

# Global Diversified Financials

## Global Derivative Exchanges Trapped in the Deleveraging & Risk Aversion Cycle

- **Summary Thoughts** — Following the financial crisis, global exchanges remain stuck in a deleveraging cycle and a risk averse environment. In this detailed report, we assess the volume prospects for the major U.S., European and Asian derivative exchanges by 1) analyzing historical open interest/volumes, 2) digging into multiple drivers of risk-taking such as hedge fund assets and 3) discussions with industry executives across trading and prime finance. Our conclusion is that while volumes are bouncing along the bottom and recent actions in Europe have boosted sentiment, a meaningful recovery near term will be an uphill battle. Our discussions with industry exec's point to a continued cautious positioning around the world from institutional clients. There are, however, some emerging positive trends such as stable-to-moderately increasing hedge fund assets. This is the 2<sup>nd</sup> report from our Global Diversified Financials team following the groups passive/active investing report ([Passive Wave Going Global; Up Next = UK + Aus](#)).
- **Positioning On The Stocks** — Weighing the tough volume environment with positives such as more attractive valuations, capital return, processing models and minimal b/s risk, we believe a cautious and selective position is warranted throughout the sector. In terms of top picks, we recommend Buy-rated LSE and CME; and we have a non-consensus Sell rating on ASX and a Sell on SGX in Asia, as well. We also recommend several pair trades; 1) Global - overweight CME/underweight ASX, 2) Europe - LSE/BME and 3) U.S. - NDAQ/ NYX. For yield, we suggest DB1 (6%), ICAP (6%), NYX (5%) and CME (4% w/variable).
- **Where We Are & What History Can Tell Us** — In our view, the secret sauce for robust derivative markets is a combination of risk-taking + leverage, along with active central banks. A look back at 40+ years of CME futures trading shows the fastest volume growth occurred during the easy money decade of the 2000's, along with the electronification, at 24% growth vs. 15% from 1972-1999. While recognizing those days are gone and central banks are holding rates low, our report looks at various drivers of risk-taking, such as hedge fund assets, fixed income volumes, Inv bank leverage (Basel) and NYSE margin debt, that could signal a turn in volumes. Much of the data and anecdotes point to a struggle for volumes, though some signs are positive such as slightly higher hedge fund assets (0.92 R<sup>2</sup> w/derivative vol's). YTD in '12, global futures exchanges have seen volumes / open interest decline ~9% y/y. ICE via energy is the standout with the best fundamentals.
- **Regulatory Tailwind from OTC "Futurization"** — Swap markets have taken a pause due to pending OTC rules, yet mandatory clearing (IRS, CDS, ITRAXX) in '13 could 1) increase the propensity to use futures over swaps and 2) generate clearing rev's for exchanges. The exchanges best positioned for OTC clearing are CME, ICE & LSE, and we have already seen some front running from the buy-side.

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**See Appendix A-1 for Analyst Certification, Important Disclosures and non-US research analyst disclosures.**

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## Investment Summary

While exchange stocks have ridden the stronger global equity markets in 2012, a key investor concern is that we are in the midst of a global deleveraging cycle and that there are structural factors, not just cyclical, driving the lower trading volumes and reduced risk appetite.

**In our report, we assess where the exchange industry is in the deleveraging & risk-taking cycle based on many factors.** First, we analyzed the open interest and volumes of the major global exchanges and compare them to historical trends coming out of a financial crisis. In this report, we have detailed historical open interest for all the exchanges on pages 22-27. We also dig into the key drivers of risk-taking and leverage such as hedge fund asset, fixed income volumes, investment bank leverage and NYSE margin debt. Furthermore, we spoke with many industry executives from derivative trading to prime finance. This report is the 2<sup>nd</sup> from our Global Diversified Financials team and follows our passive/active investing report ([Passive Wave Going Global; Up Next = UK + Australia](#)) plus the most recent monthly ([Perspective Volume III](#)).

**Based on our analysis, we believe the exchange sector is currently bouncing along the bottom from a volume and open interest perspective, yet will likely continue to struggle with any meaningful recovery.** Our discussions with industry participants points to a cautious positioning from institutional clients around the world, and their volume forecasts for futures range from down 5-10% to up single-digits. Plus the Fed and many other central banks are likely to maintain low rates for quite some time and regulators through Basel have de-risked the system, additional headwinds to volumes. However, we are seeing some positive signs such as stable to slightly higher hedge fund assets (though much of this is from market gains vs. flows). And open interest at the global exchanges, while down from higher levels in 2011, seem to have stabilized. Open interest are a leading indicator of future volumes. Lastly, recent actions in Europe have boosted sentiment.

**YTD in 2012, futures volumes at the global exchanges in our coverage universe are down 9%, with the exception of ICE that is focused on Energy.** Overall, futures volumes at NYSE Liffe have declined most significantly, down 19% from the eight months of 2011. The other derivative exchanges, Eurex and CME, both saw decreased trading activity y/y through August 2012, and were down -17% and -15% respectively. In Asia, ASX 24 (formerly known as the Sydney Futures Exchange) volumes are down -9% in 2012, through open interest closed August down -18% y/y. Volumes are weak across the globe, including the U.S., Europe and Asia. And while we see periodic spikes in trading around Europe or China concerns, the market does not reward exchanges as it fears the better volumes are an unwind of positions. Keep in mind, though, 2012 faces a tough y/y comp on the volume increase last summer around European woes.

**OTC Swaps Futurization.** A potential positive catalyst to futures volumes is the implementation of mandatory OTC swaps clearing. This could benefit the futures exchanges through a greater propensity to trade futures over swaps and drive OTC clearing revenues. We expect mandatory clearing of some products (IRS, CDX, ITRAXX) to go into effect in Q1 in the U.S. for swap dealers, major swap participants, and Active Funds. EMIR in Europe will likely be later. At CME, we've already seen an uptick in asset managers front running the regulatory rules and clearing swaps on CME's platform. The OTC swaps market has a notional value of \$648 trillion.

Figure 1. Summary YTD August Futures Volume and August Open Interest Across Major Derivative Exchanges

Volume		YTD'12	Open Interest		Aug'12
<b>ICE Europe</b>			<b>ICE Europe</b>		
Volume		181,464,977	Open Interest		6,341,522
Y/Y		3%	Y/Y		50%
<b>ASX</b>			<b>Liffe</b>		
Volume		67,635,065	Open Interest		12,817,239
Y/Y		-9%	Y/Y		14%
<b>CME</b>			<b>Eurex</b>		
Volume		2,011,344,000	Open Interest		109,628,978
Y/Y		-15%	Y/Y		-12%
<b>Eurex</b>			<b>CME</b>		
Volume		1,167,998,554	Open Interest		84,467,193
Y/Y		-17%	Y/Y		-15%
<b>Liffe</b>			<b>ASX</b>		
Volume		297,426,180	Open Interest		2,333,087
Y/Y		-19%	Y/Y		-18%

Source: Company Reports & Citi Research

\*Note: Eurex includes futures and equity options. ICE Europe is futures only.

**In terms of the stocks, we believe a defensive position is warranted given our lackluster expectations for volumes.** While we think a good bit of the slower volume environment is priced into the stocks, we see risk of downward earnings revisions for 2013, unless the trading picture improves soon. But despite our overall caution, we do see positive characteristics for the exchange stocks such as more attractive valuations, strong capital return, transaction processing based models and minimal balance sheet risk. And volume y/y comps should get easier in 2013.

As the sector has shifted from a growth mode ('05-'07 20-30x P/E's) to more growth + income (& capital return stories), many exchanges have pulled back on external growth plans and are returning significant amounts of capital. For example, dividend yields are relatively attractive at DB1 (5%), ICAP (6%), NYX (5%), CME (4% w/variable), LSE (3%) and NDAQ (2%). This capital return and lower valuations vs. historical, kept exchange sector stock returns at +13% on average in 2012, close to broader equity benchmarks despite a tough volume environment. In terms of valuations, P/E multiples have certainly pulled back to more rationale levels but it is hard to envision multiple expansion anytime soon given the volume backdrop and lack of M&A.

Our top picks in the sector from our analysts around the globe are LSE and CME. And we have a non-consensus negative call on the shares of ASX ([Australian Securities Exchange \(ASX.AX\)](#) - [Weak conditions appear to be accelerating, move to SELL](#)). We also have a sell on SGX. We generally have a more positive bias towards U.S. exchanges vs. European and Asian. We also see good opportunity in several pair trades around the world.

**1. Overweight CME / underweight ASX** - The ASX has more recently started to see an acceleration of downward pressure in its derivative and cash equities businesses. Moreover, the Australian economy has recently shown signs of

decelerating on the back of slower growth in China. While CME faces headwinds on volumes, particularly given the Fed on hold, we believe the stock has priced in much of the volume risk and could benefit more from OTC clearing opportunities. CME trades at 15.5x our 2013 estimate and ASX at 14.6x. YTD CME's shares have returned 24% while ASX has returned 6%.

**2. Overweight LSE / underweight BME** – Post the LCH.Clearnet acquisition, we expect LSE's calendarised FY13 EPS to grow by ~15%, which represents the highest earnings growth among the European exchanges we cover. Yet the stock currently trades at 10x FY 13 P/E (9x including LCH. Clearnet). BME's earnings on the other hand, which are exposed to both cyclical and structural challenges, should decline 7% based on our estimates, yet the stock trades at ~11x 2013 E earnings. We think the premium is unwarranted.

**3. Overweight NDAQ / underweight NYX** – Both NDAQ and NYX face a challenging environment yet we see more risk of negative earnings revisions from NYX. And NYX has recently struggled with weaker technology revenues and Liffe volumes may remain tepid as it is focused on the short-end of the rates curve. Plus, NDAQ shares have arguably suffered from the FB ordeal, though we don't expect a meaningful impact to their earnings growth rate from this situation. NDAQ trades at 8.6x our 2013 estimate and NYX is at 10x. YTD total return on NDAQ shares is down -2% and NYX is +3%.

Figure 2. P/E of Global Exchange Stocks

	Ticker	Rating	Mkt Cap US\$m	'13E P/E	Dividend Yield
<b>North America and LatAm</b>					
The Nasdaq OMX Group	NDAQ.O	2	\$3,985	8.6x	2%
NYSE Euronext	NYX.N	2	\$6,487	10.x	5%
CBOE Holdings, Inc.	CBOE.O	2	\$2,530	15.9x	2%
CME Group Inc	CME.O	1	\$19,111	15.5x	3%
IntercontinentalExchange, Inc.	ICE.N	2	\$9,975	15.5x	0%
TMX Group Inc	X.TO		\$3,766	12.6x	3%
Bolsa Mexicana de Valores	BOLSAA.MX		\$1,243	17.9x	4%
BM&F Bovespa SA	BVMF3.SA		\$11,812	12.6x	4%
<b>Europe</b>					
BME	BME.MC	2H	\$1,828	11.1x	7%
Deutsche Boerse AG	DB1Gn.DE	2	\$10,342	10.6x	5%
GPW	GPW.WA		\$439	12.2x	4%
London Stock Exchange	LSE	1	\$2,762	10.5x	3%
<b>Asia</b>					
Australian Securities Exchange	ASX.AX	3	\$5,508	14.6x	6%
Bursa Malaysia	BMYS.KL		\$1,064	19.7x	4%
Hong Kong Exchanges & Clearing	0388.HK	1	\$14,868	22.3x	4%
NZX Ltd	NZX.NZ		\$222	16.7x	5%
Singapore Exchange	SGXL.SI	3	\$6,054	23.x	4%
Dubai Financial Market PJSC	dfm.du		\$2,071	38.1x	3%
<b>Inter-Dealer Brokers (IDB)</b>					
BGC Partners Inc	BGCP.OQ		\$926	7.2x	14%
GFI Group Inc	GFIG.N		\$351	9.1x	7%
ICAP PLC	IAP.L	1	\$3,550	8.x	7%
Tullett Prebon	TLPR.L		\$1,094	6.8x	5%
<b>Other Market Structure</b>					
Interactive Brokers Group, Inc.	IBKR.O		\$5,683	11.1x	3%
Knight Capital Group Inc	kcg.n		\$268	7.3x	0%
MarketAxess Holdings Inc	MKTX.O		\$1,085	18.2x	1%

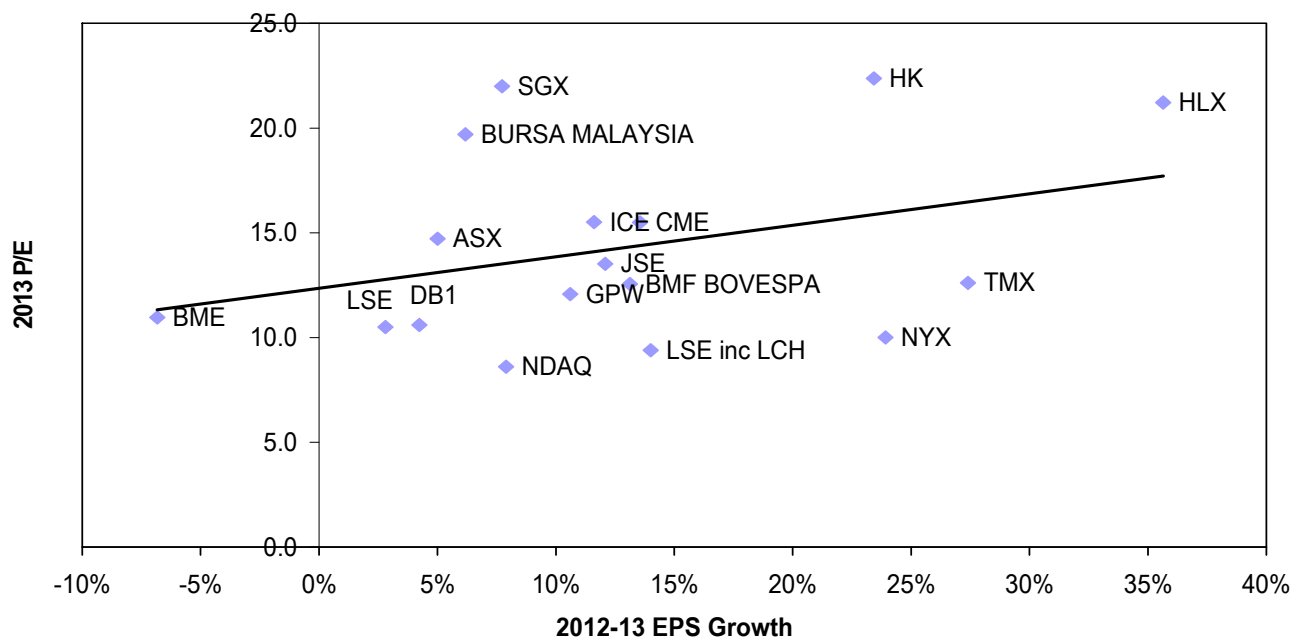
Source: Bloomberg & Citi Research

Figure 3. Total Returns of Global Exchange Stocks

Company	YTD Price Return	Q2'12	2011	2010
Philippine Stock Exchange	65%	-5%	29%	21%
Dubai Financial Market PJSC	38%	-5%	-25%	-8%
London Stock Exchange PLC	34%	-3%	-2%	21%
Hellenic Exchange Holding SA	32%	-15%	-43%	-23%
CME Group Inc	24%	-7%	-23%	-3%
BM&F Bovespa SA	23%	-8%	-21%	12%
TMX Group Inc	23%	4%	17%	17%
NZX Ltd	15%	13%	57%	-31%
Singapore Exchange	14%	-9%	-24%	4%
Bolsa De Valores De Lima Sa	13%	-14%	-36%	49%
Intercontinental Exchange	13%	-1%	1%	6%
CBOE Holdings, Inc.	13%	-2%	15%	NA
Deutsche Boerse AG	12%	-9%	-14%	-7%
ASX Ltd	6%	-10%	-14%	14%
JSE Limited	5%	-2%	-4%	35%
ICAP PLC	3%	-10%	-32%	30%
NYSE Euronext	3%	-14%	-9%	23%
The Nasdaq OMX Group	-2%	-12%	3%	20%
Bursa Malaysia	-5%	-15%	-11%	0%
Hong Kong Exchanges & Clearing	-10%	-14%	-28%	30%
BME	-10%	-12%	28%	-12%
Osaka Securities Exchange Co Ltd	-26%	-2%	11%	-5%
SPX	16%	-3%	2%	15%
SXXP	15%	-3%	-8%	12%
BKKX	27%	-7%	-23%	23%
Exchange Average	13%	-7%	-6%	9%

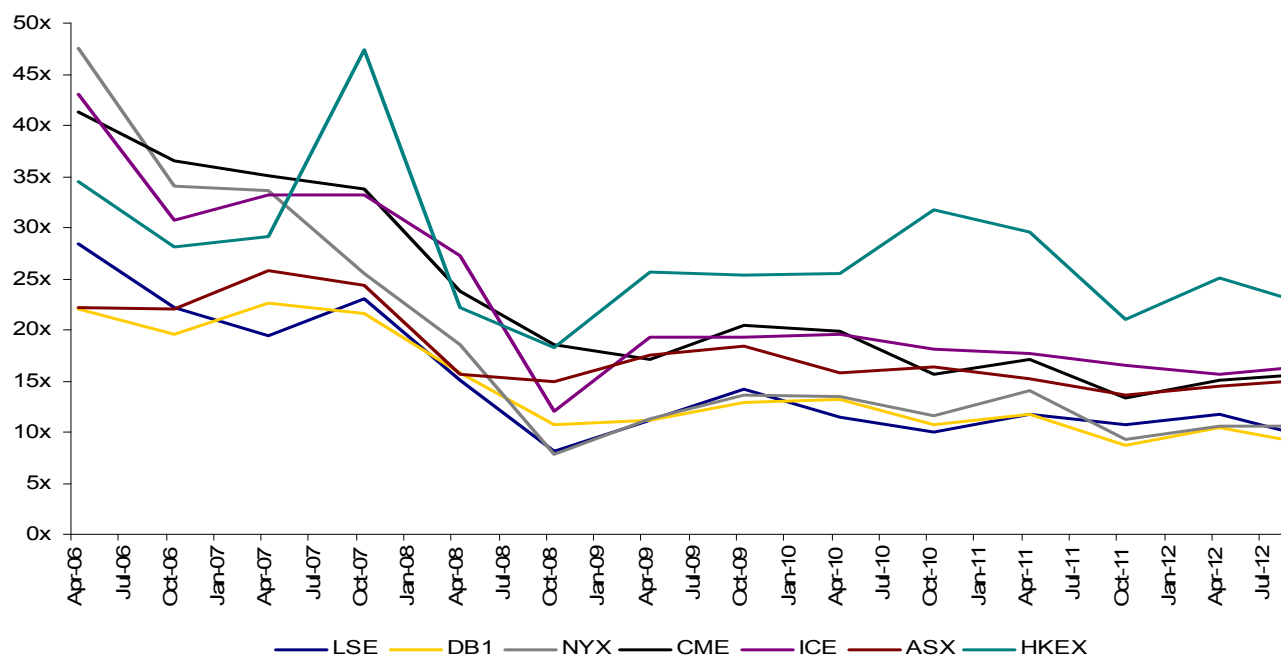
Source: Bloomberg & Citi Research

Figure 4. Global P/E and EPS Growth



Source: Reuters, First Call & Citi Research

Figure 5. Historical P/E Multiples for Global Exchanges



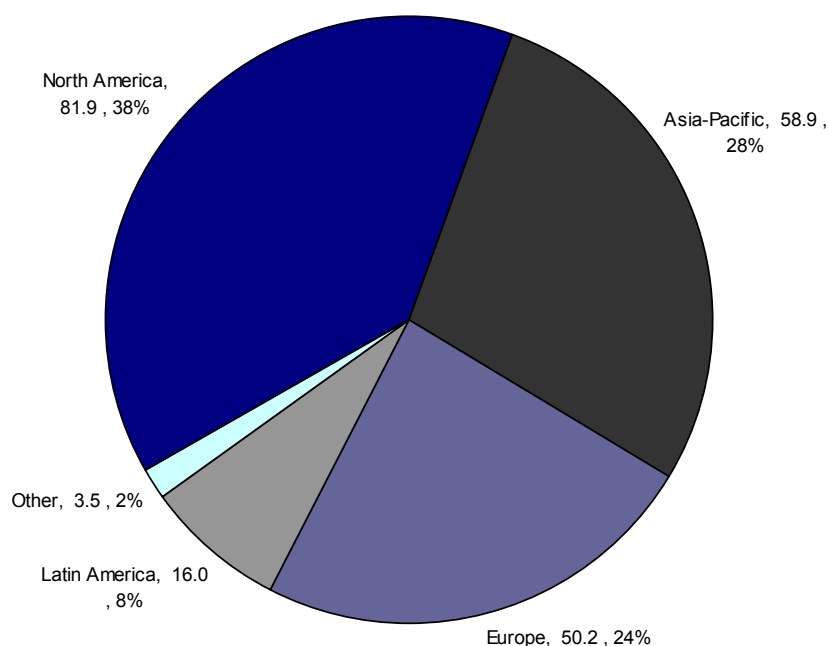
Source: SNL & Citi Research

## Overview of Global Listed Derivative Markets

In this section, we look at size of the global futures, options and OTC markets for perspective. Overall, 24.9B exchange listed futures and options contracts traded hands globally in 2011, with the most trading activity occurring in North America. The OTC derivative market remains much larger than the exchange listed and now has a \$648T notional outstanding.

In terms of exchange listed, we look at the data excluding the Korea Exchange, as their high volume Kospi 200 stock index option skews the figures. By geography, North America had the highest volume in 2011 (39% of total), with over 8.1B contracts traded. Asia-Pacific saw 5.9B contracts trade, or 28% of the total. Europe, had 5.1B contracts trade, or 24% of the total, and Latin America had 8% of total volume, or 1.6B contracts. Most of the Latin American volume is traded at BM&F Bovespa, which had total derivative volume of 1.5B contracts in 2011.

