

31 May 2013 | 15 pages

Computer Services and IT Consulting (Citi)
North America | United States

Computer & IT Services Weekly

May 31st: Do Dividends, Buybacks Matter? A Nuanced Viewpoint

■ Industry Overview

■ **Upcoming Events** — (1) Citi IT Day on June 11th in NYC – chance to hear from senior Citi IT leaders. (2) CTSW West Coast Marketing June 17th-18th. (3) I will be on an industry panel at Mobile Commerce World on June 24th www.mcommworld.com

Ashwin Shirvaikar, CFA

+1-212-816-0822
ashwin.shirvaikar@citi.com

Philip Stiller, CFA

+1-212-816-4494
philip.stiller@citi.com

■ **Do Dividends, Buybacks Matter?** — In recent months, the out-performance of stocks with dividend yields has been a matter of keen investor interest. To coincide with Citi's new Strategy publication [The Global Search for Yield](#) (a worthwhile read just for its broad global perspective) we decided to do our own analysis on the topic. The details are on page 2, but there are several interesting conclusions – for example, its not the dividend per se, but the level of the dividend that is the key (ACN, FIS, NLSN, WU); buybacks don't seem to matter as much, except when combined with an above-market dividend yield; if companies refuse to raise their dividend to an above-average level, their best bet is above-average growth (MA, FLT, VNTV, etc).

■ **Mobile Payments** — Over the past 16 months, we have done considerable work on the Mobile Payments trend, including our GPS report (highlighted below) and as a part of the more recent [10 Disruptive Innovations](#) report. This latter report was highlighted on CNBC this week – we were on Power Lunch – and the video with our views is available on CNBC's website

■ **Immigration Update** — This week we hosted an industry expert to discuss the immigration reform situation and the potential impact on IT Services companies. Specifically we discussed the Senate Judicial Committee outcome, the upcoming Senate discussion/vote, the current / potential future House Bills, and the conference committee process. Replay number is (719) 457-0820 and passcode is 8717500.

■ **Recent IT Services Reports** — (1) Immigration Reform: [IT Services Impact from US Immigration Bill](#) (2) Offshore IT Services Market Evolution: [Changing Face of IT Services](#) (3) IT Services Share Shift Analyses: [1Q13 Share Shift](#) and [4Q12 Share Shift](#) (4) 1Q13 CIO survey, [click here](#) (5) 2013 IT / BPO Market Evolution: [click here](#) (6) World Champions: [Focus ACN](#) (7) West Corp Initiation: [WSTC Initiation](#)

■ **Recent Processor Reports** — (1) GPS report on Mobile Payments: [Eight Crucial Questions, Answered](#); (2) Visa Europe analysis: [1Q13 Networks Preview](#); (3) Cross-Border Analysis: [click here](#) (4) Acquirer Impact Chase-Visa deal: [click here](#); (5) HAWK Initiation: [click here](#) (6) 2013 Processor Preview: [Processors - Go for Growth](#)

■ **What's In This Report?** — In our editorial, we provide our view on the Processor side of our coverage. Following that, the "Our Take" section has our quick takes on this week's economic and stock news items. We also provide stock price performance charts and comments; foreign exchange charts; and our comp sheets.

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.

