Kroll Increases U.S. Normalized Risk-Free Rate from 3.0% to 3.5%, but Spot 20-Year U.S. Treasury Yield Preferred When Higher

Executive Summary:

Kroll regularly reviews fluctuations in global economic and financial market conditions that may warrant changes to our equity risk premium (ERP) and accompanying risk-free rate recommendations. The risk-free rate and ERP are key inputs used to calculate the cost of equity capital in the context of the Capital Asset Pricing Model (CAPM) and other models used to develop discount rates.

Based on market conditions prevailing in mid-June 2022, **Kroll is increasing the U.S. normalized risk-free rate from 3.0% to 3.5% but recommends using the spot 20-year U.S. Treasury yield, if it is higher than 3.5%, when developing USD-denominated discount rates as of June 16, 2022 and thereafter, until further guidance is issued.**

Background

Based on more recent long-term U.S. inflation expectations, **we are increasing the U.S. normalized risk-free rate from 3.0% to 3.5% when developing USD-denominated discount rates as of June 16, 2022, and thereafter,** until further guidance is issued. For the underlying data supporting this guidance, click here.

Previously, the long-term average of 20-year U.S. Treasury yields was an important input in developing our normalized risk-free rate conclusion. We believe that giving some weight to long-term averages was appropriate when the Federal Reserve Bank's (Fed) monetary policy was ultra-accommodative and inflation was below or close to the Fed's inflation target of 2.0%, which kept interest rates at artificially low levels.

For perspective, the annual U.S. consumer price inflation had averaged 1.8% in the 2010s, on a rolling 12-month basis. By contrast, in recent months inflation has continued to surprise on the upside—reaching 40-year highs—with the recent Russia-Ukraine war exacerbating inflationary pressures. This precipitated a significant shift in the Fed's monetary policy stance relative to December 2021. This more restrictive stance entails: (i) more and/or larger policy interest rate hikes, and (ii) an end to the Fed's quantitative easing policies that expanded its balance sheet to near $9 trillion (instead, the Fed will initiate a quantitative tightening process). The Fed's goal is to contain inflation and normalize the size of its balance sheet.

These recent trends have led to a significant and very rapid rise in U.S. interest rates, with no signs of abating any time soon. For example, the spot 20-year U.S. Treasury yield increased from 1.9% on December 31, 2021 to 3.7% on June 15, 2022, the latter being above our new normalized risk-free rate of 3.5%. Long-term interest rates may finally be reverting to levels considered to be "normal," as attested by the rapid *acceleration* in the rise in yields over the last month and the dramatic change in Fed's projected trajectory for policy interest rate hikes as announced on June 15, 2022.

Therefore, **we recommend using the spot 20-year U.S. Treasury yield as the proxy for the risk-free rate, if the prevailing yield as of the valuation date is higher than our recommended U.S. normalized risk-free rate of 3.5%. This guidance is effective when developing USD-denominated discount rates as of June 16, 2022 and thereafter.**

This hybrid risk-free rate recommendation is to be used with our U.S. recommended ERP (reaffirmed at 5.5%), implying a base U.S. cost of equity capital of at least 9.0% (= the *higher* of the normalized 3.5% risk-free rate OR the U.S. 20-year U.S. Treasury yield + 5.5%).

The adoption of this hybrid methodology in selecting risk-free rates, which was previously used during 2009-2011, is designed to give analysts the flexibility to adjust to potential rapid changes in yields that may outpace any changes indicated by our risk-free rate normalization models.

Please contact the costofcapital.support@kroll.com with any questions.

Kroll Cost of Capital Inputs

Data as of June 16, 2022

	U.S. (in USD)	Eurozone ** (in EUR)	U.K. (in GBP)	Canada (in CAD)
Normalized Risk-Free Rate	Higher of 3.5% or Spot*	2.0%	3.0%	3.0%
Kroll Recommended Equity Risk Premium	5.5%	5.5% to 6.0%	n/a	n/a

* We recommend using the spot 20-year U.S. Treasury yield as the proxy for the risk-free rate, if the prevailing yield as of the valuation date is higher than our recommended U.S. normalized risk-free rate of 3.5%. This guidance is effective when developing USD-denominated discount rates as of June 16, 2022, and thereafter.

** German normalized risk-free rate and Eurozone equity risk premium (ERP) for use in EUR-denominated discount rates from a German investor perspective. Additional country risk adjustments may be warranted when estimating discount rates for other countries in the Eurozone.

