

Market Structure

Where Has All the Trading Gone?

Market Commentary

2 August 2012

Key Points

- Volumes are down for the 4th straight year, almost 50% below their 2008 peak, but still more than double pre-'08 levels.
 - So is the market more or less liquid now?
 - We look at structural & seasonal drivers of activity
 - Structural changes have significantly increased trading
 - But seasonal drivers appear to have left real money trading levels at decade lows.
 - The good news is that almost all our seasonal drivers are near 10 year lows, at once. So risk seems to be to the upside, even though change might come slowly.
 - But proposed and pending regulatory changes threaten to reduce trading activity further.
- Tell us what you think. Complete our short & easy survey here: [What Do You Think?](#)

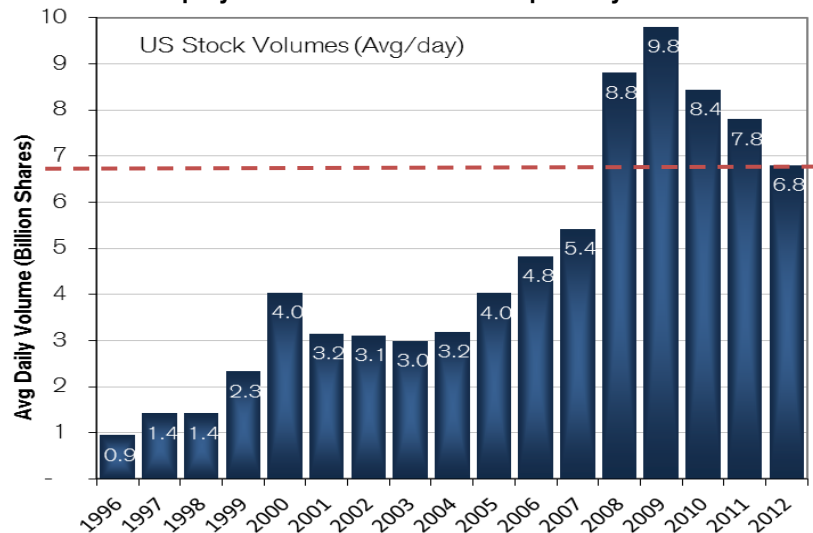
Is 6bn Shares a Day Really So Bad??

In the middle of the credit crisis, US equity markets were trading as much as 12bn shares per day. Recently, the market has been trading less than half that (Exhibit 1).

As a consequence, plenty of traders are complaining that there is no liquidity in the market. But is 6bn shares a day really so bad? After all, in 2003 the market was trading less than 3bn shares per day, and in the 1990's the average daily volume was half that again!

So, is liquidity really worse now; or do traders just have short memories?

Exhibit 1: US equity volumes have fallen the past 4 years



Source: Credit Suisse: AES® Analysis, Trading Strategy

Exhibit 2: Real money is mostly affected by seasonal factors – which are almost all at or near decade extremes and hurting (red, below) activity

| Factor | Description | Current Level |
|---------------------|---|------------------------|
| Active Turnover | eVestment active fund turnover report | Low |
| Equity Allocation | Federal Reserve Flow of Funds data | Low |
| Shares Outstanding | Russell 3000 shares outstanding over time | Falling |
| Corporate Activity | IPOs, public offerings, buybacks and share splits | Low |
| Correlation | Realized 3-month correlation | High |
| Hedge Fund Assets | Total hedge fund equity assets | High but into Macro |
| Hedge Fund Leverage | Approximate leverage of equity hedge fund assets | Low |

Source: Credit Suisse – Trading Strategy

Structural or Seasonal? A Bit of Both...

Based on our modeling here, factors affecting volumes are a combination of structural and seasonal.

Structural Changes Are Increasing Activity

Computers have helped structurally change the markets - helping HFT, EMM and ETFs grow from zero to significant participants in just 10 years. But these have increased trading activity.

Seasonal Factors Have Real-Money at Decade Lows

Taking out these structural contributors leaves mostly 'real money' players. It also shows real money trading at decade low levels.

Based on our modeling, there is no single factor to blame. Instead it is a multitude of factors which are all hurting liquidity at the same time. Drivers we discuss include: asset allocation into bonds, active turnover due to slower and lower alpha, lower leverage, lack of corporate activity, high correlation and shrinkage in total shares outstanding (Exhibit 2).

Markets Are Structurally Different Now

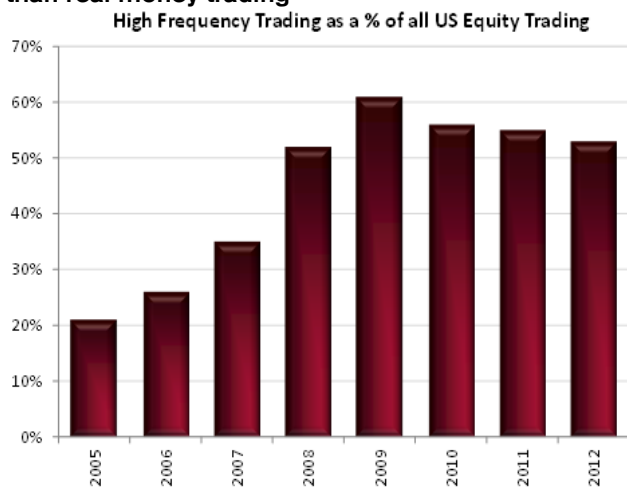
As we discussed in our recent report [Who Let The Bots Out? Market Quality in a High Frequency World](#), computers have led to significant changes in the way the market operates. Specifically, they have led to an increase in statistical arbitrage and market making as well as making ever shorter duration trading strategies more accessible. They have also helped ETF's (electronic trading is critical for arbitrage) grow.

All of these structural trends have led to *increased* trading activity intraday. Although in this report we don't try to answer whether this liquidity helps add day-to-day liquidity in the market.

Structural Factors Driving Volumes Up

As the markets have deregulated, fragmented and computerized a number of higher-turnover strategies have become easier and cheaper to implement. According to Tabb, around 80% of all trades are now executed electronically (Exhibit 4).

Exhibit 3: Tabb survey says HFT is shrinking faster than real money trading



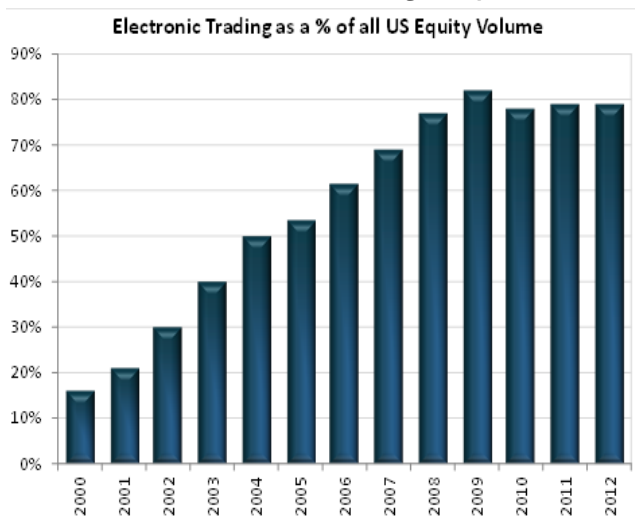
Source: Tabb

Market Making & Other High Frequency Trading

The electronic trading that attracts the most attention is high frequency trading (HFT). According to Tabb, high frequency strategies now account for around half of all trading, but that percentage is falling faster than trading volumes themselves (Exhibit 3). Tabb also shows that high frequency trading is made up of many different strategies, including electronic market making (EMM) (see Exhibit A1 below), statistical arbitrage, index arbitrage, venue arbitrage and ultra-short-momentum strategies.

Most of these strategies are designed to capture market inefficiencies, but their existence results in more efficient markets by smoothing timing differences between real-money bids and offers and making sure that prices in all venues are in sync. Ironically, as more real money trades in dark pools or use trading algorithms that avoid out-loud quoting and signaling it's the liquidity providers who are also providing lit quotes (something we discussed in [Who's Afraid of the Dark? Trading Off-Exchange](#)).

