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INVESTMENT STRATEGY | **RESEARCH**

INDUSTRY | COMMENT
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U.S. Equity Strategy Weekly

Moderate Long-Term Equity Prospects: A Supply-Side Approach

With the ongoing European saga still unresolved and the heart of earnings season arriving this week, everyone's attention is squarely focused on the day-to-day news flow. We thought that we'd take a step back and focus on some bigger picture ideas regarding long-term equity returns.

The goal of this report is to present a framework for estimating the longer-term prospects for the equity market. There are a number of ways to estimate future returns, such as through surveys, econometric modeling, and supply and demand-based approaches.

While all methods for measuring returns are highly subjective, we focus on a supply-side approach over a 10-year investment horizon. The flexibility of this approach allows investors to easily tailor the framework to their specific time horizons, goals and constraints. Our key findings**:**

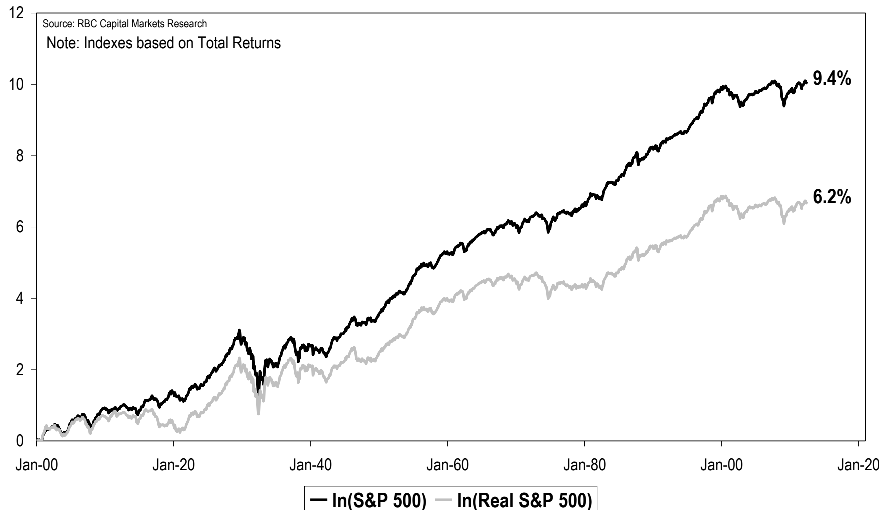
1) **Historical equity returns have been about 9.4%, or 6.2% in real terms, per annum.** Returns of this magnitude are far from a certainty going forward, as we have actually observed four 10-year periods and nearly four 20-year horizons since 1900 in which stocks did not deliver positive real returns.

2) **Based on a simple supply-side model, with a 10-year investment horizon in mind, we place the current ex ante equity return forecast at 4.9%.** This is moderately low and it stands to reason given the challenges we are still likely to face from ongoing valuation multiple and net margin compression, low inflation, share dilution, and relatively low dividend yields. From our lens, this estimate suggests that stock price returns are likely to remain glued to their below-trend track over the coming decade.

3) **What factors might quickly change the outlook in a more favorable light for equities?** While a sharp and sustained increase in corporate payout ratios and net share buybacks would help, we believe that significant PE compression is the only supply-side factor that could substantially raise the forecast on a shorter-term basis. Obviously, this would mean upfront pain for investors currently in the equity market, but it would also substantially brighten the outlook for future returns.

