FEBRUARY 2012

2012 Distribution Policy:

Dividend and share repurchase facts and trends

J.P.Morgan

Published by Corporate Finance Advisory

For questions or further information, please contact:

Marc Zenner marc.p.zenner@jpmorgan.com (212) 834-4330

Tomer Berkovitz tomer.x.berkovitz@jpmorgan.com (212) 834-2465

Evan Junek evan.a.junek@jpmorgan.com (212) 834-5110

Distributions by the numbers

- Total distributions jumped from \$340bn in 2008 to about \$680bn in 2011 (still about \$160 bn less than 2007)
 Expect another big jump in 2012
- A 16% valuation discount for dividend payers in 1999 turned into a 25% valuation premium for dividend payers today
 Dividend premium may persist if rates and growth stay low
- Upper quartile of dividend increases almost doubled from 13% (2009) to 24% (2011)
 - Paradigm shift dividend increases are becoming more common
- The tech sector paid about 3% of total S&P 500 dividends in 2002 vs 11% today. Financials on the other hand plunged from 25% to 11%
 - There is still a lot of room for tech firms to pay more dividends and do more buybacks
- The S&P 500 dividend payout is at a low of 29% vs. a historic median of about 42%
 - Activist investors are putting pressure for more distributions
- Annualized return on S&P 500 buybacks since 2005 is a paltry 2.3%
 But will this improve with low valuations today?
- Many recent debt financed distributions or paradigm shift dividend increases have had no ratings impact
 - Firms have a lot of room within their ratings today to add leverage and activist investors take notice

1. The trend continues: shareholder distributions remain front and center for 2012

Figure 1

Distributions are on the rise, but substantial room for growth remains									
Metric	Pre-crisis (2007)	Crisis period (2009)	Post-crisis (2011) ¹						
Annual S&P 500 common dividends	\$245bn	\$197bn	\$234bn						
Annual S&P 500 repurchases	\$589bn	\$138bn	\$436bn						
Annual S&P 500 special dividends	\$8bn	\$2bn	\$6bn						
S&P 500 common dividend % of earnings	42%	44%	29%						
S&P 500 common dividend % of distributions	30%	59%	35%						

Source: FactSet, J.P. Morgan

¹ Based on Q1-Q3 2011 data, Q4 distributions assumed to be same as Q3.

Distributions have rebounded from 2008 crisis lows. Annual dividend payments (about \$234bn in 2011) are almost back to 2007 levels, as are buybacks, which have surged from about \$138bn in 2008 to about \$436bn today. With low leverage, depressed valuations, record low cost of investment grade debt and large and visible cash balances, investors of all types—from small retail investors to large activist funds—are clamoring for a piece of this war chest. The 2011 mutual fund flows (see Figure 2) illustrate the investor shift towards dividend-oriented firms (despite an overall shift out of equities) and the associated total return benefit these investors reaped relative to the broader market.

Our conversations with senior management lead us to believe that few decisions frustrate them more than whether and how to return excess capital. Some of the tough questions Boards debate include:

Figure 2





Source: J.P. Morgan, Morningstar, *Wall Street Journal* Note: Total return figures reflect Vanguard Total Stock Market ETF (VTI) and Vanguard Dividend Appreciation ETF (VIG) for total stock market and dividend-oriented firms, respectively.

- Should we distribute excess capital when the global economic outlook is uncertain and the European banking system remains fragile?
- Should we commit to a dividend when low dividend tax rates may expire at the end of the year?
- Should we borrow at today's low debt rates to buy back undervalued stock?
- Does paying a dividend signal that we are no longer a growth stock?
- Does it make sense that we borrow domestically to pay dividends and buy back shares while our cash accumulates offshore?

- Do special dividends create share-holder value?
- Does a higher payout model lead to a sustainable impact on valuation and/or access to an incremental investor base?
- What is the cost of not raising distributions?

