

**BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,

Complainant,

v.

CASCADE NATURAL GAS
CORPORATION,

Respondent.

DOCKET UG-240008

**EXHIBIT BGM-5
THIRD-PARTY MARKET RISK PREMIUM REPORTS**



June 6, 2024

Kroll Lowers its Recommended U.S. Equity Risk Premium to 5.0%, Effective June 5, 2024

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. We also update country risk data on a quarterly basis for 175+ countries using various models.

The Kroll Recommended U.S. ERP is decreasing from 5.5% to 5.0% when developing USD-denominated discount rates as of June 5, 2024, and thereafter, until further notice.

Notwithstanding the current recommendation, we are monitoring economic and geopolitical events that may change our views and impact our guidance toward the end of 2024 and into 2025. In particular, the U.S. Presidential Election in November 2024 has the potential to cause turmoil in U.S. and global financial markets. Of particular concern is any potential promise of a significant increase in government spending and a corresponding rise in the U.S. budget deficit, which could place upward pressure on long-term interest rates and disrupt financial markets. Other global geopolitical events that warrant close watch include, but are not limited to, the impact of general elections in other major economies (e.g., Mexico, India, UK), trade conflicts between the U.S. and China, rising tensions in the Middle East and the protracted Russia's war on Ukraine.

Background

The Kroll U.S. Recommended ERP was last changed on June 8, 2023, when it was lowered from 6.0% to 5.5%. This ERP guidance was applicable when developing USD-denominated discount rates and was to be used in conjunction with our U.S. risk-free guidance—the higher of the spot 20-year U.S. Treasury yield (prevailing as of the valuation date) and the Kroll normalized U.S. risk-free rate of 3.5%.

In the “Kroll Cost of Capital Recommendations and Potential Upcoming Changes – February 8, 2024 Update”, Kroll reaffirmed its Recommended U.S. ERP guidance at 5.5%. However, that communication also indicated that a “risk-on” attitude in U.S. equity markets meant that the ERP was likely to come down in 2024. At the time, we balanced new stock market record highs (which were partly boosted by optimism around generative artificial intelligence (GenAI), an expected improvement in earnings growth and a resilient U.S. economy), with the potential negative impact from restrictive monetary policies (keeping interest rates higher for a longer period of time) and the risk of major geopolitical events broadening to the global economy (e.g., escalating conflicts in the Middle East).

At this juncture, the U.S. economy continues to be resilient, but there are signs that the labor market is cooling, and consumer spending is slowing. These latest indicators actually increase the probability of a soft-landing scenario (i.e., lower inflation, lower real growth, but no recession) and create the conditions for the U.S. central bank (the Federal Reserve Bank, or the Fed) to start cutting interest rates. This, in turn, is likely to create more favorable financing conditions and continue to support U.S. equity markets.

Based on current economic and financial market conditions, the Kroll Recommended ERP is being lowered from 5.5% to 5.0% when developing USD-denominated discount rates as of June 5, 2024, and thereafter, until further notice. In addition, we continue to recommend using the spot 20-year U.S. Treasury yield as the proxy for the risk-free rate if the prevailing spot yield as of the valuation date is higher than the Kroll normalized U.S. risk-free rate of 3.5%.

The decision to lower the U.S. ERP Recommendation is based on the following trends in economic indicators and financial market conditions:

- In late 2023 and early in 2024, investors began pricing several cuts in the Fed funds rate—the central bank’s policy interest rate—which helped fuel a surge in equity markets. However, a surprising resilience in the U.S. economy and a sudden increase in inflation readings in December 2023 and again in February and March 2024, led to a delay in expectations on the number and timing of Fed rate cuts in 2024. Markets reacted by pricing a single-rate cut later this year (contrary to prior expectations of three cuts taking place earlier in the year), with some economists even suggesting a rate hike as a possibility. More recently, however, economic activity has shown signs of slowing down. First quarter real GDP growth was downwardly revised to 1.3%, partly due to a deceleration in consumer spending, as pandemic-related excess savings have been mostly depleted and the overhang of inflation has diminished purchasing power. This slowdown (together with the inflation and unemployment trends discussed below), actually makes it more likely that the Fed will begin cutting interest rates earlier this year relative to recent expectations.

- Major equity indices have recently reached new all-time highs, supported by investors' continued optimism. The surge in technology stocks due to potential productivity gains from GenAI has broadened to other sectors in the economy. Since their respective cycle lows in late October 2023 through May 28, 2024, the S&P 500 Index (a market-cap-weighted index) has increased 28.9% in price terms, whereas the NASDAQ Composite surged by 35.1%. The S&P 500 Equal-Weight Index also gained 22.9% since its October low. For perspective, a 20% or higher increase in equity markets relative to recent lows is considered to be a "bull" market. In addition, during the month of May 2024, all major equity indices reached all-time highs: the S&P 500 Index hit a new record on May 21, 2024, while the NASDAQ Composite did so on May 28, 2024. The Dow Jones Industrial Average (DJIA), an equal-weighted index that no longer attracts significant global investment allocations, surpassed the psychological level of 40,000 for the first time on May 17, 2024.¹
- The VIX (the volatility index on the S&P 500), also referred to as the "fear index," has been generally low during 2024. Since the beginning of 2024 through May 28, the index has averaged 14.1, with a low of 11.9 reached on May 21, 2024—the lowest level since November 2019. These levels are also much lower than the long-term historical average of 20.1 and the average observed since the height of COVID-19. For perspective, during 2022 and 2023, the VIX averaged 25.6 and 16.8, respectively.
- U.S. corporate credit spreads have been fairly tight and are currently lower than in June 2023, when we last changed our ERP recommendation. They are also significantly lower than their long-term historical average (from late 1996 through the present). The underlying corporate yields on investment-grade and speculative-grade bonds have generally been on a downward trend since 2023.
- ERP indications from forward-looking models based on Professor Aswath Damodaran are at similar levels as when we last changed our U.S. ERP recommendation, while the Default Spread model points to a sustained decline in ERP.