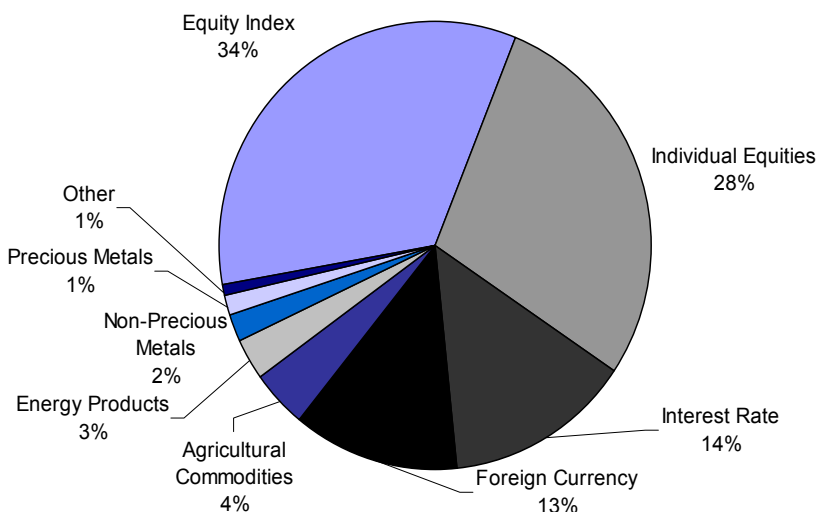
Figure 6. Futures & Options Volume By Number of Contracts Traded – 2011 (billions)



Source: FIA, Company Reports & Citi Research (ex: Korean Exchange)

By derivative products (futures & options), equity index and single-name equities were the highest volume products around the globe in 2011, with 34% and 28% of total volume respectively. Interest rate (14% of total volume) and FX (13%) were the next highly traded contracts in 2011.

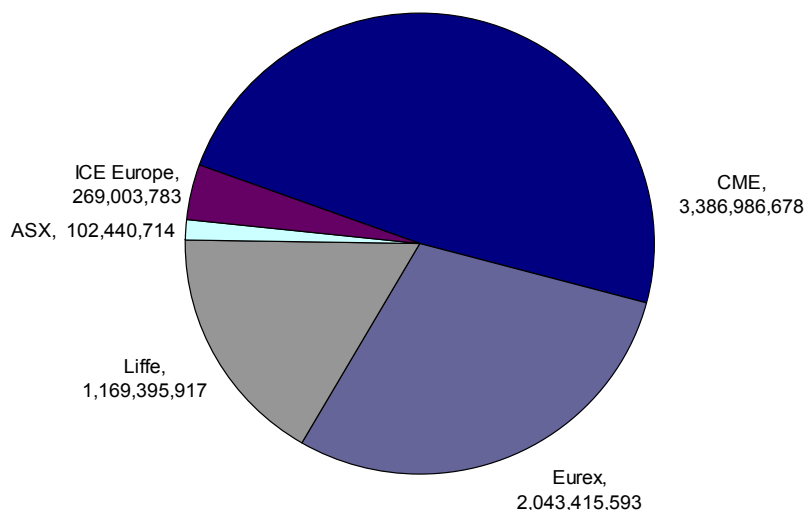
Figure 7. Futures and Options Volume by Product Globally - 2011



Source: FIA, Company Reports & Citi Research

Below is a snapshot of the major derivatives exchanges covered by Citi Research. CME trades 1.6x the derivative volume of their European competitor Eurex and just under 3x the derivative volume of Liffe, making it larger than its global competitors in terms of trading volume.

Figure 8. Derivatives Volume by Number of Contracts 2011 – Major Futures Exchanges

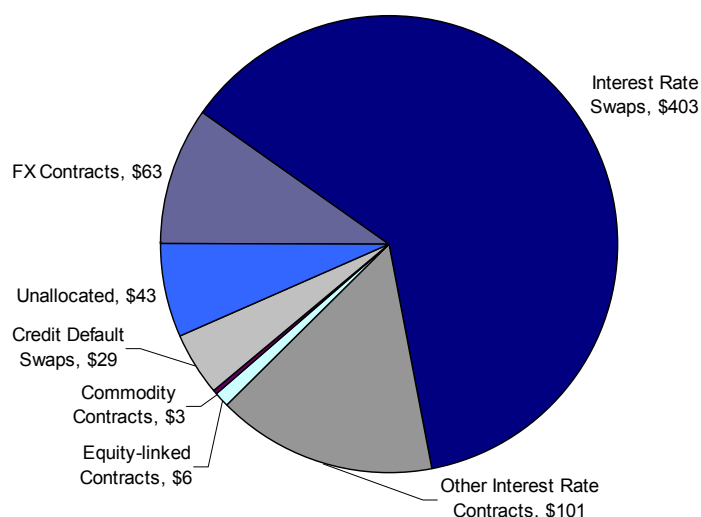


Source: FIA, Company Reports & Citi Research

The OTC derivative market is multiple times larger than the exchange trade market. As of December 2011, the OTC derivative market totaled \$648 trillion of notional outstanding, composed mostly of interest rate swaps (\$403 trillion), other interest rate contracts (interest rate options and FRAs, \$101 trillion) and FX contracts (\$63 trillion).



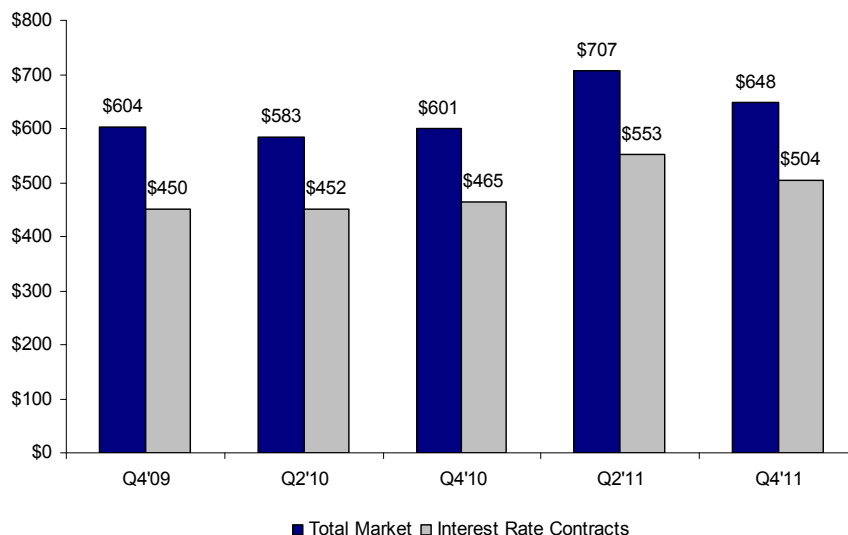
Figure 9. OTC Derivative Market Globally – \$648 Trillion Notional Outstanding



Source: Bank for International Settlements & Citi Research

However, as of December 2011, total interest rate contracts (composed of interest rate swaps, interest rate options, and forward rate agreements) had decreased from June at \$553T notional to December 2011 at \$504T. This decrease in interest rate swaps in the 2<sup>nd</sup> half of 2011 (-\$49 trillion notional) outpaced declines in all other products combined (-\$10 trillion). We believe this partly a function of the Fed's commentary in September 2011, when they extended their low rate policy language and introduced operation twist and also a function of firms awaiting final Dodd-Frank rules.

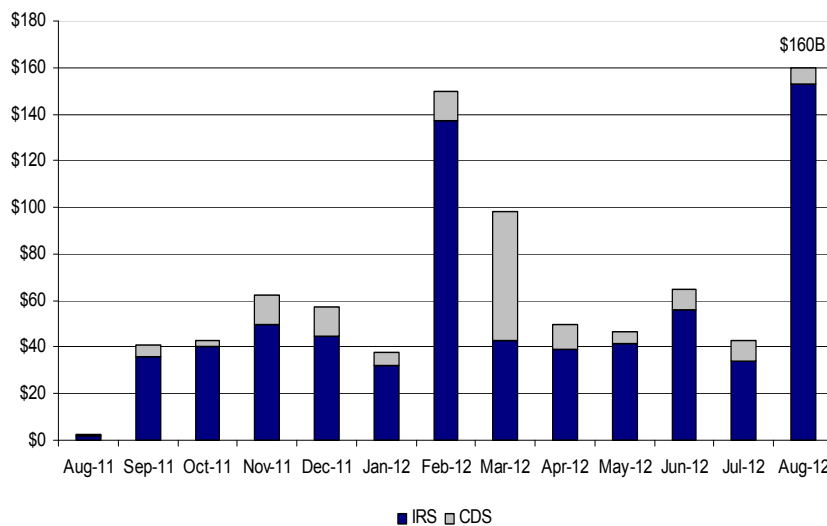
Figure 10. Recent OTC Derivative Growth – Notional Outstanding (USD trillions)



Source: Bank for International Settlements & Citi Research

CME cleared a record \$160B of IRS and CDS contracts in August and has seen a significant increase in firms finalizing their internal OTC clearing readiness ahead of the formal mandate, which should begin in Q1'13. While this ramp currently contributes little to earnings, it could contribute more over time. At a conference this week, CFO Jamie Parisi also mentioned several new buy side firms cleared their first OTC swaps with CME during the month of August.

Figure 11. CME CDS and IRS Notional Cleared (\$USD billions)

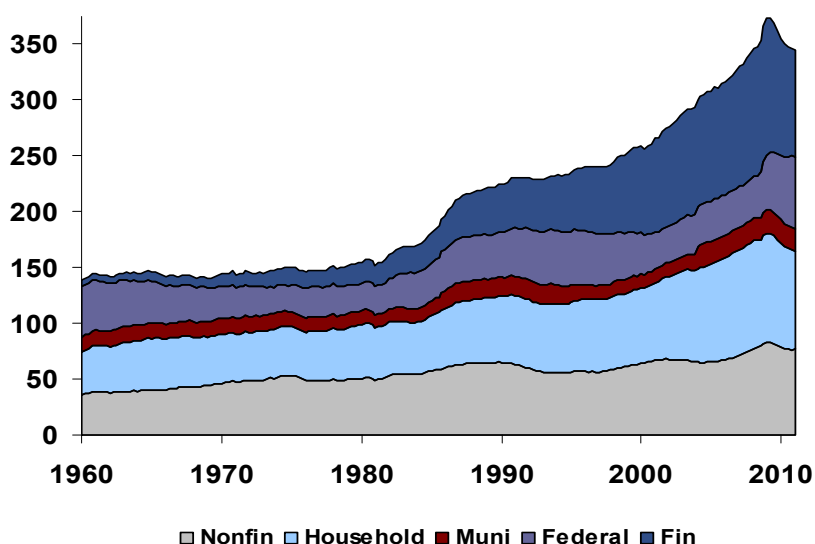


Source: Company Reports & Citi Research

## Global Deleveraging / Risk Aversion & What It Means To Exchanges

Since the 2008 financial crisis, leverage across the globe has declined sharply. This deleveraging and reduced risk-taking environment, have depressed trading activity and hampered volume growth at exchanges around the globe. We can see this deleveraging in many data points including lower investment bank leverage and hedge fund assets from peak levels in 2007, as compared to pre-crisis. From a macro view, in the United States, the financial sector debt-to-U.S. GDP ratio has decreased after peaking in the first quarter of 2009 at levels of 123% of U.S. GDP and now strands around 88% of GDP.

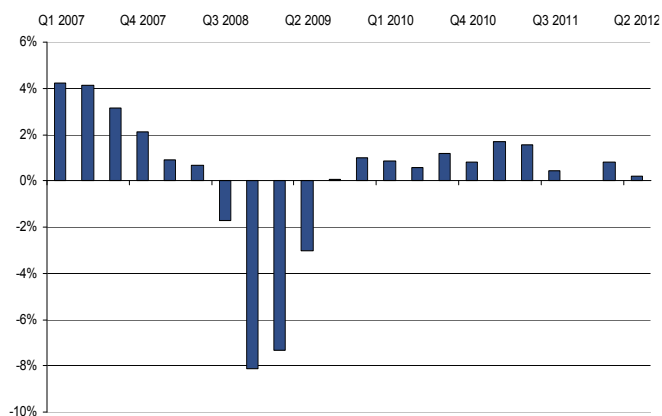
Figure 12. US Debt / GDP By Sector



Source: Flow of Funds, Haver Analytics & Citi Research

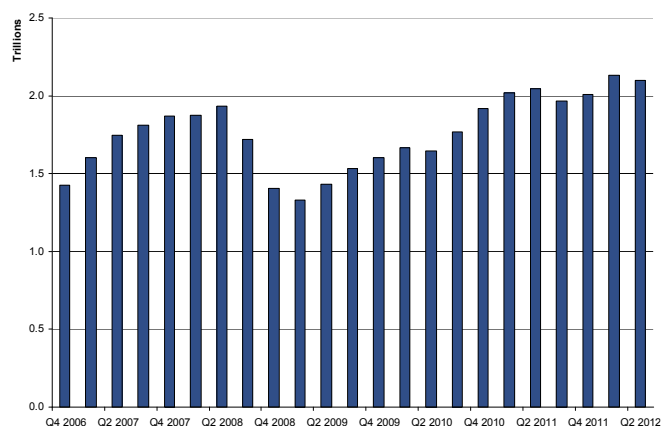
Hedge fund assets under management came under significant pressure during the financial crisis, hurting derivative trading volumes. Fortunately, more recently we have seen an uptick in HF assets under management, which reflects better flows and market gains. As seen below, HF assets under management were up in Q1'12, though reverted modestly in Q2'12. Other data sources have suggested assets were up in July on good market performance.

Figure 13. Quarterly HF Flows as % of Beginning Year Balance through Q2'12



Source: www.hedgefundresearch.com, Citi Research

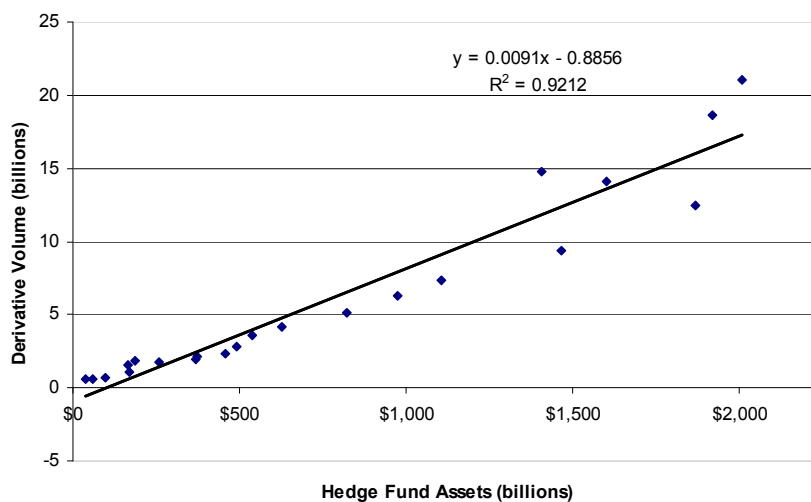
Figure 14. Total Hedge Fund AUM through Q2'12



Source: www.hedgefundresearch.com, Citi Research

We look at hedge fund assets as they have historically been a good predictor of future derivative volume growth.

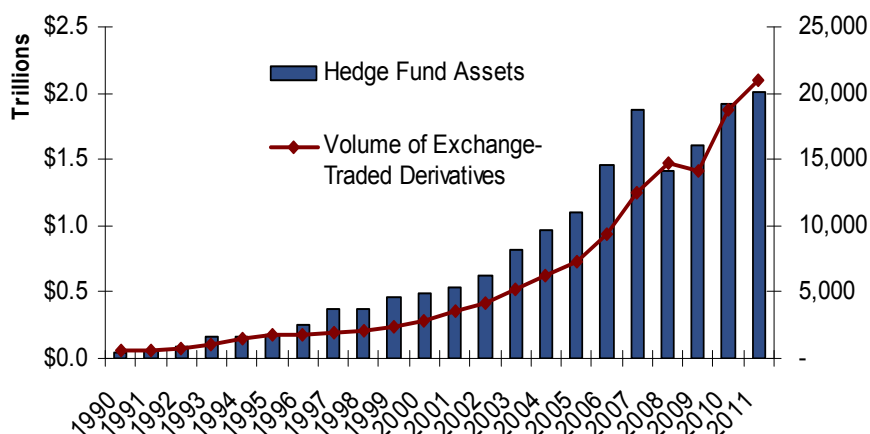
Figure 15. Derivative Volume vs. Hedge Fund Assets Regression (1999-2011)



Source: Citi Research

Since 1990, volumes of exchange traded derivatives have risen alongside growth in hedge fund assets.

Figure 16. Hedge Fund Assets to Volume of Exchange-Traded Derivatives



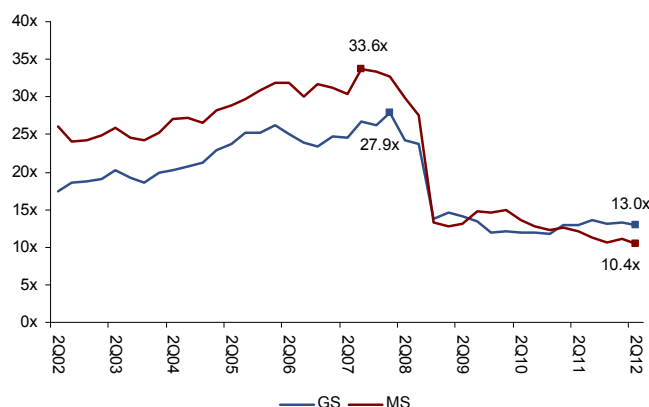
Source: [www.hedgefundresearch.com](http://www.hedgefundresearch.com), Company Reports & Citi Research

But at global banks, leverage remains low relative to pre-crisis levels and may remain so due Basel and other factors. And large investments banks, such as Morgan Stanley and GS, are carrying lower inventory levels of equities, a result of lower client trading activity and low risk appetite.

Gross leverage at Morgan Stanley peaked in the third quarter of 2007 and at Goldman Sachs in the first quarter of 2008. Since dropping significantly in the 4<sup>th</sup> quarter of 2008, gross leverage levels at MS and GS have remained at or near 10 year lows. At the close of Q2'12, gross leverage at GS was at lowest levels seen in the last 10 years and near 10-year lows at MS.

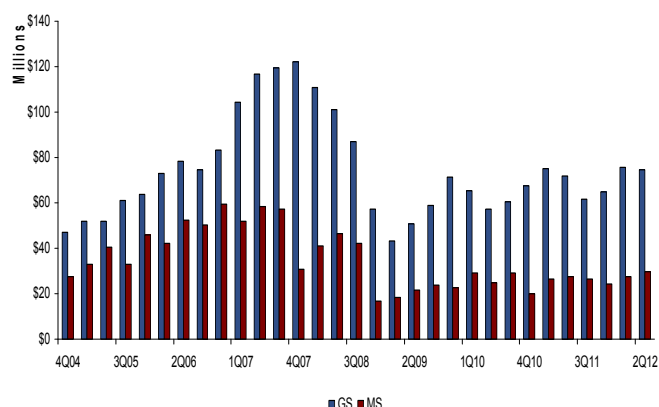
During last quarter's earnings, Goldman CFO David Viniar noted "Questions surrounding the stability of the global economy and its future prospects resurfaced in the second quarter.... The situation in Europe remains a primary concern. Despite the systemic benefits of the European Central Bank's long-term refinancing operations, the market refocused on the broader sovereign challenges that remain. In particular, client psychology suffered from continued skepticism regarding the mechanism and political will required to address the complex series of issues facing European governments. The outlook for the global economy was further clouded by concerns about the slowing economic conditions in the United States and China given weak economic data during the quarter. The accumulation of these various macroeconomic concerns increased market uncertainty and reduced client activity.... Market volumes posted quarterly declines in various fixed income and equity products." He further noted "...the recent environment has damaged client sentiment and reduced overall activity levels."

Figure 17. Gross Leverage at GS and MS



Source: Company Reports & Citi Research

Figure 18. Equity Inventory for GS and MS



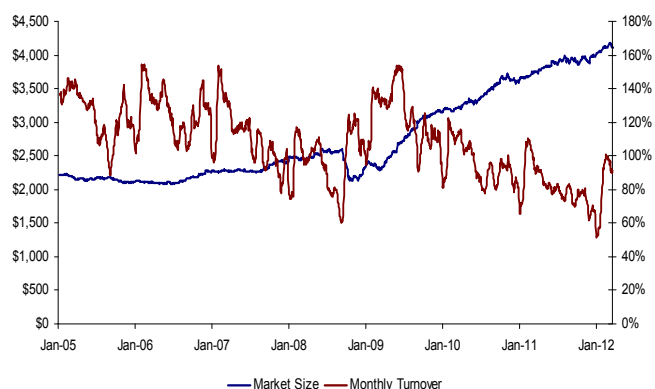
Source: Company Reports & Citi Research

Similarly, MS CEO James P. Gorman noted “tremendous political uncertainty in the second quarter was detrimental to the global capital markets, resulting in a very challenging environment for all aspects of our business. Weak client flows and difficult conditions contributed to results in sales and trading.”

MS is reshaping their fixed income business as well and continues to reduce risk-weighted assets. By 2013, MS expects RWA to be 25% below Q3’11 levels, and 30% by 2014. While we cannot ignore some of the reduction is being driven by new regulatory requirements, this also reflects the softer trading and risk-taking environment and MS plans to reduce RWA through 2014 suggests this environment will persist for a period of time.

