



A world without carry

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Given the impact that inefficient behavior in the bond market can have on portfolios, money markets, intermediaries, central bank policy and the economy, isn't there value in having some perspective? At the very least, as an asset manager, one needs an understanding of your particular asset class and of the effects of the marketplace itself. Was it possible to see the fallout of 2007 beforehand? Is there an explanation beyond the blame of subprime? And what might be expected for other asset classes going forward into 2008 and beyond? By taking the view of a bank treasurer and an asset manager, we can investigate not only both sides of the portfolio's balance sheet, but also the setting and the capacity of the marketplace as a whole to support balance sheet. We will look closely at the buildup of conditions that led to the credit crunch and the systemic

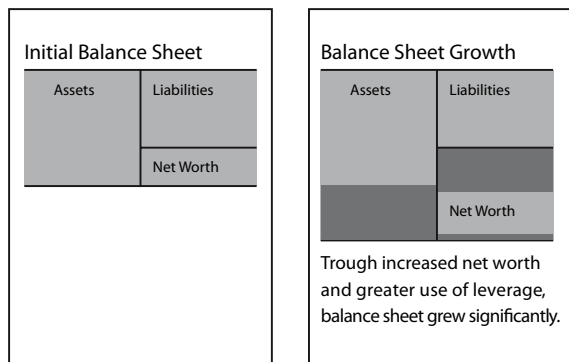
reaction seen in the marketplace in 2007. With the right platform, we can more plainly see the inevitable solution to recent events and suggestions for asset performance in 2008 and beyond.

I: The Set-Up

What Created the Problems? 2007 marked the revelation of a process that had been taking shape since 2003, when the Fed finished lowering the fed funds rate to record lows. Throughout these years, the sum of the savings glut (net worth) and the freewheeling availability of financing via derivatives (incremental liabilities) pushed the system's right side of the balance sheet into huge expansion. The more capital available, the larger the demand for assets is for a given leverage factor. In addition, the success of the process created a low estimate of failure, so leverage factors grew as well. As a result, there were not enough assets to go around.

Most asset prices were driven so high that the net interest income in terms of expected carry was squeezed com-

Figure 1 | Balance Sheet Growth



Source: AlphaBridge

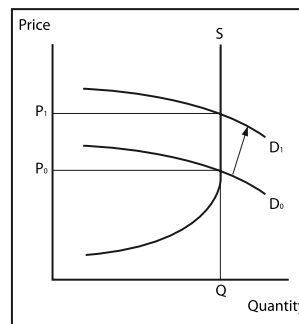
pletely away. In effect, this surge in the right side of the balance sheet created an inflation of asset values. It was not the intrinsic performance of the assets that created the price rise. Crude oil didn't get better in quality, gold hasn't changed its quality and real estate didn't inherently improve its productivity. The demand for these assets drove the process, propped by the increase in net worth and the ludicrous volumes of liabilities available. Demand for incremental assets pushed the marketplace into creating derivatives. Derivatives are not purely risk tools; they can be a means of balance sheet growth. There is now approximately USD350 trillion in un-netted off-balance-sheet derivatives, while the cash markets offer approximately USD60 trillion in securities. There was not enough carry - allowing for meaningful risk control - and the math concludes that these assets were not owned with the proper sense of risk.

Four major approaches took over in this world without carry. Total rates of returns (TRR) either depended upon 1) focusing on markets that had assets which were inelastic with respect to supply, such as commodities and US Treasuries, 2) investors and borrowers consuming greater levels of leverage to compensate for little or no carry, 3) borrowers relying upon short-term funding for long-term assets lured by momentarily low short-term rates or 4) a desire to find new profitable frontiers.

Price Gains Instead of Carry: Large pools of capital that previously went to buy-and-hold accounts became part of a strategic play looking for total returns in assets without carry or risk premium. These assets provided a short-run total return in that they could be purchased on the margin, generating price gains used to mark the portfolio as a whole. This looks more like game theory than value seeking.

Inelastic markets with respect to supply are those markets that do not change in volume available with respect to changes in a range of prices. The supply curve is largely vertical, either temporarily or over a range.

Figure 2 | Inelastic Supply Gold, Oil and Treasuries



Due to an outward shift in demand from Fed cash injections, significant inflation and no change in quantity occurs for assets with inelastic supply.