In this report, we illustrate today's noticeable distribution trends. This report also discusses whether dividend stocks trade at a premium, why hedge fund activists target firms with a lot of cash and low payouts, when it makes sense to borrow and return cash to shareholders and the benefits of buying stock when valuations are low. We also review innovative and/or resurgent distribution policies, such as variable dividends tied to commodities as well as special dividends.

2. Hungry for yield and willing to pay for it

The Fed's zero interest rate policy, which is likely to persist through late 2014, is driving yield-hungry investors to pay a premium for dividend-paying stocks. High dividend-paying sectors, like utilities, have outperformed the S&P 500 over the past year despite low growth expectations. As shown in Figure 3, the relative PEG ratios (price to earnings normalized for expected growth) of dividend payers are now 25% higher relative to the PEG ratios of non-dividend-paying stocks. This result suggests that investors are willing to pay up for growth when the firm also pays out a material portion of current income.

In addition to the low rate environment, the dividend premium is driven by:

- (i) **Low growth**—investors tend to migrate toward income investments when growth expectations are low
- (ii) **High uncertainty**—investors appreciate a "bird in the hand" in light of the macro, regulatory and geopolitical uncertainty
- (iii) More favorable dividend taxation—though the Bush tax cuts stimulated the demand for dividend stocks, they are set to expire at the end of 2012 unless once again extended by Congress, as discussed in Section 9 of this report





Source: FactSet, Bloomberg, J.P. Morgan. Values as of 12/31 for each respective year ¹ Based on the difference in median PEG ratio for dividend payers and non-dividend payers in the S&P 500.

3. Dividend appetite leading to larger increases and paradigm shifts

Investor appetite for yield, combined with record high cash balances and corporate earnings, as well as the belated desire to compensate for the small increases during the crisis, are leading firms to consider larger dividend increases. Figure 4 shows the **top quartile of dividend increases in 2011 was 24%, relative to only 13% in 2009.** As firms have more visibility of their future earnings and the macro environment, we expect to see this trend persist in 2012.

In some cases, firms have signaled to the market bullish views on future cash flows by aggressively raising dividends, such as recent examples where firms that doubled or even quadrupled their dividend payout. Some firms are not just seeking to match their peers. Instead, they are **proposing a differentiating investor thesis, whereby investors can already achieve a meaningful part of their total return through dividend income alone.** Positive investor response to such *paradigm shift* dividend increases often also leads to expansion of valuation multiples, which is consistent with the dividend premium we discussed in the previous section.



Source: FactSet

¹ Based on dividend paying ex-financial companies in the indices as of 12/20/11; high/low represents the

25th/75th percentile.

² Based on latest fiscal year end.

³ Assumes 4th quarter dividend equal to 3rd quarter dividend.

⁴ Based on median IBES long-term expected growth.

4. Yesterday's growth is today's dividend

There has been a large shift in the corporate composition of S&P 500 dividends over the past decade. Because of the large dividend cuts by the financial sector during the crisis, this sector now pays only 11% of S&P 500 dividends (compared to 29% in 2005). Technology-related companies have filled this vacuum, growing from 3% to 11% of overall dividends. We expect this trend to continue. With limited earnings growth and high payout ratios, dividends in such traditional high-yielding sectors as utilities and telecommunications do not have much room to grow. In the technology sector, in contrast, many firms have large cash balances, still pay out little or no dividends, and continue to demonstrate an ability to grow their earnings. As these firms struggle with declining valuation multiples, we expect more technology firms to initiate and/or increase their dividend, as well as accelerating their buyback activity.

A few factors hold back more robust technology payout ratios at this time:

- (i) Wariness of technology risk and rapidly changing cash flow generation
- (ii) Large offshore cash generation
- (iii) Fear that dividend initiation signals the **end of growth.** In the past, high growth meant that firms needed to use a lot of capital to expand (and hence were cash flow negative). Although this is still true in the capital-intensive natural resources sector, in the technology sector, a healthy payout ratio does not always conflict with continued robust growth. Many high growth tech firms rapidly generate excess cash flow, and their massive and growing cash balances show that they do not need this capital to generate their growth



Figure 5

Source: FactSet as of 01/20/2012, Bloomberg; data based on all S&P 500 firms Note: Dividends paid in 2005 excludes MSFT's special dividend, which was 17% of the total dividends paid that year.