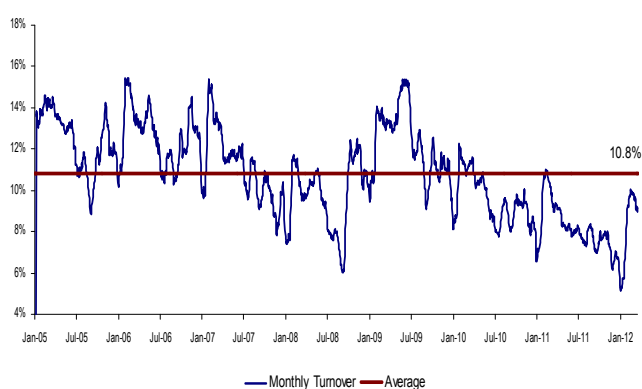
And investment grade and high yield credit turnover remain below their seven year average, despite a larger overall market size.

Figure 19. IG and HY Monthly Credit Turnover vs. Total Market



Source: Citi Research

Figure 20. IG and HY Credit Turnover



Source: Citi Research

In U.S. cash equities, margin debt at the NYSE Euronext has declined from peak levels of \$381B in July of 2007 to current levels of \$277B. More recently, however, margin debt has recovered from the mid-financial crisis lows of \$173B in February of 2009 to current levels of \$278B. While the increase in margin debt signals more risk appetite, the increase has fluctuated alongside broader macro sentiment and

we have not seen the continued recovery necessary to conclude investors are willing to take on more risk with conviction.

Figure 21. Historical Margin Debt at NYSE Euronext (1959-2012)



Source: Company Reports & Citi Research

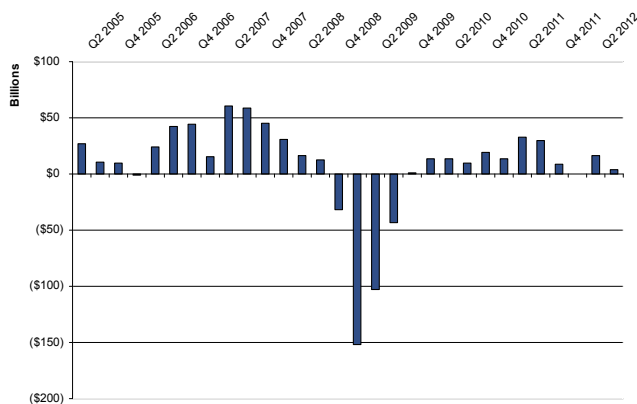
Figure 22. Margin Debt at NYSE Euronext (2007-2012)



Source: Company Reports & Citi Research

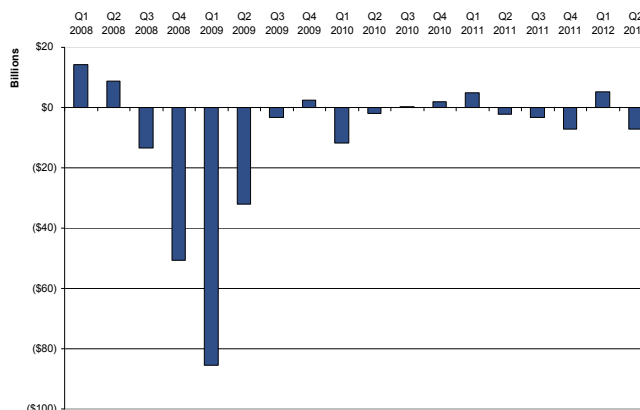
Hedge fund flows have stayed positive to flat over the last three years, however fund of fund flows have been choppy.

Figure 23. Industry Flows



Source: www.hedgefundresearch.com, Citi Research

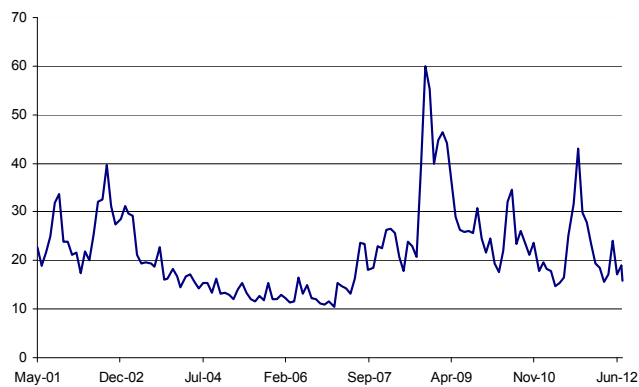
Figure 24. Fund of Fund Flows



Source: www.hedgefundresearch.com, Citi Research

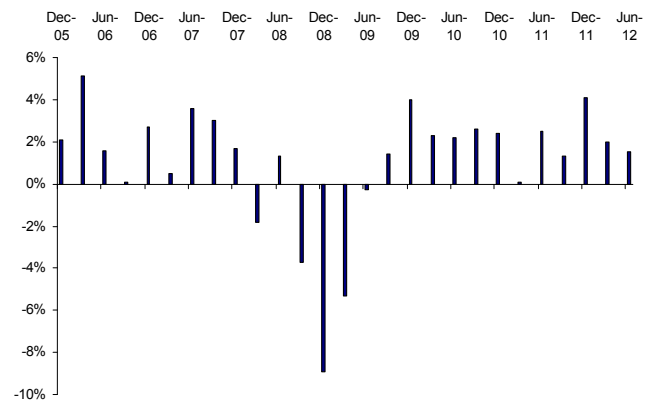
And while the VIX remains below peak levels of late 2008 and summer of 2011, we have not seen an extended period of modest VIX levels since late 2006. What proved out in the financial crisis is that derivative exchanges want a volatile environment but not too volatile where traders pull back and reduce positions.

Figure 25. Absolute Level of the VIX



Source: Bloomberg, Citi Research

Figure 26. US GDP Growth



Source: Factset, Citi Research



## Historical Perspective, Including 40 Years of CME Data

**The outlook for global futures volumes remains uncertain.** Looking back at 40+ years of CME data, suggest a historical y/y volume growth of 14-15%. However, the U.S. market is much more mature now with less game changing new products such as Eurodollar futures and the market is largely electronic now. So while see good potential for a snap back in volumes as the financial markets regain confidence and risk-taking picks up, it is hard to argue for a repeat of CME's historical volume growth. Another boost to volumes at CME down the road could be a large increase in interest rates trading once the market believes the Fed will begin to raise rates. Another potential positive to volumes that could play out over an extended period time would be more international traders using CME products, or if the Chinese domestic market were to open up. Another secular trend is OTC.

More recently, over the past 10-years, we believe much of the growth was driven by a huge wave of liquidity, risk-taking (including hedge fund growth), securitization markets, etc. And given the current environment of global deleveraging, some of this may be gone permanently. Volume growth in the 2000's at CME averaged 24% versus 15% from 1972-1999.

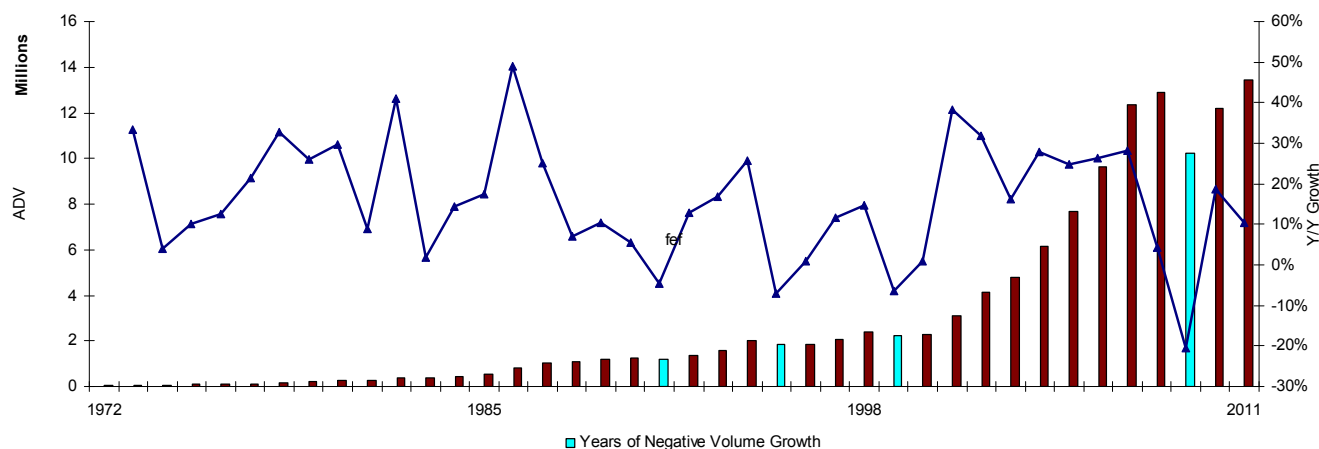
In front of major market crisis, we typically see huge volume increases as market participant's reposition and unwind positions. This is followed by a sharp decline in volumes as participants back away from too much volatility and de-risk. Then volumes start to recover the next year and generally follow a multi-year recovery. So while the recent credit crisis recovery was showing the normal patten of recovery in year 1 and 2, 2012 volumes have declined y/y raising concern that this recovery may end up not being like previous ones. In 2011, European volatility drove the spike.

From 1972 to 2011 (40 years of volumes), CME has experienced only four years of negative y/y volume growth, 1991, 1995, 1999 and 2009. We note CME is on pace to experience lower y/y volumes in 2012 as well.

Those years were each marked with a recession or international financial crisis. The slowdown in volumes in 1991 followed a recession in the United States that lasted from July of 1990 through March of 1991. Recessions do not necessarily lead to lighter trading activity as volumes maintained y/y positive growth following the recessions from 1973-1975, 1980, 1981-1982 and 2001.

The 1995 decline in volumes followed the financial crisis in Japan, and the 1999 decline followed the Asian financial crisis in 1997 and the Russian crisis in 1998. The 2009 drop followed the 2008 financial crisis and subsequent deleveraging that exchanges are still navigating today.

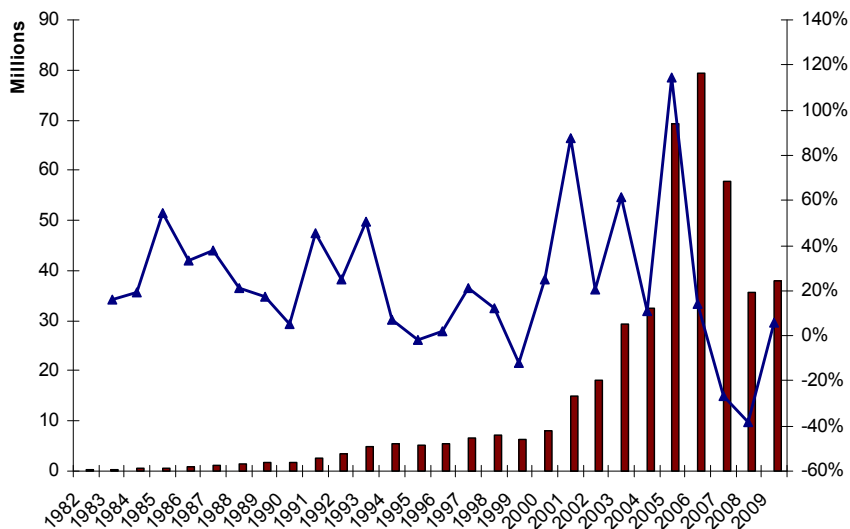
Figure 27. Historical Average Daily Volume at CME and Y/Y Growth through 2011



Source: Company Reports & Citi Research

Below is historical open interest trends at CME (excl. CBOT and NYMEX). Similar to volumes, open interest spiked going into the crisis / recession, but fell off after as traders reassessed risk and repositioned hedges.

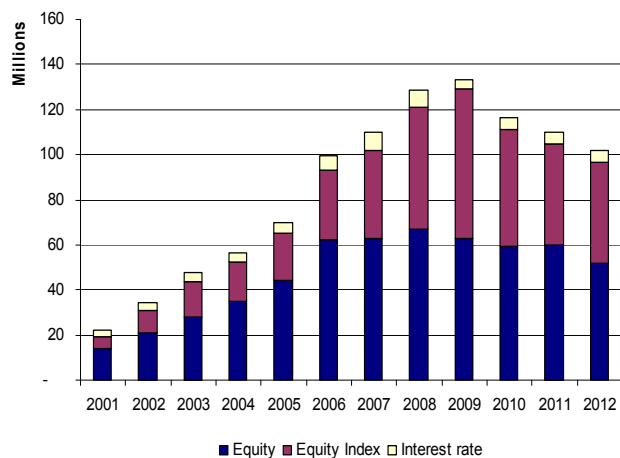
Figure 28. Historical Open Interest – CME (ex. NYMEX and CBOT) Exchange Through 2009



Source: Company Reports & Citi Research

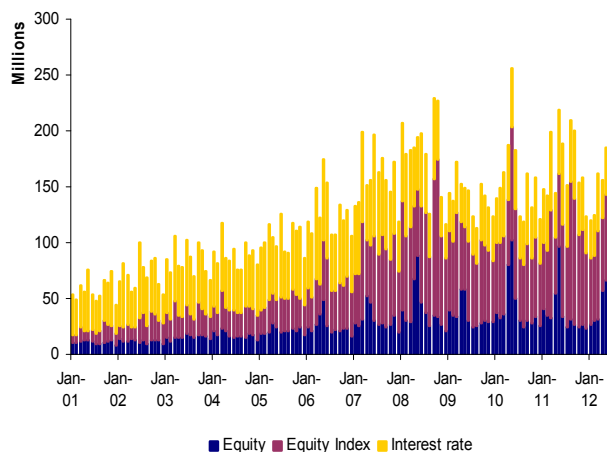
**While we don't have as long a history as CME, similar historical patterns can be seen around the world, as highlighted in the figures below on the following pages with Eurex/Liffe/ASX.** At Eurex & Liffe in Europe and ASX in Asia, there was clearly a rapid increase in volume and open interest through the 2000's as the world was flooded with easy money, high risk appetite, booming hedge fund growth. However, all exchanges have pulled back dramatically since the end of the financial crisis.

Figure 29. Eurex - Historical Derivative Open Interest



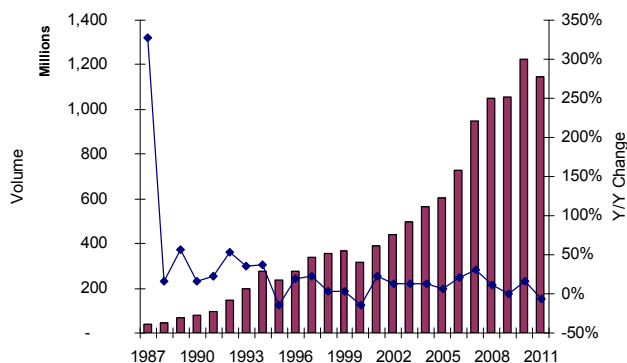
Source: Company Reports & Citi Research

Figure 30. Eurex - Historical Derivative Volume



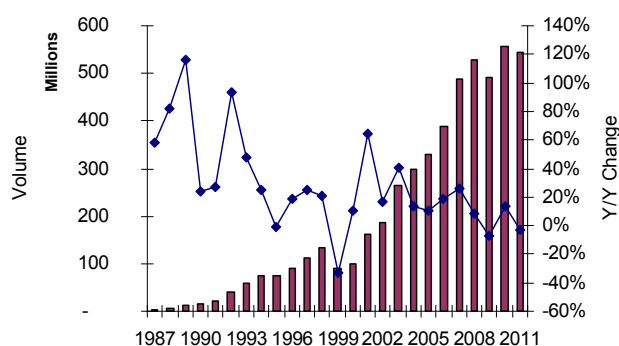
Source: Company Reports & Citi Research

Figure 31. Liffe Total Volume – Historical – through 2011



Source: Company Reports & Citi Research

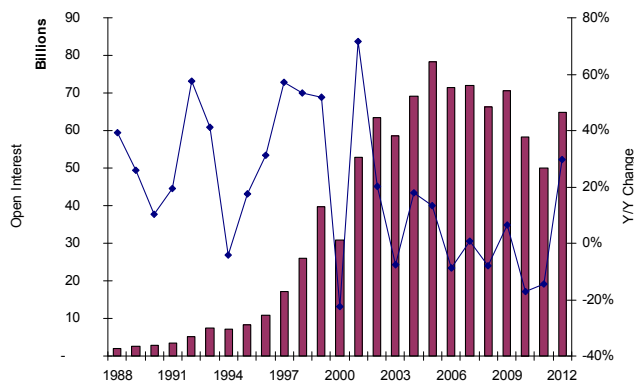
Figure 32. Liffe - Total ST Rates Volume – Historical – through 2011



Source: Company Reports & Citi Research

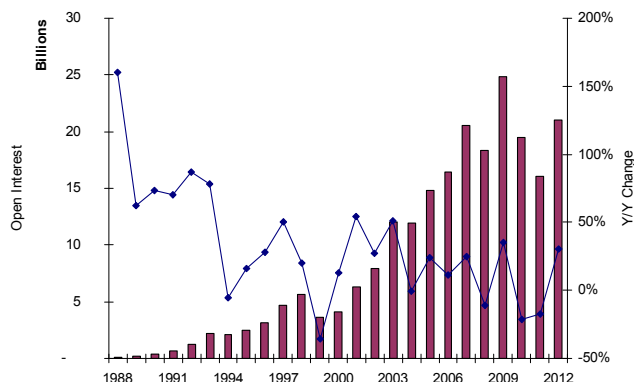
Note. Liffe volume and OI includes Futures & Options and incl. Bclear volumes.

Figure 33. Liffe Total Open Interest – Historical



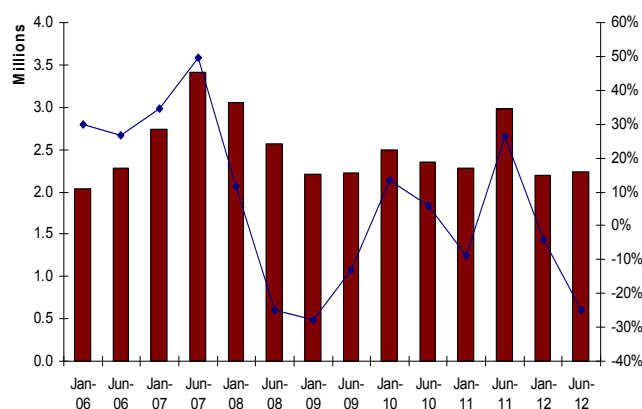
Source: Company Reports & Citi Research

Figure 34. Liffe - Total Open Interest – ST Rate Products



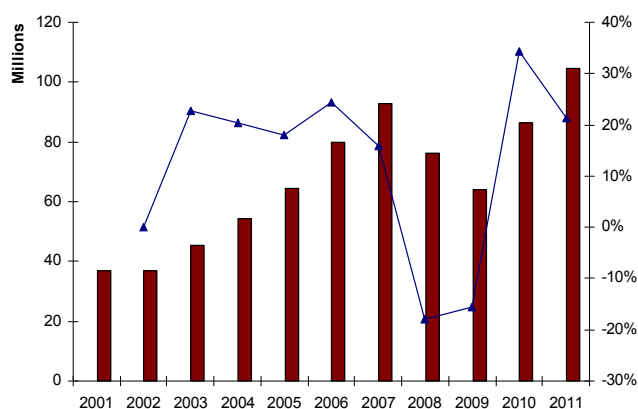
Source: Company Reports & Citi Research

Figure 35. ASX Historical Derivative (Futures and Options on Futures) Open Interest



Source: Company Reports & Citi Research

Figure 36. ASX Historical Derivative (Futures and Options on Futures) Volumes

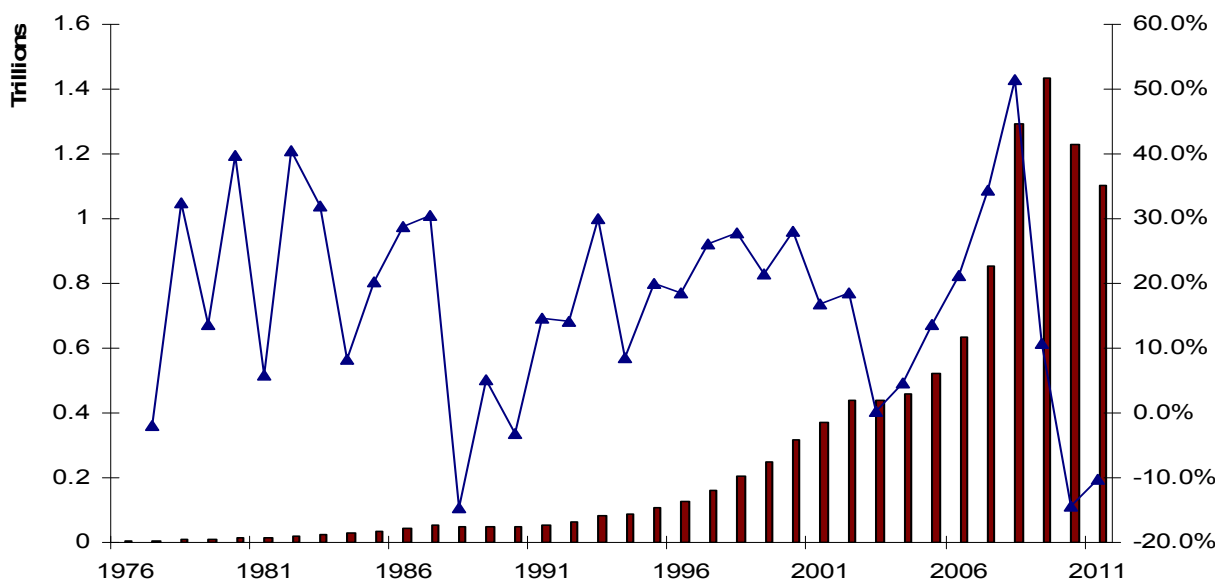


Source: Company Reports & Citi Research

## U.S. Cash Equities Historical Volumes; Also Feeling The Pressure

Over the past 35+ years, NYSE cash equity volumes have grown at a CAGR of 15.4%. Similar to the global futures markets, cash equity volumes spiked going into the crisis, but have fallen off since. Since 2008, volumes grew 10.8% in 2009, but have slipped -14.3% y/y in 2010 and -10.3% in 2011. So far in 2012, cash equity volumes are on pace for a third year of y/y negative volume growth (down -17% YTD 2012). Some other factors could be at play such as fund flows out of equities into fixed income, regulatory pressure on high frequency trading, and market structure issues such as the flash crash and recent IPO's such as Facebook.

