

**Effective Dates.** This appendix is updated annually. This version of the appendix is valid for calendar year 2013. A copy of the updated appendix can be obtained in electronic form through the OMB home page at [http://www.whitehouse.gov/omb/circulars\\_a094/a94\\_appx-c/](http://www.whitehouse.gov/omb/circulars_a094/a94_appx-c/). The text of the Circular is found at [http://www.whitehouse.gov/omb/circulars\\_a094/](http://www.whitehouse.gov/omb/circulars_a094/), and a table of past years' rates is located at <http://www.whitehouse.gov/sites/default/files/omb/assets/a94/dischist.pdf>. Updates of the appendix are also available upon request from OMB's Office of Economic Policy (202-395-3381).

**Nominal Discount Rates.** A forecast of nominal or market interest rates for calendar year 2013 based on the economic assumptions for the 2014 Budget is presented below. These nominal rates are to be used for discounting nominal flows, which are often encountered in lease-purchase analysis.

**Nominal Interest Rates on Treasury Notes and Bonds  
of Specified Maturities (in percent)**

<u>3-Year</u>	<u>5-Year</u>	<u>7-Year</u>	<u>10-Year</u>	<u>20-Year</u>	<u>30-Year</u>
0.5	1.1	1.5	2.0	2.7	3.0

**Real Discount Rates.** A forecast of real interest rates from which the inflation premium has been removed and based on the economic assumptions from the 2014 Budget is presented below. These real rates are to be used for discounting constant-dollar flows, as is often required in cost-effectiveness analysis.

**Real Interest Rates on Treasury Notes and Bonds  
of Specified Maturities (in percent)**

<u>3-Year</u>	<u>5-Year</u>	<u>7-Year</u>	<u>10-Year</u>	<u>20-Year</u>	<u>30-Year</u>
-1.4	-0.8	-0.4	0.1	0.8	1.1

Analyses of programs with terms different from those presented above may use a linear interpolation. For example, a four-year project can be evaluated with a rate equal to the average of the three-year and five-year rates. Programs with durations longer than 30 years may use the 30-year interest rate.