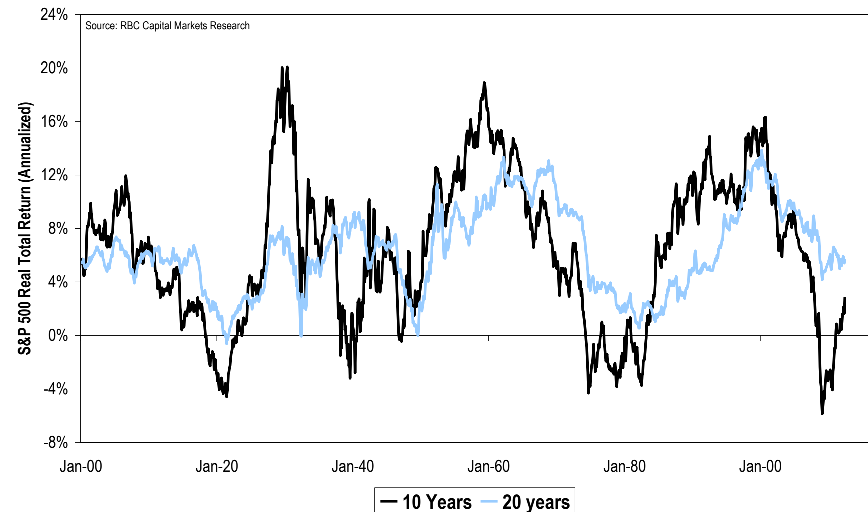
The beauty of this framework is that it is easy to adjust for differing expectations.

Historical Returns for Equities



- Since 1900, stocks have returned on average 9.4% per annum. Said differently, a $1 equity investment made in 1900 would be worth $23,730, or $821 adjusted for inflation. The chasm between these amounts highlights how much of a difference just a few percentage points can make when compounded over a long period of time.
- To blindly assume a 9% return for the indefinite future is a stretch, in our opinion. And, what is “the long term” anyway?
- Changes in global economics, politics, technology, and culture suggest this static assumption is probably too restrictive.

- We have seen four distinct 10-year periods since 1900 when equity returns were negative in real terms. Additionally, there have been four instances of 20-year periods with roughly 0% real returns.
- While these time horizons are not truly long-term, they are certainly well beyond most investors’ typical horizons.