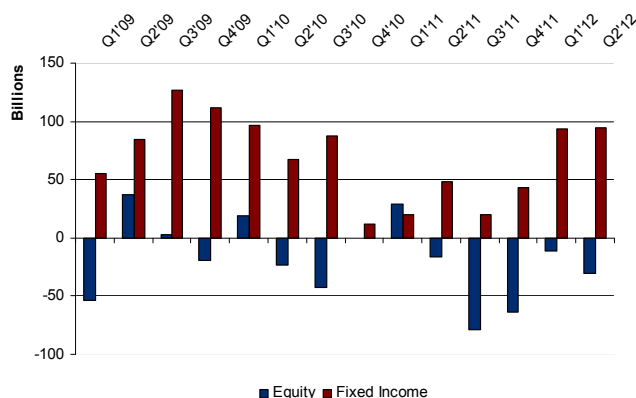
Figure 37. US Cash Equity Historical – NYSE (Tape A) through 2011



Source: Company Reports & Citi Research

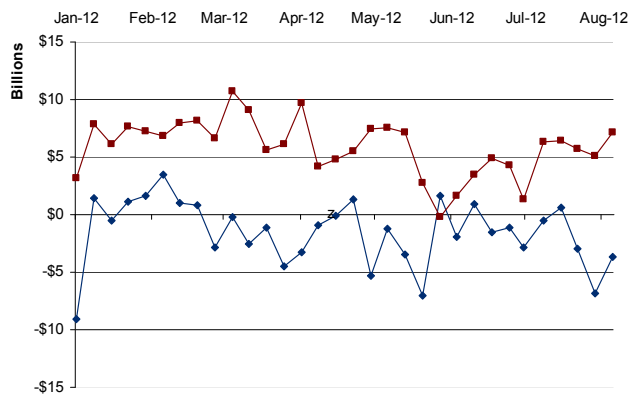
Since 2009, flows to fixed income mutual funds have largely outpaced flows to cash equity funds, which could be contributed to some of the cash equity volume softness. In the United States in 2012 specifically, cash equity outflows have totaled -\$49.6B, while fixed income inflows have totaled \$188.8B.

Figure 38. FI & Equity Flows to Mutual Funds



Source: ICI, Company Reports & Citi Research

Figure 39. FI & Equity Flows to Mutual Funds



Source: ICI, Company Reports & Citi Research

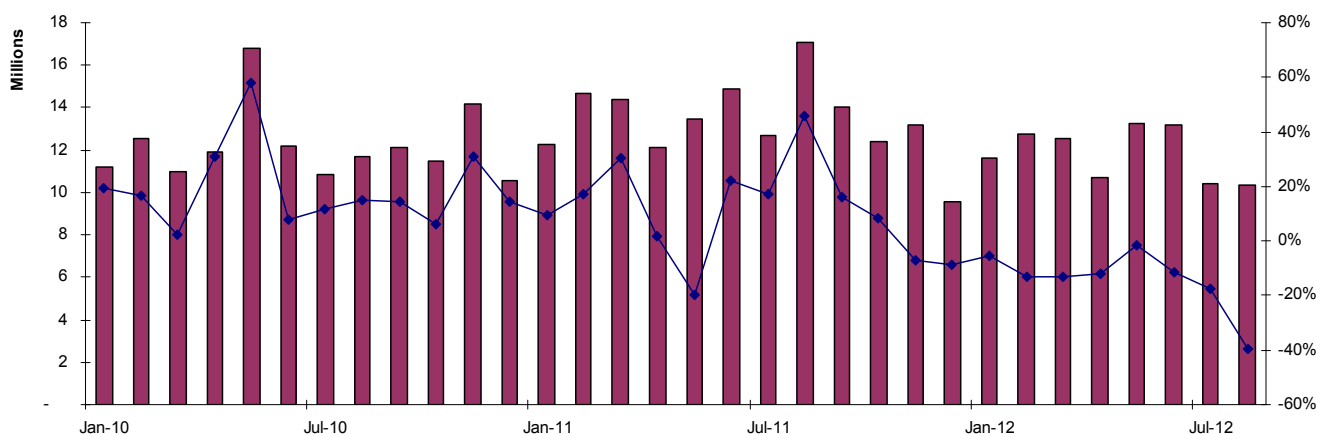
## Post Credit Crisis Look At Exchange Trends

Taking a closer look at more recent volume activity after the credit crisis, we recognize several broad themes. 1) Trading volumes have been and remain volatile and largely coincide with the macro environment, 2) interest rate derivative trading is subdued around the globe, 3) 1H 2012 has been consistently soft across the globe, 4) energy (specifically at ICE) remains the standout with healthy volume / open interest trends.

### United States

At CME in the United States, trading activity has been volatile and macro-driven and has yet to return to steady y/y growth seen at the exchange prior to the financial crisis. At times, trading volumes have shown signs of consistent growth over the past couple years (for example, 1H 2010 and Q1 2011), reflecting expectations for an economic recovery and benign macro risk environment. But at other times, trading activity has spiked alongside broader market volatility and global uncertainty (May 2010 and August 2011), followed by subdued trading and retrenchment of risk-taking. Most recently, volume trends have turned negative.

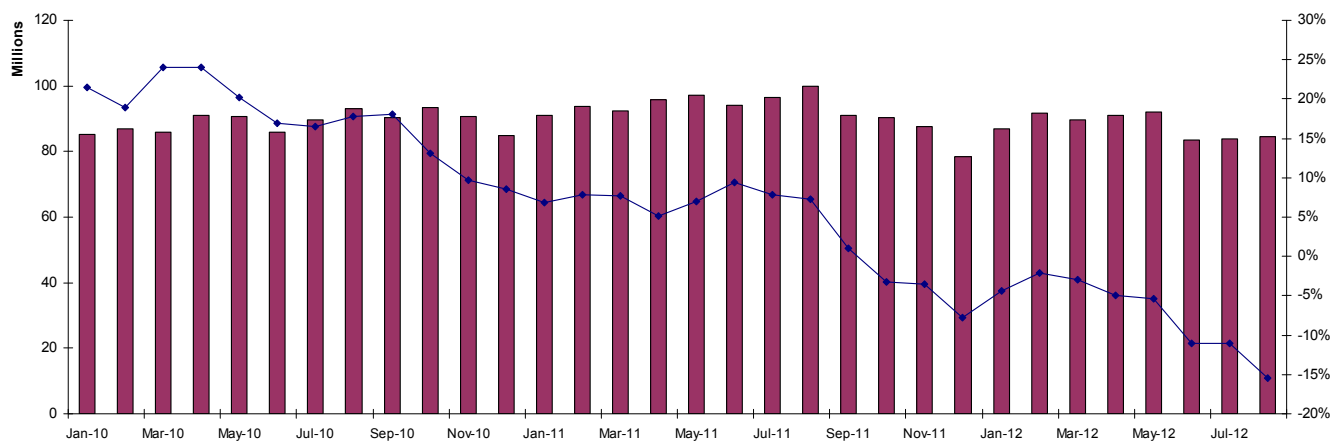
Figure 40. CME Volumes and Y/Y Growth – Jan 2010 through Aug 2012



Source: Company Reports & Citi Research

Through August in 2012, overall volumes at CME have are down -15% y/y to 11.8M contracts ADV YTD. Looking closer, the majority of the decline YTD is within CME's interest rate complex (-23% y/y), but the exchange has also experienced reduced activity across their equity index products (-19% y/y), partially offset by some strength in agricultural commodities (+8%) on the heels of the drought conditions in the Midwestern US. Approximately 20% of CME's revs are from interest rate products. Keep in mind Q3 y/y volume metrics are a challenging comparison given European woes in the summer of 2011.

Figure 41. CME Open Interest Has Declined – through Aug 2012

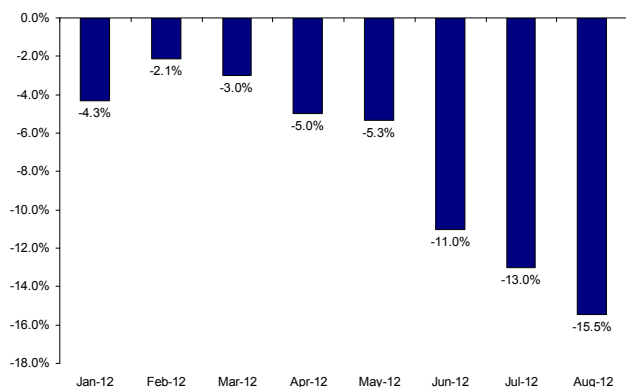


Source: Company Reports & Citi Research

Recent open interest trends suggest light trading activity could persist in the near term. Open interest at the end of August stood at 84.5M contracts, or down -15% y/y. Through the first eight months of 2012, the y/y decline in open interest seems to have accelerated (we note Q3'12 will have difficult y/y comps and summer is typically a seasonally slow period at the exchange.) While some of the decline in open interest was expected, we were anticipating a larger rebound in interest rate and equity index products.

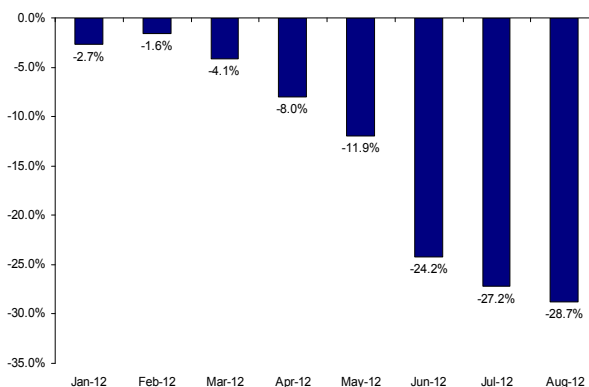
On the left, we show open interest trends through the first eight months of 2012 overall for CME, and then for the interest rate complex exclusively. Interest rate products have been the predominant driver of the decline in open interest at CME, which we attribute to the flat yield curve and the Fed's low rate policy. And while CME has done a nice job growing their mid-curve product lines, interest rate and specifically Eurodollar futures (-47% % y/y in Aug, -42% in July, and -36% in June) are likely to see continued softness with the Fed keeping rates low through late 2014. While there have been recent negative headlines around Libor as a key rate index, we do not believe it will be replaced anytime soon.

Figure 42. CME Y/Y Change in Total Open Interest



Source: Company Reports & Citi Research

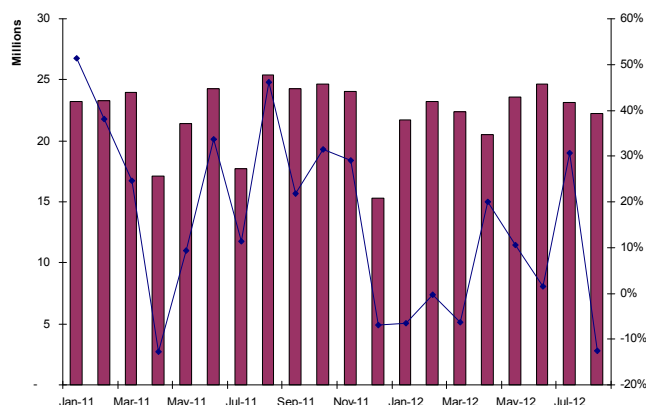
Figure 43. CME Y/Y Change in "Interest Rate" Open Interest



Source: Company Reports & Citi Research

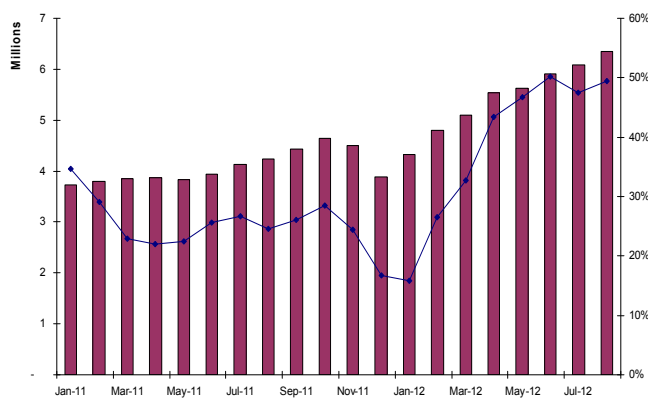
**An positive outlier has been ICE Europe, which has continued to put up strong growth, despite broader macro conditions and the sovereign crisis in Europe.** At ICE Futures Europe (the energy complex), total futures volume YTD through August 2012 was up 3% y/y. And after dipping in late 2011, open interest has grown steadily over the first eight months of 2012. Note we are only showing futures here.

Figure 44. ICE Futures Europe Monthly Volume Trends through Aug'12



Source: Company Reports & Citi Research

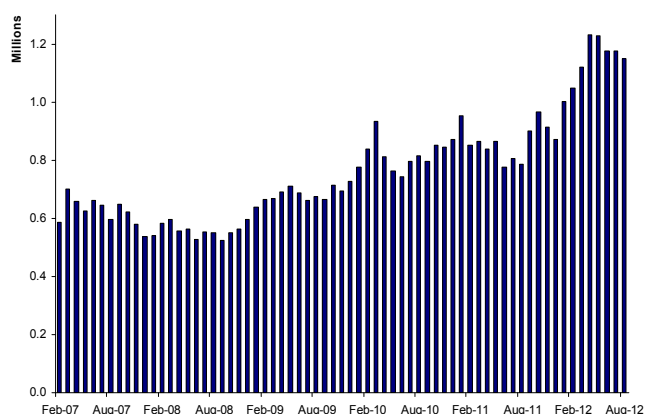
Figure 45. ICE Futures Europe Open Interest Trends through Aug'12



Source: Company Reports & Citi Research

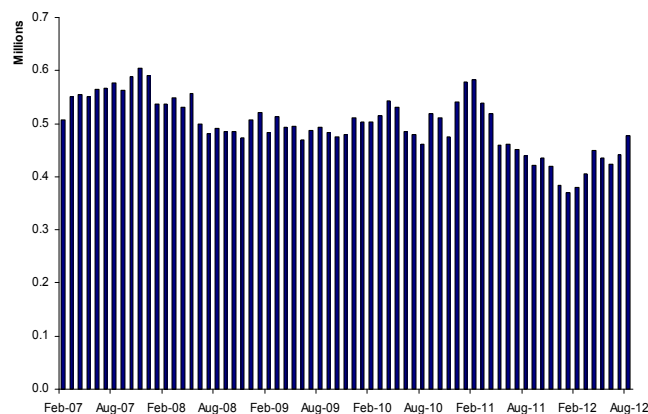
Much of the strength at ICE has been due to robust trading in Brent futures contracts (+17% YTD), offset by softness in WTI futures (-38% YTD). Total Futures Open interest at ICE futures Europe continues to grow, up 50% y/y from Aug 2011 levels. This strength bodes well for volume growth moving forward, but could potentially be offset by softness in WTI trading.

Figure 46. ICE Brent Futures Open Interest through Aug 2012



Source: Company Reports & Citi Research

Figure 47. ICE WTI Futures Open Interest through Aug 2012



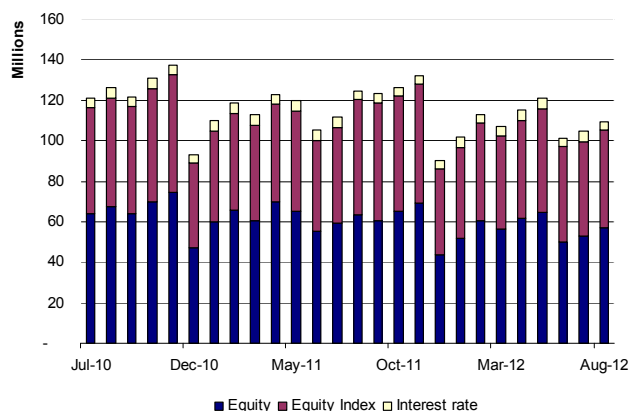
Source: Company Reports & Citi Research



## Europe

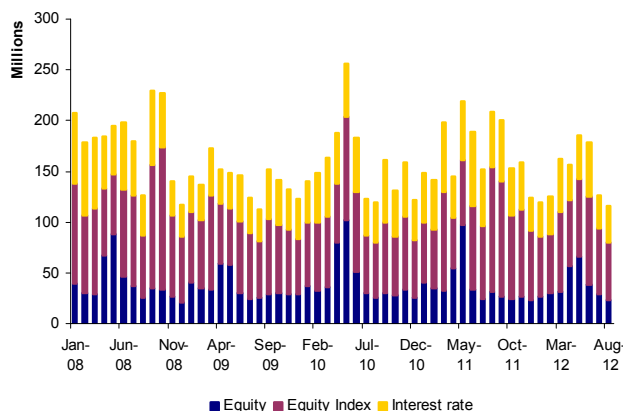
**In Europe, trends following the financial crisis are similar to the U.S. and Asia-Pacific.** At Eurex (Europe's largest derivative exchange), volumes since the crisis have coincided with broader macroeconomic volatility. Similar to CME, Eurex experienced large spikes in volumes in May 2010 and August 2011, up 72% and 76% y/y respectively, around macro uncertainty and European sovereign issues. However, these volatility driven volume increases were followed by several month of lighter volumes and less risk-taking / hedging.

Figure 48. Open Interest – Eurex through Aug'12



Source: Company Reports & Citi Research

Figure 49. Volume – Eurex through Aug'12

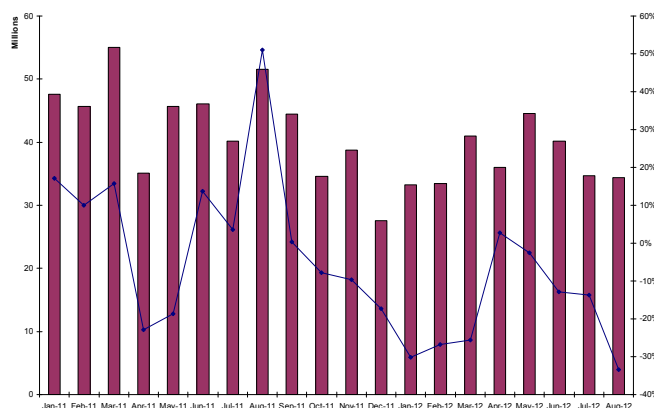


Source: Company Reports & Citi Research

So far in 2012, Eurex volumes have declined -17% y/y. Open interest trends are negative as well, and as of the end of August open interest remained down -12% on a y/y basis. Similar to other exchanges, the decline is being driven by softness in interest rate futures and to a lesser extent equity products. Approximately 8% of DB1's total revenues are from interest rate derivatives.

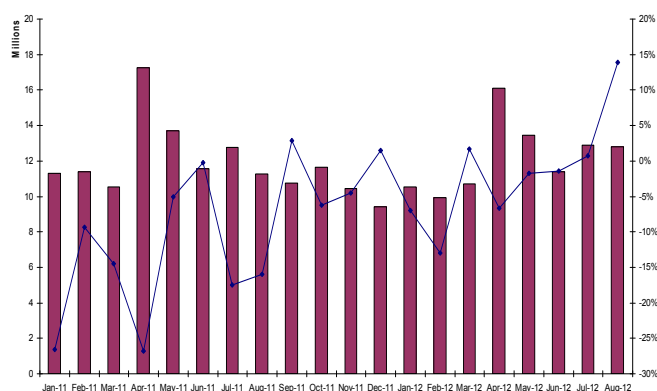
After the financial crisis, trading activity at Liffe decreased through most of 2009, but recovered early in 2010 and spiked in April and May 2010, similar to other exchanges, on the heels of European sovereign volatility. Volumes subsequently retrenched for the remainder of the year. Trading volumes followed a similar pattern at Liffe in 2011, spiking in May and August, before retrenching into late 2011 and 2012. Through August 2012, volumes have experienced y/y softness. Overall, futures volumes (ex Bclear) are down -19%. Futures open interest at Liffe, however, is up 14% y/y. For the figures, these are futures only at Liffe and exclude Bclear.

Figure 50. Recent Volume Trends at Liffe through Aug'12



Source: Company Reports & Citi Research

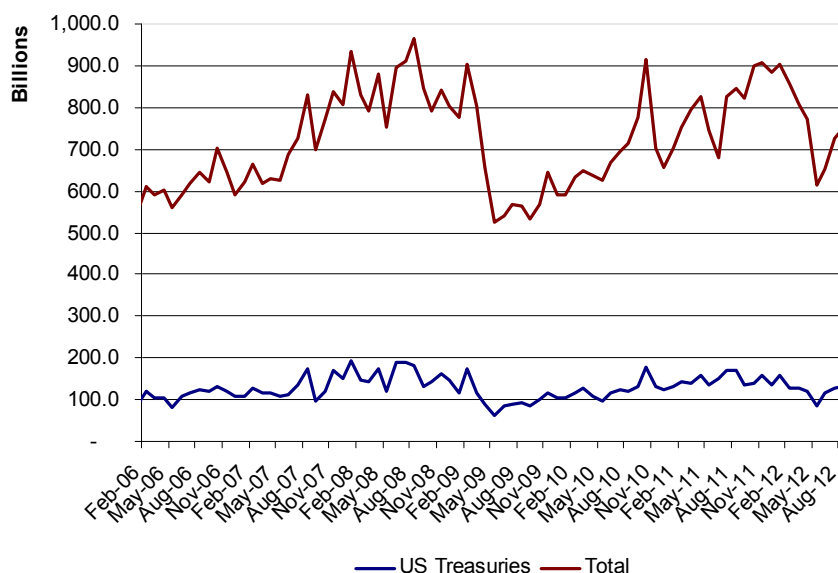
Figure 51. Recent OI Trends at Liffe through Aug'12



Source: Company Reports & Citi Research

While not an exchange, ICAP is the largest global inter-dealer broker with a significant electron platform. That said, we include them for perspective. Since the financial crisis, ICAP has also experienced a recovery in volumes in early 2010. But after spiking in May of 2010 at \$914bn ADV and in August of 2011 at \$905bn ADV, volumes have trended lower in 2012.