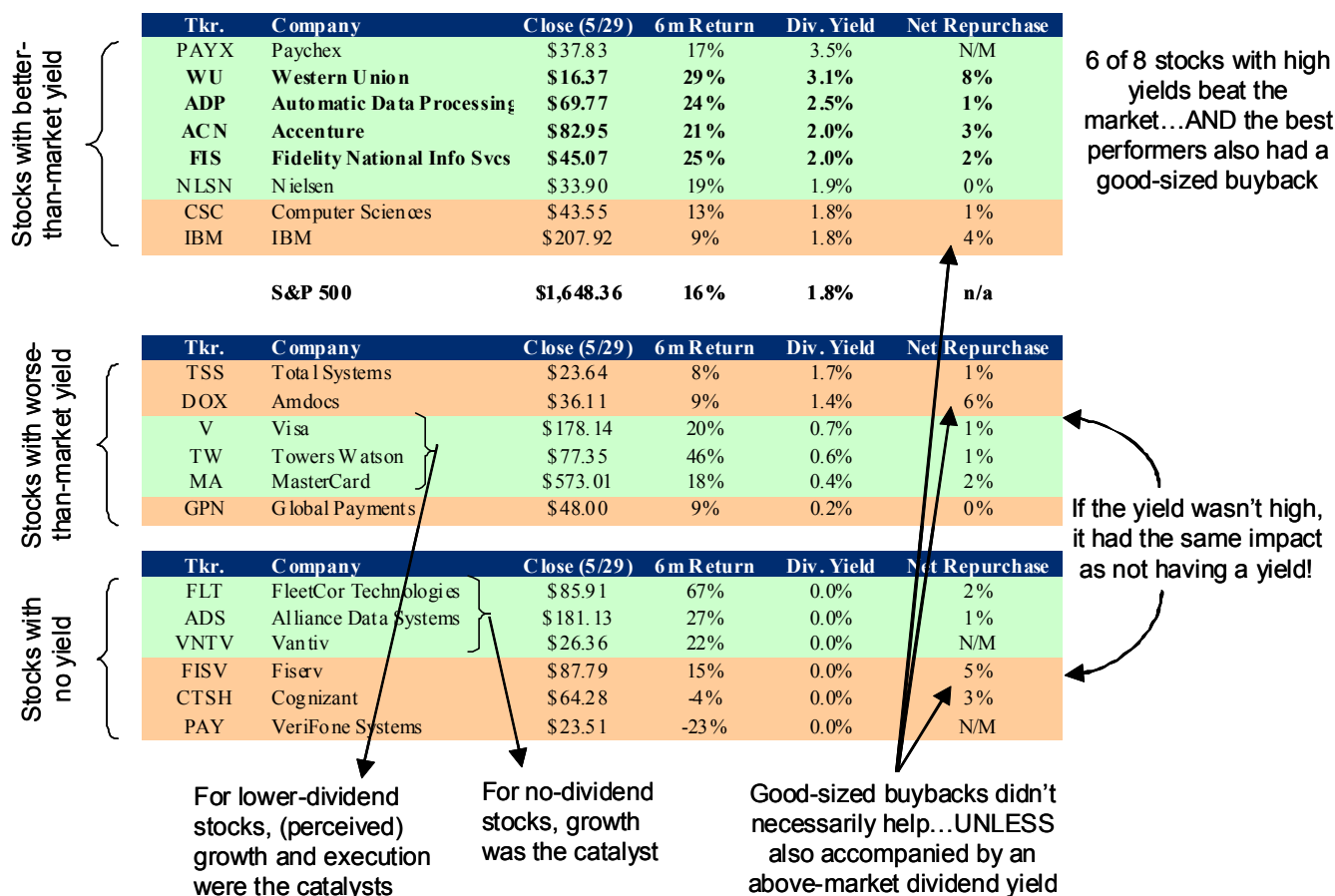
Do Dividends and Buybacks Matter?

In recent months, the seeming out-performance of stocks with dividend yields has been a matter of keen investor interest. This, combined with our Strategist team's latest publication [The Global Search for Yield](#), led us to perform the analysis below for our coverage sector.

We limited our analysis to those stocks in our coverage that have at least \$20 million in average daily trading volume over the past 6 months. We present the analysis in the figure below.

1. Above-market dividend yields (greater than 1.8%) matter and 6 of 8 companies that have a superior dividend yield beat the market. Among these, the best performers also had a good-sized buyback.
2. Companies with below-market yields had a worse outcome and it was no different than companies without a yield (3 of 6 beat the market in each case). Among these companies, a good-sized buyback did not help at all!
3. No-dividend stocks seem to still trade based on the fundamentals with superior top-line growth the best determinant of performance – note this was actually our 2013 investment thesis for the payment processing names.

Figure 1. Do Dividends Matter? Only if they are Above-Market Yields.....Buybacks? Not Really – BUT Growth Matters



Source: Citi Research, FactSet

Payment Processing Update(s):

1. **ADS Signs Contract with Irving Oil** – Alliance Data's LoyaltyOne unit has signed an agreement with Irving Oil to become a partner in its AIR MILES program. Irving Oil will begin issuing miles at its 300 locations in a sequenced rollout this summer.
2. **NTSP Announces Modification to TSS Merger** – NetSpend announced that it has adjourned its stockholder meeting to discuss and vote on the proposed merger with TSS until June 18th as a result of pending class action lawsuits. In connection with the delay, the fee payable to TSS in the event the merger is terminated has been reduced to \$44 million from \$52.6 million.
3. **TSS Signs Agreement with KeyBank** – TSYS announced that it has signed a long-term payments agreement with KeyBank to provide payment processing for the bank's consumer credit card portfolio. KeyBank began self-issuing credit cards last year after its \$725 million purchase of the Key-branded credit portfolio from Elan Financial Services.

Consulting & IT Services Update(s):

1. **CSC Sells ATD Unit** – CSC announced that it has signed an agreement to sell its base operations, aviation and range services unit (named ATD) to PAE for \$175 million. CSC acquires ATD with the 2003 purchase of DynCorp. In FY13, ATD revenue was ~\$760 million with low-to mid single digit operating margins.

Customer Care & Billing Services Update(s):

1. **TTEC Increase Share Buyback** – TeleTech announced that its board has approved an additional authorization of \$25 million for future share repurchases. As of March 31st, the company had \$15.6 million remaining on its share buyback program.