Exhibit 4: And all electronic trading has plateaued



Source: Tabb

Algorithmic Trading and DMA

Real money trading is increasingly electronic too. The difference between the 50% in Exhibit 3 and 80% in Exhibit 4 represents real money use of algos and DMA. This means over 60% of all real money orders are executed electronically (30% of their 50%), with the same access to low-latency and co-location via their brokers' algorithms.

Specific beneficiaries of computerized trading include index and quant funds. Both can trade 500 or more different stocks simultaneously via algorithmic and program trading desks, receive live fills for their whole portfolio and electronically book and settle trades.

Cheaper execution and settlement costs have also allowed previously marginal (or overly complex) quant strategies to prosper. Many of these funds run higher turnover strategies based on reversion and short-term momentum, which further increases trading.

Automation Maxed Out?

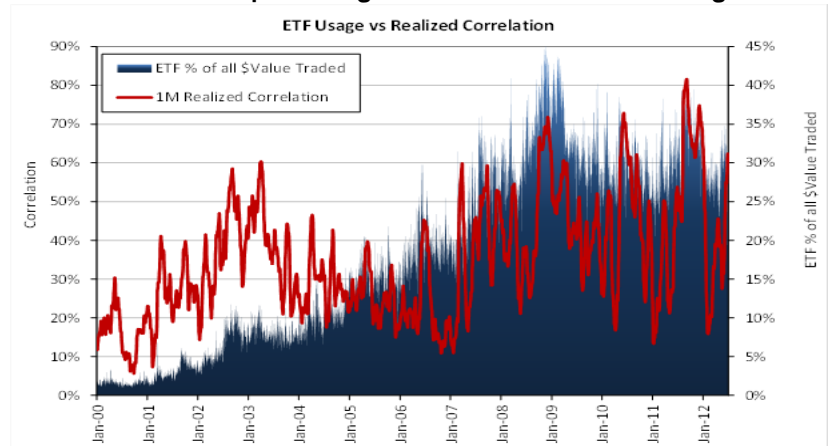
Interestingly, both exhibit 3 & 4 seem to show growth trajectory of electronic trading is looking mature. Growth has slowed to single digit levels and looks to have reached a new equilibrium – where current levels of human liquidity sourcing will persist.

ETF Trading

During the past decade, ETF trading has also increased significantly, growing from 3% of all shares trading to a high of 25% and representing more than 40% of all value traded (Exhibit 5).

Although ETF trading activity has subsided in the past few years, it still represents a significant addition to reported share volumes. Currently, ETFs average around 1.1bn shares per day, representing nearly 20% of all shares traded.

Exhibit 5: ETFs as a percentage of total stockmarket trading



Source: Credit Suisse Trading Strategy

Some estimates put this on-flow from ETFs as high as 50% of ETF trading.

Adding this to the flows in exhibit 3, this would imply there are no natural flows in the market:

- ETFs account for 30% of the market
- ETF related flow would account for 15%
- HFT would account for 55%

Alone, this would total 100% of the market.



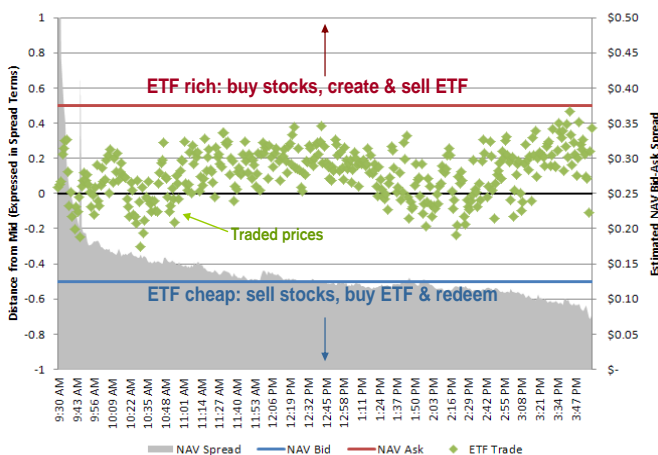
How Much Does ETF Arbitrage Flow into Stocks?

There is an argument that ETF trading typically flows through to stocks as ETF arbitrage triggers waves of stock buying and selling to offset ETF selling and buying.

Our own studies of ETF markets don't support this. Spreads of ETFs are usually much tighter than spreads in the underlying (as we show here: [Covering the Spread](#)). So, a 1-tick change in an ETFs price does not generally mean the spread on the underlying has been crossed. In fact, in a recent report on intraday ETF trades ([How much do ETFs influence stocks?](#)) we found that very few of the actual trade prints for the whole day were rich or cheap versus underlying stocks. We picked IWM as an example of a very liquid ETF with an illiquid underlying. As you see in Exhibit 6, the ETF trades (green blobs) were inside the bid and offer of the underlying (red & blue lines) all day. This implies stock arbitrage was never triggered by these trades. Despite this, IWM traded very close to NAV all day.

Exhibit 6: ETF arbitrage is about bidNAV and offerNAV. Most trades (green) occur inside these levels

IWM (Russell 2000)



Source: Credit Suisse – Trading Strategy

So what kept the ETF trading so close to NAV without stock arbitrage? We believe a large percentage of ETF trading comes from stat-arb strategies which would be mostly classified as HFT. For example, IWM trades could be hedged by other small cap ETFs with very little risk (eg: IJR, VB, TZA, TNA, UWM, RWM). This view is supported by the large percentage of EMM in Exhibit A1 below.

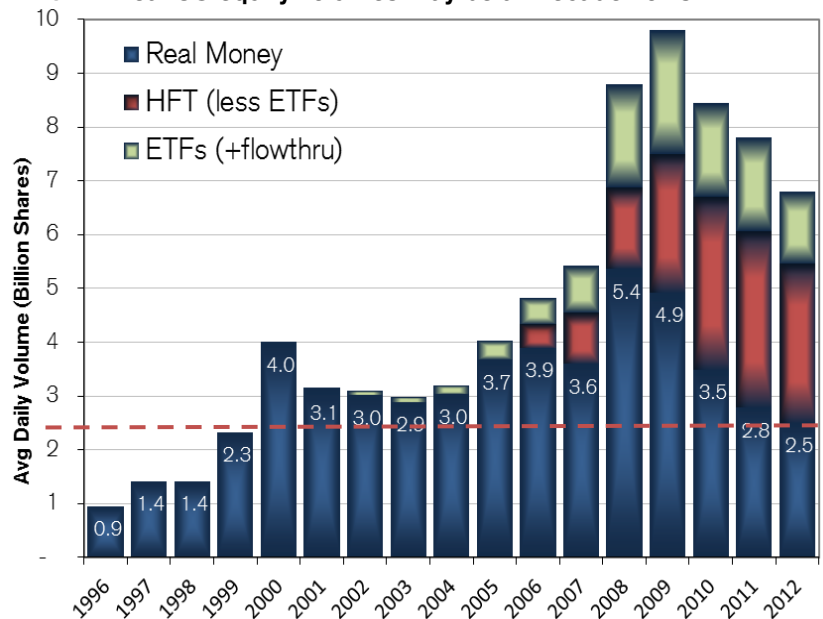
This also helps explain the extremely high turnover in levered ETFs (efficient ways to hedge beta intraday) as well as country ETFs where underlying markets are closed (EWJ, FXI, EWY, EWG).

Importantly, rather than ETFs causing spurious stock liquidity, this beta hedging is more likely causing spurious ETF liquidity. This would overstate ETF liquidity but clearly helps ETFs trade more efficiently.

Real Money at Decade Lows in Liquidity

Overall, the structural changes we've discussed have increased reported volumes. Based on the estimates for trading generated by HFT and ETFs, we can reverse engineer a top-down estimate of what we think real money trading has done over the same period. From this it seems that real money volumes are actually at decade lows (Exhibit 7).

Exhibit 7: Real US equity volumes may be at Decade Lows



Source: Credit Suisse: AES® Analysis, Trading Strategy

How we estimate the breakdown:

- Using our own calculations for actual shares & ETF trading (currently at around 20% of all shares, see: [July 2012 Chartbook](#)).
- We estimate ETF trading causes a flow-thru into underlying stocks of around 20% (based on this report: [How much do ETFs influence stocks?](#)).
- Tabb estimates for HFT were adjusted down to account for HFT that are trading ETFs (market making and arbitrage strategies). We estimate the percentage of ETF trading that is Arbitrage at around 80% of all ETF volumes (also based on this report: [How much do ETFs influence stocks?](#)).