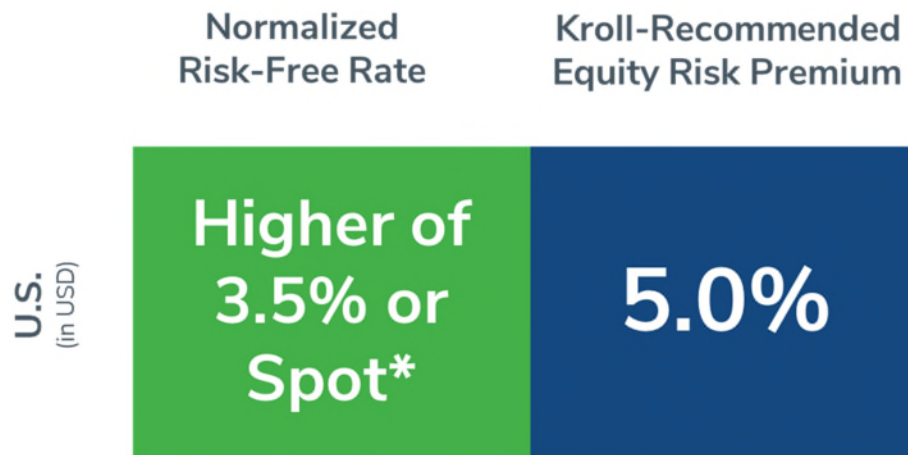
¹ According to an analysis by S&P Dow Jones Indices, at the end of 2019, there were over USD 11.2 trillion index-linked products and derivative contracts benchmarked to the S&P 500, which included USD 4.6 trillion passively tracking the index. In comparison, there were USD 32 billion benchmarked to the DJIA, which included USD 28 billion in passive assets. For more details see "Comparing Iconic Indices: The S&P 500® and DJIA®", S&P Dow Jones Indices – A Division of S&P Global, June 2021. Available here: <https://www.spglobal.com/spdji/en/documents/education/education-comparing-iconic-indices-the-sp-500-and-djia.pdf>.

- Even though the U.S. unemployment rate has increased recently, it is still relatively low on a historical basis: in April 2024, the unemployment rate ticked up to 3.9%, from 3.8% in March 2024 and from 3.4% in April 2023, a post-pandemic low. For perspective, unemployment rates of 3.4% were last observed in the late 1960s. The persistence of low unemployment is one of the major reasons why economists believe that a soft landing is achievable, and the probability of a U.S. recession in the near term is relatively low. During past recessions, the unemployment rate saw significant increases. In the U.S., the average unemployment rate during a recession is 6.3%, which is far above the current level.
- Inflation, as measured by Consumer Price Index (CPI), is still above the Fed's 2.0% target, but far below its multiple-decades high of 9.1% (before seasonal adjustments) in the 12-month period ending in June 2022. The process of disinflation has been a bumpy one, supporting the Fed's decision to keep interest rates at their current high level for a longer period. In June 2023, CPI inflation reached a local low of 3.0%, only to continue moving range-bound between 3.1% and 3.7%. The latest CPI inflation was 3.4% as of April 2024, a downtick from the prior month and a welcome reading after two consecutive months of rate acceleration. The Fed's preferred gauge for inflation, the Personal Consumer Expenditures (PCE) Price Index, has actually accelerated in March to 2.7% and remained at that level in April 2024. The core PCE index (i.e., excluding food and energy) dropped to 2.8% in February, but has remained at that level since then. Nevertheless, wage price pressures appear to be easing and the cooling job market may bode well for inflation trends.

Notwithstanding these positive factors that support a decrease in the U.S. ERP, we are monitoring economic and geopolitical events that may change our views and impact our guidance toward the end of 2024 and into 2025. In particular, the U.S. Presidential Election in November 2024 has the potential to cause turmoil in U.S. and global financial markets. The growing level of government debt in the U.S., especially in an election year when candidates propose different fiscal packages to sway voters, may worsen the fiscal position for the country and create upward pressures on long-term interest rates. The acrimonious political debate regarding the debt ceiling that took place in the first half of 2023 was a contributing factor to Fitch Ratings' decision to lower its U.S. sovereign credit rating from AAA to AA+. S&P Global Ratings had already downgraded the U.S. credit rating to AA+ back in 2011 under similar circumstances. Moreover, Moody's Investor Services, the last major credit agency assigning the coveted Aaa rating to the U.S., has lowered its outlook, citing political and financial concerns. Therefore, this will be an area that will warrant close monitoring. Other geopolitical events with potential for escalation to global markets will also be monitored.

Summary of U.S. Cost of Capital Recommendations

- **Kroll is lowering its Recommended U.S. ERP from 5.5% to 5.0% when developing USD-denominated discount rates as of June 5, 2024, and thereafter, until further notice.** This is matched with the higher of the spot 20-year U.S. Treasury yield as of the valuation date and the Kroll normalized U.S. risk-free rate of 3.5%.