5. Record low payouts attracting attention

Figure 6



At about 29%, the current payout ratio is lower than the median payout ratio of 42% (as defined: over the last 23 years) and lower than any point since 1988. The previous low was about 30% in 2010. Several factors drive this historic low payout ratio:

- (i) While many large banks dramatically raised their dividends in 2011, their payout ratios are capped at 30% by regulators, leading most banks to target even lower payout ratios for fear of having to cut dividends if earnings weaken. Historically, bank payout ratios were at the high end of the S&P 500 dividend-paying spectrum
- (ii) Many non-banks firms had small or no dividend increases during the crisis. They have since increased their dividend materially, but their earnings have rebounded even more. Because of the economic uncertainty in Europe, many firms are reluctant to commit to a dividend level they may not be able to sustain
- (iii) Technology firms are a large part of the S&P 500 and many of them have not yet become large dividend payers. Surprisingly, technology firms were a larger part of the S&P 500 in 2000, and yet the S&P 500 payout ratio was higher then than today's
- (iv) With rapidly growing emerging economies, a growing fraction of S&P 500 earnings are realized offshore—these earnings are trapped offshore and therefore not as easy to distribute as onshore earnings

Activist investors find prey in firms that are quasi-unlevered, cash-rich and do not pay a significant fraction of their earnings in the form of dividends. Low payout ratios and depressed valuations may lead activists to press for more aggressive distributions, or in some cases, to demand the spin-off of units with more stable cash flows that could presumably initiate a strong dividend policy once separated.

6. Lessons from "buy high, sell low"—at today's low valuations

Broad criticism has been leveled at many firms for buying back shares at high prices prior to the 2007-2008 equity market crash, only to raise new equity capital later at lower prices in 2008-2009. As shown in Figure 7, S&P 500 companies repurchased \$172bn of their own shares right around the peak in Q3 of 2007, but repurchased only \$24bn in Q2 of 2009 when their stocks hit historical lows. Even when accounting for the dividend savings associated with the retirement of shares, the annual net Return on Investment (ROI) of the 2007 share repurchases is still negative and is not remotely close to achieving the threshold of around 10% cost of equity.

Since then, many firms have learned a valuable lesson and are embracing one of the following buyback strategies:

- (i) Valuation agnostic approach-dollar cost averaging of the expected share repurchase amounts
- (ii) Opportunistic buyback approach—buy more shares during market panics (like the recent European sovereign debt crisis) or when valuations seem low relative to objective criteria like historical or peer valuation metrics
- (iii) **Hybrid approach**—broadly valuation agnostic, but with deceleration or acceleration of buyback intensity depending on various valuation criteria



Source: J.P. Morgan, Standard & Poor's, FactSet and Bloomberg as of 12/31/2011; data based on all S&P 500 firms Note: Q4 2011 share repurchases assumed to equal Q3.

7. The return of the debt-financed distribution

Figure 8

Debt-financed distributions have been well received by the market

Recent special dividends, ASRs and tender offers (\$mm)

	Dist.	Market	Dist. % of	Mari	ket reaction ¹
Company	amount	cap	market cap	1 day	30 day
Tender offers					
Mean	\$1,255	\$11,457	13.3%	5.0%	7.6%
Median	400	2,292	10.9%	3.5%	6.9%
ASRs					
Mean	\$721	\$8,557	8.9%	5.2%	10.2%
Median	388	3,988	7.1%	4.4%	10.9%
Special dividends					
Mean	\$1,736	\$16,042	10.1%	3.7%	5.3%
Median	1,736	16,042	10.1%	3.7%	5.3%

Source: J.P. Morgan, Bloomberg

Note: Includes debt-financed tenders offers, ASRs and special dividends announced since 1/1/2011, where distribution was greater than \$100mm and 5% of market cap.

¹ Market reaction based on the total return in company stock less beta * total return on the S&P 500.