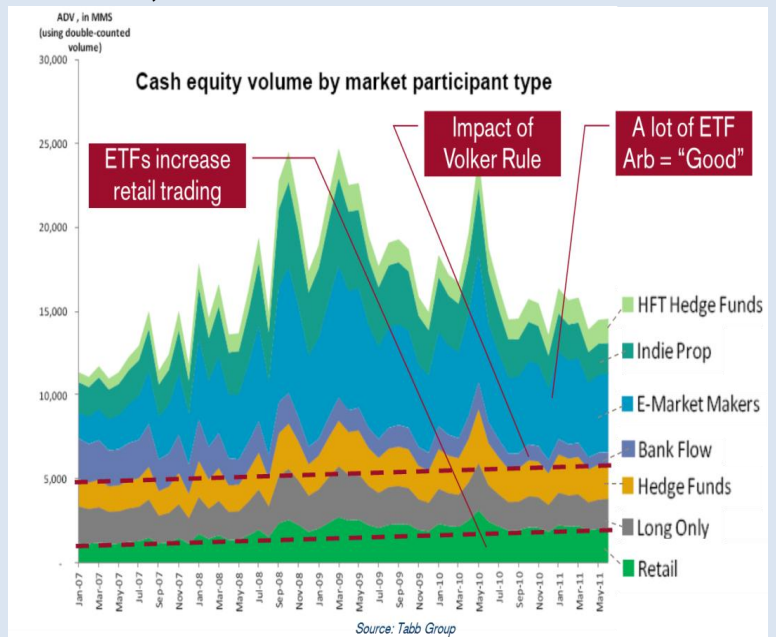
Will Regulation Structurally Reduce Trading Too?

In this report we make no estimates of the regulatory impact on trading. However, with the Volcker Rule requiring banks to divest their trading operations, it seems likely that this will affect volumes:

- Short term, pending regulation may also be adding to uncertainty, keeping real money turnover down.
- Medium term, Volcker is likely to result in prop trading desks being closed down and their access to capital shut off. A recent Tabb study on the composition of volumes shows this might already be reducing liquidity (Bank flow has already fallen significantly in Exhibit A1)
- In the longer term, prop traders and their strategies will probably move to less regulated parts of the industry, like hedge funds, as suggested in recent [Trader Magazine](#) and [Institutional Investor](#) articles. But, this will take time, and it's questionable whether these traders will ever have the same capital to invest or the same risk-tolerance. One thing seems certain – they won't have the same levels of oversight or capital adequacy, nor will they have partnerships with the long-only accounts that demand their liquidity (see [II article](#)).

Other potential regulation includes taxes on HFT. Some changes have already been proposed or introduced by [NYSE](#) and [Nasdaq](#). Although these may reduce signaling costs, they will also, by design, reduce liquidity.

Exhibit A1: Foreign markets even worse than US markets (on a Val traded basis)



Source: Tabb Group

Seasonal Factors Driving Volumes Down

Bottom-Up Reconstruction

We now try to reconcile the real money estimates from above by modeling fundamentals we intuitively know make real money trade.

According to Bloomberg data, around \$13tr in US stocks are held by institutions, which is equivalent to 80% of total market cap. This includes index funds, pension plans, mutual funds, offshore investors and hedge funds. Based on our own data, ICI, HFR and the Federal Reserve, we

estimate institutional money includes approximately:

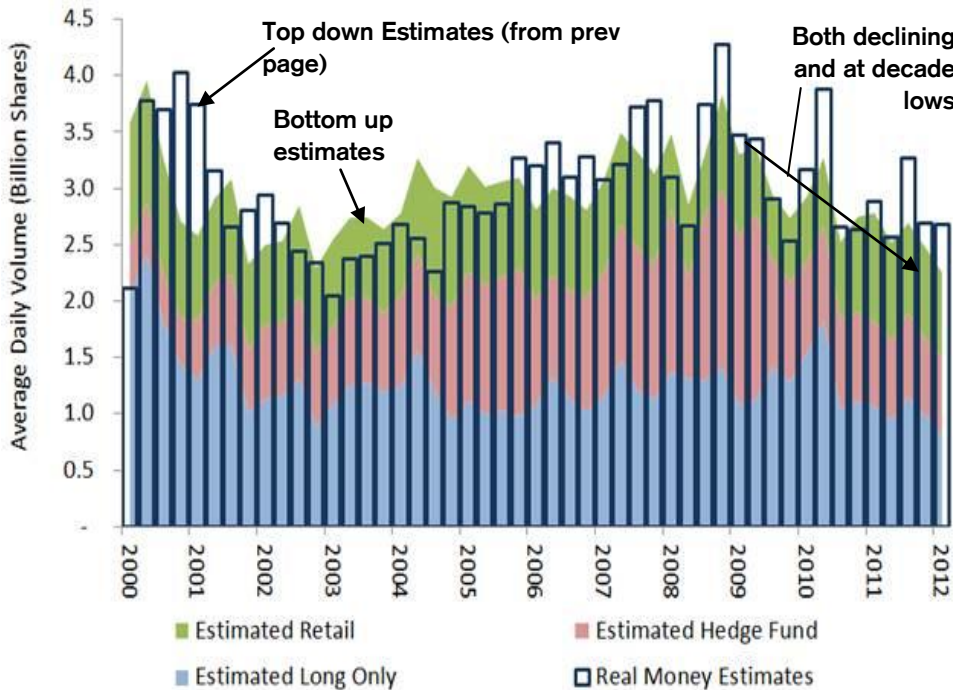
- \$4tr in Mutual funds
- \$4tr in Pensions
- \$1tr in Equity-based HFs
- \$2tr in Index funds & ETFs
- The balance includes foreign sovereigns and foreign mutual funds

We then add retail volume and model the activity of each group separately. Our consolidated results (Exhibit 8) show:

- Top-down real money trading estimates (from Exhibit 7) as clear blue bars.
- Our bottom up model of trading activity from retail, institutions and hedge funds.

The bottom up modeling pretty closely describes the top down activity expected. This means we can analyze the drivers of our bottom up model for insights into the

Exhibit 8: Bottom up model tracks expected real money volume estimates reasonably well



lack of trading we are currently seeing.

Key Drivers Are at Seasonal Lows

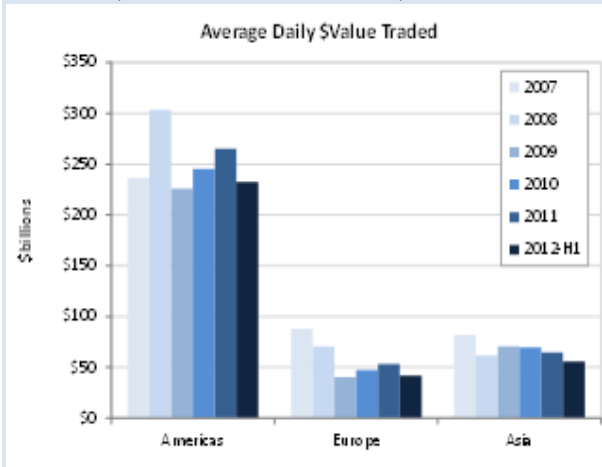
The key real money volume drivers (see following pages) look to be equity allocation, active turnover, hedge fund leverage and corporate activity. All of these are at, or close to, decade-low levels (Exhibit 2). This should limit further downside to activity.

Tough to Change the Seasons

Keep in mind that most of these drivers typically change slowly and only when the real economy improves. In order for volumes to increase, it seems we need a combination of:

- **Macro risks clearing:** The Europe sovereign crisis and US fiscal cliff remain as real money investment obstacles. Also, if these risks abated, correlation would likely go down.
- **Inflation:** Higher inflation would likely coincide with increases in both interest rates and growth. A sell off in bonds would probably help reverse in-flows into bond funds. Most importantly, equities have historically been a better hedge against inflation than bonds.