Figure 52. Historical Volume at ICAP – US Treasuries and Total Exchange - updated



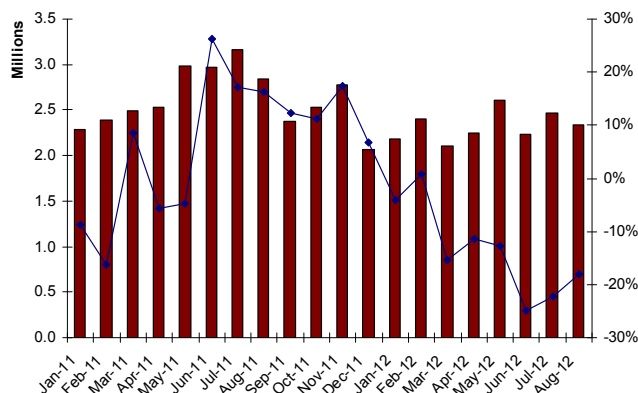
Source: Company Reports & Citi Research

Volumes at ICAP in 2012 have experienced a significant slowdown in trading activity thus far in 2012, down 16% cumulatively. By product, ICAP volumes are down -23% in US Treasuries, -12% in US repos, -12% in EU repos and -24% in Spot FX contracts. ICAP is likely to benefit from OTC clearing.

## Asia

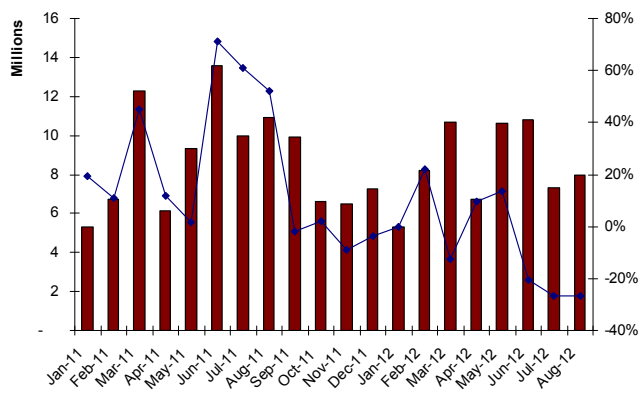
In Asia-Pac, we are seeing similar trends at the ASX 24, part of the Australian Stock Exchanges (ASX). ASX 24 trades Australia's key benchmark futures and options contracts listed over Treasury bonds, bank bills, cash rates, S&P / ASX Equity indices and energy and commodities.

Figure 53. Y/Y Open Interest Growth Rates at ASX (ASX24 Derivatives)



Source: Company Reports & Citi Research

Figure 54. Volume Growth Rates at ASX (ASX24 Derivatives)



Source: Company Reports & Citi Research

While volumes on ASX24 are down -9% YTD through August 2012, open interest at the exchange has fallen noticeably. As of the end of August, open interest was down -18% on a y/y basis. With interest rates potentially stable for the next 15 months, interest rate futures are likely to remain subdued at ASX. Also not helping, is that ASX has a group of new derivative products set to launch yet has been awaiting regulatory approval. Given the regulatory backlog in Australia around high frequency trading and clearing, we can't rule out further delays on these new product launches.

## Company Focus

### ■ Company Update

**Nigel Pittaway**  
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<b>Sell</b>	<b>3</b>
Price (12 Sep 12)	A\$30.59
Target price	A\$29.00
Expected share price return	-5.2%
Expected dividend yield	5.8%
<b>Expected total return</b>	<b>0.6%</b>
Market Cap	A\$5,357M
	US\$5,589M

### Price Performance (RIC: ASX.AX, BB: ASX AU)



## Australian Securities Exchange (ASX.AX) No relief from weak conditions

- **SELL call reflecting weak activity** — With derivatives volumes suffering cyclical and likely structural issues, and with few readily identifiable catalysts to lift either cash equities trading or capital markets issues, in our view ASX remains at risk of further earnings downgrades. Repricing initiatives undertaken in 2H12 are currently the main driver of revenue growth in FY13E.
- **Both cash equities and derivatives suffering** — In August, cash markets trading activity was down 38% vs. pcp, while futures and options trading was down 27% vs. pcp, although we note that activity in August 2011 was unusually high. With a benign interest rate environment possibly emerging, and some signs that increased capital requirements for market risk participants are structurally impacting derivatives volumes, near-term catalysts for a strong rebound in derivatives activity are hard to see.
- **New product initiatives likely to take time to deliver** — ASX has a large pipeline of new product developments under way. However, given the long lead times in development and regulatory approval, and then the time for client uptake to build, we expect it will be some time before this pipeline brings major revenue growth. We expect ASX's unlisted managed funds product – AQUA2 – to have the greatest long-term revenue impact, but it is still awaiting regulatory approval.
- **Multi cash markets still a muted impact** — A number of features of the Australian regulatory environment have likely slowed the development of ASX's sole competitor Chi-X, which is capturing ~4% market share. However, dark pools could potentially represent a bigger threat to ASX's trading volumes.
- **Unallocated capital surplus still sizeable** — While regulatory uncertainty is much reduced, ASX is not signaling any near-term release of any part of its A\$218m risk-based capital surplus. It clearly sees benefits in volatile times of retaining high capital levels, and, we suspect, retaining some flexibility around acquisitions too.
- **Competition in clearing coming** — Australian regulators have taken the first steps towards competition in clearing, although we expect it could be at least 1 January 2014 before another clearer is fully operational. However, we expect ASX's unbundling of post trade services, collateral management and likely cross margining offerings will provide it with a very robust defense against any new entrant.

ASX.AU revisions (Y/E Jun)	2011A	2012A	2013E	2014E	2015E
Reported Profit (A\$m)	352.3	339.2	347.2	380.7	417.5
% revision	0.0%	0.0%	0.0%	0.0%	0.0%
Core Net Profit (A\$m)	356.6	346.2	347.2	380.7	417.5
% revision	0.0%	0.0%	0.0%	0.0%	0.0%
Core EPS (A¢)	204.0	197.7	198.2	217.4	238.4
% revision	0.0%	0.0%	0.0%	0.0%	0.0%
EPS Growth (%)	5.7	-3.1	0.3	9.7	9.7
PE Ratio (x)	15.0	15.5	15.4	14.1	12.8
DPS (A¢)	183.2	177.9	178.4	195.6	214.5
Dividend Yield (%)	6.0	5.8	5.8	6.4	7.0
Franking Rate (%)	100.0	100.0	100.0	100.0	100.0

Source: Company Reports and dataCentral, Citi Research.

Specialized Finance (GICS) | Diversified and Specialty Finance (Citi)  
Europe | Spain

## Company Focus

### ■ Company Update

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#### Haley A Tam, CFA

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<b>Neutral/High Risk</b>	<b>2H</b>
Price (12 Sep 12)	€17.07
Target price	€15.00
Expected share price return	-12.1%
Expected dividend yield	11.6%
<b>Expected total return</b>	<b>-0.6%</b>
Market Cap	€1,427M
	US\$1,835M

#### Price Performance

(RIC: BME.MC, BB: BME SM)



## BME (BME.MC) Cyclically and structurally challenged

- **Neutral/High Risk, TP €15** — BME is our least preferred exchange among European exchanges. We rate the stock Neutral due to the ytd underperformance (down 17% ytd) and the high dividend yield (~12%).

However, we put a High Risk rating on the shares, given BME's exposure to Spain, overhang risk and potential downside risk to volumes. We note that Spanish banks (BBVA: 5%; Caixabank: 5%; Santander: 2.5% stake) and BNP Paribas (3% stake) could consider selling their stakes in BME to release cash.

- **Further pressure on volumes** - CNMV implemented a three-month short selling ban in Spain (23 July – 23 Oct). We expect the short selling ban to have a negative impact on BME's volumes as it did when it was in place last year between Aug 11 and Feb 12. In July BME's cash equities volumes were down 32% yoy and in August were down 53% yoy. If the pressure were to continue, we think there is a downside risk to consensus earning estimates. Furthermore, a potential transaction tax being considered by the Spanish government to be implemented in 2013 would have a negative impact on 2013 volume and revenue forecasts for BME.

- **Next newsflow** — Q3 12 results due Oct 30 after market close.

#### BME (EUR)

Year to 31 Dec	2010A	2011A	2012E	2013E	2014E
Net Income (€M)	154.2	155.5	139.7	130.2	125.1
Diluted EPS (€)	1.84	1.86	1.67	1.56	1.50
Diluted EPS (Old) (€)	1.84	1.86	1.67	1.56	1.50
PE (x)	9.3	9.2	10.2	11.0	11.4
P/BV (x)	3.2	3.3	3.5	3.5	3.5
DPS (€)	1.97	1.97	1.97	1.56	1.50
Net Div Yield (%)	11.5	11.6	11.6	9.1	8.8
ROE (%)	34.2	35.1	32.9	31.7	30.5

Specialized Finance (GICS) | Specialty Finance (Citi)  
North America | United States

## Company Focus

## CBOE Holdings, Inc. (CBOE) Valuation Too Rich

### ■ Company Update

Donald Fandetti, CFA

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<b>Neutral</b>	<b>2</b>
Price (12 Sep 12)	US\$28.65
Target price	US\$26.00
Expected share price return	-9.2%
Expected dividend yield	2.1%
<b>Expected total return</b>	<b>-7.2%</b>
Market Cap	US\$2,500M

### Price Performance

(RIC: CBOE.O, BB: CBOE US)



EPS	Q1	Q2	Q3	Q4	FY	FC Cons
2011A	0.36A	0.36A	0.50A	0.37A	1.59A	1.60A
2012E	0.37A	0.44A	0.39E	0.40E	1.60E	1.59E
Previous	0.37A	0.44A	0.39E	0.40E	1.60E	na
2013E	0.43E	0.47E	0.45E	0.45E	1.80E	1.82E
Previous	0.43E	0.47E	0.45E	0.45E	1.80E	na
2014E	na	na	na	na	2.00E	2.11E
Previous	na	na	na	na	2.00E	na

Source: Company Reports and dataCentral, Citi Research. FC Cons: First Call Consensus.

Specialized Finance (GICS) | Specialty Finance (Citi)  
North America | United States

## Company Focus

## CME Group Inc (CME) Good Long Term Value & OTC Clearing Coming

### ■ Company Update

**Donald Fandetti, CFA**

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<b>Buy</b>	<b>1</b>
Price (12 Sep 12)	US\$58.97
Target price	US\$58.00
Expected share price return	-1.6%
Expected dividend yield	4.0%
<b>Expected total return</b>	<b>2.4%</b>
Market Cap	US\$19,596M

### Price Performance

(RIC: CME.O, BB: CME US)



■ **The Stock** — While the volume environment remains challenging, we note the summer months are typically seasonally slow and expect a rebound heading into the end of the year. CME should also benefit from OTC clearing revenues in 2013 when regulators begin mandating central clearing of certain swaps. We continue to view CME as a well-positioned exchange given the high quality franchise and monopolistic characteristics and 60%+ operating margins. With a good dividend yield and attractive valuation, we maintain our buy. Target remains \$58 on 15x 2013.

EPS	Q1	Q2	Q3	Q4	FY	FC Cons
<b>2011A</b>	0.87A	0.88A	0.95A	0.71A	3.41A	3.41A
<b>2012E</b>	<b>0.80A</b>	<b>0.89A</b>	<b>0.79E</b>	<b>0.85E</b>	<b>3.33E</b>	<b>3.18E</b>
Previous	0.80A	0.89A	0.79E	0.85E	3.33E	na
<b>2013E</b>	<b>0.89E</b>	<b>0.98E</b>	<b>0.93E</b>	<b>0.99E</b>	<b>3.78E</b>	<b>3.62E</b>
Previous	0.89E	0.98E	0.93E	0.99E	3.78E	na
<b>2014E</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>4.35E</b>	<b>4.19E</b>
Previous	na	na	na	na	4.35E	na

Source: Company Reports and dataCentral, Citi Research. FC Cons: First Call Consensus.

## Company Focus

## Deutsche Boerse AG (DB1Gn.DE) Range Bound

### ■ Company Update

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<b>Neutral</b>	<b>2</b>
Price (12 Sep 12)	€44.56
Target price	€42.00
Expected share price return	-5.7%
Expected dividend yield	5.4%
<b>Expected total return</b>	<b>-0.3%</b>
Market Cap	€8,599M
	US\$11,054M

### Price Performance

(RIC: DB1Gn.DE, BB: DB1 GR)



■ **Neutral, TP €42** — Deutsche Boerse offers a 4% yoy growth in earnings in 2013 and currently trades at 10x 2013E based on Citi estimates. We think the valuation is undemanding and the dividend yield at ~6% is attractive. We are however concerned about the following two issues: **1. Regulation led structural uncertainty until year end** — The European Parliament postponed its vote on MiFID II to September (originally scheduled for July). Given the potential for further delays due to the complexity of the proposed regulation, we expect the structural uncertainty related to Deutsche Boerse's derivatives trading and clearing businesses to remain until the end of 2012. **2. OTC dealer to client interest rate swap clearing: Not a 'home run' opportunity for DB1:** While we believe clearing of OTC derivatives is a long term structural growth area for exchanges, we believe LSE post its acquisition of LCH.Clearnet is better positioned to take advantage of this opportunity. Assuming DB1 achieves a one-third share of the dealer to client interest rate swap clearing market, which we think offers the highest and most near term growth, we estimate scope for only high double digit (~€80m) incremental revenue for DB1, which is not likely to come through before late 2013/14 at the earliest.

■ **What needs to change to make us more positive** — Cyclically: A better than expected growth trend in index derivative and interest rate derivative volumes. **Structurally:** Any immediately earnings-accretive strategic growth opportunities; clarity around the impact of regulatory changes in favor of DB1's competitive positioning.

■ **Next newsflow** — Q3 12 results due Oct 29 after market close.

### Deutsche Boerse AG (EUR)

Year to 31 Dec	2010A	2011A	2012E	2013E	2014E
Net Income (€M)	721.5	833.2	748.1	779.7	855.6
Diluted EPS (€)	3.87	4.48	4.00	4.16	4.57
Diluted EPS (Old) (€)	3.87	4.48	4.00	4.16	4.57
PE (x)	11.5	9.9	11.2	10.7	9.8
P/BV (x)	3.4	2.8	1.6	1.2	1.0
DPS (€)	2.10	2.30	2.40	2.40	2.40
Net Div Yield (%)	4.7	5.2	5.4	5.4	5.4
ROE (%)	15.7	31.3	17.3	13.2	11.6



## Company Focus

## Hong Kong Exchanges & Clearing (0388.HK)

### Velocity Back to 2005 Levels; How Much Worse Can it Go?

#### ■ Company Update

#### Darwin Lam, CFA

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<b>Buy</b>	<b>1</b>
Price (12 Sep 12)	HK\$108.60
Target price	HK\$123.00
Expected share price return	13.3%
Expected dividend yield	3.3%
<b>Expected total return</b>	<b>16.5%</b>
Market Cap	HK\$117,378M
	US\$15,137M

#### Price Performance

(RIC: 0388.HK, BB: 388 HK)



■ **Summary** — We rate Hong Kong Exchanges and Clearing (HKEx) shares Buy (1) with a HK\$123 target price. We see HKEx as a China macro play given c.70% of stock turnover is attributable to Chinese companies (including P-chips). Given that policy is tightening and inflationary concerns in China are abating, stock turnover on HKEx will likely rise. Longer term, we believe HKEx should benefit from capital inflows as China liberalizes its capital account, although there will also likely be more competition as Shanghai rises as an international financial centre. See our recent note ([Hong Kong Exchanges & Clearing \(0388.HK\) - In-Line 2Q12; Velocity Back to 2005 Levels; How Much Worse Can it Go?](#)).

#### Statistical Abstract

Year to	Net Profit	Diluted EPS	EPS growth	P/E	P/B	ROE	Yield
31 Dec	(HK\$M)	(HK\$)	(%)	(x)	(x)	(%)	(%)
2010A	5,037	4.67	7.1	23.3	13.5	60.3	3.9
2011A	5,093	4.72	1.1	23.0	12.8	57.1	3.9
2012E	4,245	3.93	-16.6	27.6	12.6	45.9	3.3
2013E	5,248	4.85	23.4	22.4	11.2	53.1	4.0
2014E	5,934	5.49	13.1	19.8	10.3	54.3	4.5

Source: Powered by dataCentral

## Company Focus

## ICAP PLC (IAP.L) Well positioned for long term growth

### ■ Company Update

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#### Haley A Tam, CFA

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<b>Buy</b>	<b>1</b>
Price (12 Sep 12)	£3.32
Target price	£4.40
Expected share price return	32.4%
Expected dividend yield	6.6%
<b>Expected total return</b>	<b>39.0%</b>
Market Cap	£2,148M
	US\$3,451M

### Price Performance

(RIC: IAP.L, BB: IAP LN)



■ **Buy, TP 440p** — We continue to believe ICAP has the right strategy and business mix for long term growth. We expect higher margin electronic broking and post trade & risk management businesses to grow at the expense of voice broking driven by the regulatory changes (Dodd Frank in the US, MiFID II in Europe). ICAP is the best positioned interdealer broker to benefit from these changes which we expect to result in margin expansion for the company. Furthermore the cost cutting actions that ICAP has been taking should make the interdealer broker a leaner, simpler and more efficient organisation. We believe the current valuation at 8x cal. 13E earnings and 6% div yield represents a particularly attractive level to buy into a stock that offers long term growth with its strategy, business mix and strong cashflow generation.

■ **Next newsflow** — Pre-close trading update, Sept 26. Given the tough comparables, Q2 12/13 (1 July – 30 Sept) should have admittedly been a tough quarter for ICAP as it has been for its peers. July and August electronic broking volumes are down 27% and 29% down yoy, respectively. We believe the tough volume trends in the quarter are already priced in consensus forecasts and ICAP's share price. We forecast Q2 12/13 revenues down 15% yoy, driven by a 30% yoy decline in electronic broking; 15% yoy decline in voice broking and 10% yoy increase in post trade & risk management revenues.

### ICAP PLC (GBP)

Year to 31 Mar	2011A	2012A	2013E	2014E	2015E
Net Income (£M)	260.0	260.0	244.5	289.1	301.0
Diluted EPS (p)	39.3	39.5	37.4	44.2	46.0
Diluted EPS (Old) (p)	39.3	39.5	37.4	44.2	46.0
PE (x)	8.5	8.4	8.9	7.5	7.2
P/BV (x)	1.8	1.8	1.8	1.7	1.5
DPS (p)	20.0	22.0	22.0	24.3	25.3
Net Div Yield (%)	6.0	6.6	6.6	7.3	7.6
ROE (%)	15.1	10.1	14.9	17.9	17.4

Specialized Finance (GICS) | Specialty Finance (Citi)  
North America | United States

## Company Focus

## IntercontinentalExchange, Inc. (ICE) Best Fundamentals in the Global Exchange Sector

### ■ Company Update

Donald Fandetti, CFA

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<b>Neutral</b>	<b>2</b>
Price (11 Sep 12)	US\$135.75
Target price	US\$140.00
Expected share price return	3.1%
Expected dividend yield	0.0%
<b>Expected total return</b>	<b>3.1%</b>
Market Cap	US\$9,877M

### Price Performance

(RIC: ICE.N, BB: ICE US)



■ **The Stock** — We continue to believe the fundamentals at ICE are strong and note they continue to be one of the few exchanges generating good revenue and volume growth. In addition, their international expansion, especially in Brazil (BRIX and Cetip) could be promising. While ICE has no current plans to pay a dividend, they will opportunistically repurchase shares and put capital towards growth initiatives. We have a near-term upside stock bias, yet view the shares as close to full valuation.

EPS	Q1	Q2	Q3	Q4	FY	FC Cons
<b>2011A</b>	1.77A	1.69A	1.87A	1.76A	7.08A	7.08A
<b>2012E</b>	<b>2.02A</b>	<b>1.95A</b>	<b>1.90E</b>	<b>1.97E</b>	<b>7.84E</b>	<b>7.71E</b>
Previous	2.02A	1.95A	1.90E	1.97E	7.84E	na
<b>2013E</b>	<b>2.00E</b>	<b>2.16E</b>	<b>2.20E</b>	<b>2.39E</b>	<b>8.75E</b>	<b>8.65E</b>
Previous	2.00E	2.16E	2.20E	2.39E	8.75E	na
<b>2014E</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>9.80E</b>	<b>9.75E</b>
Previous	na	na	na	na	9.80E	na

Source: Company Reports and dataCentral, Citi Research. FC Cons: First Call Consensus.