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Kroll Recommended U.S. Equity Risk Premium (ERP) and Corresponding Risk-free Rates (R_f); January 2008–Present

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Date	Risk-free Rate (R_f)	R_f (%)	Kroll Recommended U.S. ERP (%)	What Changed
Current Guidance:				
June 16, 2022 − UNTIL FURTHER NOTICE*	Normalized 20-year U.S. Treasury yield*	3.50*	5.50	Rf
April 7, 2022 – June 15, 2022	Normalized 20-year U.S. Treasury yield	3.00	5.50	*ERP*
December 7, 2020 – April 6, 2022	Normalized 20-year U.S. Treasury yield	2.50	5.50	*ERP*
June 30, 2020 − December 6, 2020	Normalized 20-year U.S. Treasury yield	2.50	6.00	Rf
March 25, 2020 − June 29, 2020	Normalized 20-year U.S. Treasury yield	3.00	6.00	*ERP*
December 19, 2019 − March 24, 2020	Normalized 20-year U.S. Treasury yield	3.00	5.00	*ERP*
September 30, 2019 − December 18, 2019	Normalized 20-year U.S. Treasury yield	3.00	5.50	R_f
December 31, 2018 − September 29, 2019	Normalized 20-year U.S. Treasury yield	3.50	5.50	*ERP*
September 5, 2017 − December 30, 2018	Normalized 20-year U.S. Treasury yield	3.50	5.00	*ERP*
November 15, 2016 − September 4, 2017	Normalized 20-year U.S. Treasury yield	3.50	5.50	R_f
January 31, 2016 − November 14, 2016	Normalized 20-year U.S. Treasury yield	4.00	5.50	ERP
December 31, 2015	Normalized 20-year U.S. Treasury yield	4.00	5.00	
December 31, 2014	Normalized 20-year U.S. Treasury yield	4.00	5.00	
December 31, 2013	Normalized 20-year U.S. Treasury yield	4.00	5.00	
February 28, 2013 – January 30, 2016	Normalized 20-year U.S. Treasury yield	4.00	5.00	ERP
December 31, 2012	Normalized 20-year U.S. Treasury yield	4.00	5.50	
January 15, 2012 − February 27, 2013	Normalized 20-year U.S. Treasury yield	4.00	5.50	ERP
December 31, 2011	Normalized 20-year U.S. Treasury yield	4.00	6.00	
September 30, 2011 − January 14, 2012	Normalized 20-year U.S. Treasury yield	4.00	6.00	ERP
July 1 2011 − September 29, 2011	Normalized 20-year U.S. Treasury yield	4.00	5.50	R_f
June 1, 2011 − June 30, 2011	Spot 20-year U.S. Treasury yield	Spot	5.50	R_f
May 1, 2011 − May 31, 2011	Normalized 20-year U.S. Treasury yield	4.00	5.50	R_f
December 31, 2010	Spot 20-year U.S. Treasury yield	Spot	5.50	
December 1, 2010 − April 30, 2011	Spot 20-year U.S. Treasury yield	Spot	5.50	R_f
June 1, 2010 − November 30, 2010	Normalized 20-year U.S. Treasury yield	4.00	5.50	R_f
December 31, 2009	Spot 20-year U.S. Treasury yield	Spot	5.50	
December 1, 2009 − May 31, 2010	Spot 20-year U.S. Treasury yield	Spot	5.50	ERP
June 1, 2009 − November 30, 2009	Spot 20-year U.S. Treasury yield	Spot	6.00	R_f
December 31, 2008	Normalized 20-year U.S. Treasury yield	4.50	6.00	
November 1, 2008 − May 31, 2009	Normalized 20-year U.S. Treasury yield	4.50	6.00	R_f
October 27, 2008 − October 31, 2008	Spot 20-year U.S. Treasury yield	Spot	6.00	ERP
January 1, 2008 − October 26, 2008	Spot 20-year U.S. Treasury yield	Spot	5.00	Initialized

*** We recommend using the spot 20-year U.S. Treasury yield as the proxy for the risk-free rate, if the prevailing yield as of the valuation date is higher than our recommended U.S. normalized risk-free rate of 3.5%. This guidance is effective when developing USD-denominated discount rates as of June 16, 2022 and thereafter.**

"Normalized" in this context means that in months where the risk-free rate is deemed to be abnormally low, a proxy for a longer-term sustainable risk-free rate is used.

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