

## BEHAVIORAL FINANCE AND THE BOND MARKET

Over the last decade the concept of behavioral finance has received increased recognition in both the academic world and with investors. Modern Portfolio Theory makes three distinct assumptions: investors are rational, markets are efficient, and expected returns are purely a function of risk. In contrast, followers of behavioral finance generally believe investors are less than perfect and subject to many emotional biases. Said differently, behavioral finance differs from traditional finance in that it focuses on how investors actually behave, rather than theorizing how they should behave.

Historically speaking, the field of behavioral finance has focused its studies on the equity market as the abundance of investors and general market construct lends itself to this type of analysis. The fixed income market was thought to be dominated by a longer term, less reactionary investor, thus insulating it from many of the biases described in the field of behavioral finance. However, we argue that the fixed income market has gone through a recent transformation, making it more subject to certain behavioral biases. We argue that knowledge of these biases may prove to be crucial in navigating the fixed income market of today and in the future.

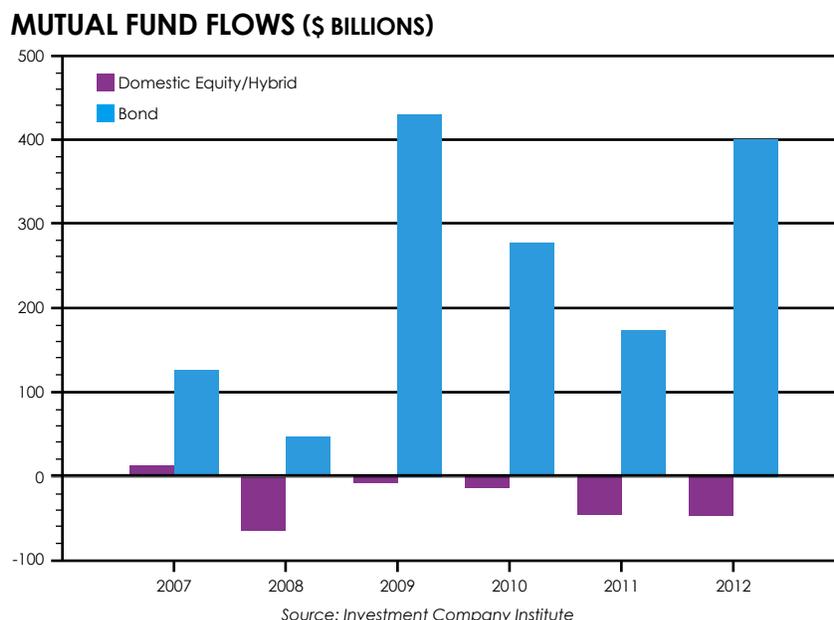
## BOND MARKET TRANSFORMATION: LIQUIDITY MIGRATION

In our opinion, the construct of the bond market changed dramatically as a result of the financial crisis of 2008. Both investors and institutions alike had to adjust to a new economic environment and ever changing regulatory reform, which resulted in something we refer to as "liquidity migration". The core idea behind liquidity migration is that a bond market that had historically received the majority of its liquidity from institutions, pensions, and life insurance companies began to see a large influx of smaller retail based investors. The key driver of this migration came from two specific areas: mutual fund flows and primary dealer bank inventories.

### Mutual Fund Flows

In response to the financial crisis of 2008, investors liquidated a large portion of their equity holdings and aggressively bought fixed income products from 2009 - 2012. These investors flooded the bond market with massive amounts of liquidity (net inflow of \$1,338 billion since 2007), which was then followed by 4 years of near record new bond issuance by US corporations.

This fixed income rotation also introduced an abundance of what we call "non-normal fixed income investors" into the bond market. For purposes of this paper, non-normal fixed income investors would include household retail and smaller investment advisers that historically had a much smaller allocation to fixed income.