Economic Updates

1. **US – Home Prices Rise** – Home prices in the US rose 1.1% on a seasonally adjusted basis in March following a 1.3% gain in February. The reading was modestly above consensus expectations for a 1.0% increase. On a year-over-year basis, prices rose 10.9%.
2. **US – Consumer Confidence Jumps** – The Conference Board's measure of consumer confidence rose 7.2 points in May to 76.2. The reading was well ahead of consensus expectations of 71.5 due to rising home prices, stock market gains and an improved job environment.
3. **US – GDP Estimate Lowered** – Growth in real GDP was lowered to an annual pace of 2.4% for 1Q13 versus prior estimates of 2.5%. The decrease resulted primarily from lower inventory investments.
4. **US – Jobless Claims Rise** – Weekly jobless claims rose 10k to 354k, which was worse than consensus expectations of 340k. The four-week average rose 7k to 347k.
5. **US – Consumer Spending Falls** – Consumer spending in April declined 0.2% in April following a 0.1% increase in March. The reading was below consensus expectations for no gain.
6. **US – Philadelphia Fed Index Falls** – The Philadelphia Fed Survey index declined 6.5 points to -5.2 in April. Consensus had looked for an increase to 2.2. The shortfall was due to weakness in new orders and shipments.
7. **Europe – Economic Confidence Rises** – Economic confidence in the euro zone rose 0.8 points to 89.4 in May. The reading was modestly below consensus expectations of 89.6.
8. **Europe – Unemployment Rate Rises** – The unemployment rate in Europe rose to 12.2% in April from 12.1% in March. The reading was in-line with consensus expectations.

Company Events Calendar (Jun 3 – 30)

Figure 2. Company Events Calendar

Date	Time	Company / Topic	Ticker	Event Details
5-Jun-13	4:30 PM ET	VeriFone	PAY	2Q13 Earnings and Conference Call
6-Jun-13	10:00 AM ET	Visa	V	2013 Investor Day
27-Jun-13	10:30 AM ET	Paychex	PAYX	4Q13 Earnings and Conference Call

Source: Citi Research

Sector Stock Price Performance

Figure 3. Computer & IT Services Weekly Stock Price Performance (As of Thursday, May 30, 2013)

Tkr.	Major Market Indices	Close	-1W	-1M	-6M	QTD	YTD	-12M	-3Y	-5Y
	S&P 500	\$1,654.41	0%	4%	17%	5%	16%	26%	52%	18%
	NASDAQ	\$3,491.30	1%	5%	16%	7%	16%	23%	55%	38%
Tkr.	Customer Care/Billing	Close	-1W	-1M	-6M	QTD	YTD	-12M	-3Y	-5Y
DOX	Amdocs	\$36.23	1%	1%	8%	0%	7%	25%	27%	12%
CVG	Convergys	\$18.41	3%	8%	18%	8%	12%	31%	69%	14%
TTEC	TeleTech Holdings	\$22.74	2%	7%	34%	7%	28%	55%	76%	-12%
WSTC	West Corp	\$22.70	-1%	8%	N/A	18%	N/A	N/A	N/A	N/A
Tkr.	BPO Services	Close	-1W	-1M	-6M	QTD	YTD	-12M	-3Y	-5Y
EXLS	ExlService Holdings	\$29.51	0%	-10%	10%	-10%	11%	34%	78%	48%
G	Genpact	\$19.53	1%	5%	22%	7%	26%	23%	16%	35%
WNS	WNS Holdings	\$16.11	-1%	8%	52%	9%	54%	48%	47%	-10%
Tkr.	HR Services	Close	-1W	-1M	-6M	QTD	YTD	-12M	-3Y	-5Y
ADP	Automatic Data Processing	\$69.81	0%	4%	23%	7%	23%	33%	71%	62%
PAYX	Paychex	\$37.76	-1%	4%	16%	8%	21%	25%	32%	9%
TW	Towers Watson	\$77.48	-1%	6%	47%	12%	38%	29%	68%	32%
Tkr.	Consulting	Close	-1W	-1M	-6M	QTD	YTD	-12M	-3Y	-5Y
ACN	Accenture	\$82.84	0%	2%	22%	9%	25%	44%	121%	103%
CTSH	Cognizant	\$64.80	1%	0%	-4%	-15%	-12%	10%	29%	84%
CSC	Computer Sciences	\$44.32	2%	-5%	16%	-10%	11%	65%	-11%	-10%
EPAM	EPAM Systems	\$23.30	1%	8%	13%	0%	29%	35%	N/A	N/A
IBM	IBM	\$209.36	2%	3%	10%	-2%	9%	8%	67%	62%
NLSN	Nielsen	\$33.89	-2%	-2%	20%	-5%	11%	22%	N/A	N/A
Tkr.	Financial Processing	Close	-1W	-1M	-6M	QTD	YTD	-12M	-3Y	-5Y
ADS	Alliance Data Systems	\$180.97	1%	5%	27%	12%	25%	43%	156%	201%
FIS	Fidelity National Info Services	\$45.78	1%	9%	27%	16%	32%	39%	66%	104%
FISV	Fiserv	\$88.50	0%	-3%	15%	1%	12%	33%	86%	69%
FLT	FleetCor Technologies	\$87.39	6%	14%	67%	14%	63%	129%	N/A	N/A
GPN	Global Payments	\$48.70	4%	5%	11%	-2%	8%	14%	15%	3%
GDOT	Green Dot	\$18.35	1%	17%	48%	10%	50%	-15%	N/A	N/A
HAWK	Blackhawk Network	\$24.13	1%	1%	N/A	N/A	N/A	N/A	N/A	N/A
MA	MasterCard	\$576.16	1%	4%	18%	6%	17%	40%	186%	87%
NTSP	NetSpend	\$16.03	0%	0%	38%	1%	36%	117%	N/A	N/A
TSS	Total Systems	\$23.72	1%	0%	8%	-4%	11%	1%	62%	-3%
PAY	VeriFone Systems	\$23.51	-1%	9%	-23%	14%	-21%	-35%	17%	60%
V	Visa	\$181.03	2%	7%	21%	7%	19%	54%	150%	110%
VNTV	Vantiv	\$26.73	2%	19%	23%	13%	31%	22%	N/A	N/A
WU	Western Union	\$16.46	0%	11%	31%	9%	21%	-1%	3%	-30%
WEX	WEX Corp.	\$74.49	2%	-2%	4%	-5%	-1%	33%	137%	133%

