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Nov 11th: Tokenization 101...Other Takeaways from FinTech Conf

- **Upcoming Events** — (1) We will host Genpact CEO “Tiger” Thyagarajan for dinner in NYC on Nov 25th, call if interested.
- **Tokenization 101** — Page 2 of our note has a brief synopsis on this important topic about payments transaction security. We provide the Definition; Presumed Benefits; How Tokenization Might Work and a section on recent Developments. While this is a relatively straightforward document, we believe this is needed so we can move the discussion forward. We would love to hear from you on this topic.
- **Takeaways From Our Recent Financial Technology Conference** — Our note has a good description of the broad takeaways and the session details. [Click here](#).
- **Recent Weekly Reports** — (1) [ACN's M&A - A Slightly Deeper Look](#) (2) [PAYX Roadshow Takeaways](#) (3) [EMV, Judge Leon and More – Takeaways from Prepaid, Debit Conf](#) (4) Slightly older but we get questions on this [Do Dividends & Buybacks Matter?](#)
- **Recent IT Services Reports** — (1) [Continue to Like BPO Trend](#) (2) Offshore IT: [Changing Face of IT Services](#) (3) [3Q13 Share Shift](#) and [2Q13 Share Shift](#) (4) [3Q13 CIO Survey](#) (5) 2013 IT / BPO Preview: [click here](#)
- **Recent Processor Reports** — (1) [Earnings Momentum Likely to Continue: Valuation Keeps us Neutral on ADS](#) (2) [Adding TSS to Focus List](#) (3) [Mobile Payments - Eight Crucial Questions, Answered](#); (4) [Cross-Border V, MA Analysis](#) (5) [Fed Judge Ruling on Debit](#); (6) [2013 Processors Preview - Go for Growth](#) (7) [EC Reg Proposal Update](#)
- **What's In This Report?** — In our editorial, we have brief synopsis on Tokenization. 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; and our comp sheets

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

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Tokenization 101

At our Financial Technology Innovations Conference on Nov 7th in Boston, Security and Tokenization was one of the areas of discussion. We provide a brief section on this trend.

What is Tokenization?

This is the definition provided by the PCI Security Standards Council →

Tokenization is a process by which the primary account number (PAN) is replaced with a surrogate value called a "token". A cardholder's account number and a bank account number are two common examples of a primary account number. The value of this process is that the PAN does not have to be provided to or stored by multiple entities, thereby reducing the chances of this sensitive information being shared unwittingly.

Why is It Important Now?

(1) Proliferation of use cases – more devices and more ecosystem participants

Today the number of possible situations where a cardholder's sensitive information might be exposed has increased tremendously. Traditionally, one only needed to worry about a few situations where a greater degree of control could be exercised – a physical point of sale (POS) or an online bill payment...today, the use of these has increased...additionally we have e-commerce checkouts, payment aggregators, mobile apps and wallets as new situations which means there are more places where sensitive information can be exposed. Also, from a user's perspective, if a card number is changed the maintenance requirements are fairly significant.

(2) Duplication of account information.

Benefits may include: (i) lower fraud rates (ii) lower card re-issuance (iii) acquirers provide a new service to merchants (iv) consistent interface across participants.

How does Tokenization Work?

There is no standard set yet for the network initiative...however, in the issuer-led process, (i) the customer's "wallet" requests a dynamic token, which is supplied back from a bank issuer "vault" to the customer via the "secure cloud"; (ii) this token is passed on to the merchant at the POS (or online); (iii) the merchant transmits the token, rather than the account information, to the acquirer, who would send the token to the cloud to retrieve the underlying account information; (iv) the acquirer would transmit this underlying information to the issuer via the network in the same way as before. So, clearly the exchange of sensitive information takes place in a more controlled environment (acquirer / issuer / network).

What are some of the Recent Developments?

One could argue that third party aggregators like Square as well as industry participants like Braintree (recently acquired by PayPal) already offer non-traditional means of authentication in order to expedite the online payment process. So, developments in the digital realm are worth watching as well, in our view.

On October 1, 2013, Visa, MasterCard and American Express proposed a token-based framework for a new global standard to enhance the security of digital payments and simplify the purchasing experience when shopping on a mobile phone, tablet, personal computer or other smart device.

Back in July-2013, The Clearing House Payments Co. LLC, a New York City-based processor owned by 22 financial institutions (Bank of America, BB&T, Citi. and U.S. Bancorp among them) announced a "Secure Cloud" project - Effectively, the large US banks are creating a dynamic tokenization process for mobile/online payments which will reduce fraud risk by generating a random/encrypted number in lieu of the 16-digit primary account number that is on the physical card.