Specialized Finance (GICS) | Diversified and Specialty Finance (Citi)  
Europe | United Kingdom

## Company Focus

### ■ Company Update

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#### Haley A Tam, CFA

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<b>Buy</b>	<b>1</b>
Price (12 Sep 12)	£10.41
Target price	£13.00
Expected share price return	24.9%
Expected dividend yield	2.7%
<b>Expected total return</b>	<b>27.6%</b>
Market Cap	£2,822M
	US\$4,535M

#### Price Performance

(RIC: LSE.L, BB: LSE LN)



## London Stock Exchange PLC (LSE.L)

### Growth potential and diversification look undervalued

- **Buy, TP 1300p** — We rate LSE with a Buy rating and a 1300p TP. We see three key reasons to own LSE shares:
  - **High Growth** — We view LSE's acquisition of a 60% stake in LCH.Clearnet Group as a significant positive, both strategically and financially. We forecast the deal to be ~15% earnings accretive. Post the deal, we expect LSE's cal 2013E EPS to grow by ~15% yoy. This is significantly higher than our forecast FY13 earnings growth for peers Deutsche Boerse (4%) and BME (-7%).
  - **Diversified away from trading** — We expect the exchange model of the future to be biased towards less trading volume dependent businesses, given the regulation led structural changes in the industry. Post the deal, Capital Markets now represents 25% of group revenues. In comparison, ~40% of BME's revenues are derived from Spanish cash equities trading and ~50% of Deutsche Boerse's group revenues are derived from cash and derivatives trading.
  - **Regulatory winner (EMiR, MiFID II)** — We think the near term regulatory opportunity is in clearing of OTC derivatives and collateral management. The acquisition of LCH.Clearnet, which has a long and strong track record as a clearing house, provides LSE with an asset that should benefit from this structural growth.
  - **Premium story at a valuation discount** — Despite the outperformance YTD, we believe LSE's current valuation does not fully reflect the future potential upside from the LCH.Clearnet acquisition. Based on our estimates, LSE including LCH.Clearnet trades at 9x cal 2013E, vs. Deutsche Boerse at 10x and BME at 11x.

#### London Stock Exchange PLC (GBP)

Year to 31 Mar	2011A	2012A	2013E	2014E	2015E
Net Income (£M)	197.9	271.9	260.7	274.1	289.5
Diluted EPS (p)	72.9	99.5	95.5	100.4	106.1
Diluted EPS (Old) (p)	72.9	99.5	95.5	100.4	106.1
PE (x)	14.3	10.5	10.9	10.4	9.8
P/BV (x)	2.7	2.1	2.2	2.0	2.0
DPS (p)	26.8	28.3	28.3	30.1	31.8
Net Div Yield (%)	2.6	2.7	2.7	2.9	3.1
ROE (%)	15.4	43.3	13.1	13.8	14.1

Specialized Finance (GICS) | Specialty Finance (Citi)  
North America | United States

## Company Focus

### ■ Company Update

**Donald Fandetti, CFA**

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<b>Neutral</b>	<b>2</b>
Price (12 Sep 12)	US\$23.66
Target price	US\$25.00
Expected share price return	5.7%
Expected dividend yield	2.2%
<b>Expected total return</b>	<b>7.9%</b>
Market Cap	US\$3,949M

### Price Performance

(RIC: NDAQ.O, BB: NDAQ US)



## The Nasdaq OMX Group (NDAQ) Non-Trading Businesses Filling the Void

- **The Stock** — While the volume environment remains difficult, NDAQ has done a nice job developing their non-trading based businesses, which represent 70% of total net revenues as of Q2. Combined with sound expense control and good capital return (yield and repurchase), we have a positive bias on NDAQ shares. While the Facebook situation was a negative for NDAQ, we don't believe it will hurt their long-term earnings power.

EPS	Q1	Q2	Q3	Q4	FY	FC Cons
<b>2011A</b>	0.61A	0.62A	0.67A	0.63A	2.52A	2.53A
<b>2012E</b>	<b>0.61A</b>	<b>0.64A</b>	<b>0.64E</b>	<b>0.67E</b>	<b>2.55E</b>	<b>2.48E</b>
Previous	0.61A	0.64A	0.64E	0.67E	2.55E	na
<b>2013E</b>	<b>0.66E</b>	<b>0.68E</b>	<b>0.69E</b>	<b>0.72E</b>	<b>2.75E</b>	<b>2.86E</b>
Previous	0.66E	0.68E	0.69E	0.72E	2.75E	na
<b>2014E</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>3.05E</b>	<b>3.27E</b>
Previous	na	na	na	na	3.05E	na

Source: Company Reports and dataCentral, Citi Research. FC Cons: First Call Consensus.

## Company Focus

## NYSE Euronext (NYX)

### Playing Defense; Managing Expenses in Tough Rev Environment

#### ■ Company Update

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<b>Neutral</b>	<b>2</b>
Price (11 Sep 12)	US\$26.02
Target price	US\$27.00
Expected share price return	3.8%
Expected dividend yield	4.6%
<b>Expected total return</b>	<b>8.4%</b>
Market Cap	US\$6,401M

#### Price Performance

(RIC: NYX.N, BB: NYX US)



- **The Stock** — NYX is blocking and tackling in the weak volume environment and will continue to focus on reducing expenses and returning capital to shareholders until better market conditions return. As a positive, the company is on track to meet or exceed their 2012 expense guidance and will launch their internal, full-service CCP NYSE Clearing by June 2013, which we expect will drive additional expense savings and revenues. But until then, we don't see material upside in the shares. Target, \$27 on 10x 2013.

EPS	Q1	Q2	Q3	Q4	FY	FC Cons
<b>2011A</b>	0.68A	0.61A	0.71A	0.50A	2.49A	2.48A
<b>2012E</b>	<b>0.47A</b>	<b>0.51A</b>	<b>0.55E</b>	<b>0.57E</b>	<b>2.10E</b>	<b>1.96E</b>
Previous	0.47A	0.51A	0.55E	0.57E	2.10E	na
<b>2013E</b>	<b>0.57E</b>	<b>0.65E</b>	<b>0.68E</b>	<b>0.71E</b>	<b>2.60E</b>	<b>2.46E</b>
Previous	0.57E	0.65E	0.68E	0.71E	2.60E	na
<b>2014E</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>na</b>	<b>3.00E</b>	<b>3.09E</b>
Previous	na	na	na	na	3.00E	na

Source: Company Reports and dataCentral, Citi Research. FC Cons: First Call Consensus.

Specialized Finance (GICS) | Diversified and Specialty Finance (Citi)  
Asia Pacific | Singapore

## Company Focus

## Singapore Exchange (SGXL.SI) Reiterate Sell Rating

### Company Update

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<b>Sell</b>	<b>3</b>
Price (12 Sep 12)	S\$6.93
Target price	S\$5.81
Expected share price return	-16.2%
Expected dividend yield	3.9%
<b>Expected total return</b>	<b>-12.2%</b>
Market Cap	S\$7,426M
	US\$6,040M

### Price Performance

(RIC: SGXL.SI, BB: SGX SP)



- We have a Sell rating on SGX. The stock is trading on 23x PER versus a muted earnings growth outlook. Our forecast suggests a fifth consecutive year of flat c.S\$300m profit. Only a c.90% payout (FY12 DPS: S\$0.27) provides valuation support. Medium-term risk of PER de-rating if pricing structure or ROE comes under pressure, or SGX enters into an acquisition which is earnings dilutive or curtails dividend payout. For our most recent earnings research note, see [\(Singapore Exchange \(SGXL.SI\) - FY12 \(Jun-12\) Core Profit S\\$304m, -3%yoy; 4Q12 S\\$73m, -6%qoq.\)](#)

### Statistical Abstract

Year to	Net Profit	Diluted EPS	EPS growth	P/E	P/B	ROE	Yield
30 Jun	(S\$M)	(S\$)	(%)	(x)	(x)	(%)	(%)
2011A	312	0.29	-2.0	23.8	9.0	38.0	3.9
2012A	304	0.28	-2.5	24.4	8.9	36.7	3.9
2013E	323	0.30	6.2	23.0	8.6	38.1	3.9
2014E	353	0.33	9.2	21.1	8.0	39.4	4.3
2015E	386	0.36	9.5	19.3	7.4	40.2	4.7

Source: Powered by dataCentral

## Australian Securities Exchange

### Company description

ASX is the single Australian provider of cash equities and derivatives execution, clearing and settlement services and the dominant provider of clearing and settlement services for debt and money market securities. It is also the sole provider of consolidated equities and derivative market data.

### Investment strategy

We rate ASX Sell. In the short term, we see declining earnings visibility. Competition is also extending across some parts of ASX's diversified revenue base, although ASX appears well positioned to defend these attacks with innovative new service offerings. Two of ASX's major revenue streams, derivatives and settlement, are unlikely to come under competitive attack, though some structural change issues could be emerging in this segment. ASX is likely to recraft its clearing offerings as and when a rival equities clearer is established.

### Valuation

We value ASX on a three-stage DCF model at A\$30.80 based on near-term projections of likely earnings, and then a fade out of ASX's present high margins as competition spreads out across the value chain. We set our target price at A\$29.00, at a discount to our spot valuation, reflecting ongoing uncertainty around market activity.

### Risks

The primary risk to our target price relates to uncertainties surrounding trading volumes in equities and derivatives. Other risks relate to the regulatory difficulties surrounding any future merger activity. ASX is vulnerable if government policy were to dictate in a market with competing exchanges it was no longer appropriate for ASX to remain as the gatekeeper to listing approvals. It has upside risk to the spread of new derivatives products and to the further introduction of exchange traded funds covering a much wider range of physical and virtual asset classes.

## BME

### Company description

Bolsas y Mercados Espanoles (BME) is the Spanish stock exchange operator formed by the merger of the Madrid, Barcelona, Bilbao and Valencia stock exchanges. The exchange was listed in July 2006. BME operates in equities trading, clearing and settlement, market data & information, derivatives, listings, information technology (IT) & consulting and fixed income businesses.

### Investment strategy

We rate BME Neutral. We continue to believe BME is vulnerable to intensifying competition from MTFs and as a result losing further market share in Spanish cash



equities trading. In addition, the difficult macroeconomic conditions in Spain do not bode well for the trading volumes. However, year to date BME shares have already significantly underperformed the other global listed exchanges (BME shares down more than 20% vs. DJ Global Exchanges Index up 1% ytd). Furthermore, the dividend yield at 12% should provide support to the share price.

## Valuation

Our primary valuation methodology for BME is discounted cash flow analysis, supported by relative P/E comparisons. Our input assumptions are a cost of equity of ~14% and long-term growth rate of 0%. BME has no debt but a March 12-end net cash balance of €345m. The present value of forecast future cash flows to the firm total €900m, to which we add the group's net cash and divide by the diluted number of shares estimated at year-end. This produces a target price of €15.

## Risks

We rate BME High Risk, due to its exposure to Spain, high operating leverage, and overhang risk.

We highlight the following risks to achieving our target price.

1. Volume outlook - Better (weaker) than expected volumes constitute an upside (downside) risk to our revenue forecasts. BME has high operating leverage so in the event of better (weaker) than expected volumes, the impact could be a significant positive (negative) to our EPS forecasts.
2. Spanish macroeconomic conditions - Better (weaker) than expected performance in Spanish macroeconomic indicators constitute an upside (downside) risk to our forecasts.
3. Competition in cash equities trading - We expect competition to intensify in 2012 and 2013. We forecast significant market share losses and pricing pressure for BME in 2012. Later (sooner) than expected competitive pressures constitute a upside (downside) risk to our forecasts.
4. Overhang risk - BME's biggest shareholders are Bank of Spain, BBVA, Caixabank, BNP Paribas and Santander. There is a risk that banks (ex. Bank of Spain) could consider selling stakes in BME at a time when funding pressure for European banks is particularly high.
5. Dividend risk - We assume that BME will continue to pay an extraordinary dividend of €0.372 on top of its ordinary dividend of €1.60. Any possible decision to cut/not pay the extraordinary dividend would reduce our ETR forecasts.
6. M&A risk- We attach a low probability to a potential BME takeover. However, any speculation and/or realisation of a takeover would constitute an upside risk to our target price.

## CBOE Holdings, Inc.

### Company description

CBOE Holdings (CBOE) was founded in 1973 and operates the largest options exchange in the United States. CBOE's three key products are: 1) equity options (on single stocks); 2) index options (on S&P 500); and 3) ETF options. In addition to

the core equity options business, CBOE operates marketplaces for the trading of futures contracts (based on their proprietary VIX index) and the CBOE Stock Exchange (owns 49.96%). CBOE completed its IPO on June 14, 2010, at a price of \$29.

## Investment strategy

We rate CBOE Holdings (CBOE) shares Neutral, with a target price of \$26. CBOE operates the largest options exchanges in the United States. We believe CBOE is well positioned to benefit from growth in the US options business. Also, CBOE has a valuable index option franchise where they have exclusive agreements with S&P and Dow Jones to list options on key indices. CBOE also has developed proprietary indices such as the CBOE Volatility Index (VIX), on which it lists options and futures contracts. While we are bullish on CBOE's strategic position, we believe the shares reflect most of this upside potential. We'd also believe CBOE shares are buoyed by an M&A premium. An M&A takeout could take longer to come to fruition given increasing competition in the US options market.

## Valuation

Our 12-month target price is \$26. We base our valuation on a price-to-earnings multiple of 14x applied to our 2013 EPS estimate of \$1.80 to derive a target price of \$26. We assume a 14x P/E multiple for our 12-month target price, equating to \$26 based on our 2013 EPS estimate of \$1.80. This compares to the US exchanges trading at 12.x (range of 8x to 22x). We believe CBOE warrants a multiple higher than the US average given the M&A premium.

## Risks

CBOE's business is sensitive to options volumes. Options volumes are largely a function of market conditions and are for the most part outside of CBOE's control. Other risks include: 1) US options industry is highly competitive with four aggressive exchanges all competing for market share and creates downward pressure on pricing; and 2) regulatory risk particularly SEC proposals to cap industry pricing and ban flash orders (step up orders). Mitigating factors include: 1) long operating history in its core business (established in 1973); 2) solid balance sheet position - \$2 billion equity market cap with no debt; 3) scarcity premium of being the only independent US equity options exchange; and 4) positive free cash flow generation.

Changes in CBOE's operating environment such as regulatory, economic, political and market conditions are generally beyond the company's control.

Company-specific positive risks that could cause the stock to outperform our target price include: 1) higher-than-expected options volumes; and 2) CBOE is acquired by another company.

Company-specific negative risks that could cause the stock to underperform our target price include: 1) competition from other exchanges; 2) lower-than-expected options volumes; 3) potential fee cuts; 4) regulatory risk; and 5) legal risk including loss of exclusive index option licenses.

## CME Group Inc

## Company description

CME Group (CME) was formed through the July 2007 merger of the Chicago Mercantile Exchange and CBOT Holdings. In 2008, CME acquired NYMEX, extending its product breadth into energy and precious metals. CME operates as a futures exchange for the trading of futures and options on futures. CME is the world's largest and most diverse financial exchange. The company offers futures and options on futures in the following five areas: interest rates, equity indexes, foreign exchange, commodities, energy and metals.

## Investment strategy

We rate CME shares Buy with a target price of \$58. We believe CME has the strongest global exchange platform and will continue to generate high returns. While the volume environment remains soft, some of the decline can be attributed to seasonality, as capital markets activity is typically slow during the summer. And we believe CME remains attractive given their high quality franchise, monopolistic characteristics, and 60+% margins. Valuation (14x 2013) and dividend yield (5.6%) should protect the downside.

## Valuation

In our valuation analysis, we consider a broad universe of public exchanges (both domestic and foreign) and U.S. market intermediaries.

Our 12-month target price is \$58. We base our valuation on a price-to-earnings multiple of approximately 15x applied to our 2013 EPS estimate of \$3.78 to derive a target price of \$58.

Our 15x P/E multiple is in-line with the 15x median of CME's historical forward P/E ratio over the past 12 months.

## Risks

We view CME as a strong franchise with a long operating history, although their business is dependent on trading volumes.

CME's positive risks include: 1) long operating history in its core business (established in 1898), 2) five-year operating history as a public company, and 3) positive free cash flow generation. Changes in CME's operating environment such as regulatory, economic, political and market conditions are generally beyond the company's control.

Individual company-specific positive risks include: 1) increase in contract volumes, and 2) increase in margins / pricing. Individual company-specific negative risks include: 1) revenues are closely tied to market volatility, 2) revenues are dependent on trading volumes, 3) RPC could fluctuate significantly, 4) clearing business could expose CME to credit risk of third parties in a period of significant financial disruption (though this has never been an issue for CME through its long history), and 5) regulatory risk (particularly in energy derivatives) could dampen volumes.

The risks delineated below may, if their impact is less/more severe than we anticipate, cause the stock to exceed our target price or prevent the shares from attaining it.

# Deutsche Boerse AG

## Company description

Deutsche Börse - the largest European exchange by revenue and market capitalisation, with a vertically integrated structure encompassing trading, clearing and settlement - operates in cash and derivative markets. The company is organised along four operating divisions: Xetra (cash equities), Eurex (fixed income derivatives and equity derivatives), Clearstream (settlement), and Market Data & Analytics. This structure gives the company attractive diversity in its revenue stream.

## Investment strategy

We rate Deutsche Boerse shares Neutral.

We see limited downside risk to the share price for two reasons: 1. The shares are already trading at a relatively low multiple, on our estimates. 2. The possibility of future capital returns in the form of share buybacks/special dividends (we estimate that Deutsche Boerse has the capacity to return c.€350m of capital on top of its ordinary dividend at an assumed 50% payout ratio in FY13) should continue to help support the share price. However, the shares' upside potential is also limited, in our view, given cyclical and structural concerns. Cyclically, while we think the sequential improvement is encouraging, we remain cautious on the year-on-year trends given the lower volatility in equity markets, low interest rate environment and particularly tough Q3 comparables. Structurally, we are concerned about the uncertainty around the impact of MiFIR on Eurex's future competitive positioning. Given the exchange's preference for organic growth supported by partnerships over M&A and the lack of immediately earnings-accretive growth opportunities, we struggle to see any near-term catalysts for earnings upgrades in the absence of a greater cyclical recovery in volumes.

## Valuation

Our primary valuation methodology for Deutsche Boerse is a discounted cash flow analysis, supported by relative P/E comparisons. We project cash flows from group operations and adjust for non-cash items such as depreciation. Our model uses the following input assumptions: cost of equity of ~12%, cost of debt of 6% and a terminal growth rate of 1%. The discounted cash flows to the exchange total €8.6bn, which, after adjusting for the expected net debt balance of €768m and dividing by 189m shares outstanding, produces a target price of €42.

## Risks

We highlight the following risks to achievement of our target price.

**1. Volume outlook.** Weaker (better) than expected growth in exchange-traded cash and derivative volumes constitutes a downside (upside) risk to our forecasts.

**2. Competition and pricing risk.** As a result of regulatory changes, competitive pressures on Deutsche Boerse's derivatives business may be stronger than expected. This could result in greater than expected pricing pressure and lower margins for Eurex.

**3. M&A risk.** Deutsche Boerse has indicated its focus on organic growth and preference of partnerships over M&A. However, any change of strategy that could result in an EPS-dilutive deal would constitute a downside risk to our target price.

**4. Failure to capitalise on OTC interest rate swap clearing opportunity.** This is one of the growth areas identified by Deutsche Boerse. While there is no upside factored into our numbers from this growth opportunity, any signs of failure on this initiative could put downside pressure on the exchange's share price.

**5. Regulatory risk.** Any regulatory development that could hurt Deutsche Boerse's business (e.g. financial transaction tax, harsh capital requirements for CCPs, etc) would represent a downside risk to our target price.

## Hong Kong Exchanges & Clearing

### Company description

Hong Kong Exchanges and Clearing was created on March 6, 2000, through the merger of, and as the holding company for, the Stock Exchange of Hong Kong, Hong Kong Futures Exchange and Hong Kong Securities Clearing Company. The company listed in June 2000 following integration of the securities and futures markets. It operates two cash markets (Main Board and Growth Enterprise Market) and a derivatives market in Hong Kong, along with their respective clearinghouses.

### Investment strategy

We rate Hong Kong Exchanges and Clearing (HKEx) shares Buy (1) with a HK\$123 target price. We see HKEx as a China macro play given c.70% of stock turnover is attributable to Chinese companies (including P-chips). Given that policy tightening and inflationary concerns in China are abating, stock turnover on HKEx will likely rise. Longer term, we believe HKEx should benefit from capital inflows as China liberalizes its capital account, although there will also likely be more competition as Shanghai rises as an international financial centre.

### Valuation

Our price target of HK\$123 is based on 29x mid-2013E EPS, with the fair-value multiple derived from a 3-stage DDM model given the stable dividend payout ratio of HKEx. Key assumptions are 11.0% discount rate, 15% first-stage growth, 12.5% second-stage growth, and 4% terminal growth.

### Risks

Downside risks that could impede the stock from reaching our target price include continued weak/falling turnover, draconian tightening measures in China, and further decline of HK/China stock markets.

## ICAP PLC

### Company description

ICAP is one of the world's largest inter-dealer brokers (IDB), operating on a global basis. The group's core business is to act as an intermediary to commercial and investment banks in the wholesale financial markets, helping to provide liquidity, anonymity and price discovery. This is done through both traditional voice broking and an electronic platform. In recent years, it has also diversified into post-trade services, which it sees as a significant growth area.

ICAP's product range is very wide, including fixed income securities, money market products, interest rate derivatives, FX, energy, credit and equity derivatives and post-trade services.

## Investment strategy

We rate ICAP Buy.

ICAP offers investors the attractions of good bias to products with a robust volume outlook in 2012 as well as expansion of electronic offering and push into post-trade services.

The volume outlook is healthier in products such as FX, interest rate, commodities and emerging markets.

The shift to electronic trading and post-trade services, where margins are higher, should help offset voice broking declines.

ICAP trades at a premium to other listed IDBs. We believe a P/E premium to IDB peers is warranted given the depth of ICAP's product offering and its leadership position in electronic products.

## Valuation

Our primary valuation methodology for ICAP is discounted cash flow analysis, supported by relative P/E comparisons.

Our input assumptions are a WACC of 13%, derived from a cost of equity of ~13% and cost of debt of 6%, and long-term growth rate of 2%.

The present value of forecast future cash flows to the firm total £2.9bn, from which we deduct the group's net debt and divide by the diluted number of shares estimated at year-end. This produces a target price of 440p.