Source: FactSet and Citi Research

Foreign Exchange Movement

Figure 4. An Update on Foreign Currency as of Thursday, May 30, 2013

	Current	1 M	3 M	6 M	1 YR	2 YR	5 YR
US \$ per Euro	1.3055	1.3184	1.3074	1.3006	1.2393	1.4260	1.5541
US \$ per British Pound	1.5216	1.5564	1.5180	1.6027	1.5533	1.6464	1.9762
US \$ per Japanese Yen	0.0099	0.0103	0.0108	0.0121	0.0127	0.0124	0.0095
US \$ per Canadian Dollar	0.9710	0.9942	0.9727	1.0067	0.9712	1.0236	1.0063
Mexican Peso per US \$	12.7450	12.1566	12.7780	12.9218	14.0708	11.6262	10.3370
Chinese Renminbi per US \$	6.1309	6.1650	6.2213	6.2267	6.3577	6.4917	6.9420
Indian Rupee per US \$	56.2450	53.8750	54.4050	54.3950	56.1250	45.1650	42.4550
Philippine Peso per US \$	42.3200	41.1600	40.6600	40.8900	43.4850	43.3600	43.7650
Israeli Shekel per US \$	3.6775	3.5835	3.7138	3.8111	3.8819	3.4742	3.2223

	Current	Percentage Change					
		1 M	3 M	6 M	1 YR	2 YR	5 YR
US \$ per Euro	-	+1%	+0%	-0%	-5%	+9%	+19%
US \$ per British Pound	-	+2%	-0%	+5%	+2%	+8%	+30%
US \$ per Japanese Yen	-	+4%	+9%	+22%	+28%	+25%	-4%
US \$ per Canadian Dollar	-	+2%	+0%	+4%	+0%	+5%	+4%
Mexican Peso per US \$	-	-5%	+0%	+1%	+10%	-9%	-19%
Chinese Renminbi per US \$	-	+1%	+1%	+2%	+4%	+6%	+13%
Indian Rupee per US \$	-	-4%	-3%	-3%	-0%	-20%	-25%
Philippine Peso per US \$	-	-3%	-4%	-3%	+3%	+2%	+3%
Israeli Shekel per US \$	-	-3%	+1%	+4%	+6%	-6%	-12%

Source: FactSet and Citi Research

U.S. dollar strength is a bad thing for the reported U.S. dollar revenues of companies with non-US exposure. The earnings impact depends on where the direct costs are based as well as on hedging policy.

A stronger “labor supply” currency (India, China, Israel, Peso) can be a negative for the cost structure of services companies that supply work from those countries as it implies margin pressure related to higher translated labor costs. Note we are saying “margin pressure” and not “margin impact”.

Citi Research IT & BPO, Consulting, and Analytics Comp Sheet

As of Thursday, May 30, 2013

Figure 5. Consolidated Financial Statistics (\$ in millions, except per-share data)