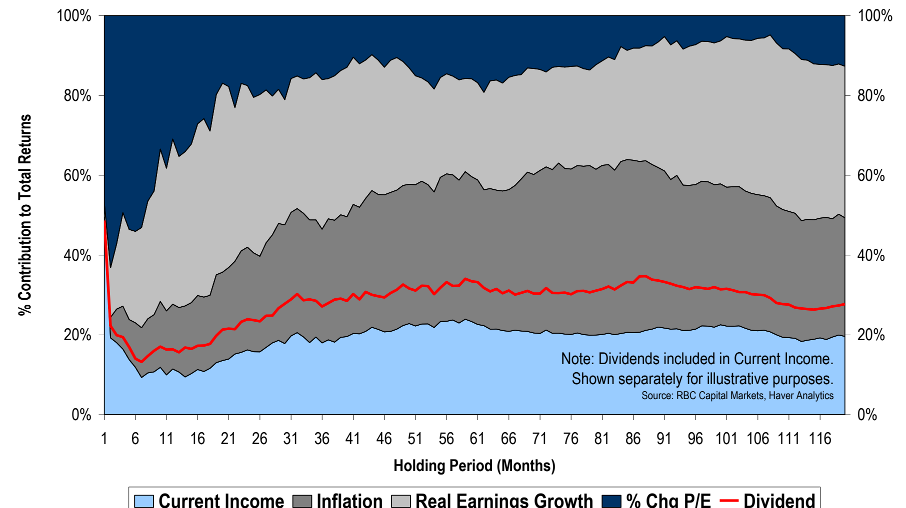


A Supply-Side Framework: The Grinold-Kroner-Siegel Model

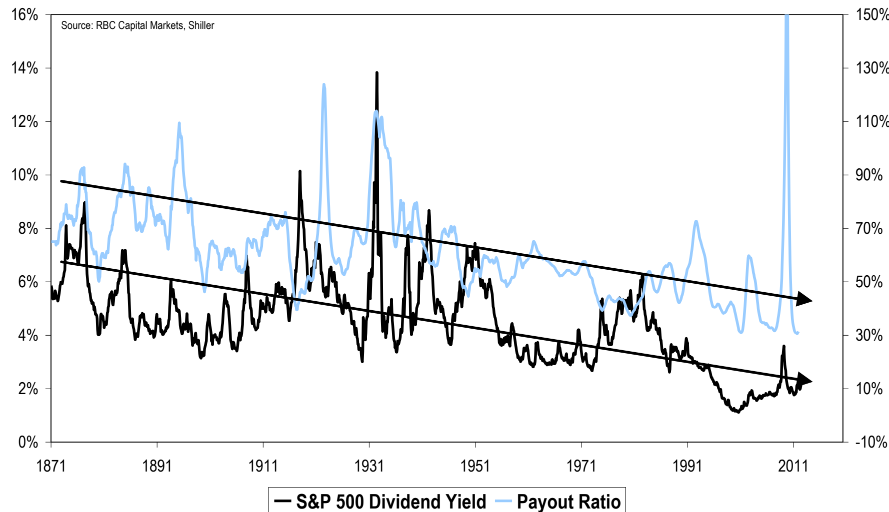
$$R = \underbrace{\frac{D}{P} - \Delta S}_{\text{Income}} + \underbrace{i + g}_{\text{Earnings Growth}} + \underbrace{\Delta PE}_{\text{Repricing}}$$

- Supply-side models look at what the economy or, more specifically, the group of stocks in question, can supply the market in the way of earnings and ultimately cash flows. The advantage of this framework is that it decomposes market returns into a few easy to think about factors.
- We focus on the intuitive Grinold-Kroner-Siegel model, which consists of 5 factors that approximate total equity returns. These factors can be broadly grouped into the following three components: (1) Income, made up of dividend yield less net share issuance; (2) Earnings Growth, made up of inflation plus real aggregate earnings growth; and (3) Repricing, which is the change in the PE ratio.

- Evaluating this model using historical data shows that ~50% of earnings growth is attributable to inflation and that income, notably dividends, is an important part of returns. And, as we have shown numerous times in the past, psychology (PE change) is a key driver of short-term returns. Over the longer term, however, real EPS growth is the major contributor to equity returns.
- We now need to establish a forward-looking (let's say, a decade long) estimate for each of the three broadly defined components in order to come closer to an equity return estimate. The steps to do this will be provided over the next few pages.