Source: AlphaBridge

A shift in demand generated by more net worth or leverage changes the price without much change in supply. If you target this asset with your capital, you can get a more significant price change, compensating for no carry or even negative carry.

Oil is a great example in the short run; combined with economic growth, bad weather, and sovereign risks, it became very inelastic. Over the past few years, it has been far better to take on this characteristic than to work with a trivial net interest income. This is true for gold as well. US Treasuries are inelastic since the Treasury Department never modifies its total supply depending upon the level of interest rates.

Many investors and economists have tried to assign a signal to the behavior of these assets, but there are some false signals that seek a good explanation. Greenspan used the word «conundrum» to describe the confusing signals from these asset classes and the lack of a market response to higher short-term rates. Inverted yield curves suggest a prediction of a recession, but we had plenty of positive growth with a negative yield curve from 2005 until mid-2007. Now we have a more true risk of an economic downturn and the curve is moving back to a positive slope. It would be confusing if you approached it in any other fashion than assets being driven to overpriced levels by balance sheet excess.

Right side balance sheet, leverage and short-term funding without end? The levered community, such as banks and special investment vehicles, contributed to the asset appreciation bubble by having large, levered balance sheets that funded long-maturity assets with rela-

tively short-maturity liabilities. This is called being «short funded.» While this has always been true to some degree, the lethargy that came from a slow, measured process of raising fed funds starting in 2003 allowed those using short-funding to continue to do so without feeling enough of a pinch to reduce the risk taken. These strategies often relied on their long-term assets being cemented in and held to maturity. Any unwinding of these huge balance sheets could lead to a downward spiral in prices, testing the survival of the balance sheet.

As short-term interest rates slowly went from 1% to 5.25%, a large part of the levered investment community's balance sheets went to a negative net interest margin because they never sold their positions struck at low rates. Furthermore, they could not reinvest at higher rates since long-term rates never went up and spreads never widened. These concrete balance sheets simply went from throwing off decent positive carry to producing negative carry with no opportunity for improvement. If there has been a lasting filter favoring the survivors, we might project that over the near future - without levered investors running a short-funded strategy - any fear of higher short rates should be felt immediately with higher long-term rates and balance sheet riddance.

The one asset that never gets mispriced, except by the Fed: What would have been so wrong with sitting in cash? The yield curve would have gone back to a positive slope, assets would have been valued with room for risk and the world would be in better shape. Then the Fed could have drained the excess balance sheet by maintaining their target funds rate. However, few people make a living in asset management or banks by sitting on cash. Over the past few years, we often reflected on the fact that investment banks and commercial banks were making historically high earnings in fixed income, while most assets had no juice left in them. It didn't seem sensible!

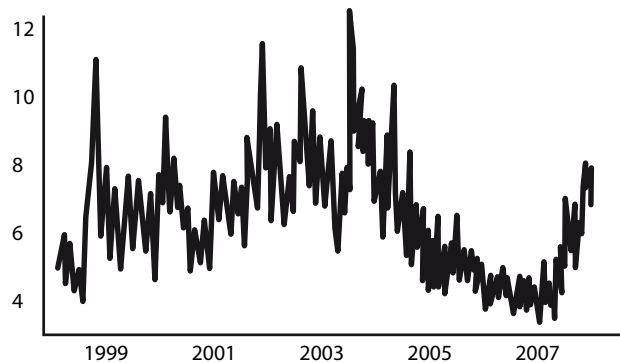
An ounce of prevention: Why not take a moment to reflect on some possible policy actions that could have avoided the events of 2007? I've written many reports focusing on the points made throughout this article over the past few years, including the next suggestion.

If there is an overload of net worth funding coming from the world, China on a pegged currency, investment banks' earnings above-trend and enormous growth in asset managers at work, then why not recognize that this is, in effect, analogous to an expansion of the money supply? The Fed, if they had a Treasurer function, could have

assessed the conditions more correctly in the accumulated levels of risk and the distribution of it. They could have increased margin requirements before we ran into asset appreciation. Yes, the Fed should manage risk taking that jeopardizes the health of the banking system and the economy.

New Products: the pizzazz of structure and subprime assets: Necessity is the mother of invention and, so, the markets reached out to lower quality assets in a search for return. The credit curve began to flatten as well. Investors needed more assets. The market began to reach for more return through leverage and credit risk, selling risk premium wherever it could. Spreads were historically very tight. Option volatility premiums dropped to new lows, lower than in 2003 in fact.