## Risks

We highlight the following risks to achievement of our target price:

1. Volume outlook - Weaker (better) than expected volumes constitute a downside (upside) risk to our numbers.
2. Competition - Interdealer brokerage industry is notoriously competitive. Any significant increase in the competition of electronic trading constitutes a risk to our investment thesis.
3. Deleverage reducing OTC trading activity - IDB revenues are driven by trading activity in OTC markets. Reduced trading by delevered hedge funds / capital-constrained banks could cause a hit to ICAP revenues.
4. Pricing pressures - ICAP's customer base is trying to restore profitability. One means of increasing profits is to pay away less commission to intermediaries such as the IDB industry. This may put additional pressure on product pricing.

## IntercontinentalExchange, Inc.

## Company description

IntercontinentalExchange (ICE) is a leading electronic energy and soft commodity derivative exchange focused on both futures and the over-the-counter (OTC) market. ICE's futures exchanges include: 1) a London-based energy futures exchange (ICE Futures Europe) which trades primarily crude oil (both Brent and WTI) and gasoil, 2) a U.S.-based soft-commodity and financial futures exchange (ICE Futures US; formerly New York Board of Trade) which primarily trades sugar, cotton and Russell equity options, and 3) a Canadian-based agricultural exchange (ICE Futures Canada; formerly Winnipeg Commodities Exchange) which primarily trades canola oil. ICE also offers its customers the ability to trade in the OTC marketplace through its all-electronic platform with most of the volume in natural gas and power. ICE went public in November 2005 at \$26. ICE also owns Creditex, a leading credit derivative inter-dealer broker. ICE is a member of the S&P 500 Index.

## Investment strategy

We rate ICE shares Neutral with a 12-month target price of \$140. We believe ICE is well positioned to benefit from volatility in commodity prices and a secular growth trend in energy and soft commodity derivatives. ICE is well positioned to take a leading market share in the OTC credit derivatives market and could leverage that success into other OTC markets. However, we believe the shares are fairly valued at current levels and have largely priced in the upside from new initiatives and volume growth.

## Valuation

In our valuation, we consider a broad universe of domestic and foreign public exchanges (both equity and derivative). Our 12-month target price is \$140. We base our valuation on a price-to-earnings multiple of about 16x applied to our 2013 EPS estimate of \$8.75 to derive a target price of \$140. We value ICE shares using about a 16x multiple, which is a premium to the broad peer group average at 15x (range of 8x to 22x). We value ICE shares at a premium to the peer group as we view ICE as one of the premier global exchange franchises and have high regard for management as they are arguably the most dynamic team in the US exchange sector, with a history of successful acquisitions.

## Risks

ICE's business can be volatile as it is particularly sensitive to contract volumes. Contract volumes are largely a function of market conditions and are for the most part outside of ICE's control. Also, there is increased risk due to the current regulatory environment as Congress is under pressure to bring down energy prices. Also, there has been increased competition in the futures industry from consortiums formed by investment banks and prominent hedge funds. Changes in ICE's operating environment such as regulatory, economic, political and market conditions are generally beyond the company's control.

The risks delineated below may, if their impact is less/more severe than we anticipate, cause the stock to exceed our target price or prevent the shares from attaining it.

Individual company specific positive risks include: 1) increase in contract volumes, 2) increase in margins / pricing, and 3) abatement of regulatory scrutiny or legislation is passed that is less draconian than some investors anticipate.

Individual company specific negative risks include: 1) revenues are dependent on trading volumes, 2) regulatory actions (including increased margins) could put a damper on growth prospects, 3) RPC could fluctuate significantly, and 4) clearing business could expose ICE to credit risk of third parties in a period of significant financial disruption.

## London Stock Exchange PLC

### Company description

The London Stock Exchange operates the equity market in the UK and Italy, offering trading, listing, and pricing information services. The exchange is home to the largest pool of liquidity in Europe. It also operates the central clearing and settlement houses in Italy, CC&P and Monte Titoli.

### Investment strategy

We rate LSE Hold/Medium Risk (2M). We believe LSE's current valuation fairly reflects the LSE's growth potential as a standalone entity. There could also be further upside to its valuation if the EPS accretive merger with TMX were to be approved.

### Valuation

Our primary valuation methodology for LSE is discounted cash flow analysis, supported by relative P/E comparisons.

Our input assumptions are a WACC of ~11%, derived from a cost of equity of 11% and cost of debt of 8%, and long-term growth of ~2%. The present value of forecast future cash flows to the firm total £4bn, from which we deduct the group's net debt balance (£538m) and divide by the diluted number of shares estimated at year-end. This produces a target price of 1300p.

### Risks

We rate London Stock Exchange Medium Risk. The risk rating on the stock is derived after consideration of several factors, including industry-specific risks, financial risk and management risk. The following risks could cause the shares to deviate significantly from our target price:

#### Upside risks:

Better-than-expected volume growth. LSE with its relatively fixed expense base offers good operational leverage to a recovery in trading confidence.

Diversification strategy could deliver strong growth in bonds, derivatives and post-trade sooner than we expect. This growth could more than compensate for competitive pressures in cash equities execution and data sales.

M&A risk. Speculation and/or realisation of a takeover bid for LSE would constitute an upside risk to our target price.

#### Downside risks:

Stock overhang. Two sovereign wealth funds hold ~35% and Borsa Italiana legacy Italian banks holders ~15%. Large placings could hurt the stock.



Further market share loss in cash equities - this would be bad for capital markets revenues but also could reduce post trade and linked data sales.

## The Nasdaq OMX Group

### Company description

The Nasdaq OMX Group (NDAQ) was formed through the February 2008 merger of The Nasdaq Stock Market and OMX. Founded in 1971, Nasdaq is a leading provider of securities listings, trading and information products and services. OMX encompasses the exchanges in Helsinki, Copenhagen, Stockholm, Iceland, Tallinn, Riga, and Vilnius. The Nasdaq OMX Group is a leading location for worldwide listings among major markets. More than 3,900 companies list on the NDAQ exchanges. NDAQ offers trading across multiple asset classes, but specializes in equities and ETFs. NASDAQ OMX technology supports the operations of more than 60 exchanges, clearing organizations and central securities depositories in more than 50 countries. Nasdaq also acquired the Philadelphia Stock Exchange in 2008 which expanded their product footprint to include equity options. NDAQ is a member of the S&P 500 index.

### Investment strategy

We rate NDAQ shares Neutral with a 12-month target price of \$25. As one of two major public cash equity exchanges in the U.S., we believe NDAQ is well positioned to compete in an increasingly electronic trading environment. NDAQ is benefiting from its strong technology position and continues to leverage it across new products including derivatives. Management has also delivered on its planned synergies, furthering its history of good execution on M&A. However, from a business mix perspective we would prefer to see more exposure to faster-growing derivative products. We see the stock as fairly valued at current levels.

### Valuation

In our valuation, we consider a broad universe of domestic and foreign public exchanges (both equity and derivative). Our 12-month target price is \$25. We base our valuation on a price-to-earnings multiple of approximately 9x applied to our 2013 EPS estimate of \$2.75 to derive a target price of \$25. We value NDAQ shares using about a 9x multiple, below the broad peer group average at 16x (range of 9x to 23x), due to its exposure to the U.S. and European cash equities marketplace.

### Risks

NDAQ's shares are exposed to the volatility of the capital markets industry, which is highly sensitive to market conditions such as trading volume in U.S. equity securities and the number of companies seeking equity financings as well as increased competition from NYSE and regional exchanges, ECNs or other alternative trading systems. Changes in NDAQ's operating environment such as regulatory, economic, political and market conditions are generally beyond the company's control.

Company-specific positive risks include: 1) increase in listings fees, and 2) increase in market share. Company-specific negative risks include: 1) competition from exchanges and ECN's such as BATS and Direct Edge, which could put additional downward pricing pressure on the sector, 2) revenues dependent on trading volumes, 3) NDAQ could acquire another company, and 4) competition in the listing business.

If the downside impact on the company from any of these factors proves to be greater than we anticipate, the stock may fail to achieve our target price. If the upside impact from any of these factors proves to be greater than we anticipate, the stock may trade above our target price.

## NYSE Euronext

### Company description

NYSE Euronext (NYX) was formed in connection with the April 4, 2007 merger of NYSE Group and Euronext. NYX operates three U.S. securities exchanges, namely the New York Stock Exchange (NYSE), NYSE Arca and NYSE Amex (formerly the American Stock Exchange). NYSE is the world's largest cash equities exchange and provides a marketplace for investors to buy and sell listed company common stock and other securities. NYSE Arca is the first open, all electronic stock exchange in the U.S. where its trading platform links customers to multiple U.S. market centers including equity options. Euronext operates cash and derivatives exchanges in Belgium, France, Netherlands, Portugal as well as a derivative exchange in London. NYX also provides IT services through its NYSE Technology division.

### Investment strategy

We rate NYSE Euronext (NYX) Neutral (2). NYX has an attractive global multi-product exchange platform and has done a nice job of diversifying revenues away from cash equities. While we believe the company has made significant progress in its transformation, we remain on the sidelines given: 1) continued de-risking and slowdown in cash equity volumes; 2) regulatory overhang, such as the proposed financial transaction tax; and 3) weaker NYXT growth prospects.

### Valuation

In our valuation, we consider a broad universe of domestic and foreign public exchanges (both equity and derivative). Our 12-month target price is \$27. We base our valuation on a price-to-earnings multiple of approximately 10.5x applied to our 2013 EPS estimate of \$2.60 to derive a target price of \$27. We value NYX shares using about a 10.5x multiple, below the broad peer group average at 16x (range of 9x to 23x), due to its exposure to the US and European cash equities marketplace.

### Risks

NYX's business model is subject to the volatility of the capital markets industry, which is highly sensitive to market conditions such as trading volume in global equity securities and the number of companies seeking equity financings as well as increased competition from NDAQ, BATS and other alternative trading systems. Changes in NYX's operating environment such as regulatory, economic, political and market conditions are generally beyond the company's control.

The risks delineated below may, if their impact is less/more severe than we anticipate, cause the stock to exceed our target price or prevent the shares from attaining it.

Key company specific negative risks include: 1) the volatility of the capital markets industry which is highly sensitive to market conditions such as trading volume in US equity securities and the number of companies seeking equity financings, 2) increased competition from NDAQ, or other alternative trading systems, 3)

increased competition from new entrants such as Chi-X, NDAQ and BATS in NYX's European cash trading division, and 4) commodity-like nature of the US cash equity trading business.

Key company-specific positive risks include: 1) increase in US cash equity market share, 2) better than expected expense reductions, and 3) no meaningful market share loss or price reduction in the European cash equities unit.

## Singapore Exchange

### Company description

SGX is a demutualised, integrated securities and derivatives exchange, offering an array of securities products including equities, bonds, debentures and loan stock, exchange traded funds, warrants and structured warrants, depository receipts, and real estate investment trusts. Derivatives products consist of short- and long-term interest rate futures and options on futures, equity index futures and options on futures, single stock futures, and energy futures.

### Investment strategy

We rate SGX Sell (3), with a target price of S\$5.81. We view that continued global markets uncertainty is driving sub-trend equities turnover, challenging for SGX with a cost base c.36% higher than in 2007. We acknowledge several positives, including new revenue drivers and deepening of existing ones, and roughly 90% of annual earnings have been distributed as dividends. However, equities turnover remains a key bottom line driver. We expect average daily turnover (ADT) to reach S\$1.45bn for FY June 2013E, resulting in an EPS of S\$0.30/share, which we value at 19.3x PER to derive our S\$5.81 price target.

### Valuation

Our target price for SGX is S\$5.81. Our target is derived assuming a FY13E ROAE of 37.5%, dividend payout of 90%, cost of equity of 10.9% and long-term growth of 6.3%, deriving a FY12E fair value P/E of 19.3x. We use a dividend discount model as our primary valuation tool; given SGX's cyclical profit profile, we focus on sustainable dividends to provide a core valuation for the stock. Current dividend policy is to pay a minimum net cash dividend of the higher of S\$0.16/share or 80% of annual net profit, but in recent results it declared a 90% payout. Using a P/E cycle analysis (based on consensus earnings), SGX has traded in a range of 15.5x at the trough and 24.8x at the peak (based on a +/-1SD band), with a mean of 20.1x for the period since listing. Our target multiple is below the mean cycle P/E level.

### Risks

Key upside and downside risks to our target price include: 1) SGX acts as a proxy to the Singapore market. Upside could come from an improved economic outlook, while further news of slowdown may imply further downside; 2) Volatile turnover: Market volumes could fall off sharply (negative), or exceed our current assumptions (positive); 3) Global sector re-rating/M&A: Our current view is that a cross-border M&A re-rating is unlikely to be realized in Asia, but SGX management may be open to talks on M&A, although this depends on 23% shareholder MAS; 4) Capital management: With liquid assets generally in excess of S\$655m (S\$0.61/share) capital management is possible; 5) Margins: SGX enjoys one of the highest transaction fee structures globally, due to a near domestic monopoly, but new entrants or changes to pricing structure (for example when high frequency trading is

introduced) could impact this. If any of these risk factors has a greater downside impact than we anticipate, the share price will likely have difficulty attaining our target price. Conversely, if the impact of any of these upside risks is greater than we anticipate, the stock could exceed our target price.

# Appendix A-1

## Analyst Certification

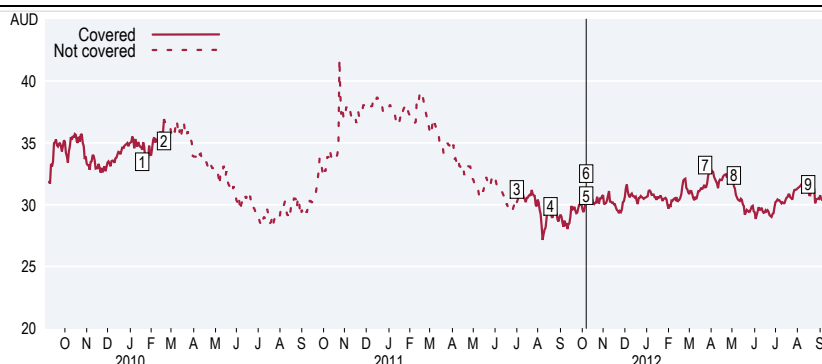
The research analyst(s) primarily responsible for the preparation and content of this research report are named in bold text in the author block at the front of the product except for those sections where an analyst's name appears in bold alongside content which is attributable to that analyst. Each of these analyst(s) certify, with respect to the section(s) of the report for which they are responsible, that the views expressed therein accurately reflect their personal views about each issuer and security referenced and were prepared in an independent manner, including with respect to Citigroup Global Markets Inc and its affiliates. No part of the research analyst's compensation was, is, or will be, directly or indirectly, related to the specific recommendation(s) or view(s) expressed by that research analyst in this report.

## IMPORTANT DISCLOSURES

### Australian Securities Exchange (ASX.AX)

#### Ratings and Target Price History Fundamental Research

Analyst: Nigel Pittaway  
Covered since July 1 2011



	Date	Rating	Target Price	Closing Price
1	19-Jan-10	*1M	*39.42	34.44
2	18-Feb-10	Coverage terminated		
3	1-Jul-11	1M	*35.30	30.20

\* Indicates change

	Date	Rating	Target Price	Closing Price
4	18-Aug-11	1M	*33.50	29.40
5	7-Oct-11	Stock rating system changed		
6	7-Oct-11	*1	33.50	30.28

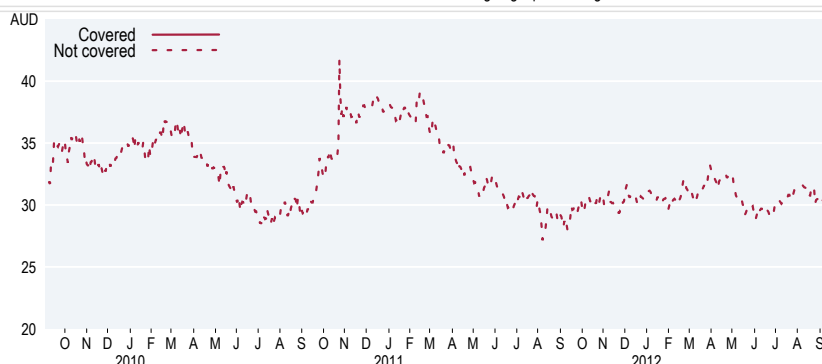
	Date	Rating	Target Price	Closing Price
7	23-Mar-12	1	*34.30	31.40
8	3-May-12	*2	*31.80	31.49
9	16-Aug-12	*3	*29.00	31.30

Rating/target price changes above reflect Eastern Standard Time

### Australian Securities Exchange (ASX.AX)

#### Ratings and Target Price History Best Ideas Research Relative Call (3 Month)

Analyst: Nigel Pittaway  
Covered since July 1 2011



\* Indicates change

Rating/target price changes above reflect Eastern Standard Time

## Hong Kong Exchanges & Clearing (0388.HK)

### Ratings and Target Price History Fundamental Research

Analyst: Darwin Lam, CFA  
Covered since May 12 2010



	Date	Rating	Target Price	Closing Price
1	12-May-10	*3L	*116.00	123.20
2	11-Aug-10	3L	*123.00	129.10
3	23-Dec-10	3L	*135.00	176.00
4	8-Feb-11	3L	*148.00	179.40
5	2-Mar-11	3L	*160.00	167.10

\* Indicates change

	Date	Rating	Target Price	Closing Price
6	3-Apr-11	*1L	*206.00	171.80
7	10-Aug-11	1L	*176.00	141.20
8	29-Sep-11	1L	*160.00	118.70
9	7-Oct-11	Stock rating system changed		
10	7-Oct-11	*1	160.00	110.00

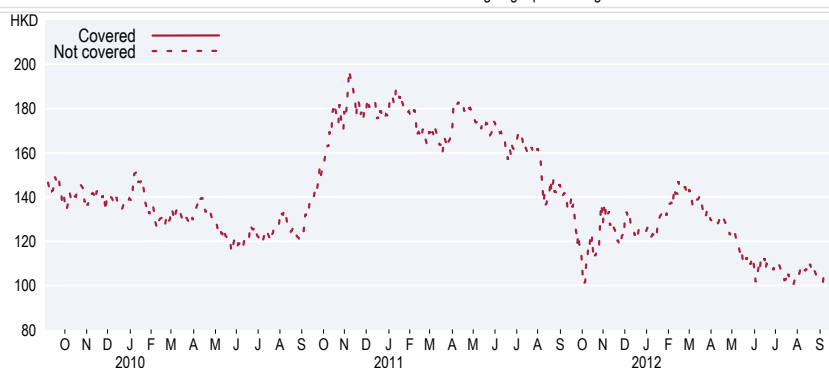
	Date	Rating	Target Price	Closing Price
11	11-Nov-11	1	*150.00	128.00
12	29-Feb-12	1	*163.00	144.60
13	24-May-12	1	*148.00	109.00
14	15-Jun-12	1	*133.00	112.40
15	8-Aug-12	1	*123.00	109.10

Rating/target price changes above reflect Eastern Standard Time

## Hong Kong Exchanges & Clearing (0388.HK)

### Ratings and Target Price History Best Ideas Research Relative Call (3 Month)

Analyst: Darwin Lam, CFA  
Covered since May 12 2010



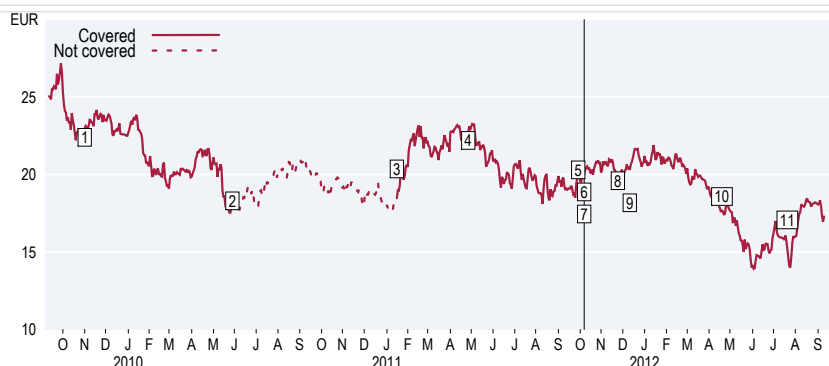
\* Indicates change

Rating/target price changes above reflect Eastern Standard Time

## BME (BME.MC)

### Ratings and Target Price History Fundamental Research

Analyst: Nese Guner  
Covered since January 17 2011



	Date	Rating	Target Price	Closing Price
1	2-Nov-09	2M	*23.50	22.99
2	28-May-10	Coverage terminated		
3	16-Jan-11	*3M	*15.50	18.35
4	27-Apr-11	3M	*18.00	22.72

\* Indicates change

	Date	Rating	Target Price	Closing Price
5	29-Sep-11	3M	*17.50	19.92
6	7-Oct-11	Stock rating system changed		
7	7-Oct-11	*3	17.50	20.00
8	24-Nov-11	3	*17.00	19.92

	Date	Rating	Target Price	Closing Price
9	11-Dec-11	3	*18.00	20.48
10	19-Apr-12	3	*16.00	17.70
11	20-Jul-12	*2H	*15.00	15.17

Rating/target price changes above reflect Eastern Standard Time

## BME (BME.MC)

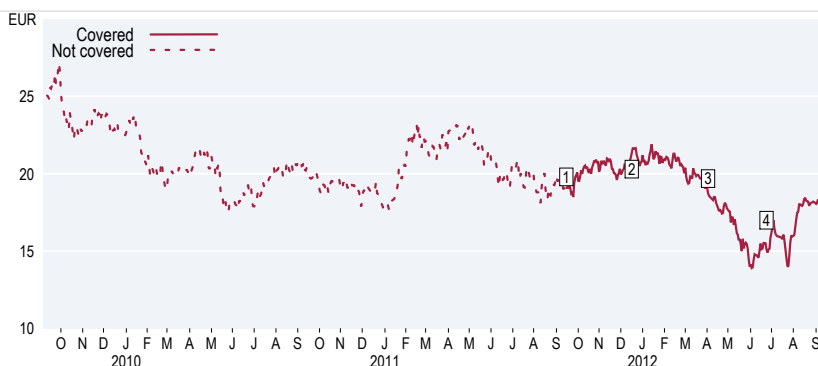
### Ratings and Target Price History

#### Best Ideas Research

#### Relative Call (3 Month)

Analyst: Nese Guner

Covered since January 17 2011



	Date	Rating	Target Price	Closing Price
1	15-Sep-11	*ADD LP	-	19.08
2	16-Dec-11	*REM LP	-	21.34

