

An Unusual Argument for Long Bonds

Tender-exchange activity

- **Overview:** We are very cognizant of the soft price action in the back-end but at current levels we believe that select opportunities can be found. One reason why is potential tender-exchanges for long-tenor, high-dollar bonds have picked up in recent quarters, and we believe that this trend may have room to continue.
- **Rationale for More Tender Activity:** There are some obvious reasons why an issuer might look to exchange old debt for new at any given point in time, but there are several factors in the prevailing environment that may incentivize tender-activity as well.
- **Company ABC's Tender-Exchange:** We consider the potential impact of several "current environment" factors on a hypothetical issuer's income statement and stock price.
- **Investment Implication:** We believe that the back-end offers pockets of opportunity, in part due to potential tender-exchange activity. But because we also believe that one has to be fairly selective, we introduce a tender-exchange screen to assist in this regard.

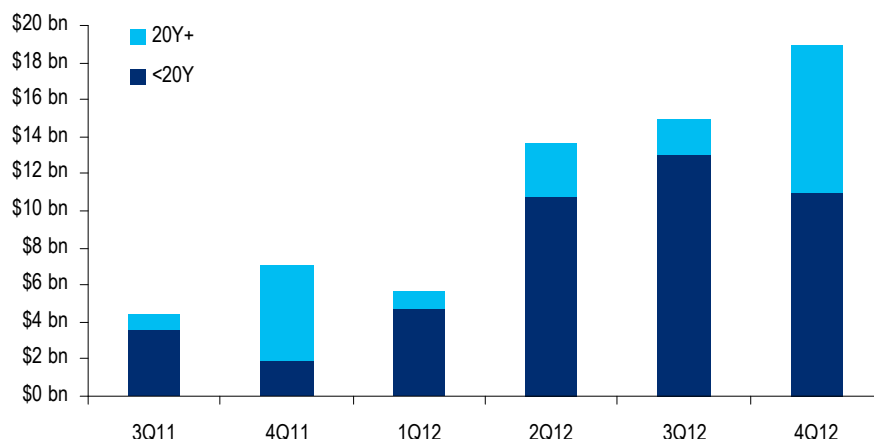
Stephen Antczak, CFA
+1-212-723-3267
stephen.antczak@citi.com

Erin Lyons
+1-212-723-1102
erin.lyons@citi.com

Jung Lee
+1-212-723-1835
jung.lee@citi.com

Sonam T Pokwal
+1-212-723-3807
sonam.t.pokwal@citi.com

Figure 1. Tender-exchange activity in the back-end picked up sharply in recent quarters



Source: Citi Research
Note: As of December 13, 2012

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

Citi Research is a division of Citigroup Global Markets Inc. (the "Firm"), which does and seeks to do business with companies covered in its research reports. As a result, investors should be aware that the Firm may have a conflict of interest that could affect the objectivity of this report. Investors should consider this report as only a single factor in making their investment decision.

An Unusual Argument for Long Bonds

Tender-exchange activity

In the credit space it's usually pretty easy to find reasons to dislike the back-end, and while we are wary of illiquidity and the higher-beta nature of the space we do believe that select pockets offer value. Steep curves – exacerbated by mispricing in high-dollar, long-end issues – and investors' ongoing reach for yield are key reasons why. And the fact that overweight the back-end is not a crowded position is almost as important, in our view.

There is another factor that may not be on the radar screen of many, and that is the potential for tender-exchange activity. Tender-exchanges for long-tenor, high-dollar bonds have picked up (Figure 1, cover page), and we believe that this trend has room to continue. Attractive tender premiums can potentially be captured (e.g., on average premiums of \$4.3 were paid in the 20Y+ space last year).

1. Rationale for more tender-exchange activity

There are some obvious reasons why an issuer might look to exchange old debt for new at any given point in time, such as cleaning up its capital structure, pulling forward a tax benefit, terming out upcoming maturities, etc. But there are several additional factors *in the prevailing environment* that may incentivize long-end tender-activity as well. These include:

1. **Much higher coupons than yields:** The difference between coupon and yield for the average issue in the high-grade market is hovering near multi-decade highs (Figure 2), which means that if a company takes out high-coupon debt via a tender exchange interest expense can be lowered by a near-record amount (and thus, EPS boosted by a near-record amount).

A point worth noting is that many equity analysts that we spoke with tend to ignore the premium that issuers must pay to take out bonds as an extraordinary item. They only focus on the lower interest payments that will occur in the future in their valuation models, which means that higher EPS has the potential to flow through to stock price.

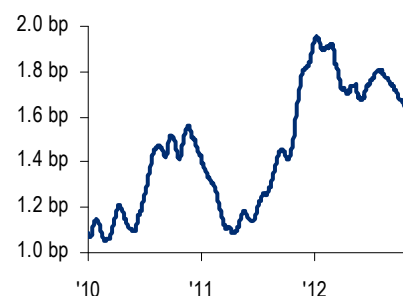
2. **Cheap high-dollar bonds:** There is a large difference between the yield on high-dollar bonds and par bonds, which essentially means that issuers can lower interest expense even more by taking out high-coupon debt (via par debt). Figure 3 shows that the market is currently paying around 1.5 bp for every dollar above par for the typical non-financial issue, which although down from the peak is still well north of the long-term average.

Figure 2. Difference between the coupon and yield for the average HG issue



Source: Citi Research; Note: As of December 31, 2012

Figure 3. Spread compensation for every dollar above par for the typical non-fin issue



Source: Citi Research; Note: As of November 19, 2012

This extra yield is obviously compensation for additional risk that investors are exposed to (e.g., illiquidity and a higher loss-given-default). But an issuer is one market participant that can arb this difference. It can “buy” a high-dollar bond that it had issued on the cheap, “sell” a rich par bond (via an exchange), and capture the difference between the two without taking risk.

3. **Lower WACCs:** Dividend discount models take into account a company's risk, and spread is often used in valuation models to reflect this risk. But corporate spreads represent compensation for both fundamental risk (e.g., default) and technical risk (e.g., liquidity). By taking out high-dollar paper with par bonds in theory the company rids its WACC of any premium associated with technical factors. Spread goes down, WACC can go down, which in turn can boost share price.

2. Company ABC's tender-exchange

Consider the points above in the context of a hypothetical issuer, Company ABC. Assume that Company ABC earns \$1 per share, and has 100k shares outstanding that trade at \$10. It has \$1 mm of debt outstanding split between two 30-year issues, one of which has a 10% coupon and one a 5% coupon. Company ABC decides to take out the 10s of '43 via an exchange for par bonds (5%). Potential benefits:

1. **Much higher coupon than yield:** If the 10% bonds are taken out with 5% bonds (ignoring tax implications), EPS will be boosted by about 10%. Specifically, Figure 4 shows that interest expense will decline by \$10.5k, which means that earnings will rise from \$100k to \$110.5k.
2. **Cheap high-dollar bond:** The price of a 10% 30-year trading at a yield of 5% — the yield of Company ABC's par bond — is \$177. But Company ABC's 10% bond is trading at \$158 (a discount consistent with the market average). Of course, the Company can't capture this entire difference because it has to entice bondholders, but if the starting point is 19 pts there is a lot of room to work with.
3. **Lower WACC:** Company ABC has a 10% WACC, but if it is able to strip out 87 bp from its risk premium by issuing par bonds for premium bonds its WACC falls to 8.8% (Figure 5). This means that its share price might have room to rise meaningfully (from \$10 to \$12.6, Figure 6).