EPS & Revenues				Calendar EPS				EPS Growth				Revenues				Revenue Growth			
	Ticker	Rating	MktCap	2011	2012	2013E	2014E	2011	2012	2013E	2014E	2011	2012	2013E	2014E	2011	2012	2013E	2014E
Accenture	ACN	1	\$59,215	\$3.63	\$3.95	\$4.40	\$4.85	27%	9%	12%	10%	\$26,789	\$28,098	\$29,651	\$31,559	19%	5%	6%	6%
Amdocs Limited	DOX	1	5,901	2.45	2.81	3.01	3.28	7%	14%	7%	9%	3,210	3,266	3,398	3,583	6%	2%	4%	5%
Cognizant Technology Solution	CTSH	1	19,775	2.85	3.44	4.04	4.77	20%	21%	18%	18%	6,121	7,346	8,752	10,371	33%	20%	19%	19%
Computer Sciences Corp.	CSC	2H	6,876	4.38	2.23	3.80	3.96	-17%	-49%	70%	4%	16,211	15,706	14,869	15,250	0%	-3%	-5%	3%
Convergys Corporation	CVG	1	2,031	1.03	0.92	1.09	1.20	3%	-11%	18%	11%	2,262	2,005	2,055	2,147	3%	-11%	3%	4%
EPAM Systems	EPAM	1	1,083	2.66	1.41	1.57	1.87	45%	-47%	11%	19%	335	434	542	667	51%	30%	25%	23%
EXLServe Holdings, Inc.	EXLS	1	995	1.39	1.58	1.83	2.17	29%	14%	16%	19%	361	443	499	579	43%	23%	13%	16%
Genpact	G	2	4,563	0.98	0.96	1.02	1.18	32%	-1%	6%	16%	1,600	1,902	2,183	2,486	27%	19%	15%	14%
IBM*	IBM	1	235,321	13.49	15.30	16.71	18.77	15%	13%	9%	12%	106,917	104,507	104,738	109,641	7%	-2%	0%	5%
Nielsen	NLSN	1	12,849	1.61	1.87	2.15	2.38	69%	17%	14%	11%	5,507	5,590	5,830	6,114	7%	2%	4%	5%
TeleTech Holdings, Inc.	TTEC	2	1,210	1.22	1.37	1.50	1.66	19%	12%	10%	11%	1,179	1,163	1,215	1,270	8%	-1%	5%	5%
Towers Watson	TW	1	5,507	4.97	5.26	5.70	6.18	29%	6%	8%	8%	3,407	3,508	3,687	3,871	10%	3%	5%	5%
West Corp	WSTC	1	1,484	3.02	3.05	2.75	2.97	189%	1%	-10%	8%	2,491	2,638	2,718	2,826	4%	6%	3%	4%
WNS Holding	WNS	1	839	1.15	0.99	1.15	1.33	7%	-14%	16%	15%	390	423	466	522	5%	9%	10%	12%

Source: Company Reports and Citi Research Estimates. *IBM is jointly covered with Citi Research analyst Jim Suva.

Figure 6. Valuation Metrics

Valuation				P/E				PEG			PEG (using NOPAT earnings)			EV/EBITDA			
	FYE	Price	Target	2011	2012	2013E	2014E	FY11/14 GR	2012	2013E	FY11/14 GR	2012	2013E	2011	2012	2013E	2014E
Accenture	Aug	\$82.84	\$82.50	22.8x	21.0x	18.8x	17.1x	11%	1.9x	1.7x	7%	3.1x	2.7x	12.9x	11.8x	11.2x	10.4x
Amdocs Limited	Sep	36.23	41.00	14.8x	12.9x	12.0x	11.0x	11%	1.1x	1.1x	5%	2.5x	2.3x	7.8x	7.6x	7.2x	6.7x
Cognizant Technology Solution	Dec	64.80	90.00	22.8x	18.9x	16.0x	13.6x	19%	1.0x	0.9x	18%	1.0x	0.9x	13.6x	11.3x	9.6x	8.1x
Computer Sciences Corp.	Mar	44.32	47.00	10.1x	19.8x	11.7x	11.2x	-8%	NA	NA	1%	14.1x	8.3x	4.1x	4.2x	3.9x	3.5x
Convergys Corporation	Dec	18.41	19.50	17.9x	20.1x	17.0x	15.3x	5%	3.8x	3.2x	NA	NA	NA	5.9x	6.7x	6.3x	5.9x
EPAM Systems	Dec	23.30	29.00	8.8x	16.5x	14.9x	12.5x	-11%	NA	NA	16%	1.0x	0.9x	14.5x	11.6x	9.9x	8.0x
EXLServe Holdings, Inc.	Dec	29.51	35.00	21.2x	18.6x	16.1x	13.6x	16%	1.2x	1.0x	25%	0.7x	0.6x	12.1x	9.7x	8.7x	7.3x
Genpact	Dec	19.53	N/A	20.0x	20.3x	19.2x	16.6x	6%	3.2x	3.0x	22%	0.9x	0.9x	16.3x	13.8x	12.4x	11.3x
IBM*	Dec	209.36	250.00	15.5x	13.7x	12.5x	11.2x	12%	1.2x	1.1x	8%	1.6x	1.5x	10.0x	9.7x	9.0x	8.2x
Nielsen	Dec	33.89	38.00	21.1x	18.1x	15.8x	14.2x	14%	1.3x	1.1x	3%	6.5x	5.7x	12.5x	12.0x	11.2x	10.5x
TeleTech Holdings, Inc.	Dec	22.74	N/A	18.6x	16.6x	15.1x	13.7x	11%	1.5x	1.4x	7%	2.5x	2.3x	8.2x	8.0x	7.5x	7.1x
Towers Watson	Jun	77.48	79.00	15.6x	14.7x	13.6x	12.5x	10%	1.5x	1.4x	5%	3.3x	3.0x	7.8x	7.8x	7.3x	6.8x
West Corp	Dec	22.70	25.00	7.5x	7.4x	8.3x	7.7x	-1%	NA	NA	2%	3.5x	3.9x	7.2x	6.9x	6.9x	6.7x
WNS Holding	Mar	16.11	16.50	14.0x	16.3x	14.0x	12.2x	0%	NA	NA	3%	5.2x	4.5x	10.7x	11.3x	10.2x	8.8x