Exhibit B1: Foreign markets even worse than US markets (on a value traded basis)



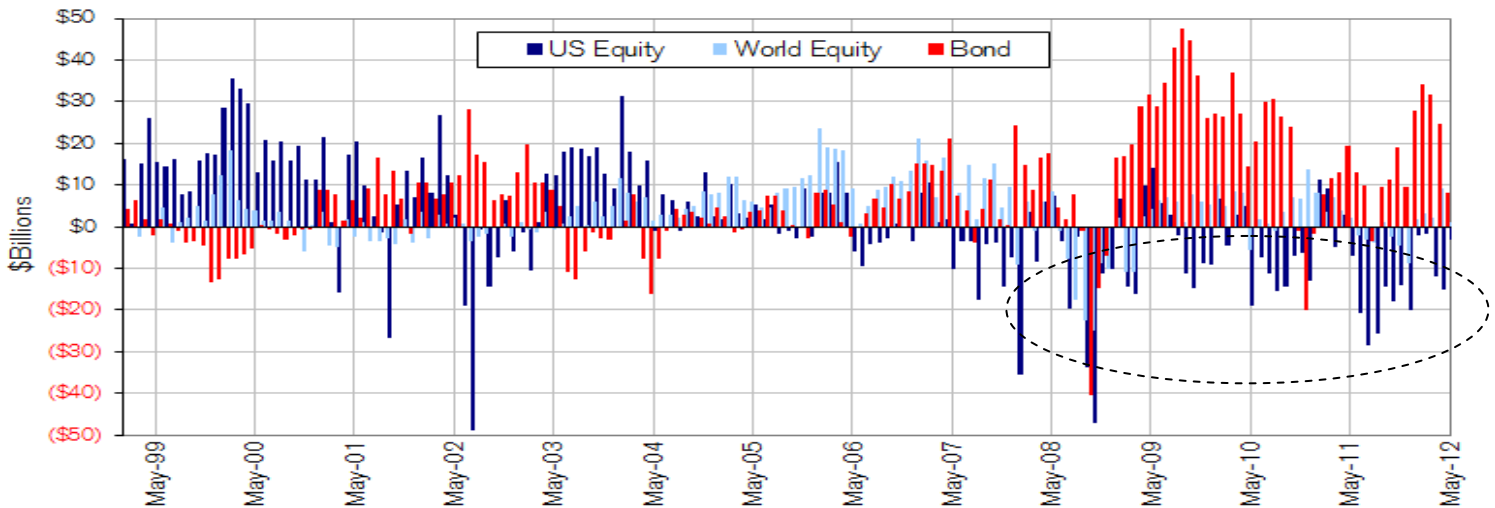
Source: Trading Strategy July 2012 Chartbook.

Key Long Only Drivers

Asset Allocation Out of Equities

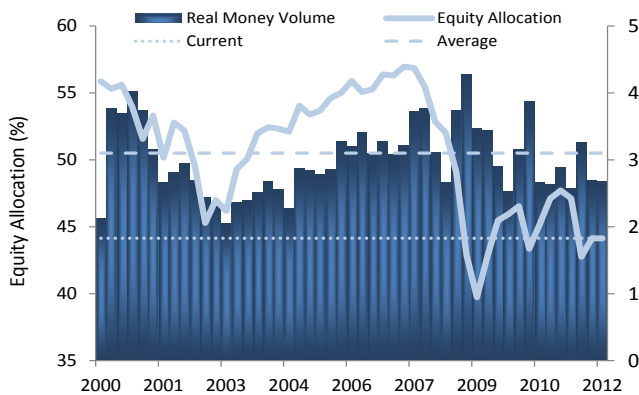
Even before the credit crisis, asset flows were moving out of equities. As the credit crisis gripped in 2008, the outflows increased and have persisted ever since. Bond funds have been the big winners (see Exhibit 9), although passive and ETF investments have also gained during this period (for more click our Economic teams report [here](#)).

Exhibit 9: Redemptions have reduced active equity assets since the credit crisis started



Source: Credit Suisse – Trading Strategy

Exhibit 10: Equity allocation: Cycle consistent with real money trading – and near decade lows



Source: Credit Suisse Trading Strategy, Z1 data from Federal Reserve

Fund Flows Contribute Little to Trading...

Asset reallocation leads to some trading on its own, in the form of equity outflows recently. Although these fund flows might affect the balance of supply and demand, they are not a material component of trading.

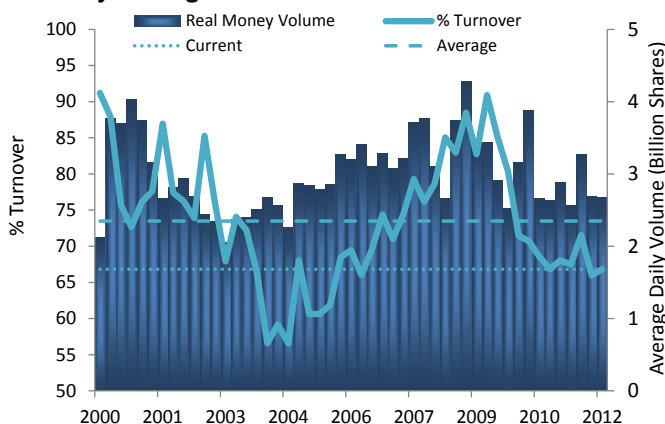
- Our estimates show that around \$4tr of equity trading occurs each month. After removing HFT, this total is reduced to \$2tr per month.
- Even a month of record fund flows (\$50bn) is small, accounting for only 2.5% of real money trading.

...But the Reduction in Equity Assets Hurts Liquidity

Although actual fund flows themselves are immaterial, asset reallocation has a cumulative effect on active trading through the reduction of assets under management.

According to Federal Reserve data, allocations to equities have shifted from a high of 56% to current lows around 44% (see Exhibit 10). This chart also shows that asset allocation ratios track real money activity pretty well.

Exhibit 11: Active turnover cycle consistent with real money trading – also near decade lows



Source: Credit Suisse Trading Strategy,

Real Money Turnover is also Down

According to eVestment data, average active turnover is 66%. This is also near decade lows and has fallen by around a third since its 2009 highs. Small cap funds are no exception, which are also at decade lows.

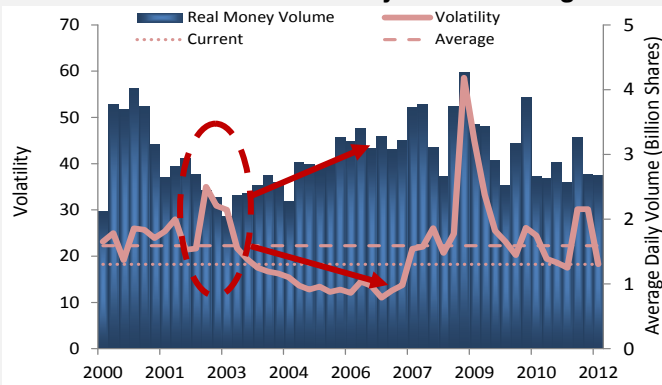
Assets in US mutual funds, some pensions and offshore mutual funds come close to totaling \$8tr. At 66% annual turnover this equates to \$21bn per day, or close to 1bn shares, which is a large part of total long-only trading.

The cycle of turnover (blue line in Exhibit 11) also matches estimated real-money activity well (blue bars).

Assets x Turnover: Multiply Trading Reductions

These two factors are currently working in tandem. Low turnover on lower assets compounds the reduction in trading activity.

Exhibit C1: Volume and Volatility not so tied together



Why Are Active Investors Going Passive?

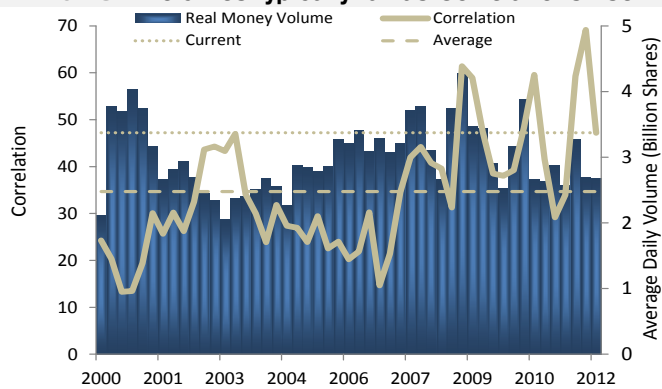
A recent WSJ [article](#) suggests that investors are currently suffering from headline fatigue. That may be the case, because despite elevated correlations and a long list of economic risks, volatility has fallen back below long term averages and seems stuck below 20.