Figure 4. What does exchanging the 10% bonds with 5% debt do to Company ABC's interest expense?

	Tendered Debt	New Debt
Coupon	10%	5%
Yield	5.87%	5.0%
Price / Yield	\$158	\$100
Amt Outstanding	\$500,000	\$790,000*
Interest Expense	\$50,000	\$39,500**

Source: Citi Research

*total market value of par bonds to match tendered high-coupon bond ($\$158 \times 500k / \$100 = \$790k$)

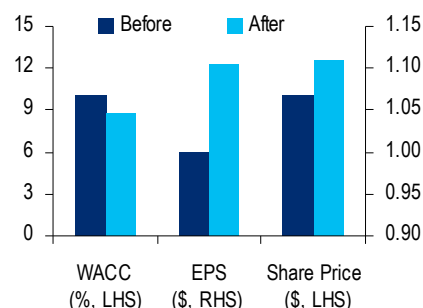
** 5% coupon for \$790k outstanding

Figure 5. Higher earnings and a lower discount factor from tender-exchange might result in...

Company ABC	Before Tender Exchange	After Tender Exchange
WACC	10%	8.8%
EPS	\$1	\$1.11
Share Price	\$10	\$12.6
10s of '43 Yield	5.87%	—
5s of '43 Yield	5%	—

Source: Citi Research

Figure 6. ...a large increase in share price



Source: Citi Research

Before moving on, we want to acknowledge that this example is very much simplified and ignores many real world factors. Tax implications, fees, and corporate management preferences are all ignored, and for that matter how many issuers that can issue at 5% have a 10% coupon on half of their debt? Or have all their debt in the 30-year space? But the key point is that while the example may overstate potential benefits of a tender-exchange, there are reasons why the benefits may be larger than normal for the typical issuer at this point.

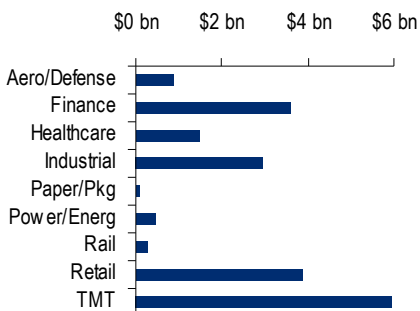
3. Screening for attractive long bonds

While we believe that the back-end offers opportunities, we also think that one has to be very selective; we are certainly mindful of liquidity conditions and factors such as spread and beta vary vastly among long-tenors. In addition, the positive tender-exchange factor detailed above has tended to be fairly concentrated by both sector (TMT, retail, finance, and industrials; Figure 7) and by issuer (Figure 8). In an effort to uncover long-tenor bonds that could potentially benefit from tender-exchange activity we screened specific CUSIPs in these four sectors based on the following criteria (Figure 9, next page):

- **Large dollar-price discount:** Perhaps the most important filter was the extent to which high-dollar bonds trade cheap to par bonds. The issuer may very well have a strong incentive to retire such issues, but if not investors may be overcompensated for the incremental risk that they are taking.
- **Large coupon / yield difference:** Presumably the larger the difference between coupon and yield the more interest expense could be reduced for an issuer. On average the issues highlighted in Figure 9 have a difference of 2.3%, vs. 1.7% for the average long bond.
- **Mutual fund holdings:** Lastly, we screened for CUSIPs that were held by mutual funds (mutual fund holdings / total outstanding > 0). We posit that issuers are more inclined to tender for bonds they can actually get. Unlike some investor types (life insurers, for example), mutual funds have the capacity to participate in tenders, making bonds held by funds a more attractive tender target in the eyes of management.

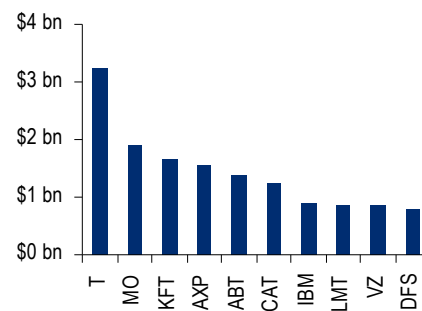
Of course, this screen is merely a starting point given that many idiosyncratic factors need to be considered, including a management team's willingness to do a tender. We favor incorporating this screen (or a variation thereof) into the normal the relative value process. If the tender-exchange trend continues an upside surprise may be captured (and at an average of 4.3 pts the surprise is meaningful!), but if not good value can be had anyway.

Figure 7. 2012 tender-exchange activity by sector in the high-grade market



Source: Citi Research

Figure 8. Top ten issuers with most tender activity in '12



Source: Citi Research

Figure 9. List of long-tenor, high-dollar bonds that “screen” well for tender-exchange activity. Please contact us directly for more details