Figure 9



With substantially lower leverage and record levels of on-balance sheet liquidity, more firms are considering material increases to shareholder distributions. both in the form of dividends and share repurchases. Historic low cost of debt and potentially under-levered capital structures are causing more firms to consider distributions through debt financing. In addition, convertible debt allows companies to repurchase shares without paying an incremental premium and monetize their volatility to achieve attractive coupons. Many of the recent debt-financed distribution announcements have been well received by the market.

Figure 8 shows that **debt-financed distributions of at least 5% of market capitalization lead to 30-day excess returns over the S&P 500 of 5%-10%.**

Conservative financial policies are still appropriate for most firms in light of current economic, political and regulatory uncertainty and lessons learned from the "recap wave" of 2006 and 2007, which was characterized by the buy-high repurchases described in the previous section. With this said, **debt-financed distributions can enhance shareholder value for companies that fit certain characteristics.** These include businesses with stable free cash flows, depressed valuation multiples and minimal leverage with substantial debt capacity. Companies with these characteristics should enjoy flexibility from fixed income investors and rating agencies as the dynamics of their cash flow can tolerate such changes in their capital structures. As a result of today's low interest-rate environment, debt-financed repurchases are typically also highly EPS accretive for many firms and account for a significant portion of expected earnings growth.

8. Variable dividends: adapting to cash flow uncertainty while avoiding "buy high" share repurchases

The current investor focus on yield and the premium being ascribed to dividend-paying firms has benefitted those firms able to support a sustainable dividend with predictable growth. For firms with less predictable cash flows, however, committing to a higher common dividend can be challenging. Investors may not give full credit to a dividend they believe is ultimately unsustainable, even if near term cash flows are robust. A variable dividend policy, sometimes referred to as a **"recurring special dividend,"** may offer a compromise to the unattractiveness of a higher common dividend. The variable dividend:

- Allows a firm to define recurring dividend payments **linked to cyclical cash flows** (could be implicitly or even explicitly tied to gold or other commodity prices)
- Signals **capital discipline**—prevents the accumulation of excess cash, which could attract activist hedge funds
- Provides flexibility in down cycles or for strategic opportunities
- Is valuation agnostic, thus avoiding the "buy high, sell low" phenomenon that is particularly pronounced in cyclical sectors

Many large firms in the energy, mining, shipping and insurance sectors already employ variable dividend policies. Noticeably, many of these firms also have large owners and less public float, making stock buybacks less attractive from a liquidity perspective. Thus far, the unpredictable nature of variable dividends has somewhat limited their popularity. As investors continue to seek and reward yield, and as cash balances continue to grow, firms may be more willing to embrace variable dividend policies.

Figure 10



9. Bush tax cuts are set to expire...again

Under current legislation, the end of 2012 is once again scheduled to bring about the end of the 2001 and 2003 tax cuts (originally scheduled to expire at the end of 2010 but extended at that time). Absent another change or extension, the tax rate on long-term capital gains and qualifying dividends, both currently 15%, would increase to 20% and the ordinary income tax rate (potentially as high as 39.6%), respectively.

As discussed extensively in our September 2010 report "Unintended Consequences," the **impact of higher tax rates on dividends and capital gains could affect hurdle rates**, **valuation, capital allocation, leverage and shareholder distribution decisions**.¹ The implications of these higher investor tax rates would be particularly felt by firms and industries for which a significant portion of their total return is derived from dividends (e.g., utilities and telecom services).² More generally, however, the current premium that investors are placing on dividend-paying stocks may be negatively impacted by a change in tax rates.

Dividend increases held back: Senior decision-makers anticipate these potential upcoming changes in legislation and incorporate future taxation considerations into their distribution policy evaluations. As a result, some decision-makers are reluctant to commit to a large dividend increase just before a potentially meaningful tax increase. Many investors are not tax sensitive, however, and the market may already be pricing in the higher tax rates, making the precise impact of higher tax rates hard to capture.