Volatility and Volume Not so Tied Together!

The theory goes that when volatility spikes traders are less certain and trading increases as investors reallocate assets and find new price equilibriums. And since 2005, spikes in volatility have coincided with spikes in trading activity, especially for our estimated real money trading. But, this isn't always the case:

- Early in the decade, volumes actually spiked during the IPO boom and fell away as the tech bubble burst (Chart C1).
- Levels of real money trading were higher in 2006, despite record low volatility, which hit single digits for a period of time.

Exhibit C2: Volumes typically fall as Correlations rise



Correlations Hurt Stock Pickers

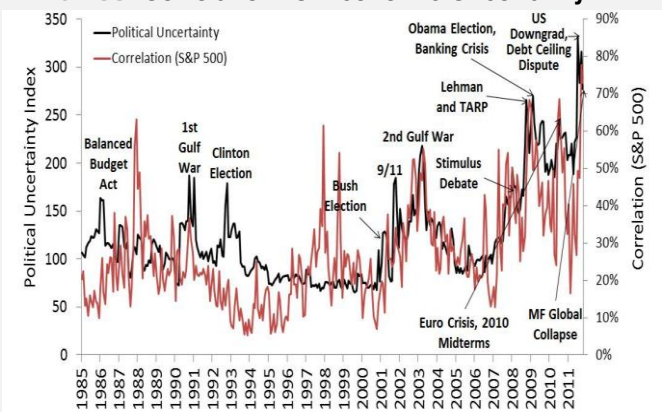
It's well documented that high correlation makes it difficult for stock pickers (see our Derivatives Strategy teams [Quantifying the Cost of Correlation](#)). We've also seen that macro investors beat stock pickers in a high correlation environment (Exhibit C5). Given there is less stock selection alpha available in a macro-driven environment, it's no surprise that stock pickers trade less when correlation is high.

Correlation Is More Cyclical than Structural

Because correlation is exceptionally high, and has been for an extended period, some are suggesting the change is structural.

- ETFs get a lot of the blame for this, being index products and trading as much as they do. However, we dispute the link in [ETFs and Correlation: The Chicken or the Egg?](#).
- Stat-arb based HFT strategies may also contribute to elevated correlations, which buy cheap stocks and sell expensive stocks in pairs for short periods of time. Ironically, if this is true, it would show that HFT helps markets by reducing single stock trading costs and absorbing idiosyncratic and trade-timing risks. Although it wouldn't explain HFT going home "flat" every night, given correlation is a close-to-close calculation.

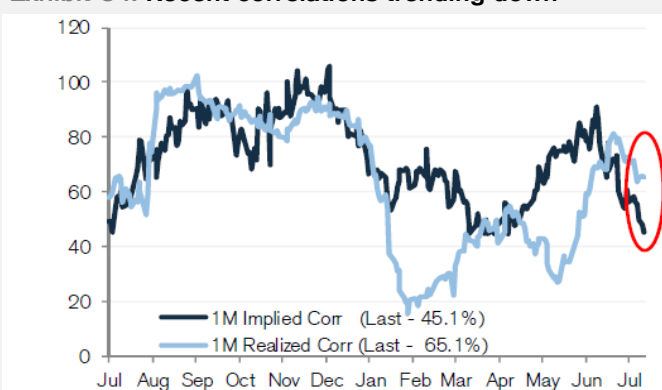
Exhibit C3: Correlation vs. Economic Uncertainty



Source: Credit Suisse – Trading Strategy

We think it's more likely that current high correlation is a result of unusually high macroeconomic event risks, suggesting it's cyclical. It's hard to deny that we've spent the last 5 years in scary times. We're still recovering from the great recession, watching the Arab spring evolve, in the grips of European Sovereign crisis and face the US Fiscal cliff (see Exhibit C3). Is it really surprising that correlations have been as high as they have been for so long?

Exhibit C4: Recent correlations trending down



Source: Credit Suisse Derivatives Strategy. Note: correlation is for top 50 stocks in SPX.

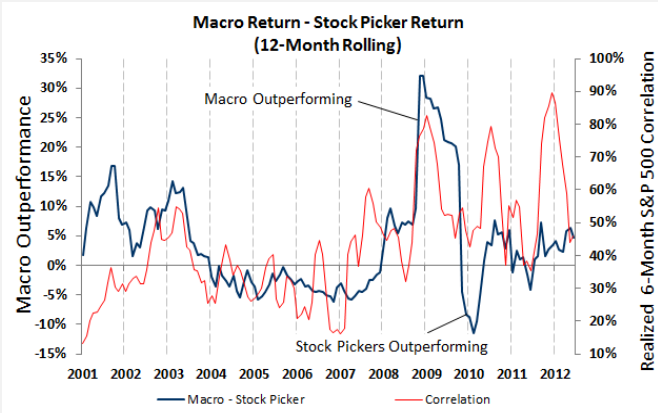
Implied Correlation Trending Back Down!

Interestingly, our Derivatives Strategy team's [The Correlation Commentator](#) shows that recent correlations have been falling. In particular, they highlight that implied correlations are close to 12-month lows and are well below current realized correlations. However, this is a 1-month forward series, which may only mean options traders are expecting a quieter summer.

Regulatory Induced Paralysis

The lack of regulatory clarity here & overseas may also be delaying active trading decisions – as investors minimize exposure to these potentially high impact changes.

Exhibit C5: Correlations vs Macro Outperformance



Source: CS Trading Strategy, DJ CS Hedge Fund Indexes

No Stock Alpha = No Stock Trading!

There are a number of ways to show that stock selection alpha is down.

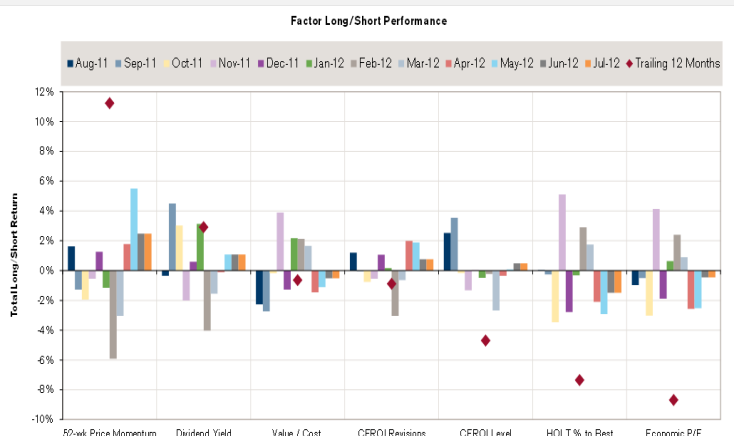
We can start by looking at the performance of hedge funds that pick stocks versus those that use macro strategies (Exhibit C5). This shows that macro strategies continue to outperform stock pickers (the blue line is positive). This trend also tracks correlations well, suggesting that when correlations are high macro-driven strategies typically outperform stock selection strategies.

Quant Factors Underperforming

Most traditional alpha factors have underperformed over the past 12 months (see Exhibit C6: rolling 12 month performance of HOLT factors are red diamonds). Even the momentum factor (positive overall) shows a large drawdown early in the year (monthly bars) before a large spike in May and June 2012 as the market sold off, resulting in negative absolute return despite the alpha.