Issuer	Characteristics			Valuations			Tender Screening Metrics		
	Coupon	Maturity	Amt Out (\$mm)	Price (\$)	YTW (%)	Spread (bp)	High-Dollar Discount (bp / \$ above par)	Est. Mutual Fund Holdings as % of Par	Diff btw Coupon and Yield (%)
ADM	5.935	10/1/2032	420	122.3	4.25	162	1.73	30%	1.68
AMX	6.125	11/15/2037	400	128.6	4.25	147	1.37	32%	1.87
AMX	6.375	3/1/2035	981	130.9	4.21	152	1.37	13%	2.16
AMX	6.125	3/30/2040	2,000	130.0	4.25	140	1.37	6%	1.87
BAC	7.75	5/14/2038	1,750	128.9	5.60	291	1.30	7%	2.15
CMCSA	6.4	4/30/2040	1,000	127.6	4.61	179	1.41	13%	1.79
CMCSA	7.05	3/15/2033	750	134.4	4.45	184	1.34	18%	2.60
CMCSA	6.55	7/1/2039	800	129.3	4.62	182	1.34	16%	1.93
CMCSA	6.4	3/1/2040	1,000	128.8	4.54	172	1.34	13%	1.86
CMCSA	6.45	3/15/2037	1,850	126.8	4.60	186	1.34	7%	1.85
CMCSA	6.4	5/15/2038	1,000	128.3	4.51	173	1.34	13%	1.89
CMCSA	6.5	11/15/2035	1,000	127.0	4.58	188	1.34	13%	1.92
CMCSA	6.95	8/15/2037	2,000	133.3	4.66	193	1.34	7%	2.29
CSCO	5.9	2/15/2039	2,000	128.4	4.11	128	1.28	7%	1.79
CTL	7.25	10/15/2035	250	107.4	5.03	382	2.02	41%	2.22
CTL	7.125	11/15/2043	250	104.1	5.32	386	2.02	40%	1.81
CVS	6.125	9/15/2039	1,500	126.0	4.45	163	1.60	9%	1.67
GE	6.875	1/10/2039	4,000	133.9	4.62	184	1.30	3%	2.25
GLW	7.25	8/15/2036	250	126.4	4.61	227	1.43	51%	2.64
HBC	7	1/15/2039	700	135.2	4.65	188	1.30	18%	2.35
HBC	6.1	1/14/2042	750	133.7	4.10	120	1.30	18%	2.00
HBC	6.8	6/1/2038	1,500	130.9	4.70	194	1.30	8%	2.10
HBC	6.5	9/15/2037	2,500	126.4	4.68	193	1.30	5%	1.82
HBC	6.5	5/2/2036	2,000	125.9	4.66	195	1.30	6%	1.84
JPM	6.4	5/15/2038	2,500	132.2	4.30	151	1.30	5%	2.10
JWN	7	1/15/2038	350	140.3	4.34	158	1.88	41%	2.66
KR	6.9	4/15/2038	375	129.1	4.88	214	2.02	33%	2.02
KRFT	6.875	1/26/2039	878	134.0	4.62	184	1.67	16%	2.26
KRFT	6.5	2/9/2040	787	129.0	4.61	180	1.67	17%	1.89
KSS	6.875	12/15/2037	350	124.2	5.14	242	2.52	37%	1.73
LO	8.125	5/1/2040	250	132.1	5.77	306	3.99	52%	2.35
MDLZ	7	8/11/2037	564	135.5	4.58	184	1.49	24%	2.42
MDLZ	6.875	2/1/2038	710	134.9	4.53	178	1.49	19%	2.34
MDLZ	6.5	2/9/2040	2,212	131.8	4.46	164	1.49	6%	2.04
MO	10.2	2/6/2039	1,500	166.3	5.42	276	2.09	11%	4.78
MO	9.95	11/10/2038	1,500	163.3	5.38	272	2.09	11%	4.57
NWS	8.15	10/17/2036	300	140.5	5.17	252	1.40	45%	2.98
NWS	7.75	12/1/2045	600	142.2	5.10	225	1.40	22%	2.66
NWS	6.9	8/15/2039	600	131.9	4.77	199	1.40	21%	2.13
NWS	6.65	11/15/2037	1,250	128.0	4.72	197	1.40	10%	1.93
NWS	6.4	12/15/2035	1,147	124.0	4.68	198	1.40	11%	1.72
ORCL	6.125	7/8/2039	1,250	132.9	4.08	124	1.25	11%	2.04

Characteristics				Valuations			Tender Screening Metrics		
Issuer	Coupon	Maturity	Amt Out (\$mm)	Price (\$)	YTW (%)	Spread (bp)	High-Dollar Discount (bp / \$ above par)	Est. Mutual Fund Holdings as % of Par	Diff btw Coupon and Yield (%)
ORCL	6.5	4/15/2038	1,250	137.3	4.11	132	1.25	11%	2.39
PHG	6.875	3/11/2038	1,000	135.0	4.53	177	1.62	14%	2.34
RAI	7.25	6/15/2037	450	131.7	4.99	229	2.49	28%	2.26
T	6.8	5/15/2036	600	132.6	4.53	182	1.29	22%	2.27
T	6.55	6/15/2034	700	122.7	4.84	219	1.29	17%	1.71
T	6.4	5/15/2038	1,250	126.2	4.63	186	1.29	10%	1.77
T	6.45	6/15/2034	750	128.6	4.38	171	1.29	17%	2.07
T	6.5	9/1/2037	2,000	128.1	4.58	183	1.29	7%	1.92
T	6.55	2/15/2039	2,250	129.4	4.60	181	1.29	6%	1.95
T	6.3	1/15/2038	2,750	126.1	4.54	177	1.29	5%	1.76
TWC	8.375	7/15/2033	1,000	142.3	5.04	248	1.58	14%	3.33
TWC	7.3	7/1/2038	1,500	132.0	5.05	232	1.41	9%	2.25
TWC	6.75	6/15/2039	1,500	125.5	5.00	223	1.41	9%	1.75
TWX	6.5	11/15/2036	1,000	123.9	4.80	208	1.39	12%	1.70
VIA	6.75	10/5/2037	250	130.2	4.68	193	1.41	53%	2.08
VIA	6.875	4/30/2036	1,750	135.4	4.43	172	1.41	8%	2.45
VOD	6.25	11/30/2032	495	129.0	4.10	147	1.27	27%	2.15
VOD	6.15	2/27/2037	1,700	131.9	4.06	129	1.27	8%	2.09
VZ	8.95	3/1/2039	353	183.7	3.85	107	1.29	49%	5.11
VZ	6.25	4/1/2037	750	131.8	4.15	139	1.29	17%	2.10
VZ	7.35	4/1/2039	1,000	145.2	4.42	164	1.29	15%	2.93
VZ	6	4/1/2041	1,000	128.2	4.27	140	1.29	13%	1.73
VZ	6.4	2/15/2038	1,750	132.2	4.29	151	1.29	8%	2.11
VZ	6.9	4/15/2038	1,250	138.6	4.36	159	1.29	11%	2.54
WFC	5.95	8/26/2036	1,000	125.5	4.24	148	1.30	12%	1.72
WFC	6.6	1/15/2038	2,500	135.6	4.27	150	1.30	5%	2.33
WMI	6.125	11/30/2039	600	126.2	4.44	161	2.08	21%	1.68
YUM	6.875	11/15/2037	600	134.3	4.55	180	2.02	23%	2.32

Source: Citi Research, Bloomberg
Note: As of January 4, 2013

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

Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Abbott Laboratories
Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Archer Daniels Midland Co
Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of American Express Co
Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Bank of America Corp
A director of Citi serves on the board of Comcast Corporation. Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Comcast Corp
Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Cisco Systems Inc
Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of CenturyLink Inc
Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Discover Financial Services
Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of General Electric Co
Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of JPMorgan Chase & Co
Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Nordstrom Inc
Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Kroger Co
Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Kohl's Corp
Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Lockheed Martin Corp
Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Altria Group Inc
Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Oracle Corp
A director of Citi serves on the board of Reynolds American Inc. Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Reynolds American Inc
Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of AT&T Inc
Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Time Warner Cable Inc
Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Time Warner Inc
Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Viacom Inc
Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Vodafone Group PLC
Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Verizon Communications Inc
Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Wells Fargo & Co
Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Waste Management Inc
Sonam T Pokwal, Associate, holds a long position in the securities of Altria Group Inc.
Stephen Antczak, CFA, Strategist, holds a long position in the securities of JP Morgan Chase & Co, Bank of America Corp.
Erin Lyons, Strategist, holds a long position in the securities of JP Morgan Chase & Co.
A member of the household of Erin Lyons, Strategist, holds a long position in the securities of JP Morgan Chase & Co.
Citigroup Global Markets Inc. or its affiliates beneficially owns 1% or more of any class of common equity securities of Archer-Daniels-Midland Company, Bank of America Corp, Time Warner Cable Inc. This position reflects information available as of the prior business day.
Within the past 12 months, Citigroup Global Markets Inc. or its affiliates has acted as manager or co-manager of an offering of securities of American Express Co., Comcast Corp, Discover Financial Services, IBM INTERNATIONAL GROUP CAPITAL LLC, General Electric Company, Corning Incorporated, JP Morgan Chase & Co, Kroger Co, Altria Group Inc, Oracle Corporation, Philips, Reynolds American Inc, AT&T Inc, Time Warner Cable Inc, Time Warner Inc, Viacom Inc, Verizon Communications Inc, Wells Fargo & Co.