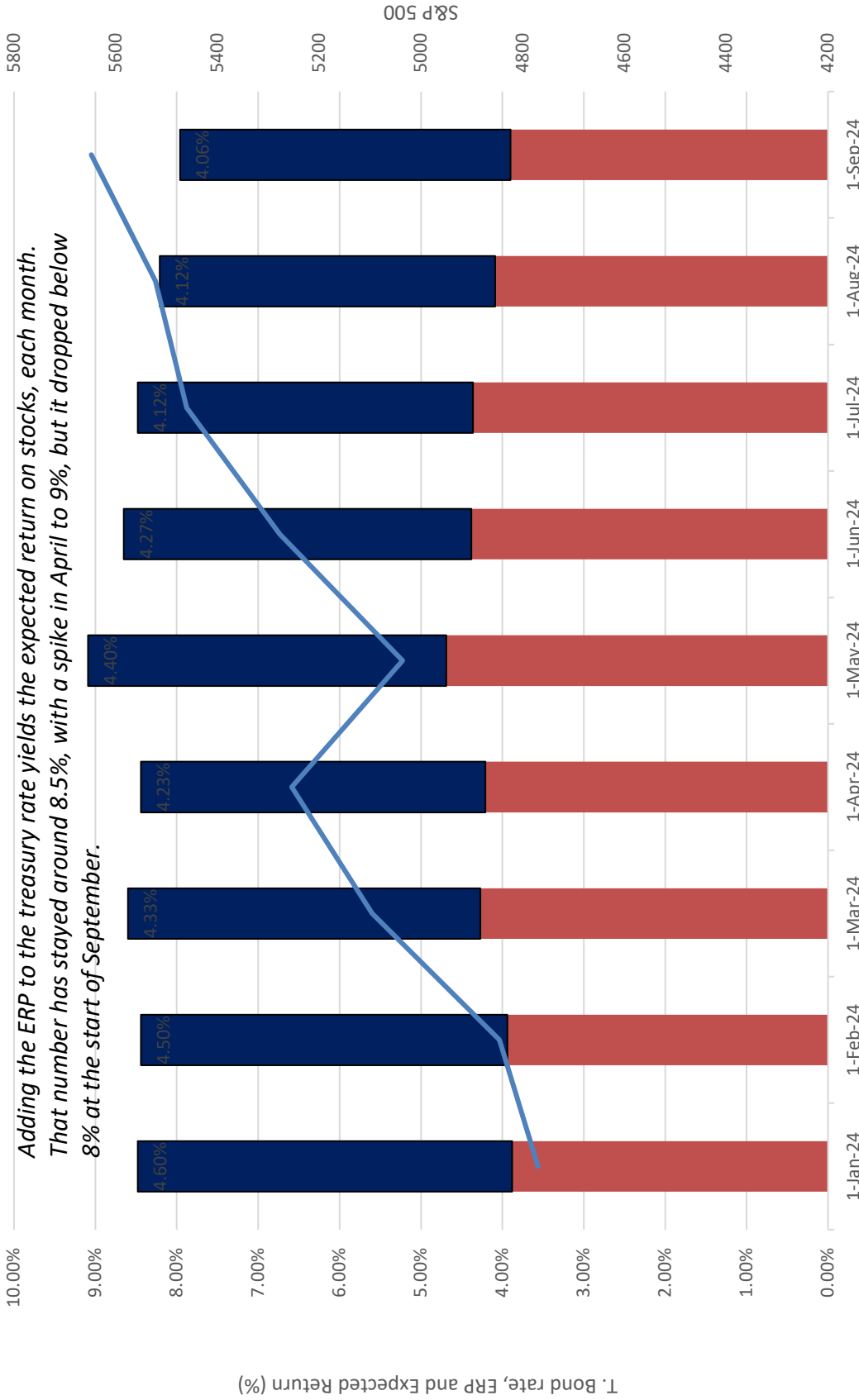


* We recommend using the spot 20-year U.S. Treasury yield as the proxy for the risk-free rate, if the prevailing yield as of the valuation date is higher than our recommended U.S. normalized risk-free rate of 3.5%. This guidance is effective when developing USD-denominated discount rates as of June 16,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

- Regarding risk-free rates, as investors attempt to predict the pace and magnitude of potential rate cuts by major central banks, we continue to observe high levels of volatility in spot yields of government bonds of major economies. Long-term bonds yields may continue to fluctuate considerably in the near future, before stabilizing. During these periods, project teams may need to consider using a moving average of spot yields to mitigate the impact of this volatility in their valuation analyses (e.g., weekly or monthly averages).
- Notwithstanding the current recommendations, we are monitoring economic and geopolitical events that may change our views and impact our guidance toward the end of 2024 and into 2025. In particular, the U.S. Presidential Election in November 2024 has the potential to cause disruption in U.S. and global financial markets. Of particular concern is any potential promise of significant increases in government spending that lead to a significant rise in the budget deficit, which could place upward pressures on long-term interest rates and disrupt equity markets. Other global geopolitical events that warrant close watch include, but are not limited to, the impact of general elections in other major economies (e.g., Mexico, India, UK), trade conflicts between the U.S. and China, rising tensions in the Middle East and the protracted Russia's war on Ukraine.

Please contact our support team with any questions: costofcapital.support@kroll.com

The S&P 500 in 2024: ERP and Expected Return



Adding the ERP to the treasury rate yields the expected return on stocks, each month. That number has stayed around 8.5%, with a spike in April to 9%, but it dropped below 8% at the start of September.