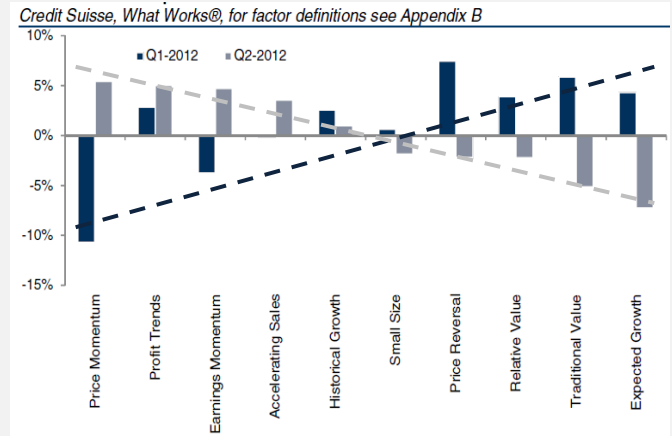
The risk-on/off nature of the market has also trickled down to alpha factor returns in recent months. Factors that were outperforming in one period become the next period's worst performer, a feature highlighted by our Quant research team in the [Global What Works](#) (Exhibit C7).

Exhibit C6: HOLT alpha factors mostly underwater, and even momentum was saved by Apr/May bear market



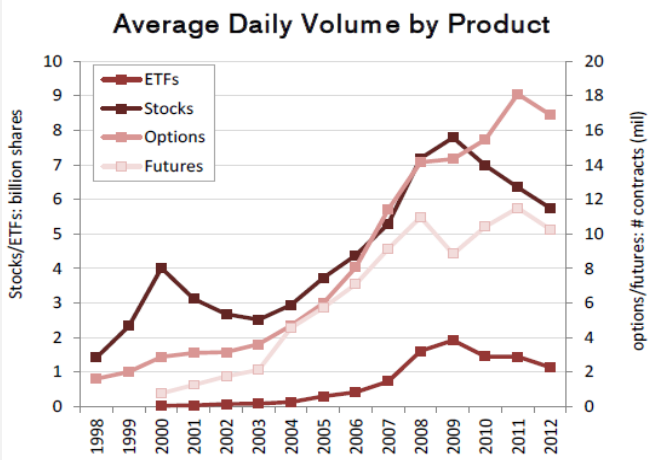
Source: Credit Suisse HOLT

Exhibit C7: World factor performance – Best Q1 factors were Q2 losers



Source: Credit Suisse, Quantitative Equity Research.

Exhibit C8: Even macro trading is falling in 2012



Source: Credit Suisse Trading Strategy, CME, OCC

Given these results, it's not surprising that our quant research team also found that quant funds had reduced turnover even more than fundamental accounts in their [Quarterly Quant Check-up](#) (page 5).

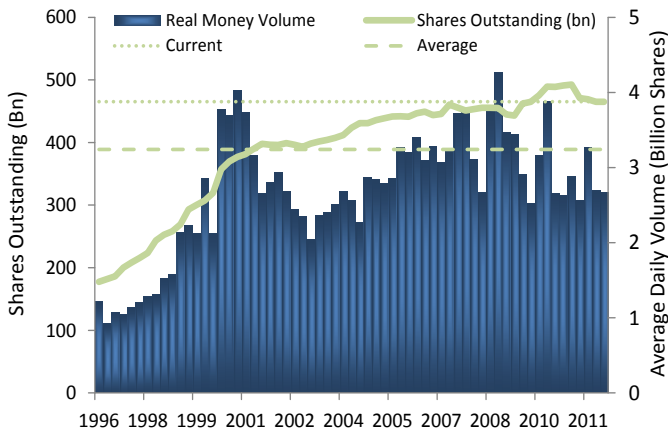
Even Macro is Trading Less

In [What Will Make Equities Popular Again?](#), we highlighted that macro trading activity remained strong thanks to alpha earned by macro strategies in the high correlation environment (Exhibit C5). This alpha in turn pushed hedge fund inflows into macro funds (Exhibit 13).

However, in 2012 even macro trading seems to be falling (see Exhibit C8 and [Options Algo Trends: Simplifying the Complex](#)). The ETF portion of total trading is down even more than stock trading. Futures and options volumes have also started to fall.

Perhaps this speaks most to the headline fatigue mentioned earlier. The news is bad, and the bad news hasn't changed. Those positioned right have no reason to trade at the moment...and may not for a while.

Exhibit 12: Total Shares growth has stalled since 2007, and is reducing at record rates the past year



**Corporate Activity is Linked-in to Liquidity
Shares Outstanding Falling at Record Rate**

Given we typically measure liquidity as “% shares trading”, it’s not surprising that increases in shares outstanding are tied to gains in liquidity.

In the 1990’s, shares outstanding increased quickly as tech companies came to market. Not only has this growth slowed, but it’s now turned negative (see green line in Exhibit 12), falling at a record rate over the past 12 months. This is due to a combination of:

- Low IPO activity, especially of large cap companies
- Low M&A levels, few stock splits, and even some reverse stock splits of recession-hit financials
- Relatively high buyback levels

Gap in Corporate Activity is More Important than You think!

Not only do IPOs and placements translate directly to primary market trading, they’re also an indicator of general corporate activity and economic opportunity.

Our model shows that changes in shares, represented by periods with high IPO & M&A activity, have unusually elevated trading (potentially from Retail and Prop desks).

As we show in table 1 below, most corporate activity is at seasonally depressed levels. For more on this topic see our recent report:

[Manufacturing Volume: The Stock Split Solution.](#)

Table 1: Corporate Activity at or near Decade Lows

Splits:

Stock splits have been at 20-year lows for each of the past 5 years.

Meanwhile, reverse splits have actually increased. In some cases, like the high profile Citi reverse split, this was to lift beat-up financials above penny-stock levels, which have more onerous trading approval rules and are more difficult to use as collateral for long-short strategies.

IPO’s:

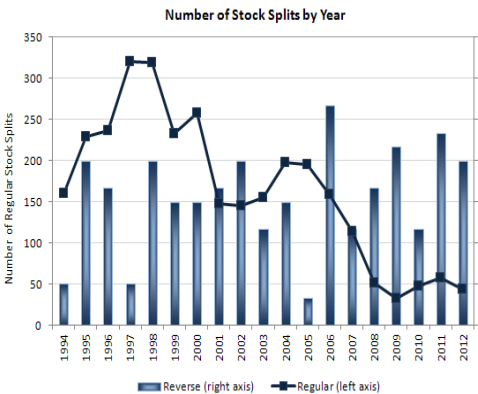
IPOs are roughly 1/6th of what they were in the 1990s. Admittedly, that was the heart of the tech bubble. Despite some high profile IPO’s recently (FB, KORS, GRPN) it seems most IPO’s are in the smaller cap spectrum of the market, so they also affect trading and benchmark exposures less.

The combination of volatility and macro risks is may be making corporate managers nervous that they will mis-time or mis-price new listings. Sarbanes-Oxley may also be an ongoing deterrent to US listings, although IPO’s are down globally.

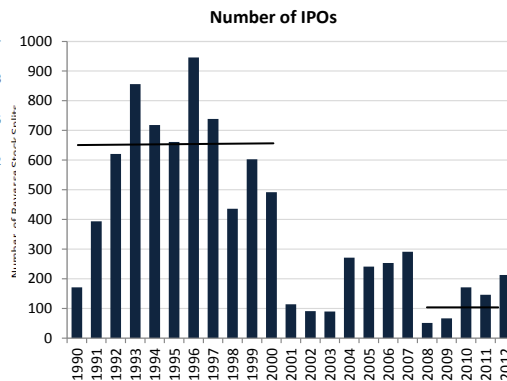
Buybacks:

The lack of new shares is compounded by record levels of buyback activity in 4 of the last 7 years, as well as both of the past 2 years. This has had material impact on shares outstanding, as share reductions have recently outstripped new shares created.