Citigroup Global Markets Inc. or its affiliates has received compensation for investment banking services provided within the past 12 months from Abbott Laboratories, Archer-Daniels-Midland Company, American Express Co., Bank of America Corp, Comcast Corp, Cisco Systems Inc., CenturyLink, Discover Financial Services, LORILLARD TOBACCO CO, General Electric Company, Corning Incorporated, JP Morgan Chase & Co, Kroger Co, Lockheed Martin Corp., Altria Group Inc, Oracle Corporation, Philips, Reynolds American Inc, AT&T Inc, Time Warner Cable Inc, Time Warner Inc, Viacom Inc, Vodafone Group PLC, Verizon Communications Inc, Wells Fargo & Co, Waste Management Inc, YUM! Brands Inc..

Citigroup Global Markets Inc. or its affiliates expects to receive or intends to seek, within the next three months, compensation for investment banking services from Archer-Daniels-Midland Company, American Express Co., Discover Financial Services, General Electric Company, Corning Incorporated, Time Warner Inc, Vodafone Group PLC.

Citigroup Global Markets Inc. or an affiliate received compensation for products and services other than investment banking services from Abbott Laboratories, Archer-Daniels-Midland Company, American Express Co., Bank of America Corp, Comcast Corp, Cisco Systems Inc., CenturyLink, CVS Caremark Corp, Discover Financial Services, LORILLARD TOBACCO CO, General Electric Company, Corning Incorporated, JP Morgan Chase & Co, Kroger Co, Kohl's Corp, Lockheed Martin Corp., Altria Group Inc, Oracle Corporation, Philips, Reynolds American Inc, AT&T Inc, Time Warner Cable Inc, Time Warner Inc, Viacom Inc, Vodafone Group PLC, Verizon Communications Inc, Wells Fargo & Co, Waste Management Inc, YUM! Brands Inc. in the past 12 months.

Citigroup Global Markets Inc. currently has, or had within the past 12 months, the following as investment banking client(s): Abbott Laboratories, Archer-Daniels-Midland Company, American Express Co., Bank of America Corp, Comcast Corp, Cisco Systems Inc., CenturyLink, Discover Financial Services, LORILLARD TOBACCO CO, General Electric Company, Corning Incorporated, JP Morgan Chase & Co, Kroger Co, Lockheed Martin Corp., Altria Group Inc, Oracle Corporation, Philips, Reynolds American Inc, AT&T Inc, Time Warner Cable Inc, Time Warner Inc, Viacom Inc, Vodafone Group PLC, Verizon Communications Inc, Wells Fargo & Co, Waste Management Inc, YUM! Brands Inc..

Citigroup Global Markets Inc. currently has, or had within the past 12 months, the following as clients, and the services provided were non-investment-banking, securities-related: Abbott Laboratories, Archer-Daniels-Midland Company, American Express Co., Bank of America Corp, Comcast Corp, Cisco Systems Inc., CenturyLink, CVS Caremark Corp, Discover Financial Services, LORILLARD TOBACCO CO, General Electric Company, Corning Incorporated, JP Morgan Chase & Co, Kroger Co, Kohl's Corp, Lockheed Martin Corp., Altria Group Inc, Oracle Corporation, Philips, Reynolds American Inc, AT&T Inc, Time Warner Cable Inc, Time Warner Inc, Viacom Inc, Vodafone Group PLC, Verizon Communications Inc, Wells Fargo & Co, Waste Management Inc, YUM! Brands Inc..

Citigroup Global Markets Inc. currently has, or had within the past 12 months, the following as clients, and the services provided were non-investment-banking, non-securities-related: Abbott Laboratories, Archer-Daniels-Midland Company, American Express Co., Bank of America Corp, Comcast Corp, Cisco Systems Inc., CenturyLink, CVS Caremark Corp, Discover Financial Services, LORILLARD TOBACCO CO, General Electric Company, Corning Incorporated, JP Morgan Chase & Co, Kroger Co, Kohl's Corp, Lockheed Martin Corp., Altria Group Inc, Oracle Corporation, Philips, Reynolds American Inc, AT&T Inc, Time Warner Cable Inc, Time Warner Inc, Viacom Inc, Vodafone Group PLC, Verizon Communications Inc, Wells Fargo & Co, Waste Management Inc, YUM! Brands Inc..

Analysts' compensation is determined based upon activities and services intended to benefit the investor clients of Citigroup Global Markets Inc. and its affiliates ("the Firm"). Like all Firm employees, analysts receive compensation that is impacted by overall firm profitability which includes investment banking revenues.

The Firm is a market maker in the publicly traded equity securities of Comcast Corp, Cisco Systems Inc., CVS Caremark Corp, Oracle Corporation, Viacom Inc, Vodafone Group PLC.

For important disclosures (including copies of historical disclosures) regarding the companies that are the subject of this Citi Research product ("the Product"), please contact Citi Research, 388 Greenwich Street, 28th Floor, New York, NY, 10013, Attention: Legal/Compliance [E6WYB6412478]. In addition, the same important disclosures, with the exception of the Valuation and Risk assessments and historical disclosures, are contained on the Firm's disclosure website at https://www.citivelocity.com/cvr/eppublic/citi_research_disclosures. Valuation and Risk assessments can be found in the text of the most recent research note/report regarding the subject company. Historical disclosures (for up to the past three years) will be provided upon request.

Citi Research Equity Ratings Distribution

Data current as of 31 Dec 2012

Citi Research Global Fundamental Coverage

% of companies in each rating category that are investment banking clients

12 Month Rating			Relative Rating		
Buy	Hold	Sell	Buy	Hold	Sell
49%	38%	12%	7%	86%	7%
53%	49%	45%	60%	49%	55%

Guide to Citi Research Fundamental Research Investment Ratings:

Citi Research stock recommendations include an investment rating and an optional risk rating to highlight high risk stocks.

Risk rating takes into account both price volatility and fundamental criteria. Stocks will either have no risk rating or a High risk rating assigned.