\* Indicates change

	Date	Rating	Target Price	Closing Price
3	3-Apr-12	*ADD LP	-	18.74
4	25-Jun-12	*REM LP	-	15.10

Rating/target price changes above reflect Eastern Standard Time

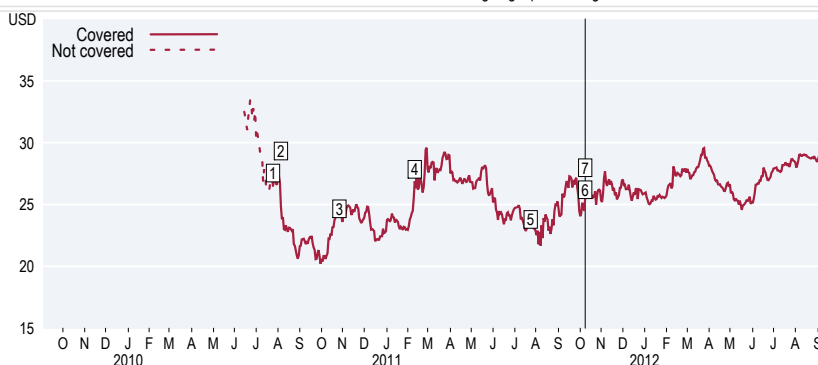
## CBOE Holdings, Inc. (CBOE)

### Ratings and Target Price History

#### Fundamental Research

Analyst: Donald Fandetti, CFA

Covered since July 26 2010



	Date	Rating	Target Price	Closing Price
1	26-Jul-10	*2H	*29.00	26.50
2	5-Aug-10	2H	*26.00	24.80
3	27-Oct-10	2H	*24.00	24.17

\* Indicates change

	Date	Rating	Target Price	Closing Price
4	10-Feb-11	2H	*27.00	26.87
5	23-Jul-11	2H	*24.00	23.20
6	8-Oct-11	Stock rating system changed		

	Date	Rating	Target Price	Closing Price
7	8-Oct-11	*2	*26.00	24.48

Rating/target price changes above reflect Eastern Standard Time

## CBOE Holdings, Inc. (CBOE)

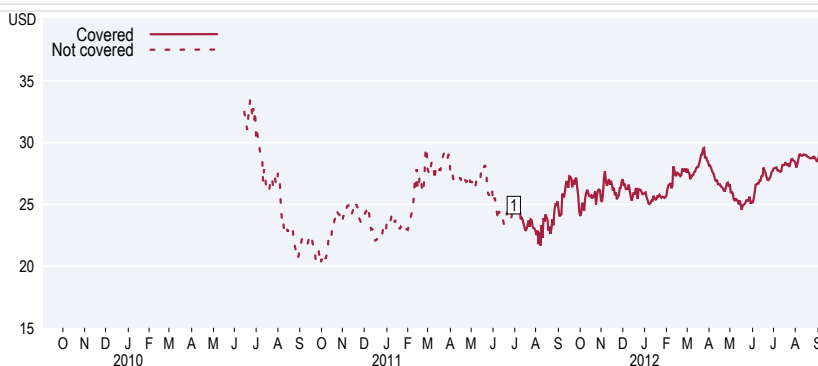
### Ratings and Target Price History

#### Best Ideas Research

#### Relative Call (3 Month)

Analyst: Donald Fandetti, CFA

Covered since July 26 2010



	Date	Rating	Target Price	Closing Price
1	30-Jun-11	*ADD LP	-	24.60

\* Indicates change

Rating/target price changes above reflect Eastern Standard Time

## CME Group Inc (CME)

### Ratings and Target Price History

### Fundamental Research

Analyst: Donald Fandetti, CFA



	Date	Rating	Target Price	Closing Price
1	14-Dec-09	1M	*77.00	66.61
2	4-Feb-10	1M	*76.00	53.86
3	23-Jul-10	1M	*70.00	57.31

\* Indicates change

	Date	Rating	Target Price	Closing Price
4	8-Oct-11	Stock rating system changed		
5	8-Oct-11	*1	70.00	50.79
6	24-Oct-11	1	*63.00	53.74

	Date	Rating	Target Price	Closing Price
7	31-Jan-12	1	*60.00	47.90
8	20-Jul-12	1	*58.00	51.40

Rating/target price changes above reflect Eastern Standard Time

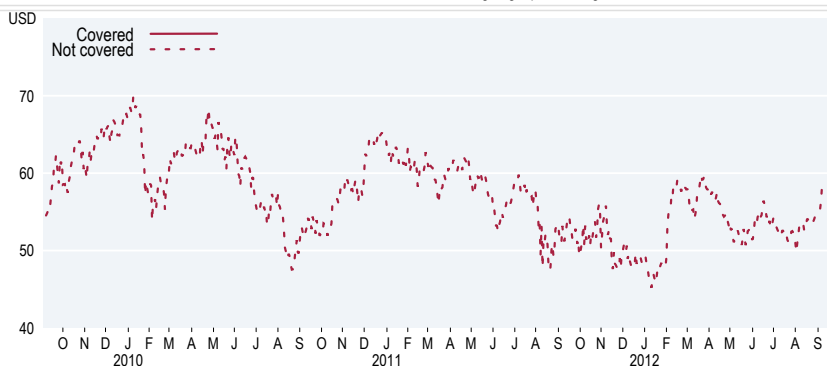
## CME Group Inc (CME)

### Ratings and Target Price History

### Best Ideas Research

### Relative Call (3 Month)

Analyst: Donald Fandetti, CFA



\* Indicates change

Rating/target price changes above reflect Eastern Standard Time

## Deutsche Boerse AG (DB1Gn.DE)

### Ratings and Target Price History

### Fundamental Research

Analyst: Nese Guner

Covered since October 28 2010



	Date	Rating	Target Price	Closing Price
1	29-Jul-10	1M	*60.00	54.50
2	9-Nov-10	*2M	*55.00	49.85
3	17-Jan-11	2M	*57.00	56.24

\* Indicates change

	Date	Rating	Target Price	Closing Price
4	20-Apr-11	2M	*58.00	54.64
5	7-Oct-11	Stock rating system changed		
6	22-Mar-12	*2	*55.00	50.60

	Date	Rating	Target Price	Closing Price
7	20-Apr-12	2	*53.00	47.59
8	19-Jul-12	2	*45.00	42.41
9	2-Aug-12	2	*42.00	39.95

Rating/target price changes above reflect Eastern Standard Time



## Deutsche Boerse AG (DB1Gn.DE)

### Ratings and Target Price History

#### Best Ideas Research

#### Relative Call (3 Month)

Analyst: Nese Guner

Covered since October 28 2010



\* Indicates change

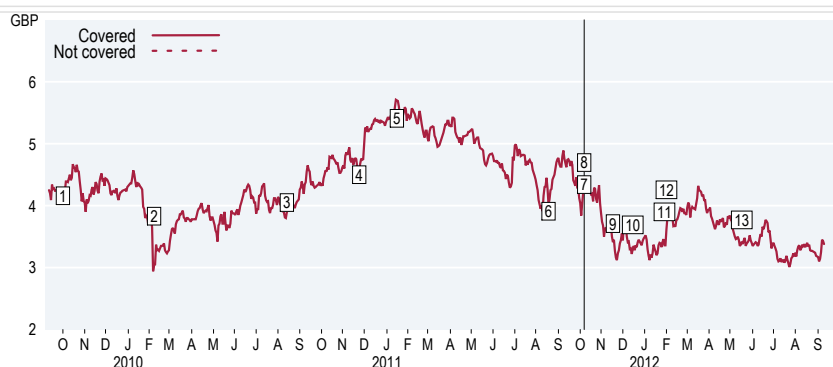
## ICAP PLC (IAP.L)

### Ratings and Target Price History

#### Fundamental Research

Analyst: Nese Guner

Covered since September 30 2010



	Date	Rating	Target Price	Closing Price
1	1-Oct-09	1M	*4.90	4.17
2	8-Feb-10	1M	*4.00	3.04
3	13-Aug-10	1M	*4.40	3.90
4	24-Nov-10	1M	*5.50	4.58
5	16-Jan-11	1M	*6.25	5.71

\* Indicates change

	Date	Rating	Target Price	Closing Price
6	18-Aug-11	1M	*6.05	4.02
7	7-Oct-11	Stock rating system changed		
8	7-Oct-11	*1	6.05	4.26
9	17-Nov-11	1	*5.60	3.41
10	15-Dec-11	1	*4.50	3.30

	Date	Rating	Target Price	Closing Price
11	30-Jan-12	1	*4.10	3.36
12	1-Feb-12	1	*4.30	3.62
13	17-May-12	1	*4.40	3.42

Rating/target price changes above reflect Eastern Standard Time

## ICAP PLC (IAP.L)

### Ratings and Target Price History

#### Best Ideas Research

#### Relative Call (3 Month)

Analyst: Nese Guner

Covered since September 30 2010



	Date	Rating	Target Price	Closing Price
1	11-Feb-11	*ADD MP	-	5.41
2	6-Jul-11	*REM MP	-	4.80

\* Indicates change

	Date	Rating	Target Price	Closing Price
3	6-Jul-11	*ADD MP	-	4.80
4	16-Dec-11	*REM MP	-	3.35

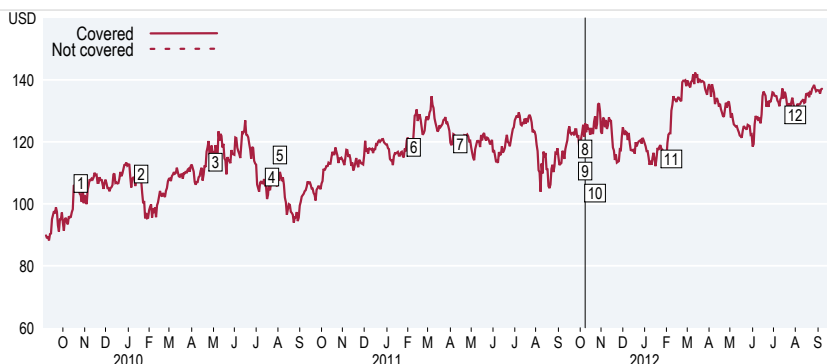
	Date	Rating	Target Price	Closing Price
5	3-Apr-12	*ADD MP	-	3.97
6	25-Jun-12	*REM MP	-	3.57

Rating/target price changes above reflect Eastern Standard Time

## IntercontinentalExchange, Inc. (ICE)

### Ratings and Target Price History Fundamental Research

Analyst: Donald Fandetti, CFA



	Date	Rating	Target Price	Closing Price
1	27-Oct-09	2H	*110.00	102.78
2	20-Jan-10	2H	*123.00	107.64
3	5-May-10	2H	*131.00	118.94
4	23-Jul-10	2H	*125.00	108.36

\* Indicates change

	Date	Rating	Target Price	Closing Price
5	4-Aug-10	2H	*127.00	110.31
6	9-Feb-11	2H	*130.00	123.13
7	15-Apr-11	2H	*134.00	122.02
8	8-Oct-11	Stock rating system changed		

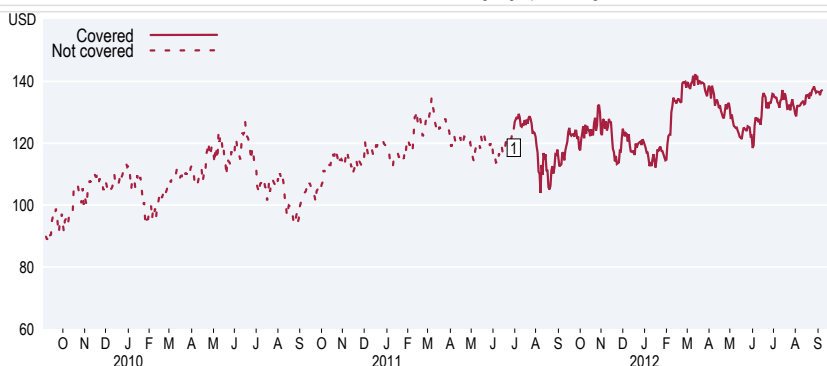
	Date	Rating	Target Price	Closing Price
9	8-Oct-11	*2	134.00	121.62
10	24-Oct-11	2	*130.00	128.24
11	8-Feb-12	2	*145.00	130.08
12	1-Aug-12	2	*140.00	129.40

Rating/target price changes above reflect Eastern Standard Time

## IntercontinentalExchange, Inc. (ICE)

### Ratings and Target Price History Best Ideas Research Relative Call (3 Month)

Analyst: Donald Fandetti, CFA



	Date	Rating	Target Price	Closing Price
1	30-Jun-11	*ADD MP	-	124.71

\* Indicates change

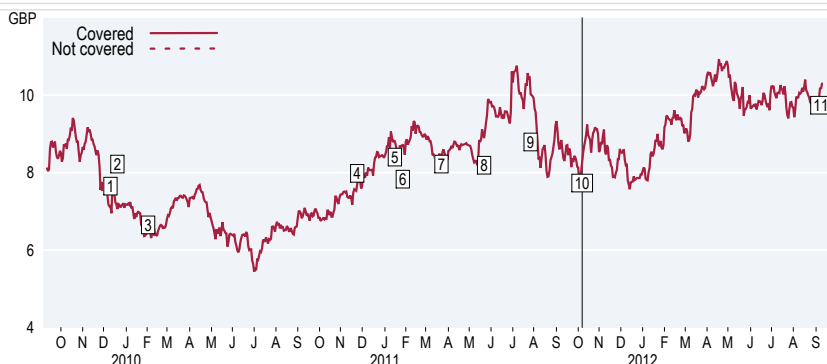
Rating/target price changes above reflect Eastern Standard Time

## London Stock Exchange PLC (LSE.L)

### Ratings and Target Price History Fundamental Research

Analyst: Nese Guner

Covered since September 29 2010



	Date	Rating	Target Price	Closing Price
1	10-Dec-09	3M	*6.70	7.14
2	21-Dec-09	3M	*6.60	7.06
3	2-Feb-10	*2M	*6.75	6.49
4	24-Nov-10	2M	*7.70	7.70

\* Indicates change

	Date	Rating	Target Price	Closing Price
5	17-Jan-11	*3M	*8.10	8.81
6	27-Jan-11	3M	*8.35	8.73
7	23-Mar-11	*2M	*8.70	8.36
8	23-May-11	2M	*9.30	8.89

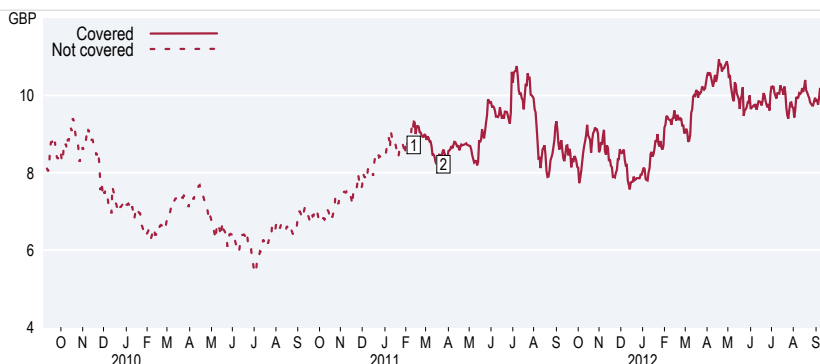
	Date	Rating	Target Price	Closing Price
9	27-Jul-11	2M	*10.20	10.02
10	7-Oct-11	Stock rating system changed		
11	10-Sep-12	*1	*13.00	10.16

Rating/target price changes above reflect Eastern Standard Time

## London Stock Exchange PLC (LSE.L)

### Ratings and Target Price History Best Ideas Research Relative Call (3 Month)

Analyst: Nese Guner  
Covered since September 29 2010



	Date	Rating	Target Price	Closing Price
1	11-Feb-11	*ADD LP	-	9.33

\* Indicates change

	Date	Rating	Target Price	Closing Price
2	25-Mar-11	*REM LP	-	8.60

Rating/target price changes above reflect Eastern Standard Time

## The Nasdaq OMX Group (NDAQ)

### Ratings and Target Price History Fundamental Research

Analyst: Donald Fandetti, CFA



	Date	Rating	Target Price	Closing Price
1	23-Jul-10	2H	*20.00	18.63
2	27-Jul-10	2H	*21.00	19.49
3	27-Oct-10	2H	*22.00	21.03
4	28-Jan-11	2H	*25.00	24.50
5	2-Feb-11	2H	*27.00	26.51

\* Indicates change

	Date	Rating	Target Price	Closing Price
6	15-Apr-11	2H	*29.00	28.21
7	23-Jul-11	2H	*26.00	24.20
8	3-Oct-11	2H	*24.00	22.31
9	8-Oct-11	Stock rating system changed		
10	8-Oct-11	*2	24.00	24.11

	Date	Rating	Target Price	Closing Price
11	31-Jan-12	2	*26.00	24.76
12	1-Feb-12	2	*27.00	24.77
13	20-Jul-12	2	*25.00	22.37

Rating/target price changes above reflect Eastern Standard Time

## The Nasdaq OMX Group (NDAQ)

### Ratings and Target Price History Best Ideas Research Relative Call (3 Month)

Analyst: Donald Fandetti, CFA



	Date	Rating	Target Price	Closing Price
1	20-Jan-11	*ADD LP	-	24.01

\* Indicates change

	Date	Rating	Target Price	Closing Price
2	26-Sep-11	*REM LP	-	24.99

Rating/target price changes above reflect Eastern Standard Time

## NYSE Euronext (NYX)

### Ratings and Target Price History

### Fundamental Research

Analyst: Donald Fandetti, CFA



	Date	Rating	Target Price	Closing Price
1	26-Apr-10	2H	*34.00	34.36
2	23-Jul-10	2H	*30.00	28.24
3	28-Jan-11	2H	*33.00	32.08

\* Indicates change

	Date	Rating	Target Price	Closing Price
4	15-Apr-11	2H	*39.00	39.01
5	8-Oct-11	Stock rating system changed		
6	12-Feb-12	*2	*29.00	28.94

	Date	Rating	Target Price	Closing Price
7	2-Apr-12	2	*30.00	30.08
8	30-Apr-12	2	*27.00	25.75

Rating/target price changes above reflect Eastern Standard Time

## NYSE Euronext (NYX)

### Ratings and Target Price History

### Best Ideas Research

### Relative Call (3 Month)

Analyst: Donald Fandetti, CFA



	Date	Rating	Target Price	Closing Price
1	20-Jan-11	*ADD MP	-	32.28

\* Indicates change

	Date	Rating	Target Price	Closing Price
2	26-Sep-11	*REM MP	-	25.30

Rating/target price changes above reflect Eastern Standard Time

## Singapore Exchange (SGXL.SI)

### Ratings and Target Price History

### Fundamental Research

Analyst: Robert P Kong, CFA



	Date	Rating	Target Price	Closing Price
1	24-Mar-10	1L	*9.00	7.80
2	13-Oct-10	1L	*10.60	9.47
3	14-Apr-11	1L	*9.20	8.21

\* Indicates change

	Date	Rating	Target Price	Closing Price
4	26-Jul-11	1L	*8.30	7.42
5	7-Oct-11	Stock rating system changed		
6	7-Oct-11	*1	8.30	6.17

	Date	Rating	Target Price	Closing Price
7	14-Oct-11	*3	*5.40	6.25
8	20-Jul-12	3	*5.81	6.75

Rating/target price changes above reflect Eastern Standard Time

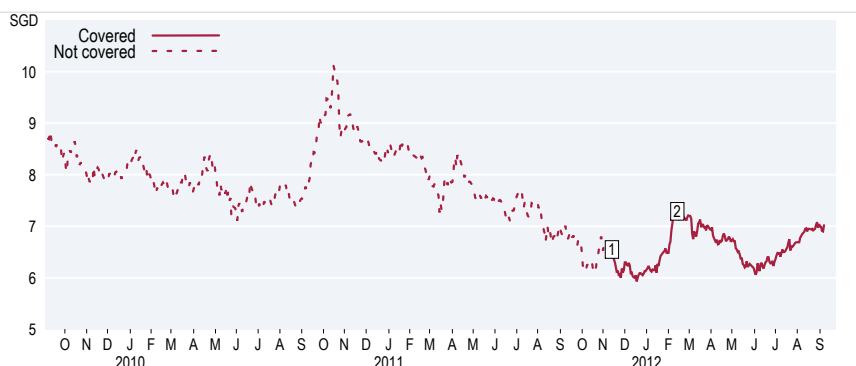
## Singapore Exchange (SGXL.SI)

### Ratings and Target Price History

#### Best Ideas Research

#### Relative Call (3 Month)

Analyst: Robert P Kong, CFA



Date	Rating	Target Price	Closing Price
[1] 14-Nov-11	*ADD LP	-	6.48

\* Indicates change

Date	Rating	Target Price	Closing Price
[2] 14-Feb-12	*REM LP	-	7.23

Rating/target price changes above reflect Eastern Standard Time

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#### Data current as of 30 Jun 2012

	12 Month Rating			Relative Rating		
	Buy	Hold	Sell	Buy	Hold	Sell
Citi Research Global Fundamental Coverage	53%	37%	10%	10%	80%	10%
% of companies in each rating category that are investment banking clients	44%	43%	40%	48%	43%	45%

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