T. Bond rate, ERP and Expected Return (%)

ERP
 10-year US Treasury
 S&P 500

Start of month	S&P 500	T.Bond Rate	Ten-year average CF	CF (Trailing 12 month)	Normalized CF	Expected growth rate	ERP (T12 m with sustainable payout)	ERP (T12m)
9/1/2008	1252	3.72%						4.22%
10/1/2008	1166	3.83%						4.51%
11/1/2008	969	3.95%						5.90%
12/1/2008	896	2.92%						6.60%
1/1/2009	903	2.21%						6.43%
2/1/2009	826	2.87%						6.87%
3/1/2009	735	3.02%						7.68%
4/1/2009	798	2.71%						7.01%
5/1/2009	873	3.16%						6.32%
6/1/2009	919	3.47%						5.94%
7/1/2009	919	3.53%						5.86%
8/1/2009	987	3.52%						5.46%
9/1/2009	1021	3.40%						5.30%
10/1/2009	1057	3.30%						4.86%
11/1/2009	1036	3.39%						4.97%
12/1/2009	1096	3.24%					4.00%	4.73%
1/1/2010	1115	3.84%					7.21%	4.36%
2/1/2010	1074	3.58%					7.21%	4.56%
3/1/2010	1104	3.61%					7.21%	4.44%
4/1/2010	1169	3.83%					7.21%	4.16%
5/1/2010	1187	3.65%					7.21%	4.54%
6/1/2010	1089	3.30%					7.21%	4.79%
7/1/2010	1031	2.96%					7.21%	5.10%
8/1/2010	1106	2.91%					7.21%	4.78%
9/1/2010	1049	2.47%					7.21%	5.10%
10/1/2010	1141	2.51%					7.21%	5.31%
11/1/2010	1183	2.60%					7.21%	5.11%
12/1/2010	1181	2.80%					7.21%	5.08%
1/1/2011	1258	3.29%					6.95%	5.20%
2/1/2011	1286	3.38%					6.95%	5.07%
3/1/2011	1327	3.42%					6.95%	4.90%
4/1/2011	1326	3.47%					6.95%	5.31%
5/1/2011	1364	3.29%					6.95%	5.16%
6/1/2011	1345	3.06%					6.95%	5.27%
7/1/2011	1321	3.17%					6.95%	5.72%
8/1/2011	1292	2.80%					6.95%	5.92%
9/1/2011	1219	2.23%					6.95%	6.39%
10/1/2011	1131	1.92%					6.95%	7.64%
11/1/2011	1253	2.05%					5.50%	6.49%
12/1/2011	1247	2.07%					5.50%	6.51%
1/1/2012	1258	1.87%	59.01	72.23			7.18%	7.32%
2/1/2012	1312	1.81%	59.01	72.23			7.18%	7.04%
3/1/2012	1366	1.98%	59.01	72.23			7.18%	6.73%
4/1/2012	1408	2.21%	66.29	74.07			7.18%	6.64%
5/1/2012	1398	1.92%	66.29	74.07			7.18%	6.76%
6/1/2012	1310	1.55%	66.29	74.07			7.18%	7.28%
7/1/2012	1362	1.65%	64.06	71.55			6.56%	6.59%
8/1/2012	1379	1.47%	64.06	71.55			6.56%	6.55%
9/1/2012	1407	1.55%	64.06	71.55			6.56%	6.41%
10/1/2012	1441	1.62%	67.74	72.74			6.56%	6.35%
11/1/2012	1412	1.75%	67.74	72.74			6.56%	6.44%
12/1/2012	1416	1.62%	67.74	72.74			6.56%	6.45%
1/1/2013	1426	1.76%	69.46	72.25			5.27%	6.00%
2/1/2013	1498	2.00%	69.46	72.25			5.27%	5.67%
3/1/2013	1515	1.88%	69.46	72.25			5.32%	5.65%
4/1/2013	1569	1.85%	76.76	75.31			5.31%	5.68%
5/1/2013	1598	1.65%	76.76	75.31			5.23%	5.60%
6/1/2013	1631	2.14%	76.76	75.31			5.43%	5.45%
7/1/2013	1606	2.49%	78.66	78.58			5.57%	5.73%
8/1/2013	1686	2.57%	78.66	78.58			5.60%	5.46%
9/1/2013	1633	2.79%	78.66	78.58			5.69%	5.62%
10/1/2013	1682	2.61%	82.35	80.33			5.62%	5.59%
11/1/2013	1757	2.55%	82.35	80.33			5.59%	5.36%
12/1/2013	1806	2.75%	82.35	80.33			5.67%	5.19%
1/1/2014	1848	3.04%	90.52	84.16			4.28%	4.96%
2/1/2014	1783	2.65%	90.52	84.16			4.13%	5.17%
3/1/2014	1859	2.66%	90.52	84.16			4.13%	4.96%
4/1/2014	1874	2.72%	95.39	88.13			4.15%	5.15%
5/1/2014	1884	2.65%	95.39	88.13			4.13%	5.12%
6/1/2014	1924	2.48%	95.39	88.13			4.06%	5.03%
7/1/2014	1960	2.52%	99.78	96.01			4.07%	5.38%
8/1/2014	1931	2.56%	99.78	96.01			4.09%	5.45%
9/1/2014	2003	2.35%	99.78	96.01			4.00%	5.28%
10/1/2014	1973	2.49%	100.41	97.52			4.04%	5.43%
11/1/2014	2018	2.34%	100.41	97.52			4.00%	5.32%
12/1/2014	2068	2.17%	100.41	97.52			3.93%	5.21%
1/1/2015	2059	2.17%	107.97	100.50			5.58%	5.78%
2/1/2015	1995	1.70%	107.97	100.50			5.38%	6.01%
3/1/2015	2105	2.00%	107.97	100.50			5.51%	5.67%
4/1/2015	2068	1.93%	108.59	101.98			5.48%	5.86%
5/1/2015	2086	2.05%	108.59	101.98			5.53%	5.80%
6/1/2015	2107	2.13%	108.59	101.98			5.56%	5.74%
7/1/2015	2063	2.36%	108.34	101.58			5.65%	5.81%
8/1/2015	2104	2.18%	108.34	101.58			5.58%	5.90%
9/1/2015	1972	2.22%	108.34	101.58			6.32%	6.28%
10/1/2015	1920	2.06%	100.83	104.20	74.24		6.25%	6.63%
11/1/2015	2079	2.15%	100.83	104.20	74.24		6.29%	6.12%
12/1/2015	2080	2.21%	100.83	104.20	74.24		6.32%	6.11%
1/1/2016	2044	2.27%	107.33	106.10	74.24		5.55%	6.12%
2/1/2016	1940	1.92%	107.33	106.10	74.24		5.38%	6.47%
3/1/2016	1932	1.74%	107.33	106.10	74.24		5.29%	6.51%
4/1/2016	2060	1.77%	108.35	108.16	74.24		5.32%	6.24%
5/1/2016	2065	1.83%	108.35	108.99	82.17		5.33%	6.22%
6/1/2016	2097	1.83%	108.35	108.88	82.17		5.33%	6.12%
7/1/2016	2099	1.47%	111.06	110.61	82.17		5.15%	5.08%
8/1/2016	2174	1.45%	111.06	110.61	82.17		5.14%	4.92%
9/1/2016	2171	1.59%	111.06	110.61	82.17		5.21%	4.86%
10/1/2016	2168	1.60%	112.42	114.73	82.17		5.21%	4.91%
11/1/2016	2126	1.84%	112.42	114.73	82.17		5.32%	4.89%
12/1/2016	2199	2.39%	112.42	114.73	82.17		5.62%	4.50%
1/1/2017	2239	2.45%	117.78	108.67	85.67		5.54%	4.50%
2/1/2017	2279	2.47%	117.78	108.67	85.67		5.55%	4.41%
3/1/2017	2364	2.39%	117.78	108.67	85.67		5.51%	4.29%
4/1/2017	2363	2.39%	124.27	108.43	86.97		5.51%	4.51%
5/1/2017	2384	2.30%	124.27	108.43	86.97		5.46%	4.51%
6/1/2017	2412	2.21%	124.27	108.43	86.97		5.42%	4.49%