Investment Ratings: Citi Research investment ratings are Buy, Neutral and Sell. Our ratings are a function of analyst expectations of expected total return ("ETR") and risk. ETR is the sum of the forecast price appreciation (or depreciation) plus the dividend yield for a stock within the next 12 months. The Investment rating definitions are: Buy (1) ETR of 15% or more or 25% or more for High risk stocks; and Sell (3) for negative ETR. Any covered stock not assigned a Buy or a Sell is a Neutral (2). For stocks rated Neutral (2), if an analyst believes that there are insufficient valuation drivers and/or investment catalysts to derive a positive or negative investment view, they may elect with the approval of Citi Research management not to assign a target price and, thus, not derive an ETR. Analysts may place covered stocks "Under Review" in response to exceptional circumstances (e.g. lack of information critical to the analyst's thesis) affecting the company and / or trading in the company's securities (e.g. trading suspension). As soon as practically possible, the analyst will publish a note re-establishing a rating and investment thesis. To satisfy regulatory requirements, we correspond Under Review and Neutral to Hold in our ratings distribution table for our 12-month fundamental rating system. However, we reiterate that we do not consider Under Review to be a recommendation.

Relative three-month ratings: Citi Research may also assign a three-month relative call (or rating) to a stock to highlight expected out-performance (most preferred) or under-performance (least preferred) versus the geographic and industry sector over a 3 month period. The relative call may highlight a specific

near-term catalyst or event impacting the company or the market that is anticipated to have a short-term price impact on the equity securities of the company. Absent any specific catalyst the analyst(s) will indicate the most and least preferred stocks in the universe of stocks under consideration, explaining the basis for this short-term view. This three-month view may be different from and does not affect a stock's fundamental equity rating, which reflects a longer-term total absolute return expectation. For purposes of NASD/NYSE ratings-distribution-disclosure rules, most preferred calls correspond to a buy recommendation and least preferred calls correspond to a sell recommendation. Any stock not assigned to a most preferred or least preferred call is considered non-relative-rated (NRR). For purposes of NASD/NYSE ratings-distribution-disclosure rules we correspond NRR to Hold in our ratings distribution table for our 3-month relative rating system. However, we reiterate that we do not consider NRR to be a recommendation.

Prior to October 8, 2011, the firm's stock recommendation system included a risk rating and an investment rating. **Risk ratings**, which took into account both price volatility and fundamental criteria, were: Low (L), Medium (M), High (H), and Speculative (S). **Investment Ratings** of Buy, Hold and Sell were a function of the Citi Research expectation of total return (forecast price appreciation and dividend yield within the next 12 months) and risk rating. Additionally, analysts could have placed covered stocks "Under Review" in response to exceptional circumstances (e.g. lack of information critical to the analyst's thesis) affecting the company and/or trading in the company's securities (e.g. trading suspension). Stocks placed "Under Review" were monitored daily by management and as practically possible, the analyst published a note re-establishing a rating and investment thesis. For securities in developed markets (US, UK, Europe, Japan, and Australia/New Zealand), investment ratings were: Buy (1) (expected total return of 10% or more for Low-Risk stocks, 15% or more for Medium-Risk stocks, 20% or more for High-Risk stocks, and 35% or more for Speculative stocks); Hold (2) (0%-10% for Low-Risk stocks, 0%-15% for Medium-Risk stocks, 0%-20% for High-Risk stocks, and 0%-35% for Speculative stocks); and Sell (3) (negative total return). For securities in emerging markets (Asia Pacific, Emerging Europe/Middle East/Africa, and Latin America), investment ratings were: Buy (1) (expected total return of 15% or more for Low-Risk stocks, 20% or more for Medium-Risk stocks, 30% or more for High-Risk stocks, and 40% or more for Speculative stocks); Hold (2) (5%-15% for Low-Risk stocks, 10%-20% for Medium-Risk stocks, 15%-30% for High-Risk stocks, and 20%-40% for Speculative stocks); and Sell (3) (5% or less for Low-Risk stocks, 10% or less for Medium-Risk stocks, 15% or less for High-Risk stocks, and 20% or less for Speculative stocks).

Investment ratings are determined by the ranges described above at the time of initiation of coverage, a change in investment and/or risk rating, or a change in target price (subject to limited management discretion). At other times, the expected total returns may fall outside of these ranges because of market price movements and/or other short-term volatility or trading patterns. Such interim deviations from specified ranges will be permitted but will become subject to review by Research Management. Your decision to buy or sell a security should be based upon your personal investment objectives and should be made only after evaluating the stock's expected performance and risk.

NON-US RESEARCH ANALYST DISCLOSURES

Non-US research analysts who have prepared this report (i.e., all research analysts listed below other than those identified as employed by Citigroup Global Markets Inc.) are not registered/qualified as research analysts with FINRA. Such research analysts may not be associated persons of the member organization and therefore may not be subject to the NYSE Rule 472 and NASD Rule 2711 restrictions on communications with a subject company, public appearances and trading securities held by a research analyst account. The legal entities employing the authors of this report are listed below:

Citigroup Global Markets Inc

Stephen Antczak, CFA; Erin Lyons; Jung Lee; Sonam T Pokwal

OTHER DISCLOSURES

Citigroup Global Markets Inc. and/or its affiliates has a significant financial interest in relation to Archer-Daniels-Midland Company, Bank of America Corp, Comcast Corp, Cisco Systems Inc., CenturyLink, General Electric Company, Corning Incorporated, JP Morgan Chase & Co, Nordstrom Inc, Kroger Co, Lockheed Martin Corp., Altria Group Inc, Philips, Reynolds American Inc, AT&T Inc, Time Warner Cable Inc, Time Warner Inc, Viacom Inc, Vodafone Group PLC, Verizon Communications Inc, Wells Fargo & Co, Waste Management Inc, YUM! Brands Inc.. (For an explanation of the determination of significant financial interest, please refer to the policy for managing conflicts of interest which can be found at www.citiVelocity.com.)

Citigroup Global Markets Inc. or its affiliates beneficially owns 2% or more of any class of common equity securities of Bank of America Corp.

For securities recommended in the Product in which the Firm is not a market maker, the Firm is a liquidity provider in the issuers' financial instruments and may act as principal in connection with such transactions. The Firm is a regular issuer of traded financial instruments linked to securities that may have been recommended in the Product. The Firm regularly trades in the securities of the issuer(s) discussed in the Product. The Firm may engage in securities transactions in a manner inconsistent with the Product and, with respect to securities covered by the Product, will buy or sell from customers on a principal basis.

Citigroup Global Markets Inc. or its affiliates acts as a corporate broker to Vodafone Group PLC.