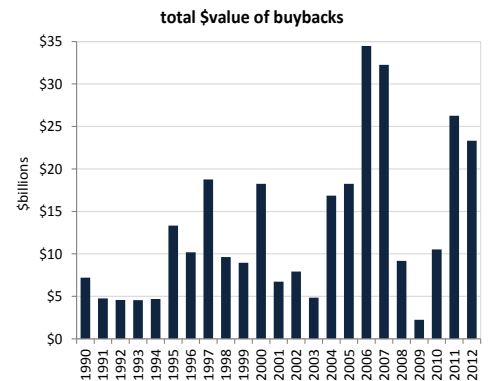
Our accounting team wrote an interesting report on buyback timing: [Accounting & Tax: Stock Buybacks, Adding Value or Destroying Value?](#)



Source: Credit Suisse Trading Strategy

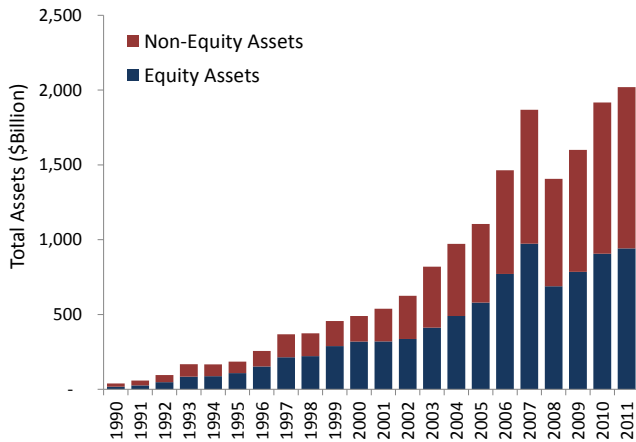


Note: 2012 numbers are annualized
Source: Dealogic



Note: 2012 numbers are annualized
Source: Dealogic

Exhibit 13: Hedge fund assets have grown to over \$2 Trillion since 1990, but most recent flows have gone into Macro strategies



Source: Credit Suisse – HFR, Trading Strategy

Key Hedge Fund Drivers

Gain in Assets Under Management

Hedge funds have a growth profile that’s even stronger than ETFs, growing to around \$2tr in assets in just 20 years. They are also one of the stand-out categories of investors that have seen net inflows over the past 3 years.

But Macro Inflows Help ETFs More than Stocks

However, recent inflows have been allocated more to the macro-based strategies which, as we said above, have also had better performance. The impact of this can be seen in Exhibit 13, with equity based strategy assets still below their 2007 peak.

Unfortunately, macro-based strategies typically use ETFs and futures, rather than stocks. Although this may help explain some of the gains in the ETF share in the stock market, it doesn’t help grow single stock activity.

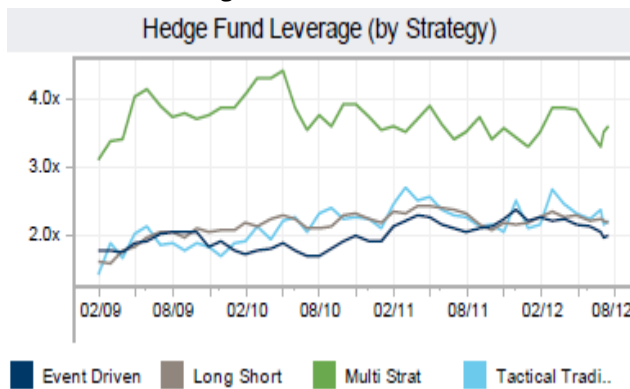
Assets Get Levered Up

According to our Prime Services team’s [First Look](#) report, equity-based strategies have recently been running around 2x leverage (Exhibit 14). This means that even though they have less than \$1tr in assets, they have around \$2tr in exposure.

They also tend to run higher turnover strategies, with higher weights in momentum and growth exposures (Exhibit 15).

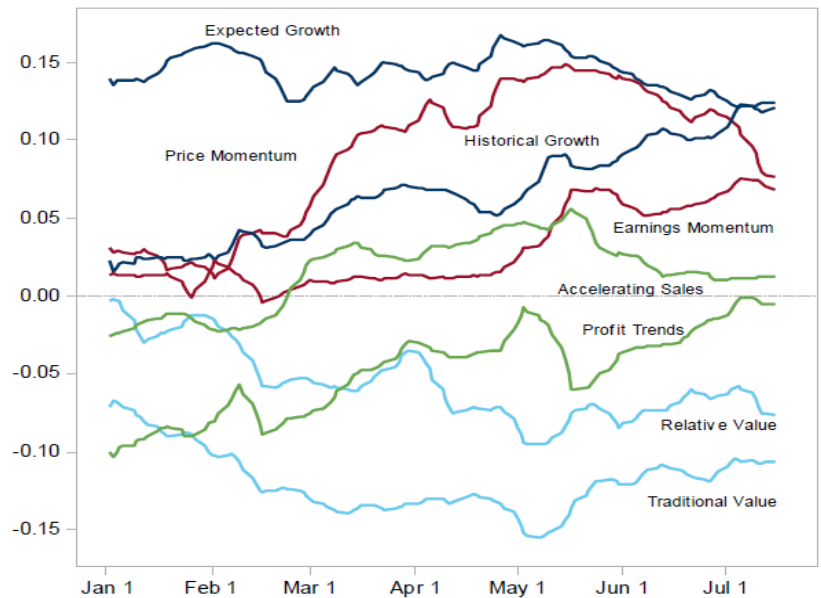
Consequently, their contribution to overall trading is higher than FUM might suggest.

Exhibit 14: Hedge fund Leverage increases gross assets and trading



Source: CS – Prime Services [First Look](#)

Exhibit 15: Hedge funds favor higher turnover strategies



Source: Credit Suisse – Prime Services [First Look](#)

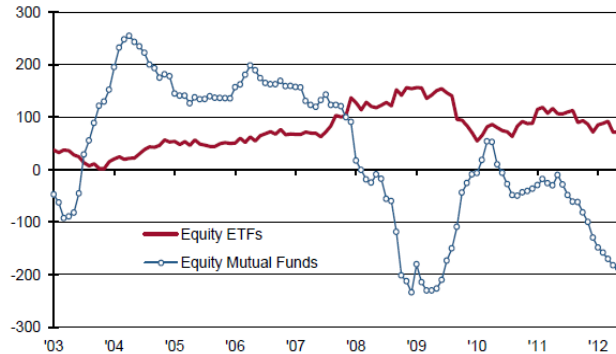
Credit Crisis Dials Back Hedge Fund Leverage

Although data is difficult to obtain, we estimate that leverage was higher prior to the credit crisis, which partially offset the lower total assets. Despite that, you can still see an increased contribution to total activity from hedge funds in Exhibit 8.

It’s likely the growth in hedge funds and their more levered, higher turnover strategies also contributed to the rapid growth in trading since the 1990’s.

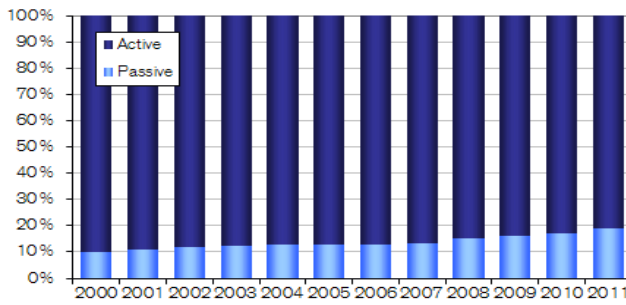
Exhibit 16: 12 month Cumulative Funds Flows – Equities vs ETFs

12-month cumulative net ETF share issuance and net inflows into mutual funds, \$bn



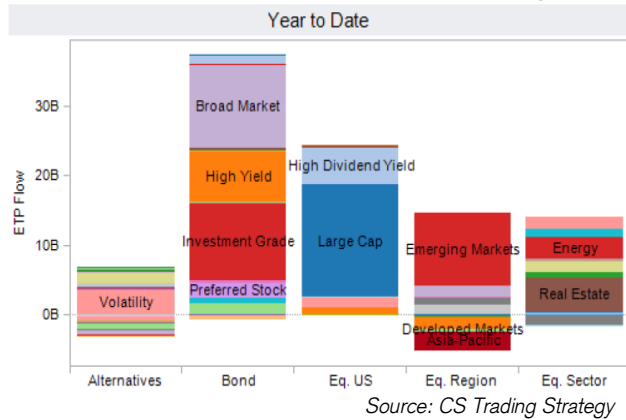
Sources: Investment Company Institute, Haver Analytics®, Credit Suisse

Exhibit 17: Index equity assets gaining on Active
Active vs. Passive Mutual Fund Assets
(Domestic equity funds only)



Source: ICI

Exhibit 18: ETF asset allocations favor US Equities

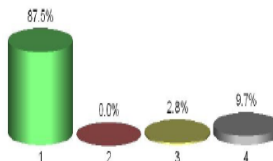


Source: CS Trading Strategy

Figure 1: On a 10-year basis, investors have a strong preference for equities

What is your preferred asset class over a 10-year horizon?

