

Lowly Analyst Newsletter

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The Economy and the Market

There is much discussion about inverted yield curves, that is, long-term interest rates being lower than short-term rates. Money is a commodity just like gasoline. If more money is available than is demanded, interest rates are low. Long-term rates are influenced by the expectation of future short-term rates.

Usually an inverted yield curve results in a recession. 1996 was an exception. Then as now, long term rates were historically low.

Our economy is laden with consumer and government debt. Due to current abnormal emerging market exchange rates and our symbiotic relations with emerging countries, there is a glut of US dollars. An inverted yield curve indicates that this condition is unlikely to last. Eventually rates will rise with dire consequences of debt defaults.

In client portfolios, I continue to hold a core portfolio of institutional asset class funds in each of a dozen different classes with a heavy dose of foreign funds. This core is supplemented by sector funds in natural resources.

Asset Classes: For the last six months the US stock market went up: Mid-Cap Growth performed best; Large-Cap Growth worst. Growth outperformed value. All classes were up at least 2% for the 6 months.

Sectors: For the last six months natural resources, energy, transportation, and networking were up over 14%. Most sectors had positive returns; consumer service, consumer goods, telecom. utilities were exception.

Foreign Investing: For the last six months emerging markets performed best - Brazil, Russia, S. Korea, Eastern Europe all up over 33%; China up 16%; foreign developed markets up 16%; Canada up 24%; outperforming US, up 4%.

Sustainable Withdrawal Rates

Abstract

We will examine the sensitivity of sustainability to the factors that influence it:

- a. Real returns
- b. Life expectancy
- c. Investment risk
- d. Risk of not achieving goals
- e. Inflation

1. Sustainable Withdrawal

Sustainable withdrawal is the rate of withdrawal in current dollars that results in the desired residual value at the deaths of the owner and the significant other. It is the amount you can withdraw without running out of money.

2. Inflation Adjusted Withdrawal Rate

If you have a \$1,000,000 portfolio, at 4% withdrawal rate, you withdraw \$40,000 initially. Next year your portfolio is \$ 800,000; at 5% inflation you withdraw \$42,000.

3.. Method

We are using a method developed by the insurance actuaries to determine the inflation-adjusted immediate annuity insurers can provide for a fixed initial payment (source: M. A. Milevsky & C. Robinson). The annuity business is very competitive. Insurance companies want to offer the highest annuity payment that allows them to continue to stay in business.

Your sustainable withdrawal rate is an inflation-adjusted immediate annuity that you buy from yourselves.

It has been shown that the method results in a good approximation. The method allows a simple way of determining analytically the sensitivity of sustainable withdrawal to various assumptions. It is not a simulation.

4. Risks

The key risk for retirees is the risk of not achieving their objective, of outliving their assets. The major risk is not the volatility of the portfolio. Inflation and changing real returns are far greater risks. A money market fund can be very risky if it does not provide enough cash flow.

5. US Markets

	Stock Annual Real Returns	Stock Volatility	Consumer Price Inflation
1802-2002	6.7%	18%	1%
1802-1870	7.0%	19%	0%
1871-1925	6.6%	17%	1%
1926-2002	6.5%	17%	3%
1946-2002	6.6%	20%	4%
1946-1965	10.0%	17%	3%
1966-1981	-0.4%	19%	7%
1981-1999	13.6%	17%	4%
1981-2002	8.6%	13%	3%

Source: J. J. Siegel

Above Table shows that returns adjusted for inflation varied widely; volatility varied little; and in the postwar years we had inflation for all periods. We use the returns and volatility relations of the 46-02 period in our analysis.

6. Risk Return Relations

Over long periods of time higher risk leads to higher returns but not for short periods.

Return/Year	Volatility
0.5%	0%
2.3%	5%
4.0%	10%
5.8%	15%
7.6%	20%
9.3%	25%
11.1%	30.0%

7. Volatility Decreases Asset Growth

	Portfolio 1		Portfolio 2	
	Return	Assets	Return	Assets
Start		100		100
Yr. 1	10%	110	70%	170
Yr. 2	10%	121	-50%	85
Average	10%		10%	

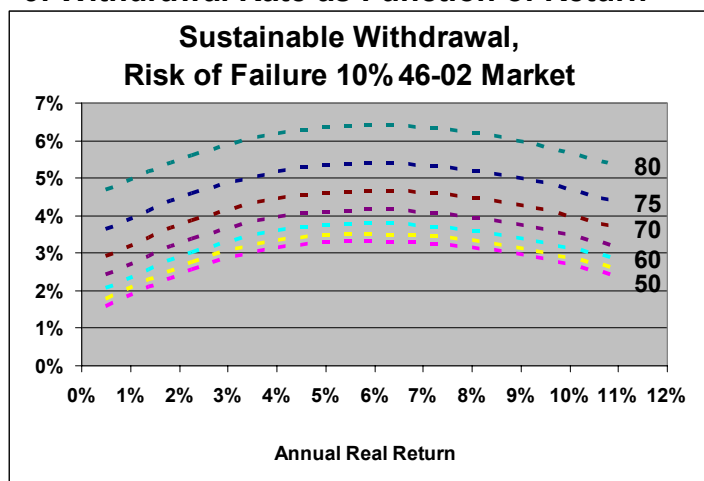
The Table shows that volatility decreases asset growth

8. Life Expectancy

Age	Life Expectancy
50	30.3
55	26.1
60	22.0
65	18.2
70	14.7
75	11.5
80	8.8

Source: US Life Tables 2002.

9. Withdrawal Rate as Function of Return



The above Figure shows how sustainable return varies as a function of annual return of the portfolio at various ages, using the risk return relationship for the 46-02 at a 10% risk of running out of money. The X-axis is annual inflation adjusted return; the Y-axis, the sustainable withdrawal rate. We see that the sustainable withdrawal rate is less than commonly assumed. The maximum withdrawal rate, as we will show later, is about equal to the Required Minimum Distribution from IRA accounts.

The sustainable withdrawal rate increases with age or life expectancy as expected. There is no such thing as a sustainable 4% withdrawal rate at all ages.

The withdrawal rate increases with returns up to a maximum and then decreases. The decrease is due to the risk return relationship. To achieve higher returns one has to take higher risks. The higher risks eventually have a greater effect than the higher returns. The highest withdrawal rate occurs in a portfolio that has a return of about that of the US total market. The point of highest return does not vary with age. Most retirement portfolios are below that return level.

Having a constant inflation adjusted withdrawal rate is not a good strategy. No one would withdraw moneys until they run out of it.

The maximum withdrawal rate is 3.1% at 50, 3.3% at 55, 3.5% at 60, 3.8% at 65, 4.6% at 70, 5.4% at 75, 6.4% at 80. It does not reach 5% until age 73.

We will examine other relationships in next month's Newsletter.