Start of month	ERP (Smoothed)	ERP (Normalized)	ERP (Net Cash Yield)	ERP (Covid Adjusted)	Expected Return
9/1/2008					7.94%
10/1/2008					8.34%
11/1/2008					9.85%
12/1/2008					9.52%
1/1/2009					8.64%
2/1/2009					9.74%
3/1/2009					10.70%
4/1/2009					9.72%
5/1/2009					9.48%
6/1/2009					9.41%
7/1/2009					9.39%
8/1/2009					8.98%
9/1/2009					8.70%
10/1/2009					8.16%
11/1/2009					8.36%
12/1/2009					7.97%
1/1/2010					8.20%
2/1/2010					8.14%
3/1/2010					8.05%
4/1/2010					7.99%
5/1/2010					8.19%
6/1/2010					8.09%
7/1/2010					8.06%
8/1/2010					7.69%
9/1/2010					7.57%
10/1/2010					7.82%
11/1/2010					7.71%
12/1/2010					7.88%
1/1/2011					8.49%
2/1/2011					8.45%
3/1/2011					8.32%
4/1/2011					8.78%
5/1/2011					8.45%
6/1/2011					8.33%
7/1/2011					8.89%
8/1/2011					8.72%
9/1/2011					8.62%
10/1/2011					9.56%
11/1/2011					8.54%
12/1/2011					8.58%
1/1/2012	6.01%				9.19%
2/1/2012	5.78%				8.85%
3/1/2012	5.52%				8.71%
4/1/2012	5.96%				8.85%
5/1/2012	6.06%				8.68%
6/1/2012	6.54%				8.83%
7/1/2012	5.91%				8.24%
8/1/2012	5.88%				8.02%
9/1/2012	5.75%				7.96%
10/1/2012	5.92%				7.97%
11/1/2012	6.01%				8.19%
12/1/2012	6.02%				8.07%
1/1/2013	5.78%				7.76%
2/1/2013	5.46%				7.67%
3/1/2013	5.43%				7.53%
4/1/2013	5.79%				7.53%
5/1/2013	5.71%				7.25%
6/1/2013	5.55%				7.59%
7/1/2013	5.74%				8.22%
8/1/2013	5.46%				8.03%
9/1/2013	5.61%				8.41%
10/1/2013	5.73%				8.20%
11/1/2013	5.49%				7.91%
12/1/2013	5.32%				7.94%
1/1/2014	5.33%				8.00%
2/1/2014	5.56%				7.82%
3/1/2014	5.33%				7.62%
4/1/2014	5.57%				7.87%
5/1/2014	5.54%				7.77%
6/1/2014	5.45%				7.51%
7/1/2014	5.59%				7.90%
8/1/2014	5.67%				8.01%
9/1/2014	5.48%				7.63%
10/1/2014	5.59%		4.87%		7.92%
11/1/2014	5.48%		4.78%		7.66%
12/1/2014	5.36%		4.68%		7.38%
1/1/2015	6.21%		5.21%		7.95%
2/1/2015	6.45%		5.42%		7.71%
3/1/2015	6.09%		5.11%		7.67%
4/1/2015	6.24%		5.32%		7.79%
5/1/2015	6.17%		5.27%		7.85%
6/1/2015	6.10%		5.21%		7.87%
7/1/2015	6.19%		5.23%		8.17%
8/1/2015	6.27%		5.14%		8.08%
9/1/2015	6.69%		5.65%		8.50%
10/1/2015	6.42%	4.69%	5.96%		8.69%
11/1/2015	5.92%	4.38%	5.50%		8.27%
12/1/2015	5.92%	4.38%	5.43%		8.32%
1/1/2016	6.19%	4.30%	5.46%		8.39%
2/1/2016	6.54%	4.55%	5.92%		8.39%
3/1/2016	6.58%	4.58%	5.96%		8.25%
4/1/2016	6.23%	4.30%	5.62%		8.01%
5/1/2016	6.25%	4.73%	5.69%		8.05%
6/1/2016	6.16%	4.66%	5.54%		7.95%
7/1/2016	6.30%	4.68%	5.68%		7.74%
8/1/2016	6.08%	4.52%	5.49%		7.51%
9/1/2016	6.08%	4.52%	5.56%		7.65%
10/1/2016	6.29%	4.52%	5.64%		7.76%
11/1/2016	6.39%	4.60%	5.79%		8.10%
12/1/2016	6.14%	4.42%	5.52%		8.41%
1/1/2017	6.16%	4.50%	5.10%		8.14%
2/1/2017	6.05%	4.42%	5.10%		8.06%
3/1/2017	5.84%	4.26%	4.93%		7.78%
4/1/2017	6.16%	4.33%	4.90%		7.77%
5/1/2017	6.11%	4.30%	4.87%		7.64%
6/1/2017	6.05%	4.25%	4.84%		7.50%