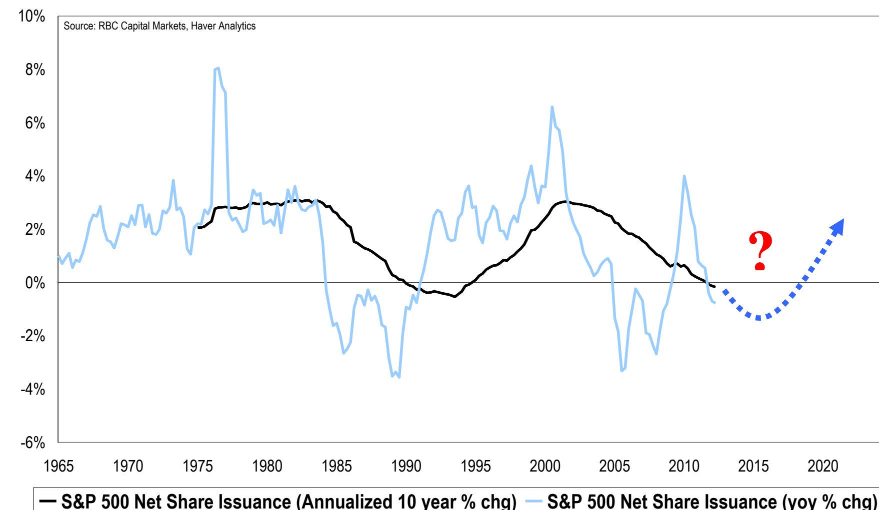


Income: Dividend Yield and Net Share Issuance



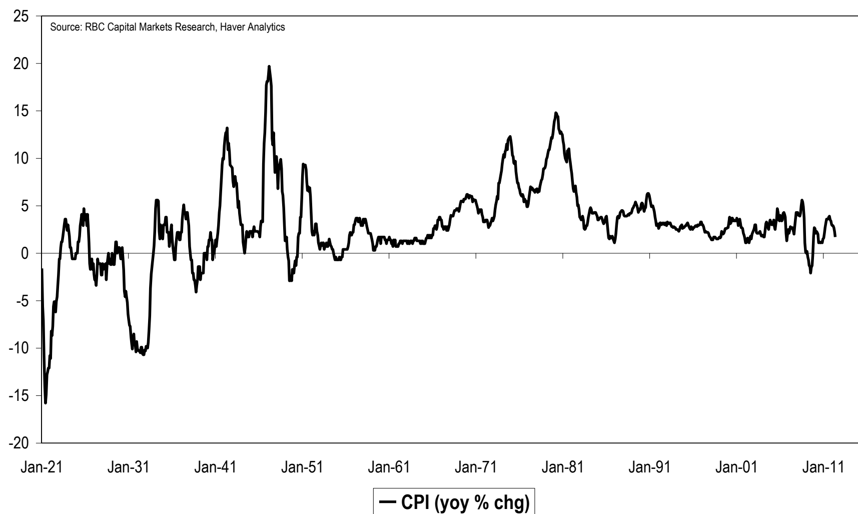
- Dividend yields have trended appreciably lower over time, once residing in the 4–8% range, but more recently being stuck in a 1.5% to 3.5% box. The current yield for the S&P 500 is ~2.1%.
- While there are a number of reasons behind the decline in yield, a major contributing factor has been the matching decline in the payout ratio. This trend is concerning, of course, as dividends are known to contribute ~50% to total returns.

- Net share repurchases offer an alternative to dividends for returning capital to shareholders. Recently, we have seen a resurgence of net buybacks, not unlike the 1980s and mid-2000s, as a result of record levels of cash on corporate balance sheets.
- As such, we believe that we will continue to see a low rate of dilution; however, over the the next decade it will likely gravitate toward its long-term average of 2%. Our best guess is an average of 0.5% dilution over this time period.



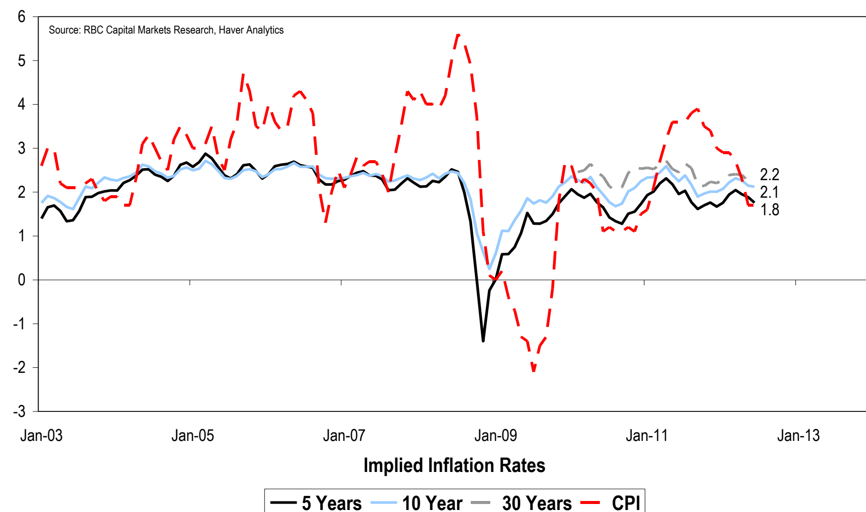
Bottom Line: Our expected income return of 1.6% is calculated by deducting our assumption of 0.5% net share issuance from the current dividend yield of 2.1%.