Figure 3 | Implied Volatility on 10yr US Treasury Future Option



Source: Bloomberg

Subprime was developed to satisfy demand, along with a splash of structure and the apparent longevity of success via the CDO framework. All of a sudden, there were enormous yields available in this product, whereas everything else was without carry and dependent upon price gains.

Let's summarize what we saw when we explored this asset class. Subprime borrowers are not noted for being good at servicing their debt. That's why they are «sub» prime. The performance of the collateral underlying these security assets rested entirely on the price appreciation of the collateral alone. Yes, there was cash flow; but these assets were resting on collateral price gains in a «supply elastic» market. Housing bubbles readily occur when cheap financing builds an inventory that gets ahead of the demographic growth in demand for homes. Once the asset no longer rallies in price, it's over. In this case, the limited hedge volume available, combined with the leverage from Collateralized Debt Obligations (CDOs) and other forms,

created a knockdown in this asset class. Many inherently believed that the CDO format would maintain inelasticity, so that there was a lock-up quality to the balance sheet, insuring an ability to maintain it. Banks viewed this as some form of improved conditions preserving them from risk in warehousing and underwriting the assets. But the elasticity of the collateral should have been viewed as the risk. We truly viewed this aspect early on as the critical risk -- all the structure would become a lead weight on disintermediation if it ever occurred. We recognized that there were few locations left for redistribution of these assets at cheaper prices. Many evaluations of risk levels rested on a well-formed distribution of risk. We noted that the total accumulation of risk was very high, and the distribution was no better than saturation, inhibiting buyers if the actual collateral underperforms.

Other Possible Bubbles: Are there other assets out there with insufficient carry, resting on price gains for their TRR? We point to gold, oil, US Treasuries and Agencies. They are vulnerable as well, and have been recently viewed as a safe haven from the credit arena or as a tactical opportunity. Their best defense is their relative inelasticity of supply. But this can work in reverse too.

II: The Trigger and Current Conditions

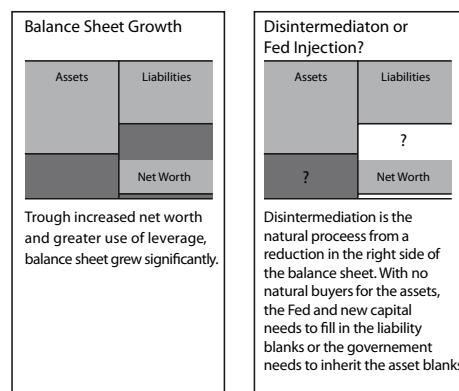
Typically, the press, politicians, academics and regulators take the view that they must stamp out the source of the blame and insure that it will not happen again. Everyone will remember subprime lending as a mistake, at least for now. Will it be labeled as lending too cheaply to a set of borrowers not conditioned to service the debt? No. Will banks learn to lend at interest levels that compensate for the risks? Yes, they will for a few years, sure. Was subprime the problem that leads to other problems as a result? No, there would have been no waterfall effect had there been proper risk levels in the other classes. And one should say that in all likelihood, there would have been no subprime crisis at all had other assets been more evenly priced. The trigger could have stemmed from another asset. It is the risk accumulated and not always the product that is the source of blame.

Disintermediation: Disintermediation is defined as an involuntary reduction of balance sheet - selling assets due to a reduction of liabilities. It is happening in the household sector with the resultant foreclosures. It is supposed to be happening in the banking system, but it is occurring in a muted and defended fashion. Many of the

more levered entities have washed out, such as originators and bond insurers, which is unfortunate given their intrinsic operational value to an efficient market. But let's focus on the commercial and investment banks.

Once the subprime assets lost their performance, there was a funding gap due to the loss of capital, but the banks could not find buyers for overpriced assets as most of the investor base was saturated. Fannie Mae and Freddie Mac were under orders to limit their balance sheets and leverage against current capital ratios. There was no bid. Thus, the banks were less able to lay off their assets. As a result, they would sell more conventional assets that were less buoyed by a flight to quality or inelasticity, in an effort to control their balance sheets and leverage on remaining capital.

Figure 4 | Disintermediation or Fed Injection



Source: AlphaBridge

In fact, most of their lending to other players such as SIVs, originators, etc. triggered a suction of assets back into the banks due to their clients' missing margin calls. Bank leverage skyrocketed as assets came back on board and tangible capital declined. We did see conventional mortgage spreads widen, along with agencies. Most spreads widened as a result of a rotation into Treasuries during the initial stages of disintermediation.