Start of month	S&P 500	T.Bond Rate	Ten-year average CF	CF (Trailing 12 month)	Normalized CF	Expected growth rate	ERP (T12 m with sustainable	
							payout)	ERP (T12m)
7/1/2017	2423	2.30%	127.46	105.68	86.97	5.46%	4.62%	5.13%
8/1/2017	2470	2.30%	127.46	105.68	86.97	5.46%	4.54%	5.03%
9/1/2017	2418	2.12%	127.46	105.68	86.97	5.37%	4.60%	5.04%
10/1/2017	2519	2.33%	132.51	105.49	86.97	5.48%	4.63%	4.92%
11/1/2017	2575	2.37%	132.51	105.49	86.97	5.50%	4.52%	4.81%
12/1/2017	2648	2.42%	132.51	105.49	86.97	5.52%	4.38%	4.68%
1/1/2018	2674	2.41%	134.09	108.28	84.88	7.05%	4.75%	5.08%
2/1/2018	2824	2.74%	134.09	108.28	84.88	7.17%	4.37%	4.78%
3/1/2018	2714	2.87%	134.09	108.28	84.88	7.22%	4.49%	4.96%
4/1/2018	2641	2.74%	132.62	110.03	88.80	7.17%	4.95%	5.19%
5/1/2018	2648	2.95%	132.62	110.03	88.80	7.24%	4.85%	5.16%
6/1/2018	2705	2.87%	132.62	110.03	88.80	7.22%	4.78%	5.06%
7/1/2018	2718	2.85%	136.51	117.55	88.80	7.21%	4.99%	5.37%
8/1/2018	2816	2.96%	136.51	117.55	88.80	7.25%	4.78%	5.18%
9/1/2018	2902	2.86%	136.51	117.55	88.80	7.21%	4.68%	5.04%
10/1/2018	2914	3.07%	146.33	126.70	88.80	7.28%	4.99%	5.38%
11/1/2018	2712	3.16%	146.33	126.70	88.80	7.32%	5.32%	5.76%
12/1/2018	2760	2.99%	146.33	126.70	88.80	7.26%	5.29%	5.68%
1/1/2019	2507	2.68%	120.81	136.65	93.70	4.12%	5.55%	5.96%
2/1/2019	2704	2.63%	120.81	136.65	93.70	4.11%	5.16%	5.53%
3/1/2019	2785	2.72%	120.81	136.65	93.70	4.14%	4.98%	5.36%
4/1/2019	2834	2.40%	138.09	150.50	97.45	4.07%	5.08%	5.75%
5/1/2019	2945	2.51%	138.09	150.50	97.45	4.11%	4.99%	5.62%
6/1/2019	2752	2.14%	138.09	150.50	97.45	3.62%	5.38%	5.93%
7/1/2019	2942	2.00%	143.32	153.47	98.00	3.44%	5.11%	5.67%
8/1/2019	2980	2.02%	143.32	153.47	98.00	3.45%	5.04%	5.59%
9/1/2019	2926	1.50%	143.32	153.47	98.00	3.24%	5.32%	5.75%
10/1/2019	2977	1.67%	145.02	151.20	98.07	3.31%	5.20%	5.55%
11/1/2019	3038	1.68%	145.02	151.20	98.07	3.31%	5.09%	5.44%
12/1/2019	3141	1.78%	145.02	151.20	98.07	3.35%	4.89%	5.25%
1/1/2020	3231	1.92%	157.4	150.50	98.01	3.96%	5.06%	5.20%
2/1/2020	3226	1.51%	157.4	150.50	98.01	3.79%	5.22%	5.24%
3/1/2020	2954	1.13%	157.4	150.50	98.01	3.36%	5.77%	5.69%
4/1/2020	2585	0.68%	125.9	146.30	98.36	3.18%	6.52%	6.16%
5/1/2020	2912	0.64%	125.9	146.30	98.36	3.16%	6.03%	5.65%
6/1/2020	3044	0.66%	125.9	146.56	101.46	3.33%	5.81%	5.45%
7/1/2020	3100	0.66%	154.67	146.87	99.97	3.33%	5.68%	5.37%
8/1/2020	3271	0.55%	154.67	146.87	99.97	3.28%	5.43%	5.10%
9/1/2020	3500	0.72%	154.67	146.87	99.97	3.35%	5.00%	4.74%
10/1/2020	3363	0.69%	167.68	137.64	98.88	3.81%	5.29%	4.74%
11/1/2020	3270	0.88%	167.68	137.64	98.88	3.86%	5.35%	4.85%
12/1/2020	3622	0.84%	167.68	137.64	98.88	4.37%	4.97%	4.49%