1. Equities
2. Cash
3. Treasuries
4. Credit



Source: Credit Suisse 2012 Global Macro Investors Conference, investor Sentiment Survey

Retail Driven by Fear & Greed?

Modeling retail investor activity is harder. There is less data about their strategies, investment levels and average turnover, and few of them use systematic or predictable trading strategies. However, there are some reported estimates we can use for a baseline, including the TABB estimates in Exhibit A1.

For this reason, our retail component is not highly sensitive to any of our factors. However, we believe there are a couple of important drivers below, as they make our model much more accurate at describing the top-down pattern expected:

- **Volatility:** We model retail investors trading more in volatile markets, since we think they tend to be panic sellers.
- **Returns:** Retail investors chase returns, trading more when the markets have been positive in the past 2 years.
- **ETFs:** Over the decade, we estimate that a reasonable amount of retail trading has shifted toward ETFs, which we accounted for in the structural forecasts. We therefore remove this flow from our bottom up stock activity model. This seems to be supported by the inverse relationship discovered by our economics team between equity ETFs and mutual fund flows (Exhibit 16). Although we note that ETF inflows do not totally offset mutual fund outflows, indicating that asset reallocation into Bond funds also contributes to equity outflows.
- **Indexing:** As retail investors become more risk averse, index weight portfolios (and ETFs) are more attractive than single stocks. This change in investor attitudes is seen in ICI data (Exhibit 17). Index fund turnover is typically around 10%, which is much less than active trading.

The Forecast for Liquidity

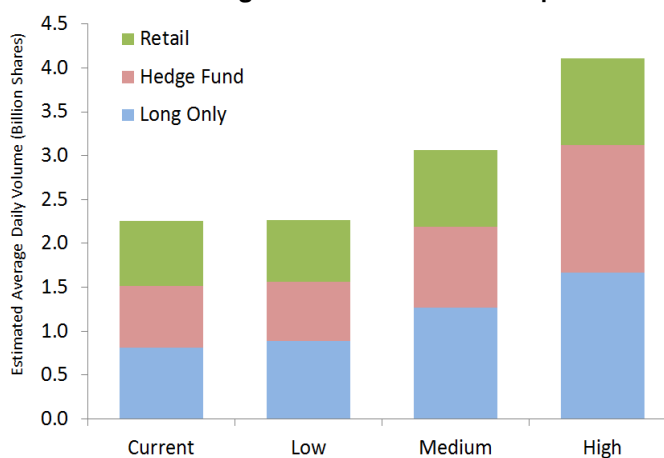
We've seen that many of the drivers of liquidity seem to be about as low as they can go based on historical ranges. Unfortunately, we've also seen that many of these drivers are unlikely to revert quickly, so the forecast is for a slow grind (or even a wait) to get back to historic trading levels.

A Silver Lining to the Cloudy Forecast

If there is a silver lining it is that, for most of the factors we've looked at, things can't get much worse. Investors might also take some comfort from 3 recent data-points:

- Recent Equity ETF flows strongly favor the US over other regions, although the bond-like yield ETF products continue to be a popular subset of this (Exhibit 18) and raise ongoing questions about their valuation being stretched (see [WSJ article](#)).
- Year-to-date bond-ETF flows continue to favor risky debt (credit, corporate and longer duration govt). This may be a sign that low bill rates are pushing investors up the risk spectrum (Exhibit 18).
- A recent survey at our Global Macro Investors conference showed investors overwhelmingly favor equities on a 10-year basis (Figure 1). Although, based on similar questions in our Research team's recent [Global Equity Strategy - July 2012 Investor Survey](#) it seems that many investors think this will only happen on a 5+ year horizon.

Exhibit 19: Using the model to forecast upside



Source: Credit Suisse –Trading Strategy

What if Things Return to Average?

Based on the bottom up model we’ve built, we can also compute what might happen to volumes if activity trends back toward previous levels. The results seem to show the risk to activity is to the upside (Exhibit 19):

- We are currently trading around levels where all factors are 25% from all-time lows.
- If all factors return to long term averages, the model sees an increase in activity of 30%, back to around 3bn shares per day.
- It’s unrealistic to expect all factors to simultaneously be at maximum levels (or minimum levels for that matter) since the factors themselves aren’t perfectly correlated. An upper bound of activity would likely be around all factors elevating to the 75-percentile level. The model forecasts an increase of up to around 4bn shares/day, close to double current levels.

Depending on regulatory changes, increased real activity would also likely increase HFT activity, giving a boost to the top-line number too.

And of course, increased IPO and secondary activity would boost shares outstanding, increasing the floor in shares that trade even under low-turnover scenarios.

Credit Suisse | Trading Strategy

USA

| | | |
|------------------|-----------------|------------------------------------|
| Phil Mackintosh | +1 212 325 5263 | phil.mackintosh@credit-suisse.com |
| Victor Lin | +1 212 325 5281 | victor.lin@credit-suisse.com |
| Ana Avramovic | +1 212 325 2438 | ana.avramovic@credit-suisse.com |
| Stephen Casciano | +1 212 325 0776 | stephen.casciano@credit-suisse.com |

Europe

| | | |
|---------------|------------------|-----------------------------------|
| Colin Goldin | +44 20 7888 9637 | colin.goldin@credit-suisse.com |
| Mark Buchanan | +44 20 7888 0908 | mark.k.buchanan@credit-suisse.com |
| Marwan Abboud | +44 20 7888 0082 | marwan.abboud@credit-suisse.com |

Asia

| | | |
|-------------|----------------|-------------------------------|
| Karan Karia | +852 2101 6322 | karan.karia@credit-suisse.com |
|-------------|----------------|-------------------------------|

constitute an invitation or offer to subscribe for or purchase any of the products or services mentioned. The information provided is not intended to provide a sufficient basis on which to make an investment decision. It is intended only to provide observations and views of individual traders or sales personnel, which may be different from, or inconsistent with, the observations and views of Credit Suisse research department analysts, other Credit Suisse traders or sales personnel, or the proprietary positions of Credit Suisse. Observations and views expressed herein may be changed by the trader or sales personnel at any time without notice. Past performance should not be taken as an indication or guarantee of future performance, and no representation or warranty, expressed or implied is made regarding future performance. The information set forth above has been obtained from or based upon sources believed by the trader or sales personnel to be reliable, but each of the trader or sales personnel and Credit Suisse does not represent or warrant its accuracy or completeness and is not responsible for losses or damages arising out of errors, omissions or changes in market factors. This material does not purport to contain all of the information that an interested party may desire and, in fact, provides only a limited view of a particular market. Credit Suisse may, from time to time, participate or invest in transactions with issuers of securities that participate in the markets referred to herein, perform services for or solicit business from such issuers, and/or have a position or effect transactions in the securities or derivatives thereof. The most recent Credit Suisse research on any company mentioned is at <http://creditsuisse.com/researchandanalytics/>

Disclaimer:

Please follow the attached hyperlink to an important disclosure: http://www.credit-suisse.com/legal_terms/market_commentary_disclaimer.shtml. Structured securities, derivatives and options are complex instruments that are not suitable for every investor, may involve a high degree of risk, and may be appropriate investments only for sophisticated investors who are capable of understanding and assuming the risks involved. Supporting documentation for any claims, comparisons, recommendations, statistics or other technical data will be supplied upon request. Any trade information is preliminary and not intended as an official transaction confirmation. Use the following links to read the Options Clearing Corporation’s disclosure document: <http://www.cboe.com/LearnCenter/pdf/characteristicsandrisk.pdf>

Because of the importance of tax considerations to many option transactions, the investor considering options should consult with his/her tax advisor as to how taxes affect the outcome of contemplated options transactions.

This material has been prepared by individual traders or sales personnel of Credit Suisse Securities Limited and not by the Credit Suisse research department. It is provided for informational purposes, is intended for your use only and does not