This signal was not disintermediation. The balance sheet did not shrink; it lacked sufficient funding, as assets on board went beyond the current right side of the balance sheet. Total supply elasticity assets hit the banks involuntarily. It was worse than disintermediation. It was a need to fund a gap between assets and the lost capital, with the incremental unattractive assets coming in via margin calls and driving leverage higher. (A small change in willingness to own credit product, and you could own it all!)

The Fed quickly came into the fray with liquidity for the banks, substituting new liabilities for the system to fill

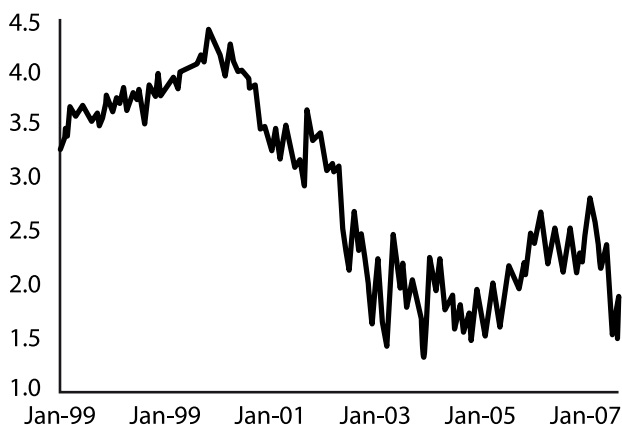
the gap on the right side of the balance sheet (due to the reduction of capital). The system did not need more liquidity; the banks did. Meanwhile, lending came down as banks tried to regain control of their balance sheet, especially at year-end, 2007. The cost of short-run money from the banks leapt higher despite the fact that the Fed had open arms. This is a balance sheet problem, not an availability of cash problem. As the funding gap is filled in by the Fed, short-run LIBOR comes back down relative to fed funds. But the problems are not over. There is still too much balance sheet resting on a temporary foundation. It's early in the process of disintermediation. Old deadwood assets still linger despite the write-downs, and they stifle lending.

III: The Patch and the Solution Going Forward

What's best? Momentary, not monetary policy: The Fed is acting responsibly in preventing the market from a more chaotic disintermediation. Unfortunately, this is a temporary measure with no upside except for the continuity of the mechanical parts of the system. No one wants money to go into mattresses. But deferring the disintermediation too long in an effort to push for more GDP growth results in a marketplace stunted further by the existence of dead balance sheet (similar to the set of conditions in Japan for many years), a higher level of inflation and continued narrow spreads. Other bubbles would grow, jeopardizing future capital needs.

Right now, real interest rates are close to zero as measured by TIPS or even current inflation relative to Treasury yields.

Figure 5 | 10 Year TIPS Yield



Source: Bloomberg

Inflation is most likely not thoroughly reflected in today's specialized measures. Real interest rates were low in 2003 in order to insure that we would not step into deflation. Real rates are lower now on the eve of more meaningful levels of inflation. Despite the fact that the banks are using the Fed for temporary funding, there is plenty of money in the system with no place to go. This is tricky stuff for the Fed. They will have to retrieve the value of money at some point. And asset managers should realize that no matter what the Fed does now, over time there will be a reduction in balance sheet in the system during the next few years. The implications of flooding the system with temporary excessive money, future inflation and disintermediation are plain. Spreads will widen out.

Take a Breath: Let's make it simple, because simple logic is often what brings efficiency back into the markets. Also, it's hard to deny that it works well in a discussion filled with multiple aspects. If you were a bank, you just realized that you have been lending money at too low a level and you lost money. What would you do next? You would try to lend at a meaningful interest rate going forward. In fact, you might try to regain some profit by lending at the highest rate possible. Perhaps this is too simple. The Fed is trying to oppose a spike in borrowing costs to the system by flooding it with cash. The fact that it has driven real rates to zero is supposed to be very uncommon. Yet, we have returned to this point again in less than five years! Do you lend more money because it's worthless? It does fuel other asset bubbles instead. As it stands now, the US Government saves money on its debt servicing from the flight to quality and the homeowner really sees little benefit in his balance sheet.