1/1/2021	3756	0.93%	187.39	127.78	98.73	5.42%	4.94%	4.20%
2/1/2021	3714	1.11%	187.39	127.78	98.73	8.09%	4.75%	4.76%
3/1/2021	3811	1.43%	187.39	127.78	98.73	8.44%	4.52%	4.63%
4/1/2021	3973	1.75%	193.22	118.65	108.83	8.76%	4.22%	4.14%
5/1/2021	4182	1.63%	193.22	118.65	108.83	8.97%	4.07%	3.99%
6/1/2021	4204	1.58%	193.22	118.65	108.83	9.69%	4.20%	4.10%
7/1/2021	4298	1.47%	209.00	116.17	110.79	9.79%	4.31%	3.96%
8/1/2021	4395	1.23%	209.00	116.17	110.79	9.77%	4.31%	3.91%
9/1/2021	4523	1.31%	209.00	116.17	110.79	12.31%	4.61%	4.21%
10/1/2021	4308	1.52%	209.49	129.76	112.58	12.30%	4.84%	4.87%
11/1/2021	4605	1.56%	209.49	129.76	112.58	12.39%	4.53%	4.58%
12/1/2021	4567	1.45%	209.49	129.76	112.58	13.20%	4.77%	4.79%
1/1/2022	4766	1.51%	231.8	147.24	113.62	6.47%	4.90%	4.24%
2/1/2022	4515	1.79%	231.8	147.24	113.62	7.15%	5.17%	4.56%
3/1/2022	4374	1.83%	231.8	147.24	113.62	7.17%	5.37%	4.75%
4/1/2022	4530	2.33%	210.4	165.26	126.32	7.37%	5.00%	4.73%
5/1/2022	4132	2.89%	210.4	165.26	126.32	7.67%	5.23%	5.14%
6/1/2022	4132	2.86%	210.4	165.26	126.32	7.30%	5.17%	5.07%
7/1/2022	3785	3.02%	175.8	191.83	126.44	7.79%	5.69%	6.01%
8/1/2022	4130	2.65%	175.8	191.83	126.44	7.07%	5.26%	5.42%
9/1/2022	3955	3.19%	175.8	191.83	126.44	6.62%	5.10%	5.45%
10/1/2022	3596	3.82%	166.5	183.60	126.10	6.72%	5.30%	6.21%
11/1/2022	3872	4.05%	166.5	183.60	126.10	5.75%	4.59%	5.48%
12/1/2022	4080	3.61%	166.5	183.60	126.10	5.66%	4.55%	5.26%
1/1/2023	3840	3.88%	179.21	181.66	147.57	6.41%	5.11%	5.94%
2/1/2023	4077	3.52%	179.21	181.66	147.57	5.92%	4.89%	5.54%
3/1/2023	3970	3.92%	179.21	181.66	147.57	5.74%	4.78%	5.58%
4/1/2023	4109	3.47%	187.83	176.45	152.70	5.73%	4.88%	5.44%
5/1/2023	4169	3.42%	187.83	176.45	152.70	5.42%	4.77%	5.30%
6/1/2023	4180	3.64%	187.83	176.45	152.70	5.43%	4.65%	5.25%
7/1/2023	4450	3.81%	203.42	171.87	152.36	7.08%	4.59%	5.00%
8/1/2023	4589	3.97%	203.42	171.87	152.36	7.11%	4.38%	4.83%
9/1/2023	4508	4.11%	203.42	171.87	152.36	7.14%	4.40%	4.90%
10/1/2023	4288	4.58%	196.00	166.82	152.98	7.63%	4.47%	4.84%
11/1/2023	4194	4.93%	196.00	166.82	152.98	7.58%	4.39%	4.88%
1-Dec-23	4568	4.33%	196.00	166.82	152.98	7.32%	4.25%	4.53%
1-Jan-24	4770	3.88%	218.02	164.25	153.14	8.74%	4.57%	4.60%
1-Feb-24	4846	3.94%	218.02	164.25	153.14	8.53%	4.45%	4.50%
1-Mar-24	5096	4.27%	218.02	164.25	153.14	8.90%	4.18%	4.33%
1-Apr-24	5254	4.21%	233.26	164.79	159.33	9.05%	4.13%	4.23%
1-May-24	5036	4.69%	233.26	164.79	159.33	9.39%	4.15%	4.40%
1-Jun-24	5278	4.38%	233.26	164.79	159.33	9.53%	4.12%	4.27%
1-Jul-24	5460	4.36%	242.42	167.90	159.65	9.47%	3.98%	4.12%
1-Aug-24	5522	4.09%	242.42	167.90	159.65	9.51%	4.06%	4.12%
1-Sep-24	5648.00	3.90%	242.42	167.90	159.65	8.82%	4.05%	4.06%