Earnings Growth: Inflation and Real Earnings

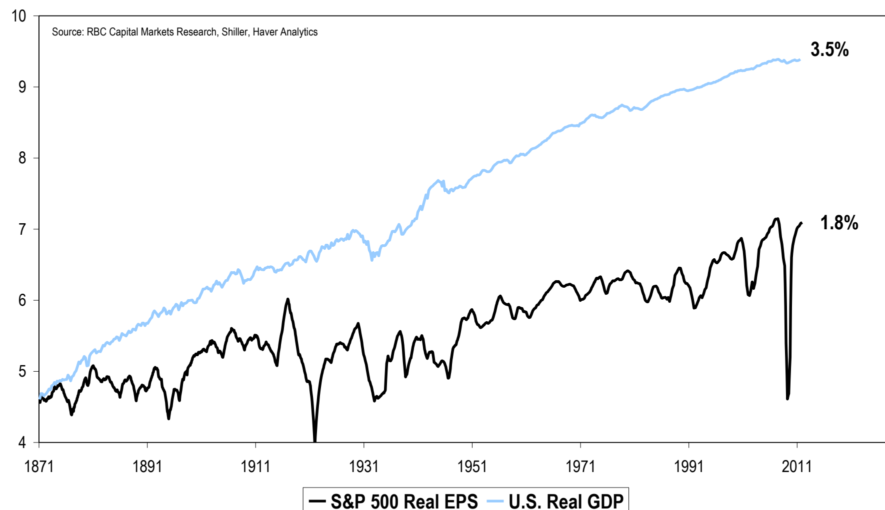


- Through the course of history, annual inflation has varied widely, from -15% in the 1920s to +20% in the 1940s. In contrast, over the past 30 years it has been relatively stable, averaging closer to 2.5%.

- The TIPS market is a tool that can be used to generate an estimate of future inflation. It is most appropriate to match the TIPS maturity with one's investment horizon. Interestingly, all of the implied inflation measures out to a 30-year horizon currently hover in the vicinity of 2%.
- Given our 10-year horizon, we use the 2.1% annual inflation rate from the TIPS market as an estimate for the next decade.

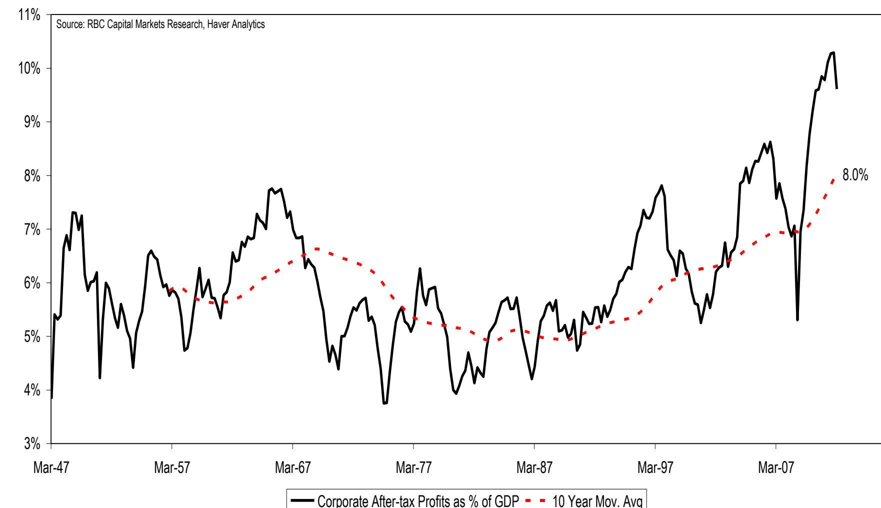


Earnings Growth: Inflation and Real Earnings (cont'd)



- GDP growth probably provides a ceiling, rather than a floor, for S&P 500 aggregate earnings growth since it includes all companies in the economy whereas the S&P 500 is made up of large corporations. The latter sample of companies, due to size and scale, is much less likely to grow in aggregate at sustained lofty rates.
- In order to get an aggregate real earnings growth estimate, we calculate 1.8% long-term real EPS growth and add back the impact of the 2.0% annualized share dilution (since dilution was already accounted for in the income section).
- This results in a long-term real earnings growth rate of 3.8%, which is slightly higher than the real GDP growth rate of 3.5% over the same period but still in the same ballpark.