It's all about balance sheet, not the cost of money from the Fed. Despite the markdowns, banks still hold unwanted assets at lower levels. If priced to the right expected credit default rates (dependent upon a forecast of the future spiral in housing), these assets will perform with some relationship to the collateral used. They will no longer be valued by the pressures of the right side of the balance sheet unless the Fed tries to reestablish the same footprint pressures by soaking the system with money for too far and too long. Yet that would suggest that the banks and investors will forget these past few months. That, hopefully, is not likely.

Is the Fed improving the Return on Assets (ROA) for the banks? Yes, a lower cost of funds helps; but at the schedule that this translates into for a stream of profits, it

will take years to amortize the losses. Thus, unless there is a means to spin off the balance sheet - analogous to the RTC during the Savings and Loan crisis - this is going to be a long, slow process. Yet, the current administration sees a moral hazard in absorbing the banks' assets more clearly than it sees the consequences of a weaker economy. Inflation will quietly forgive those who hold debt from their obligations in real terms. Right now, the best scenario is that the slow disintermediation takes a few years and the Fed does not focus only on GDP growth rates.

IV. 2008 and Beyond

Disintermediation by the banks means that risk premiums will evolve higher. This goes back to the simple motivation to lend at higher rates to avoid mistakes again, which inhibits the economy. GDP growth will gravitate around the pace of disintermediation. A slow, long disintermediation will represent a gentler but longer suppression of GDP growth, and chronic spread widening. But an ugly chaotic disintermediation can break the system. That's been avoided. There are few tools remaining to revise the outcome besides forming an RTC solution. Expansive fiscal and monetary policy may be viewed as critical but will face the law of diminishing marginal returns.

Amazingly, due to the overwhelming ability to finance assets from 2005 through July 2007, volatility was dampened. It had little to do with the inherent performance attributes of the assets themselves. Selling options became another resource for marginal TRR via assuming risk. Time-weighted statistics were demonstrating a long period of unblemished performance of assets, so volatility disappeared empirically. The excess demand for assets - driven by the right side of the balance sheet - created numerical outcomes of risk that were understated, and volatility was measured as non-existent (both with implied measures and empirical ones).

Volatility is now on the rise due to the unwind and the pressures coming from attempted disintermediation, with the exception of the revolutionary markdown of certain credit risk assets to a more fair value. The lack of lending willingness is acting in reverse, significantly increasing volatility relative to the pattern seen in the past few years. Options are helpful in such conditions. Negatively convex products, such as mortgages, may find it more challenging to perform outside of momentary reactions to Fed eases.

What of those assets that are buoyed by their inelastic properties? What happens when the day comes that there is a thorough cheapening in balance sheet? The heavy «supply elastic» bonds such as routine mortgage-backed securities, solid credit products, emerging markets, corporates and swap markets may head back to better levels of risk premium in order to find real long-term buyers and enable a reduction in balance sheet. Then, there could be a swift sell-off in commodities and other relatively inelastic products. Carry would re-enter the thought process and the price risk of the bubbly assets would become apparent.

We see spreads on a challenging path over 2008, bouncing around, but widening overall as disintermediation occurs, managed by selective Fed intervention. There are some buyers of spread product in the wings. In fact, there were numerous attempts to buy cheap assets over the past few months by opportunistic, money-following patterns, adopted over the past few years with no lessons learned. There will be pockets of this activity over 2008, but the probability that spreads widen further is more certain than momentary excess money suggests. It will be a function of the excess assets finding a home. That is a larger-volume challenge right now than marginal pieces of bid-side free money can handle. Get in when you see a world with sufficient carry for the risks, not just in one asset category, but in general. Stay out of assets that are based upon momentary, excess-liquidity pricing, as they represent similar attributes to the assets that have failed recently. Keep a wary eye on balance sheet issues in the system that over-ride the performance of particular asset expectations.

Will the bond market ever depart from an efficient stance if it can normalize over the next year? Absolutely, it will. There will be new triggers, but the ability to read conditions as they develop will be a function of being a bank treasurer who can investigate not only both sides of the portfolio's balance sheet, but also the setting and capacity of the marketplace as a whole to support balance sheet. And being an asset manager, you need to make an honest statement on risk return for your assets and for the system's stance on risk return. By looking at the system's prospective balance sheet conditions, you can predict change, location and levels of volatility. Put these two together and you can better project your risk management based upon value and what conditions lay ahead. Extreme ends of the spectrum become more evident, and the manager can better assess the risk probabilities lingering in the market going forward.