Dividend acceleration: If these lower dividend taxes are likely to expire, then 2012 would be a great year to accelerate payouts (in the form of special dividends, for instance) to mitigate the impact of a higher future tax rate. In particular, firms with large tax sensitive owners should consider this action.

¹ See "Unintended Consequences: How higher investor taxes impact corporate finance decisions," September 2010, J.P. Morgan Corporate Finance Advisory. www.jpmorgan.com/directdoc/JPMorgan CorporateFinanceAdvisory UnintendedConsequences.pdf

² MLPs (Master Limited Partnerships) and REITs do not benefit from the low tax rate on qualifying dividend currently and they may therefore actually benefit if tax rates are raised on other dividend stocks.

10. The renewed case for a special dividend

Though less frequently employed than other shareholder distribution methods, one-time special dividends have become more common in 2011, and we expect an even larger increase in 2012, driven by factors including:

- Activism-Large, one-time payouts may offer a good defense to the risk of activist shareholders, many of whom are viewing the currently high cash balances, low leverage and cheap cost of debt opportunistically
- **Taxes**—Risk of an increase in the dividend tax rate may drive firms to accelerate payouts while tax rates are still low. Special dividends are more common when firms have large owners and free float is limited
- **M&A**–M&A transactions may require the use of distributions for structural purposes (e.g., to achieve certain valuation requirements in the context of a particular transaction, such as a Reverse Morris Trust). Special dividends may also be the better distribution mechanism following a material asset sale when a buyback would be so large as to affect prices or be executed over an extended period of time
- **Private equity**—Private equity owners commonly recapitalize the balance sheets of portfolio firms by adding leverage and paying one-time special dividends. They sometimes continue this practice to monetize their holdings of publicly traded portfolio companies

Regardless of the specific motivation, one-time special dividends remain a good option for firms looking to distribute a significant amount of cash and/or re-capitalize their balance sheets without significant execution risk and impact to their stock's free float, and without the risk of purchasing their common stock at a significant premium to intrinsic valuation.

Appendix

Figure A1

The S&P 500's top-10 dividend payers pay out more than 25% of total index dividends

Largest dividend payers in the S&P 500

Top-10 dividend payers	Total 2011² dividends (\$bn)	Payout % of S&P 500 total	Dividend yield	Dividend/ 2011E net income	Long-term growth
Telecommunications firm	\$10.2	4.0%	5.7%	72.2%	5.0%
Energy firm	9.1	3.6%	2.1%	21.5%	9.2%
Industrials firm	6.5	2.6%	3.2%	44.6%	13.3%
Healthcare firm	6.3	2.5%	3.6%	35.3%	2.9%
Healthcare firm	6.2	2.4%	3.4%	44.6%	6.0%
Energy firm	6.1	2.4%	2.8%	22.2%	6.4%
Consumer Staples firm	5.9	2.4%	3.0%	47.9%	9.0%
Telecommunications firm	5.5	2.2%	4.9%	86.9%	6.0%
Information Technology firm	5.4	2.1%	2.6%	22.5%	10.0%
Consumer Staples firm	4.9	1.9%	2.2%	31.4%	9.8%
Total	\$65.9	26.2%			

Source: FactSet, J.P. Morgan; data for all S&P 500 firm

Less flexible¹

Note: Market data as of 12/31/11; filings data as of most recent available. ¹ Metrics denoted "less flexible" are in the highest quartile of S&P 500 firms for dividend yield and dividend payout, and in

the lowest quartile for long-term growth.

² 4th quarter dividend assumed to equal 3rd quarter dividend.

Figure A2

2011 dividend, repurchase payout and aggregate distributions by sector



Source: J.P. Morgan; FactSet; data for all S&P 500 firms

Note: Market data as of 12/31/11; Filings data as of most recent available.

¹ Total payout (% of NI) defined as 201E dividends + average repurchases from 2009-2011E; firms with negative net income excluded from sample.

² Total payout (% of FCF) defined as 2011E dividends + average repurchases from 2009-2011E; firms with negative free cash flow excluded from sample.