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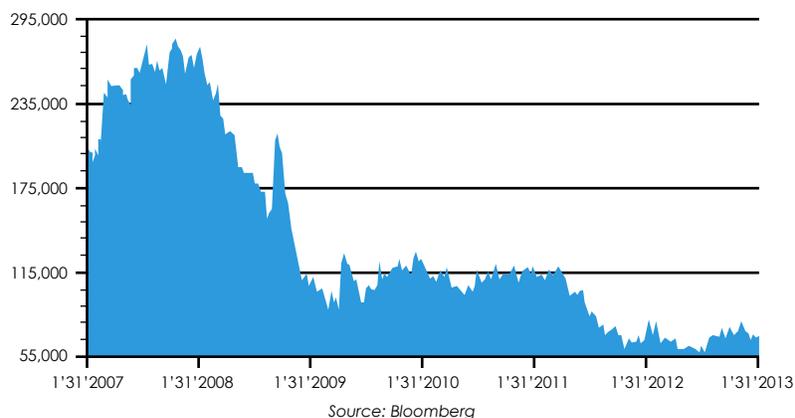
### Reduction of Primary Dealer Bank Inventories

Traditionally, banks have provided an intermediary function in the secondary debt market by acting as principal position takers and helping move flow in both credit and rate markets. However, since 2008, while the bond market was experiencing a record inflow of new capital, primary dealer banks were aggressively reducing inventories of all

## Reduction of Primary Dealer Bank Inventories (Continued)

types of fixed income products in order to de-risk their balance sheets and meet the requirements of new regulatory reforms brought on by the Dodd-Frank Wall Street Reform Act and the initiation of Basel III. This inventory reduction process removed a large portion of fixed income liquidity from institutional bank balance sheets (as shown in the chart below) and put that liquidity into the hands of retail investors and smaller investment advisers.

### PRIMARY DEALER POSITIONS: OUTRIGHT LEVEL IN CORPORATE SECURITIES (\$ MILLIONS)



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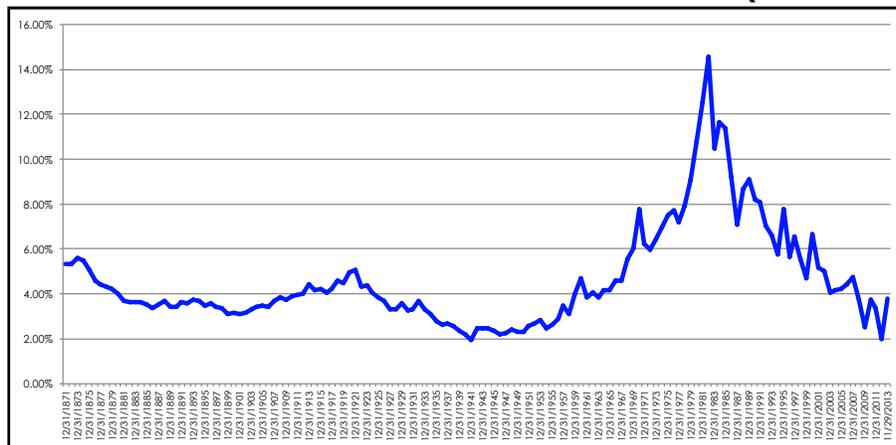
## BEHAVIORAL FINANCE BIASES

The liquidity migration and underlying change in the construct of the bond market outlined above has introduced an abundance of non-normal fixed income investors who have historically focused on equities. This influx has resulted in a fixed income market where investors' behavioral biases and reactions can have a greater impact. The behavioral biases include both cognitive errors (due to faulty reasoning) and emotional errors (based on feeling rather than conscious thought), which can lead to an increase in market inefficiencies. For the purposes of this paper, we are going to focus on three specific areas: belief perseverance, loss aversion, and "groupthink" behavior that leads to a herd mentality.

### Belief Perseverance

Belief perseverance is a cognitive error that reflects a desire to stick with a previous decision or view without adequately considering new information. Many times, the incorporation of new information could lead to a different conclusion than previously reached with the original information. We've seen this behavioral bias manifest itself into the psyche of bond investors since 2009, as many investors have been afraid of a significant spike in interest rates. However, as highlighted by the chart below and an earlier white paper we wrote titled, "Interest Rate Outlook – 'Old Normal'", we believe the evidence seems to point to a prolonged period of lower interest rates.

### 10-YEAR U.S. TREASURY BOND INTEREST RATE HISTORY (1871-2013)



Source: R. Shiller - <http://www.econ.yale.edu/~shiller/data.htm>

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In spite of this information many investors and advisers seem to grasp to their long-held belief in rising interest rates and position portfolios based on those beliefs.