Source: Company Reports and Citi Research Estimates. *IBM is jointly covered with Citi Research analyst Jim Suva.

Citi Research Processors Comp Sheet

As of Thursday, May 30, 2013

Figure 7. Consolidated Financial Statistics (\$ in millions, except per-share data)

EPS & Revenues				Calendar EPS				EPS Growth				Revenues				Revenue Growth			
	Ticker	Rating	MktCap	2011	2012	2013E	2014E	2011	2012	2013E	2014E	2011	2012	2013E	2014E	2011	2012	2013E	2014E
Alliance Data Systems^	ADS	2	12,179	7.63	8.71	10.25	12.50	30%	14%	18%	22%	3,173	3,641	4,274	4,629	14%	15%	17%	8%
Automatic Data Processing	ADP	2	33,963	2.61	2.78	3.02	3.32	9%	6%	9%	10%	10,326	10,920	11,729	12,622	11%	6%	7%	8%
Blackhawk Network	HAWK	2	1,229	0.76	0.99	1.07	1.36	38%	30%	8%	27%	752	959	1,207	1,467	30%	28%	26%	21%
Fidelity National Info Services	FIS	1	13,528	2.22	2.50	2.84	3.19	11%	13%	14%	12%	5,626	5,808	6,096	6,430	6%	3%	5%	5%
Fiserv	FISV	2	11,956	4.58	5.13	5.96	6.65	13%	12%	16%	12%	4,337	4,471	4,937	5,160	5%	3%	10%	5%
FleetCor Technologies^	FLT	1	7,337	2.17	2.99	3.90	4.50	22%	38%	30%	15%	520	708	847	938	20%	36%	20%	11%
Global Payments	GPN	1	3,814	3.35	3.61	3.90	4.33	19%	8%	8%	11%	2,076	2,325	2,521	2,741	20%	12%	8%	9%
Green Dot	GDOT	2	810	1.55	1.37	1.17	1.25	N/A	-11%	-15%	7%	484	555	554	598	N/A	15%	0%	8%
MasterCard*	MA	1	70,810	18.71	22.04	25.44	30.00	33%	18%	15%	18%	6,714	7,391	8,165	9,110	21%	10%	10%	12%
NetSpend	NTSP	2	1,285	0.47	0.59	0.78	0.91	28%	26%	34%	17%	306	351	422	486	11%	15%	20%	15%
Paychex	PAYX	3	13,767	1.49	1.55	1.65	1.77	6%	4%	7%	7%	2,176	2,277	2,398	2,536	7%	5%	5%	6%
Total Systems Services	TSS	1	4,461	1.15	1.29	1.43	1.62	14%	13%	11%	13%	1,809	1,871	1,967	2,108	5%	3%	5%	7%
Vantiv	VNTV	1	5,736	0.86	1.22	1.51	1.72	21%	41%	24%	14%	866	1,023	1,212	1,344	12%	18%	19%	11%
VeriFone Systems^	PAY	2	2,599	2.03	2.69	2.11	2.33	41%	33%	-22%	11%	1,403	1,889	1,842	1,972	35%	35%	-3%	7%
Visa*	V	2	119,480	5.25	6.64	7.77	9.02	25%	26%	17%	16%	9,497	10,720	11,975	13,195	14%	13%	12%	10%
Western Union	WU	2	9,377	1.57	1.74	1.41	1.59	11%	11%	-19%	13%	5,491	5,665	5,449	5,587	6%	3%	-4%	3%
WEX Corp^	WEX	2	2,919	3.64	4.06	4.35	4.75	32%	11%	7%	9%	553	623	716	783	42%	13%	15%	9%

Source: Company Reports and Citi Research Estimates. *Visa and MasterCard are jointly covered with Citi Research analyst Donald Fandetti; ^Philip Stiller is the lead analyst on ADS, PAY, WEX and FLT.