- Yet, the 3.8% real earnings growth rate might be too optimistic given that net margins are at an all-time high level.
- Despite the fact that they have been trending higher over the past 30 years, looking back further in history we see that there was a 40-year stretch in which they trended sideways.
- If you believe, like we do, that margins are a mean reverting series, then it seems reasonable to anticipate a prolonged period of below-average earnings growth.
- We find that this highly variable series has tended to reliably oscillate around its 10-year moving average. Therefore, the current level of 8.0% is an appropriate forecast for the next decade's margins, which would result in average real earnings growth of 2.2%, assuming GDP continues to grow at 3.5%.



Bottom Line: Assuming a 2.1% inflation rate and 2.2% real earnings growth, we anticipate something close to a 4.3% nominal earnings growth rate over the next decade.

Repricing: Shifting PE Multiples

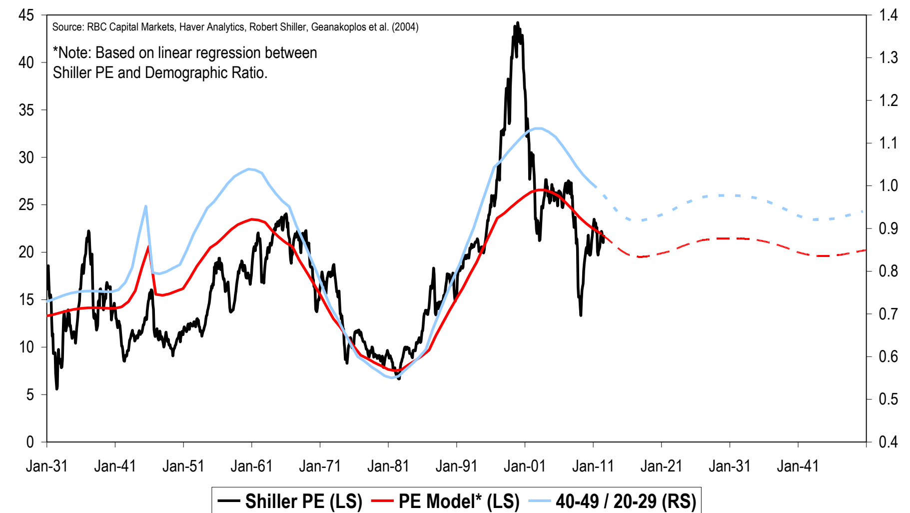
S&P 500 Total Returns (%) and P/E

	Nominal Returns			
	10-year		1-year	
P/E10 Multiple	Median	Range	Median	Range
less than 10	15.3	23.0	19.7	187.6
10 to 15	11.7	17.9	13.9	117.7
15 to 20	8.0	20.3	7.2	121.7
20 to 25	5.7	16.7	7.0	106.5
25 to 30	5.6	13.7	8.7	90.2
30 to 35	3.7	13.2	0.2	69.7
greater than 35	-0.7	7.6	8.1	52.3

Source: RBC Capital Markets, Robert Shiller

- The starting point for equity valuations is an important consideration for future returns. Lower valuations are usually associated with higher prospective long-term returns and vice versa. At today's Shiller PE multiple of ~22x, this single factor alone points to annualized total returns over the next decade of 5.7%.

- Let us assume that the Shiller PE moderates back toward its longer-term average of 16–18 times over the next decade.
- But how much lower might PEs drift on a decade-out view? To get closer to an answer, we borrowed a demographic idea from a 2004 article by Geanakoplos, Magill, and Quinzii. Using the Middle (40–49) to Young (20–29) population ratio, we derive a PE model with a fairly impressive fit back to the 1930s.
- The demographic PE model, based on a linear regression between the M/Y and Shiller PE ratios and depicted by the red line, projects a level of around 20x in 10 years. This outcome would represent somewhere in the neighborhood of a 1% annual return drag over the next decade.