## Loss Aversion

Loss aversion is a bias in which investors tend to prefer avoiding losses to acquiring gains. This bias may lead to an investor tending to over-emphasize short term potential losses and under-emphasize long term returns and diversification benefits. We believe this bias has manifested itself in virtually all segments of the fixed income market as investors have overreacted to their short term concerns:

**US Treasuries** - sold based on concerns about spikes in interest rates and increased volatility.

**High Yield Corporate Bonds** - sold based on concerns about macroeconomic risks and an overall flight to safety. On the other hand, bought in excess out of concern over losses from interest rate movement.

**Municipal Bonds** - sold based on a reaction to Detroit's bankruptcy filing.

**Fixed Income Closed-end Funds** - sold aggressively in response to adverse moves in the bond market.

**Bond Mutual Funds** - sold based on short term concerns rather than longer term returns and diversification benefits.

## Groupthink & Herd Behavior

Groupthink, the third behavioral phenomenon of focus in this paper, stems from an emotional reaction to the first two biases above, and can lead to investment mistakes. Groupthink describes a situation where a group of individuals come to a similar conclusion or act in a similar manner with the desire to achieve harmony or maintain conformity, rather than seek out an independent solution. When large groups of investors act in this manner, it can lead to herd behavior where a low dispersion of opinion leads a large group to trade on the same side of the market. While there are numerous examples of this type of behavior within the equity market, the historical buy and hold mentality of bond investors has traditionally insulated the fixed income market from this type of reaction.

The bond market construct changes outlined above lead us to believe that herd behavior could be much more normal going forward in bond investing. Media coverage of the bond market since the crisis of 2008 has put interest rate movements under a microscope, intensifying investor reactions to day-to-day movement. Additionally, the unwillingness of independent thought by many institutional fixed income investors' (as highlighted by the lack of significant deviations in historical interest rate forecasts by large investment firms and banks) highlights the groupthink phenomenon.

## IN CONCLUSION WE BELIEVE:

- The fixed income market has gone through a transition making it more subject to investor's behavioral biases.
- These biases include belief perseverance, loss aversion, and groupthink (leading to a herd mentality).
- The inclusion of behavioral biases will increase the amount of exploitable market inefficiencies.
- Advisers, Investors, and Portfolio Managers alike may want to incorporate this new information when making investment decisions.

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Portfolio Managers at ICON

The second in a series of white papers related to interest rates and fixed income investing.

#### **Future topics may include:**

- Four Pillars of Economic Growth
- Value, alpha oriented bond management

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Opinions and forecasts regarding sectors, industries, companies, countries and/or themes, and portfolio composition and holdings, are all subject to change at any time, based on market and other conditions, and should not be construed as a recommendation of any specific security, industry, or sector.

## **IMPORTANT INFORMATION**

*Investing in securities involves inherent risks, including the risk that you can lose the value of your investment. There is no assurance that the investment process will consistently lead to successful results. Investing in fixed income securities such as bonds involves interest rate risk. When interest rates rise, the value of fixed income securities generally decreases. High-yield bonds involve a greater risk of default and price volatility than U.S. Government and other higher-quality bonds.*

*A Primary Dealer bank is a pre-approved bank, broker/dealer, or other financial institution that is able to make business deals with the U.S. Federal Reserve, such as underwriting new government debt. These dealers must meet certain liquidity and quality requirements as well as provide a valuable flow of information to the Fed about the state of the worldwide markets.*

*10-year Treasury notes are debt obligations issued by the U.S. Treasury that have a term of more than one year but not more than 10 years. The 10-year yield is the benchmark 10-year yield to maturity reflected by the current issue 10 year U.S. Treasury note.*

**Consider the investment objectives, risks, charges, expenses, and share classes of each ICON Fund carefully before investing. The prospectus, summary prospectus, and the statement of additional information contain this and other information about the Funds and are available by visiting [www.InvestwithICON.com](http://www.InvestwithICON.com) or calling 1-800-828-4881. Please read the prospectus, summary prospectus, and the statement of additional information carefully before investing. ICON Distributors<sup>SM</sup>, distributor**