Figure 8. Valuation Metrics

Valuation				P/E				PEG			PEG (using NOPAT earnings)			EV/EBITDA			
	FYE	Price	Target	2011	2012	2013E	2014E	FY11/14 GR	2012	2013E	FY11/14 GR	2012	2013E	2011	2012	2013E	2014E
Alliance Data Systems^	Dec	180.97	171.00	23.7x	20.8x	17.7x	14.5x	18%	1.2x	1.0x	13%	1.6x	1.3x	14.2x	12.0x	10.2x	9.4x
Automatic Data Processing	Jun	69.81	68.50	26.7x	25.1x	23.1x	21.0x	8%	3.2x	3.0x	6%	4.0x	3.7x	14.8x	14.1x	13.2x	12.3x
Blackhawk Network	Dec	24.13	26.00	31.5x	24.3x	22.5x	17.7x	21%	1.1x	1.1x	26%	0.9x	0.9x	14.8x	11.6x	10.1x	7.9x
Fidelity National Info Services	Dec	45.78	52.00	20.6x	18.3x	16.1x	14.4x	13%	1.4x	1.3x	4%	4.2x	3.7x	10.6x	10.1x	9.6x	9.1x
Fiserv	Dec	88.50	89.00	19.3x	17.3x	14.9x	13.3x	13%	1.3x	1.1x	6%	3.0x	2.6x	11.3x	10.9x	9.9x	9.3x
FleetCor Technologies^	Dec	87.39	97.00	40.2x	29.3x	22.4x	19.4x	27%	1.1x	0.8x	27%	1.1x	0.8x	28.5x	20.5x	16.2x	14.0x
Global Payments	May	48.70	52.00	14.6x	13.5x	12.5x	11.2x	10%	1.4x	1.3x	7%	2.0x	1.9x	9.7x	9.1x	8.5x	7.8x
Green Dot	Dec	18.35	N/A	11.9x	13.4x	15.7x	14.6x	-7%	-2.0x	-2.3x	NA	NA	NA	3.6x	3.9x	4.3x	3.9x
MasterCard*	Dec	576.16	590.00	30.8x	26.1x	22.6x	19.2x	17%	1.5x	1.3x	15%	1.8x	1.6x	17.7x	15.5x	13.6x	11.9x
NetSpend	Dec	16.03	16.00	34.4x	27.4x	20.5x	17.6x	25%	1.1x	0.8x	21%	1.3x	1.0x	15.9x	13.9x	10.9x	9.2x
Paychex	May	37.76	30.00	25.4x	24.4x	22.8x	21.3x	6%	4.0x	3.8x	4%	5.5x	5.1x	14.2x	13.5x	12.7x	11.9x
Total Systems Services	Dec	23.72	26.00	20.7x	18.4x	16.6x	14.7x	12%	1.5x	1.4x	10%	1.9x	1.7x	9.2x	8.6x	8.1x	7.4x
Vantiv	Dec	26.73	26.00	31.0x	22.0x	17.7x	15.5x	26%	0.8x	0.7x	5%	4.3x	3.5x	17.0x	14.7x	12.5x	11.1x
VeriFone Systems^	Oct	23.51	23.00	11.6x	8.7x	11.2x	10.1x	6%	1.4x	1.8x	12%	0.7x	0.9x	12.5x	7.7x	8.9x	8.1x
Visa*	Sep	181.03	181.00	34.5x	27.3x	23.3x	20.1x	20%	1.3x	1.1x	15%	1.8x	1.5x	19.4x	17.3x	15.1x	13.5x
Western Union	Dec	16.46	15.00	10.5x	9.5x	11.7x	10.3x	0%	NA	NA	NA	NA	NA	7.2x	7.2x	8.5x	8.1x
WEX Corp^	Dec	74.49	74.00	20.5x	18.4x	17.1x	15.7x	9%	2.0x	1.8x	7%	2.5x	2.3x	10.7x	10.1x	9.1x	8.4x

Source: Company Reports and Citi Research Estimates. *Visa and MasterCard are jointly covered with Citi Research analyst Donald Fandetti; ^Philip Stiller is the lead analyst on ADS, PAY, WEX and FLT.

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 Visa Inc

Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Computer Sciences Corp

A director of Citi serves on the board of IBM Corporation. Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of International Business Machines Corp

Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of West Corp

Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Nielsen Holdings NV

Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of MasterCard Inc

Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Paychex Inc

Citigroup Global Markets Inc. is a joint bookrunner on the announced secondary offering of common stock by Vantiv, Inc.

Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of Alliance Data Systems Corp

Citigroup Global Markets Inc. is acting as an advisor to Genpact Limited in the transaction involving Bain Capital Partners purchase of Genpact common shares from General Atlantic and Oak Hill Capital Partners.

Citigroup Global Markets Inc. owns a position of 1 million USD or more in the debt securities of VeriFone Systems Inc

Citigroup Global Markets Inc. or its affiliates beneficially owns 1% or more of any class of common equity securities of Alliance Data Systems Corp. 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 Blackhawk Network, Fidelity National Info Svcs, Inc, Computer Sciences Corporation, International Business Machines Corp, West Corp, Nielsen Holdings N.V., Vantiv, Inc., FleetCor Technologies Inc.