Bottom Line: The simple principle of valuation mean reversion, combined with some help from a demographic model, suggests that ongoing repricing in the equity market could amount to about a 1% drag on returns per annum over the next decade.

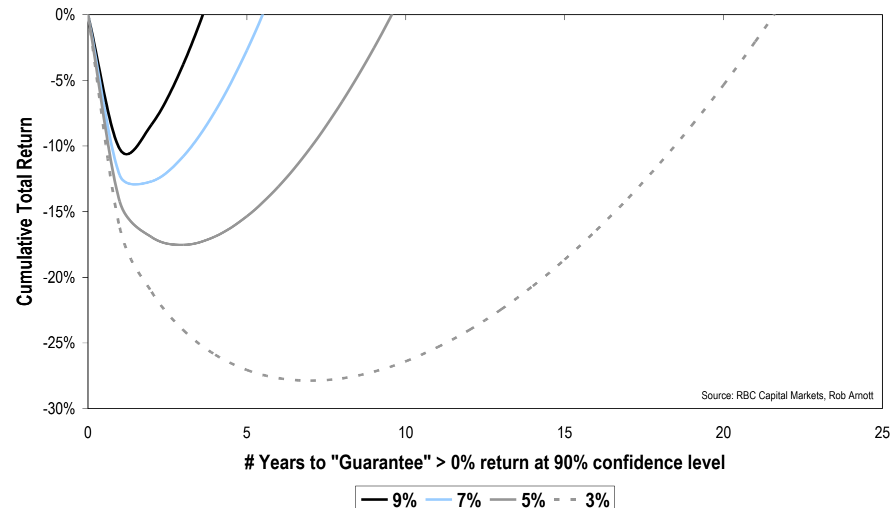
Bringing It All Together – A Mediocre Long-Term Environment

S&P 500 10 year Return Forecast	
+ Dividend yield	2.1%
- Net Share Issuance	-0.5%
+ Inflation	2.1%
+ Real Earnings Growth	2.2%
+ Change in PE	-1.0%
= Total Equity Return	4.9%

Source: RBC Capital Markets

- Our supply-side framework brings us to a forecast of 4.9% annual returns over the next decade.

- On a positive note, assuming 15% price volatility going forward, the 4.9% per annum return forecast is likely to be realized over a 10-year horizon.



What factors might quickly change the outlook in a more favorable light for equities?

- A sharp and sustained increase in corporate payout ratios and net share buybacks would help.
- But, a significant PE compression is the only supply-side factor that could substantially raise the forecast on a shorter-term basis, in our view.
- Obviously, this would mean upfront pain for investors currently in the equity market, but it would also substantially brighten the outlook for future returns.
- The beauty of this framework is that it is easy to adjust for differing expectations.

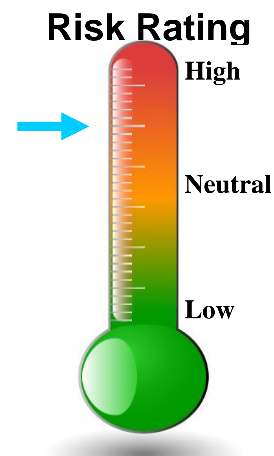
RBC CM U.S. Equity Market Views

Market Outlook (Next 6 - 9 months)