Securities recommended, offered, or sold by the Firm: (i) are not insured by the Federal Deposit Insurance Corporation; (ii) are not deposits or other obligations of any insured depository institution (including Citibank); and (iii) are subject to investment risks, including the possible loss of the principal amount invested. Although information has been obtained from and is based upon sources that the Firm believes to be reliable, we do not guarantee its accuracy and it may be incomplete and condensed. Note, however, that the Firm has taken all reasonable steps to determine the accuracy and completeness of the disclosures made in the Important Disclosures section of the Product. The Firm's research department has received assistance from the subject company(ies) referred to in this Product including, but not limited to, discussions with management of the subject company(ies). Firm policy prohibits research analysts from sending draft research to subject companies. However, it should be presumed that the author of the Product has had discussions with the subject company to ensure factual accuracy prior to publication. All opinions, projections and estimates constitute the judgment of the author as of the date of the Product and these, plus any other information contained in the Product, are subject to change without notice. Prices and availability of financial instruments also are subject to change without notice. Notwithstanding other departments within the Firm advising the companies discussed in this Product, information obtained in such role is not used in the preparation of the Product. Although Citi Research does not set a predetermined frequency for publication, if the Product is a fundamental research report, it is the intention of Citi Research to provide research coverage of the/those issuer(s) mentioned therein, including in response to news affecting this issuer, subject to applicable quiet periods and capacity constraints. The Product is for informational purposes only and is not intended as an offer or solicitation for the purchase or sale of a security. Any decision to purchase securities mentioned in the Product must take into account existing public information on such security or any registered prospectus.

Investing in non-U.S. securities, including ADRs, may entail certain risks. The securities of non-U.S. issuers may not be registered with, nor be subject to the reporting requirements of the U.S. Securities and Exchange Commission. There may be limited information available on foreign securities. Foreign companies are generally not subject to uniform audit and reporting standards, practices and requirements comparable to those in the U.S. Securities of some foreign companies may be less liquid and their prices more volatile than securities of comparable U.S. companies. In addition, exchange rate movements may have an adverse effect on the value of an investment in a foreign stock and its corresponding dividend payment for U.S. investors. Net dividends to ADR investors are estimated, using withholding tax rates conventions, deemed accurate, but investors are urged to consult their tax advisor for exact dividend computations. Investors who have received the Product from the Firm may be prohibited in certain states or other jurisdictions from purchasing securities mentioned in the Product from the Firm. Please ask your Financial Consultant for additional details. Citigroup Global Markets Inc. takes responsibility for the Product in the United States. Any orders by US investors resulting from the information contained in the Product may be placed only through Citigroup Global Markets Inc.

Important Disclosures for Morgan Stanley Smith Barney LLC Customers: Morgan Stanley & Co. LLC (Morgan Stanley) research reports may be available about the companies that are the subject of this Citi Research research report. Ask your Financial Advisor or use smithbarney.com to view any available Morgan Stanley research reports in addition to Citi Research research reports.

Important disclosure regarding the relationship between the companies that are the subject of this Citi Research research report and Morgan Stanley Smith Barney LLC and its affiliates are available at the Morgan Stanley Smith Barney disclosure website at www.morganstanleysmithbarney.com/researchdisclosures.

For Morgan Stanley and Citigroup Global Markets, Inc. specific disclosures, you may refer to www.morganstanley.com/researchdisclosures and https://www.citivelocity.com/cvr/epublic/citi_research_disclosures.

This Citi Research research report has been reviewed and approved on behalf of Morgan Stanley Smith Barney LLC. This review and approval was conducted by the same person who reviewed this research report on behalf of Citi Research. This could create a conflict of interest.

The Citigroup legal entity that takes responsibility for the production of the Product is the legal entity which the first named author is employed by. The Product is made available in **Australia** through Citi Global Markets Australia Pty Ltd. (ABN 64 003 114 832 and AFSL No. 240992), participant of the ASX Group and regulated by the Australian Securities & Investments Commission. Citigroup Centre, 2 Park Street, Sydney, NSW 2000. The Product is made available in Australia to Private Banking wholesale clients through Citigroup Pty Limited (ABN 88 004 325 080 and AFSL 238098). Citigroup Pty Limited provides all financial product advice to Australian Private Banking wholesale clients through bankers and relationship managers. If there is any doubt about the suitability of investments held in Citigroup Private Bank accounts, investors should contact the Citigroup Private Bank in Australia. Citigroup companies may compensate affiliates and their representatives for providing products and services to clients. The Product is made available in **Brazil** by Citigroup Global Markets Brasil - CCTVM SA, which is regulated by CVM - Comissão de Valores Mobiliários, BACEN - Brazilian Central Bank, APIMEC - Associação dos Analistas e Profissionais de Investimento do Mercado de Capitais and ANBID - Associação Nacional dos Bancos de Investimento. Av. Paulista, 1111 - 11º andar - CEP. 01311920 - São Paulo - SP. If the Product is being made available in certain provinces of **Canada** by Citigroup Global Markets (Canada) Inc. ("CGM Canada"), CGM Canada has approved the Product. Citigroup Place, 123 Front Street West, Suite 1100, Toronto, Ontario M5J 2M3. This product is available in **Chile** through Banchile Corredores de Bolsa S.A., an indirect subsidiary of Citigroup Inc., which is regulated by the Superintendencia de Valores y Seguros. Agustinas 975, piso 2, Santiago, Chile. The Product is made available in **France** by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. 1-5 Rue Paul Cézanne, 8ème, Paris, France. The Product is distributed in **Germany** by Citigroup Global Markets Deutschland AG ("CGMD"), which is regulated by Bundesanstalt fuer Finanzdienstleistungsaufsicht (BaFin). CGMD, Reuterweg 16, 60323 Frankfurt am Main. Research which relates to "securities" (as defined in the Securities and Futures Ordinance (Cap. 571 of the Laws of Hong Kong)) is issued in **Hong Kong** by, or on behalf of, Citigroup Global Markets Asia Limited which takes full responsibility for its content. Citigroup Global Markets Asia Ltd. is regulated by Hong Kong Securities and Futures Commission. If the Research is made available through Citibank, N.A., Hong Kong Branch, for its clients in Citi Private Bank, it is made available by Citibank N.A., Citibank Tower, Citibank Plaza, 3 Garden Road, Hong Kong. Citibank N.A. is regulated by the Hong Kong Monetary Authority. Please contact your Private Banker in Citibank N.A., Hong Kong, Branch if you have any queries on or any matters arising from or in connection with this document. The Product is made available in **India** by Citigroup Global Markets India Private Limited, which is regulated by Securities and Exchange Board of India. Bakhtawar, Nariman Point, Mumbai 400-021. The Product is made available in **Indonesia** through PT Citigroup Securities Indonesia. 5/F, Citibank Tower, Bapindo Plaza, Jl. Jend. Sudirman Kav. 54-55, Jakarta 12190. Neither this Product nor any copy hereof may be distributed in Indonesia or to any Indonesian citizens wherever they are domiciled or to Indonesian residents except in compliance with applicable capital market laws and regulations. This Product is not an offer of securities in Indonesia. The securities referred to in this Product have not been registered with the Capital Market and Financial Institutions Supervisory Agency (BAPEPAM-LK) pursuant to relevant capital market laws and regulations, and may not be offered or sold within the territory of the Republic of Indonesia or to Indonesian citizens through a public offering or in circumstances which constitute an offer within the meaning of the Indonesian capital market laws and regulations. The Product is made available in **Israel** through Citibank NA, regulated by the Bank of Israel and the Israeli Securities Authority. Citibank, N.A. Platinum Building, 21 Ha'arba'ah St, Tel Aviv, Israel. The Product is made available in **Italy** by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. Via dei Mercanti, 12, Milan, 20121, Italy. The Product is made available in **Japan** by Citigroup Global Markets Japan Inc. ("CGMJ"), which is regulated by Financial Services Agency, Securities and Exchange Surveillance Commission, Japan Securities Dealers Association, Tokyo Stock Exchange and Osaka Securities Exchange. Shin-Marunouchi Building, 1-5-1 Marunouchi, Chiyoda-ku, Tokyo 100-6520 Japan. If the Product was distributed by SMBC Nikko Securities Inc. it is being so distributed under license. In the event that an error is found in an CGMJ research report, a revised version will be posted on the Firm's Citi Velocity website. If you have questions regarding Citi Velocity, please call (81 3) 6270-3019 for help. The Product is made available in **Korea** by Citigroup Global Markets Korea Securities Ltd., which is regulated by the Financial Services Commission, the Financial Supervisory Service and the Korea Financial Investment Association (KOFIA). Citibank Building, 39 Da-dong, Jung-gu, Seoul 100-180, Korea. KOFIA makes available registration information of research analysts on its website. Please visit the following website if you wish to find KOFIA registration information on research analysts of Citigroup Global Markets Korea Securities Ltd. <http://dis.kofia.or.kr/fs/dis2/fundMgr/DISFundMgrAnalystPop.jsp?companyCd2=A03030&pageDiv=02>. The Product is made available in Korea by Citibank Korea Inc., which is regulated by the Financial Services Commission and the Financial Supervisory Service. Address is Citibank Building, 39 Da-dong, Jung-gu, Seoul 100-180, Korea. The Product is made available in **Malaysia** by Citigroup Global Markets Malaysia Sdn Bhd (Company No. 460819-D) ("CGMM") to its clients and CGMM takes responsibility for its contents. CGMM is regulated by the Securities Commission of Malaysia. Please contact CGMM at Level 43 Menara Citibank, 165 Jalan Ampang, 50450 Kuala Lumpur, Malaysia in respect of any matters arising from, or in connection with,