Citigroup Global Markets Inc. or its affiliates has received compensation for investment banking services provided within the past 12 months from Blackhawk Network, Visa Inc., Western Union Co., Fidelity National Info Svcs, Inc, ExlService Holdings Inc, Computer Sciences Corporation, International Business Machines Corp, West Corp, EPAM Systems, Inc., Automatic Data Processing Inc, Nielsen Holdings N.V., MasterCard Inc., Vantiv, Inc., Towers Watson and Co, FleetCor Technologies Inc, Genpact Ltd, Fiserv, Inc., Amdocs Ltd, Convergys Corp, TeleTech Holdings Inc.

Citigroup Global Markets Inc. or an affiliate received compensation for products and services other than investment banking services from Convergys Corp, Genpact Ltd, ExlService Holdings Inc, Towers Watson and Co, WNS Holdings Ltd, Accenture Ltd, Cognizant, TeleTech Holdings Inc, Computer Sciences Corporation, Automatic Data Processing Inc, Amdocs Ltd, Paychex Inc, Blackhawk Network, Visa Inc., Global Payments, Inc., Western Union Co., Fidelity National Info Svcs, Inc, International Business Machines Corp, West Corp, Nielsen Holdings N.V., MasterCard Inc., WEX Inc, Vantiv, Inc., FleetCor Technologies Inc, VeriFone Systems Inc, Fiserv, 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): Computer Sciences Corporation, Accenture Ltd, Automatic Data Processing Inc, Convergys Corp, Genpact Ltd, WNS Holdings Ltd, ExlService Holdings Inc, Nielsen Holdings N.V., EPAM Systems, Inc., Vantiv, Inc., West Corp, FleetCor Technologies Inc, Blackhawk Network, Visa Inc., Western Union Co., Fidelity National Info Svcs, Inc, International Business Machines Corp, MasterCard Inc., Towers Watson and Co, Fiserv, Inc., Amdocs Ltd, TeleTech Holdings 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: Convergys Corp, Amdocs Ltd, TeleTech Holdings Inc, Towers Watson and Co, Computer Sciences Corporation, Accenture Ltd, Automatic Data Processing Inc, WNS Holdings Ltd, Genpact Ltd, Cognizant, Paychex Inc, ExlService Holdings Inc, Blackhawk Network, Visa Inc., Global Payments, Inc., Western Union Co., Fidelity National Info Svcs, Inc, International Business Machines Corp, West Corp, Nielsen Holdings N.V., MasterCard Inc., WEX Inc, Vantiv, Inc., FleetCor Technologies Inc, VeriFone Systems Inc, Fiserv, 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: Convergys Corp, TeleTech Holdings Inc, Computer Sciences Corporation, Towers Watson and Co, WNS Holdings Ltd, Accenture Ltd, Cognizant, Genpact Ltd, Amdocs Ltd, ExlService Holdings Inc, Blackhawk Network, Visa Inc., Global Payments, Inc., Western Union Co., Fidelity National Info Svcs, Inc, International Business Machines Corp, West Corp, Automatic Data Processing Inc, Nielsen Holdings N.V., MasterCard Inc., WEX Inc, Vantiv, Inc., FleetCor Technologies Inc, VeriFone Systems Inc, Fiserv, Inc..

Citigroup Global Markets Inc. or an affiliate received compensation in the past 12 months from Convergys Corp, ExlService Holdings Inc, Genpact Ltd, TeleTech Holdings Inc, WNS Holdings Ltd, Towers Watson and Co, Accenture Ltd, Cognizant, Computer Sciences Corporation, Paychex Inc, Automatic Data Processing Inc, Amdocs Ltd, Nielsen Holdings N.V., EPAM Systems, Inc., Vantiv, Inc., West Corp, FleetCor Technologies Inc, Blackhawk Network.

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 Blackhawk Network, Western Union Co., ExlService Holdings Inc, West Corp, Automatic Data Processing Inc, Cognizant, Paychex Inc, Fiserv, Inc., NetSpend Holdings, TeleTech Holdings Inc.

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 Mar 2013

	12 Month Rating			Relative Rating		
	Buy	Hold	Sell	Buy	Hold	Sell
Citi Research Global Fundamental Coverage	48%	39%	12%	7%	87%	7%
% of companies in each rating category that are investment banking clients	53%	49%	43%	65%	49%	51%

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

Ashwin Shirvaikar, CFA; Philip Stiller, CFA; Jim Suva, CPA; Donald Fandetti, CFA

OTHER DISCLOSURES

Citigroup Global Markets Inc. and/or its affiliates has a significant financial interest in relation to Visa Inc., Western Union Co., Fidelity National Info Svcs, Inc, Computer Sciences Corporation, International Business Machines Corp, Automatic Data Processing Inc, MasterCard Inc., Amdocs Ltd, Convergys Corp. (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 Alliance Data Systems Corp.

This Product has been modified by the author following a discussion with one or more of the named issuers/issuers of the named securities.

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.

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 Wealth Management disclosure website at www.morganstanley.com/online/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/eppublic/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 a 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 Buyukdere 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 ("DFS") 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/epublic/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, disseminated 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