Start of month	ERP (Smoothed)	ERP (Normalized)	ERP (Net Cash Yield)	ERP (Covid Adjusted)	Expected Return
7/1/2017	6.17%	4.23%	4.68%		7.43%
8/1/2017	6.05%	4.15%	4.69%		7.33%
9/1/2017	6.06%	4.16%	4.62%		7.16%
10/1/2017	6.16%	4.07%	4.50%		7.25%
11/1/2017	6.03%	3.98%	4.43%		7.18%
12/1/2017	5.86%	3.87%	4.26%		7.10%
1/1/2018	6.27%	3.99%	4.63%		7.49%
2/1/2018	5.90%	3.76%	4.44%		7.52%
3/1/2018	6.12%	3.90%	4.56%		7.83%
4/1/2018	6.23%	4.20%	4.75%		7.93%
5/1/2018	6.19%	4.17%	4.78%		8.11%
6/1/2018	6.07%	4.09%	4.65%		7.93%
7/1/2018	6.22%	4.08%	4.97%		8.22%
8/1/2018	6.00%	3.93%	4.85%		8.14%
9/1/2018	5.84%	3.82%	4.72%		7.90%
10/1/2018	6.20%	3.79%	5.02%		8.45%
11/1/2018	6.64%	4.06%	5.38%		8.92%
12/1/2018	6.55%	4.00%	5.32%		8.67%
1/1/2019	5.27%	4.09%	5.60%		8.64%
2/1/2019	4.89%	3.80%	5.25%		8.16%
3/1/2019	4.74%	3.68%	5.05%		8.08%
4/1/2019	5.36%	3.80%	5.41%		8.15%
5/1/2019	5.16%	3.66%	5.29%		8.13%
6/1/2019	5.44%	3.87%	5.57%		8.07%
7/1/2019	5.30%	3.63%	5.34%		7.67%
8/1/2019	5.23%	3.58%	5.31%		7.61%
9/1/2019	5.37%	3.68%	5.40%		7.25%
10/1/2019	5.33%	3.61%	5.22%		7.22%
11/1/2019	5.22%	3.54%	5.16%		7.12%
12/1/2019	5.04%	3.41%	4.90%		7.03%
1/1/2020	5.43%	3.39%	4.86%		7.12%
2/1/2020	5.48%	3.42%	4.94%		6.75%
3/1/2020	5.94%	3.72%	5.36%		6.82%
4/1/2020	5.31%	4.16%	5.76%	6.02%	6.84%
5/1/2020	4.99%	3.93%	5.31%	5.39%	6.29%
6/1/2020	4.81%	3.79%	5.09%	5.35%	6.11%
7/1/2020	5.65%	3.67%	5.01%	5.23%	6.03%
8/1/2020	5.37%	3.48%	4.77%	5.01%	5.65%
9/1/2020	4.99%	3.24%	4.32%	4.62%	5.46%
10/1/2020	5.76%	3.42%	4.29%	4.97%	5.43%
11/1/2020	5.90%	3.50%	4.44%	5.02%	5.73%
12/1/2020	5.46%	3.24%	4.60%	4.73%	5.33%
1/1/2021	6.12%	3.26%	3.80%	4.72%	5.13%
2/1/2021	6.91%	3.70%	4.31%	4.80%	5.87%
3/1/2021	6.72%	3.60%	4.19%	4.56%	6.06%
4/1/2021	6.66%	3.81%	3.67%	4.26%	5.89%
5/1/2021	6.42%	3.67%	3.55%	4.11%	5.62%
6/1/2021	6.59%	3.77%	3.61%	4.24%	5.68%
7/1/2021	7.01%	3.78%	3.48%	4.38%	5.43%
8/1/2021	6.91%	3.73%	3.47%	4.38%	5.14%
9/1/2021	7.40%	4.02%	3.81%	4.70%	5.52%
10/1/2021	7.71%	4.25%	4.46%	4.93%	6.39%
11/1/2021	7.25%	3.99%	4.22%	4.62%	6.14%
12/1/2021	7.56%	4.17%	4.39%	4.85%	6.24%
1/1/2022	6.62%	3.29%	3.94%	Ended	5.75%
2/1/2022	7.11%	3.53%	4.31%		6.35%
3/1/2022	7.40%	3.68%	4.47%		6.58%
4/1/2022	5.99%	3.63%	4.51%		7.06%
5/1/2022	6.52%	3.95%	4.89%		8.03%
6/1/2022	6.42%	3.89%	4.93%		7.93%
7/1/2022	5.90%	4.27%	5.66%		9.03%
8/1/2022	5.33%	3.85%	5.17%		8.07%
9/1/2022	5.35%	3.87%	5.18%		8.64%
10/1/2022	5.64%	4.28%	5.91%		10.03%
11/1/2022	4.97%	3.77%	5.23%		9.53%
12/1/2022	4.78%	3.62%	5.02%		8.87%
1/1/2023	5.85%	4.83%	5.68%		9.82%
2/1/2023	5.46%	4.50%	5.31%		9.06%
3/1/2023	5.50%	4.53%	5.34%		9.50%
4/1/2023	5.72%	4.64%	5.19%		8.91%
5/1/2023	5.57%	4.52%	5.09%		8.72%
6/1/2023	5.52%	4.48%	5.03%		8.89%
7/1/2023	5.90%	4.44%	4.78%		8.81%
8/1/2023	5.70%	4.29%	4.62%		8.80%
9/1/2023	5.79%	4.35%	4.67%		9.01%
10/1/2023	5.68%	4.44%	4.61%		9.42%
11/1/2023	5.72%	4.48%	4.69%		9.81%
1-Dec-23	5.31%	4.15%	4.31%		8.86%
1-Jan-24	6.07%	4.29%	4.43%		8.48%
1-Feb-24	5.95%	4.20%	4.31%		8.44%
1-Mar-24	5.72%	4.04%	4.14%		8.60%
1-Apr-24	5.95%	4.11%	4.03%		8.44%
1-May-24	6.19%	4.26%	4.23%		9.09%
1-Jun-24	6.01%	4.13%	4.06%		8.65%
1-Jul-24	5.90%	3.92%	3.92%		8.52%
1-Aug-24	5.91%	3.92%	3.96%		8.21%
1-Sep-24	5.83%	3.86%	3.87%		7.96%