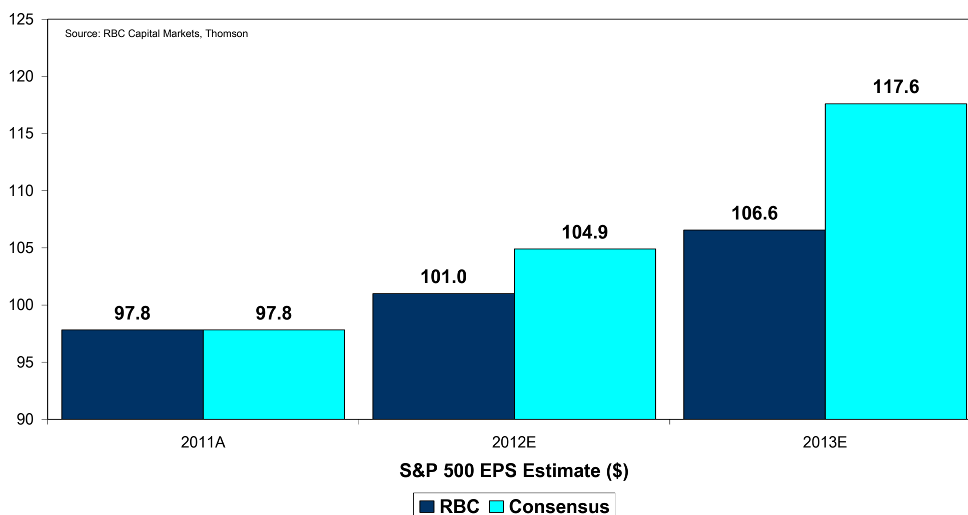
Overweight	
Market Weight +	
Market Weight	
Market Weight -	
Underweight	X

▲/▼ **Directional Bias.** Source: RBC Capital Markets

Risk Rating



S&P 500 Earnings Outlook



S&P 500 Sector Recommendations Summary

U.S. Equity Sectors	Current Recommendation	Recent Change (July 5, 2012)
Health Care	Overweight	*Upgraded from Market Weight*
Consumer Staples	Overweight	None
Information Technology	Overweight	None
Industrials	Market Weight	*Downgraded from Overweight*
Financials	Market Weight	None
Energy	Underweight	None
Utilities	Underweight	None
Telecom Services	Underweight	None
Materials	Underweight	None
Consumer Discretionary	Underweight	None

Source: RBC Capital Markets

Market Update

Benchmark Performance Review (% chg)	1wk	1mo	3mo	12mo	QTD	YTD
CAPITALIZATION						
S&P 500	1.7	1.6	(1.9)	3.6	0.1	8.4
S&P 400	0.9	2.4	(4.0)	(3.4)	0.1	7.2
S&P 600	0.7	3.7	(1.9)	0.1	0.2	7.5
STYLE						
S&P 500 Pure Value	1.3	1.1	(7.4)	(5.5)	(1.7)	3.9
S&P 500 Pure Growth	1.2	0.7	(4.3)	(2.1)	(0.6)	8.2
S&P 400 Pure Value	(0.2)	1.9	(6.2)	(3.9)	(0.8)	4.7
S&P 400 Pure Growth	0.7	2.1	(5.0)	(5.6)	(0.0)	7.3
S&P 600 Pure Value	(0.6)	4.7	(4.1)	(5.6)	0.5	5.6
S&P 600 Pure Growth	(0.2)	1.9	(1.7)	1.3	(1.7)	6.8
S&P 500 SECTOR BENCHMARKS						
Energy	4.2	3.2	(1.8)	(10.2)	1.8	(1.6)
Materials	1.7	0.9	(4.9)	(10.7)	(0.8)	4.4
Industrials	0.6	(0.5)	(5.3)	(4.1)	(2.4)	3.5
Info Tech	(0.3)	(1.0)	(8.2)	8.5	(2.2)	10.3
Consumer Disc	1.1	0.8	(2.4)	8.7	0.1	12.2
Financials	3.0	2.9	(4.4)	(0.5)	0.8	13.5
Consumer Staples	1.1	2.7	3.7	12.8	1.7	8.8
Health Care	2.7	4.2	4.3	10.1	1.7	11.5
Utilities	1.7	1.1	7.2	12.1	1.2	3.8
Telecom	2.1	3.0	16.2	14.5	2.0	15.6

As of July 17, 2012. Source: RBC Capital Markets, Bloomberg

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SELL[U]	68	4.59	2	2.94

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