the Product. The Product is made available in **Mexico** by Acciones y Valores Banamex, S.A. De C. V., Casa de Bolsa, Integrante del Grupo Financiero Banamex ("Accival") which is a wholly owned subsidiary of Citigroup Inc. and is regulated by Comision Nacional Bancaria y de Valores. Reforma 398, Col. Juarez, 06600 Mexico, D.F. In **New Zealand** the Product is made available to 'wholesale clients' only as defined by s5C(1) of the Financial Advisers Act 2008 ('FAA') through Citigroup Global Markets Australia Pty Ltd (ABN 64 003 114 832 and AFSL No. 240992), an overseas financial adviser as defined by the FAA, participant of the ASX Group and regulated by the Australian Securities & Investments Commission. Citigroup Centre, 2 Park Street, Sydney, NSW 2000. The Product is made available in **Pakistan** by Citibank N.A. Pakistan branch, which is regulated by the State Bank of Pakistan and Securities Exchange Commission, Pakistan. AWT Plaza, 1.1. Chundrigar Road, P.O. Box 4889, Karachi-74200. The Product is made available in the **Philippines** through Citicorp Financial Services and Insurance Brokerage Philippines, Inc., which is regulated by the Philippines Securities and Exchange Commission. 20th Floor Citibank Square Bldg. The Product is made available in the Philippines through Citibank NA Philippines branch, Citibank Tower, 8741 Paseo De Roxas, Makati City, Manila. Citibank NA Philippines NA is regulated by The Bangko Sentral ng Pilipinas. The Product is made available in **Poland** by Dom Maklerski Banku Handlowego SA an indirect subsidiary of Citigroup Inc., which is regulated by Komisja Nadzoru Finansowego. Dom Maklerski Banku Handlowego S.A. ul.Senatorska 16, 00-923 Warszawa. The Product is made available in the **Russian Federation** through ZAO Citibank, which is licensed to carry out banking activities in the Russian Federation in accordance with the general banking license issued by the Central Bank of the Russian Federation and brokerage activities in accordance with the license issued by the Federal Service for Financial Markets. Neither the Product nor any information contained in the Product shall be considered as advertising the securities mentioned in this report within the territory of the Russian Federation or outside the Russian Federation. The Product does not constitute an appraisal within the meaning of the Federal Law of the Russian Federation of 29 July 1998 No. 135-FZ (as amended) On Appraisal Activities in the Russian Federation. 8-10 Gasheka Street, 125047 Moscow. The Product is made available in **Singapore** through Citigroup Global Markets Singapore Pte. Ltd. ("CGMSPL"), a capital markets services license holder, and regulated by Monetary Authority of Singapore. Please contact CGMSPL at 8 Marina View, 21st Floor Asia Square Tower 1, Singapore 018960, in respect of any matters arising from, or in connection with, the analysis of this document. This report is intended for recipients who are accredited, expert and institutional investors as defined under the Securities and Futures Act (Cap. 289). The Product is made available by The Citigroup Private Bank in Singapore through Citibank, N.A., Singapore Branch, a licensed bank in Singapore that is regulated by Monetary Authority of Singapore. Please contact your Private Banker in Citibank N.A., Singapore Branch if you have any queries on or any matters arising from or in connection with this document. This report is intended for recipients who are accredited, expert and institutional investors as defined under the Securities and Futures Act (Cap. 289). This report is distributed in Singapore by Citibank Singapore Ltd ("CSL") to selected Citigold/Citigold Private Clients. CSL provides no independent research or analysis of the substance or in preparation of this report. Please contact your Citigold/Citigold Private Client Relationship Manager in CSL if you have any queries on or any matters arising from or in connection with this report. This report is intended for recipients who are accredited investors as defined under the Securities and Futures Act (Cap. 289). Citigroup Global Markets (Pty) Ltd. is incorporated in the **Republic of South Africa** (company registration number 2000/025866/07) and its registered office is at 145 West Street, Sandton, 2196, Saxonwold. Citigroup Global Markets (Pty) Ltd. is regulated by JSE Securities Exchange South Africa, South African Reserve Bank and the Financial Services Board. The investments and services contained herein are not available to private customers in South Africa. The Product is made available in **Spain** by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. 29 Jose Ortega Y Gasset, 4th Floor, Madrid, 28006, Spain. The Product is made available in the **Republic of China** through Citigroup Global Markets Taiwan Securities Company Ltd. ("CGMTS"), 14 and 15F, No. 1, Songzhi Road, Taipei 110, Taiwan and/or through Citibank Securities (Taiwan) Company Limited ("CSTL"), 14 and 15F, No. 1, Songzhi Road, Taipei 110, Taiwan, subject to the respective license scope of each entity and the applicable laws and regulations in the Republic of China. CGMTS and CSTL are both regulated by the Securities and Futures Bureau of the Financial Supervisory Commission of Taiwan, the Republic of China. No portion of the Product may be reproduced or quoted in the Republic of China by the press or any third parties [without the written authorization of CGMTS and CSTL]. If the Product covers securities which are not allowed to be offered or traded in the Republic of China, neither the Product nor any information contained in the Product shall be considered as advertising the securities or making recommendation of the securities in the Republic of China. The Product is for informational purposes only and is not intended as an offer or solicitation for the purchase or sale of a security or financial products. Any decision to purchase securities or financial products mentioned in the Product must take into account existing public information on such security or the financial products or any registered prospectus. The Product is made available in **Thailand** through Citicorp Securities (Thailand) Ltd., which is regulated by the Securities and Exchange Commission of Thailand. 18/F, 22/F and 29/F, 82 North Sathorn Road, Silom, Bangrak, Bangkok 10500, Thailand. The Product is made available in **Turkey** through Citibank AS which is regulated by Capital Markets Board. Tekfen Tower, Eski Büyükdere Caddesi # 209 Kat 2B, 23294 Levent, Istanbul, Turkey. In the **U.A.E.**, these materials (the "Materials") are communicated by Citigroup Global Markets Limited, DIFC branch ("CGML"), an entity registered in the Dubai International Financial Center ("DIFC") and licensed and regulated by the Dubai Financial Services Authority ("DFSA") to Professional Clients and Market Counterparties only and should not be relied upon or distributed to Retail Clients. A distribution of the different Citi Research ratings distribution, in percentage terms for Investments in each sector covered is made available on request. Financial products and/or services to which the Materials relate will only be made available to Professional Clients and Market Counterparties. The Product is made available in **United Kingdom** by Citigroup Global Markets Limited, which is authorised and regulated by Financial Services Authority. This material may relate to investments or services of a person outside of the UK or to other matters which are not regulated by the FSA and further details as to where this may be the case are available upon request in respect of this material. Citigroup Centre, Canada Square, Canary Wharf, London, E14 5LB. The Product is made available in **United States** by Citigroup Global Markets Inc, which is a member of FINRA and registered with the US Securities and Exchange Commission. 388 Greenwich Street, New York, NY 10013. Unless specified to the contrary, within EU Member States, the Product is made available by Citigroup Global Markets Limited, which is regulated by Financial Services Authority. Pursuant to Comissão de Valores Mobiliários Rule 483, Citi is required to disclose whether a Citi related company or business has a commercial relationship with the subject company. Considering that Citi operates multiple businesses in more than 100 countries around the world, it is likely that Citi has a commercial relationship with the subject company. Many European regulators require that a firm must establish, implement and make available a policy for managing conflicts of interest arising as a result of publication or distribution of investment research. The policy applicable to Citi Research's Products can be found at https://www.citivelocity.com/cvr/eppublic/citi_research_disclosures. Compensation of equity research analysts is determined by equity research management and Citigroup's senior management and is not linked to specific transactions or recommendations. The Product may have been distributed simultaneously, in multiple formats, to the Firm's worldwide institutional and retail customers. The Product is not to be construed as providing investment services in any jurisdiction where the provision of such services would not be permitted.