Source: Standard & Poor's, FactSet, J.P. Morgan; data for all S&P 500 firms Note: Market data as of 12/31/11, filings data as of most recent available; 4th quarter dividend assumed to equal 3rd quarter dividend.

Figure A4

Sector	Count	Equity value	2011E revenue	2011E FCF ¹	Dividend yield	Dividend payout²	Total payout ³	Dividend % of FCF	Total pay. % of FCF	IBES LT- growth
REIT	16	13,641	1,659	648	2.7%	149.1%	163.7%	71.4%	74.4%	12.8%
Telecom	7	7,006	18,672	995	5.7%	106.4%	111.4%	52.0%	52.0%	6.0%
Utilities	33	9,216	10,740	3	4.2%	59.6%	65.6%	95.7%	95.7%	4.5%
Consumer Staples	42	13,957	13,017	770	2.6%	38.8%	76.5%	49.8%	102.7%	8.4%
Industrials	30	11,245	11,174	637	2.0%	27.4%	55.9%	31.8%	63.5%	13.2%
Materials	51	9,062	7,997	435	1.6%	27.2%	48.9%	33.1%	61.9%	11.4%
Consumer Disc.	80	9,726	8,975	515	1.3%	21.1%	66.8%	22.1%	76.1%	14.8%
Financials	65	11,277	8,546	1,644	1.6%	19.1%	43.0%	10.9%	24.8%	10.0%
Energy	42	11,973	8,737	136	0.8%	10.6%	14.9%	31.1%	44.5%	17.5%
Healthcare	52	13,070	7,850	1,144	0.3%	6.2%	54.7%	6.4%	56.4%	10.9%
Information Tech.	72	10,821	5,574	690	0.1%	1.0%	54.6%	3.8%	56.4%	11.5%
S&P 500	500	\$11,041	\$8,290	\$662	1.5%	21.3%	56.4%	22.2%	60.8%	11.2%

2011 S&P 500 median distribution levels by sector (\$mm)

Source: Company filings, Standard & Poor's, FactSet, J.P. Morgan; data for all S&P 500 firms

Note: Market data as of 12/31/11; Filings data as of most recent available.

¹ Free cash flow defined as cash flow from operations less capex.

² Dividend payout defined as 2011E dividends/2011E net income; firms with negative net income excluded; 4th quarter dividend assumed to equal 3rd quarter dividend.

³ Total payout defined as 2011E dividends + average repurchases from 2009-2011E; firms with negative free cash flow excluded from sample.

Figure A5

2011 S&P 500 median distribution levels by IBES long-term growth rate (\$mm)

IBES long-term growth	Count	Equity value	LTM revenue	LTM FCF ¹	Dividend yield	Dividend payout²	Total payout³	Dividend % of FCF	Total pay. % of FCF	IBES LT- growth
> 20.0%	46	10,939	5,289	327	0.4%	6.6%	21.2%	3.4%	49.8%	25.0%
15.0%–20.0%	63	12,012	6,808	697	0.7%	11.1%	48.7%	13.2%	50.0%	16.0%
10.0%-15.0%	163	11,120	8,293	736	1.5%	19.1%	60.3%	20.4%	62.6%	11.7%
5.0%-10.0%	164	9,526	10,605	665	2.6%	33.3%	62.5%	32.0%	68.8%	8.0%
< 5.0%	52	11,446	12,294	543	3.9%	50.1%	63.4%	56.3%	79.2%	3.0%
S&P 500	500	\$11,041	\$8,290	\$662	1.5%	21.3%	56.4%	22.2%	60.8%	11.2%

Source: Company filings, Standard & Poor's, FactSet, J.P. Morgan; data for all S&P 500 firms

Note: Market data as of 12/31/11; Filings data as of most recent available; Analysis excludes 12 firms without IBES long-term growth estimates.

¹ Free cash flow defined as cash flow from operations less capex.

² Dividend payout defined as 2011E dividends/2011E net income; firms with negative net income excluded; 4th quarter dividend assumed to equal 3rd quarter dividend.