Subject to the nature and contents of the Product, the investments described therein are subject to fluctuations in price and/or value and investors may get back less than originally invested. Certain high-volatility investments can be subject to sudden and large falls in value that could equal or exceed the amount invested. Certain investments contained in the Product may have tax implications for private customers whereby levels and basis of taxation may be subject to change. If in doubt, investors should seek advice from a tax adviser. The Product does not purport to identify the nature of the specific market or other risks associated with a particular transaction. Advice in the Product is general and should not be construed as personal advice given it has been prepared without taking account of the objectives, financial situation or needs of any particular investor. Accordingly, investors should, before acting on the advice, consider the appropriateness of the advice, having regard to their objectives, financial situation and needs. Prior to acquiring any financial product, it is the client's responsibility to obtain the relevant offer document for the product and consider it before making a decision as to whether to purchase the product. With the exception of our product that is made available only to Qualified Institutional Buyers (QIBs) and other product that is made available through other distribution channels only to certain categories of clients to satisfy legal or regulatory requirements, Citi Research concurrently disseminates its research via proprietary and non-proprietary electronic distribution platforms. Periodically, individual Citi Research analysts may also opt to circulate research posted on such platforms to one or more clients by email. Such email distribution is discretionary and is done only after the research has been disseminated via the aforementioned distribution channels. Citi Research simultaneously distributes product that is limited to QIBs only through email distribution.

The level and types of services provided by Citi Research analysts to clients may vary depending on various factors such as the client's individual preferences as to the frequency and manner of receiving communications from analysts, the client's risk profile and investment focus and perspective (e.g. market-wide, sector specific, long term, short-term etc.), the size and scope of the overall client relationship with Citi and legal and regulatory constraints. Citi Research product may source data from dataCentral. dataCentral is a Citi Research proprietary database, which includes Citi estimates, data from company reports and feeds from Reuters and Datastream.

© 2013 Citigroup Global Markets Inc. Citi Research is a division of Citigroup Global Markets Inc. Citi and Citi with Arc Design are trademarks and service marks of Citigroup Inc. and its affiliates and are used and registered throughout the world. All rights reserved. Any unauthorized use, duplication, redistribution or disclosure of this report (the "Product"), including, but not limited to, redistribution of the Product by electronic mail, posting of the Product on a website or page, and/or providing to a third party a link to the Product, is prohibited by law and will result in prosecution. The information contained in the Product is intended solely for the recipient and may not be further distributed by the recipient to any third party. Where included in this report, MSCI sourced information is the exclusive property of Morgan Stanley Capital International Inc. (MSCI). Without prior written permission of MSCI, this information and any other MSCI intellectual property may not be reproduced, redisseminated or used to create any financial products, including any indices. This information is provided on an "as is" basis. The user assumes the entire risk of any use made of this information. MSCI, its affiliates and any third party involved in, or related to, computing or compiling the information hereby expressly disclaim all warranties of originality, accuracy, completeness, merchantability or fitness for a particular purpose with respect to any of this information. Without limiting any of the foregoing, in no event shall MSCI, any of its affiliates or any third party involved in, or related to, computing or compiling the information have any liability for any damages of any kind. MSCI, Morgan Stanley Capital International and the MSCI indexes are services marks of MSCI and its affiliates. The Firm accepts no liability whatsoever for the actions of third parties. The Product may provide the addresses of, or contain hyperlinks to, websites. Except to the extent to which the Product refers to website material of the Firm, the Firm has not reviewed the linked site. Equally, except to the extent to which the Product refers to website material of the Firm, the Firm takes no responsibility for, and makes no representations or warranties whatsoever as to, the data and information contained therein. Such address or hyperlink (including addresses or hyperlinks to website material of the Firm) is provided solely for your convenience and information and the content of the linked site does not in anyway form part of this document. Accessing such website or following such link through the Product or the website of the Firm shall be at your own risk and the Firm shall have no liability arising out of, or in connection with, any such referenced website.

ADDITIONAL INFORMATION IS AVAILABLE UPON REQUEST