³ Total payout defined as 2011E dividends + average repurchases from 2009-2011E; firms with negative free cash flow excluded from sample.

Figure A6

2011 S&P 500 median distribution levels by market capitalization (\$mm)

Market cap. (\$mm)	Count	Equity value	LTM revenue	LTM FCF ¹	Dividend yield	Dividend payout²	Total payout³	Dividend % of FCF	Total pay. % of FCF	IBES LT- growth
> 50,000	51	91,816	57,439	7,201	2.3%	26.2%	62.5%	32.0%	69.9%	10.3%
25,000–50,000	60	32,012	16,736	1,888	1.7%	26.1%	58.9%	31.6%	58.4%	11.2%
10,000–25,000	159	14,396	9,797	890	1.8%	22.4%	58.7%	24.6%	62.3%	12.0%
5,000–10,000	140	7,524	4,745	435	1.2%	16.5%	53.1%	15.0%	61.2%	11.8%
< 5,000	90	3,638	4,094	228	1.2%	15.5%	54.6%	15.7%	55.4%	10.0%
S&P 500	500	\$11,041	\$8,290	\$662	1.5%	21.3%	56.4%	22.2%	60.8%	11.2%

Source: Company filings, Standard & Poor's, FactSet, J.P. Morgan; data for all S&P 500 firms

Note: Market data as of 12/31/11; Filings data as of most recent available.

¹ Free cash flow defined as cash flow from operations less capex.

² Dividend payout defined as 2011E dividends/2011E net income; firms with negative net income excluded; 4th quarter

dividend assumed to equal 3rd quarter dividend.

³ Total payout defined as 2011E dividends + average repurchases from 2009-2011E; firms with negative free cash flow excluded from sample.

We would like to thank Stephen Berenson, Ben Berinstein, Mark De Rocco, Emily Doran, MayC Huang, Brian Keegan, Erik Oken, Huw Richards, Fernando Rivas, Larry Slaughter, Victoria Sung, Anca Tohaneanu and Kevin Willsey for their invaluable comments and suggestions. We would like to thank Anthony Balbona, Jennifer Chan, Sarah Farmer and the IB Marketing Group for their help with the editorial process. We are very grateful to Chok Lei for his dedication to the analysis in this report. This material is not a product of the Research Departments of J.P. Morgan Securities LLC ("JPMS") and is not a research report. Unless otherwise specifically stated, any views or opinions expressed herein are solely those of the authors listed, and may differ from the views and opinions expressed by JPMS's Research Departments or other departments or divisions of JPMS and its affiliates.

RESTRICTED DISTRIBUTION: Distribution of these materials is permitted to investment banking clients of J.P. Morgan, only, subject to approval by J.P. Morgan. These materials are for your personal use only. Any distribution, copy, reprints and/or forward to others is strictly prohibited. Information has been obtained from sources believed to be reliable but J.P. Morgan Chase & Co. or its affiliates and/or subsidiaries (collectively J.P. Morgan Chase & Co.) do not warrant its completeness or accuracy. Information herein constitutes our judgment as of the date of this material and is subject to change without notice. This material is not intended as an offer or solicitation for the purchase or sale of any financial instrument. In no event shall J.P. Morgan be liable for any use by any party of, for any decision made or action taken by any party in reliance upon, or for any inaccuracies or errors in, or omissions from, the information contained herein and such information may not be relied upon by you in evaluating the merits of participating in any transaction.

JPMorgan Chase and its affiliates do not provide tax, legal or accounting advice. This material has been prepared for informational purposes only, and is not intended to provide. and should not be relied on for, tax, legal or accounting advice. You should consult your own tax, legal and accounting advisors before engaging in any transaction.

J.P. Morgan is the marketing name for the investment banking activities of JPMorgan Chase Bank, N.A., JPMS (member, NYSE), J.P. Morgan PLC (authorized by the FSA and member, LSE) and their investment banking affiliates.

Copyright 2012 JPMorgan Chase & Co. all rights reserved.