What is the Early Push-back?

While the initiative is not real yet, there are already some elements of push-back – the primary one is that these initiatives support and extend the status quo of today's ecosystem. Emerging business models that rely on the use of transaction and customer information could be affected – so could merchant-of-record models.

Weekly News-flow for our Sector

Payment Processing Update(s):

Read more in our note - [click here](#)

1. **ADS Announces Loyalty Acquisition in Europe** - ADS announced that it has acquired a majority stake in BrandLoyalty, a Netherlands-based provider of promotional campaign-drive loyalty programs. We highlighted the possibility of M&A for ADS' LoyaltyOne unit in our note with takeaways from recent management meetings ([click here](#)). The deal marks ADS' first large foray into Europe and Asia and is expected to be immediately accretive to 2014 expectations. We are maintaining our Neutral rating on ADS as we seek a better valuation entry point.
2. **Remittances to Bangladesh Decrease** - Remittances to Bangladesh totaled \$1.23 bil in October, representing a decline of 15.1% vs. last year. The decline worsened from 13.0% in September and 14.7% in August.
3. **Remittances to Mexico Increase** - Electronic remittances to Mexico totaled \$1.76 bil in September, which represented an increase of 8.4% y/y vs. 1.3% growth in August. This is the best y/y growth in remittances to the country in nearly two years. Transactions in the month rose 11.6% and average principal declined 2.9%. For 3Q13, remittances rose 2.9% vs. the 8.8% decline seen in 2Q13.

Customer Care & Billing Update(s):

Read more in our note - [click here](#)

1. **DOX Reports 3Q13 Results**- Revenue was \$845 mil (2.8% y/y) – in the guided range of \$830-\$860 million). Non-GAAP EPS of \$0.63 (hurt by a higher-than-usual tax rate, offsetting last quarter's lower-than-expected rate) was at the midpoint of the guided range \$0.60-\$0.66 guide, but below Citi/consensus estimates of \$0.64. Non-GAAP operating margin was 16.7%. 12-month backlog was \$2.87 billion (+\$40 mil sequentially), where approximately half of the sequential backlog came from consolidation of recently acquired Actix – so, in-line on an organic basis.

BPO Services Update(s):

Read more in our note - [click here](#)

1. **EXLS Confirms Client Loss Mentioned on Recent Earnings Client** - In an 8K filed on Nov 4th, EXLS named the client (Travelers) and discussed the background on the client and the circumstances of the client loss. Travelers represented 9.6% of EXLS total revenues in 3Q-2013. Our view is that another vendor to whom the work can be transferred has not yet been identified, so there should be no material impact on calendar year 2013 revenues. While the company estimated a \$14-\$28 million impact (3%-6% of revenues) in 2014. Read more in our note [here](#).
2. **G Reports 3Q13 Results** - Revenue of \$534.9 million (+8.9% y/y) was below Citi/consensus estimates of \$557/\$556, due to a decline at GE, in the mortgage origination business and currency headwinds within Global Clients. Adjusted diluted EPS of \$0.33 beat Citi/consensus estimates of \$0.27/\$0.26.

Read more in our note - [click here](#)

Consulting & IT Services Update(s):

Read more in our note - [click here](#)

1. **CTSH Reports 3Q13 Results**- CTSH reported \$2.305 billion (+21.9% year/year, 6.7% seq) which was ahead of guidance (at least \$2.250 billion), consensus (\$2.257) and Citi (\$2.260). Pro-forma operating margins of 20.4% were above the 19%-20% range, we believe helped by the weak Indian Rupee. GAAP EPS of \$1.05 was ahead of Citi/consensus of \$1.01. The raised guide for the full year (at least 20.3% revenue growth and EPS of \$4.01 – prior was

“at least” 19% and EPS of “at least” \$3.96) incorporates the 3Q13 beat and adds a sliver of a 4Q13 raise. The only partial “quibble” we can see from this is the 4Q13 sequential growth rate is ~2.7% at the low end even though it includes one incremental acquisition that closed in early Oct-2013....we believe this is a conservative assumption.

2. **MMC Consulting Segment Review** - Consulting segment revenue for 3Q13 was \$1.4 billion up 2% y/y. Adjusted operating income was \$231 million, up 13% from \$204 million.
3. **NLSN Announces CEO Transition; Maintain Buy** - NLSN announced that Mitch Barns will succeed David Calhoun as CEO of the company effective January 1st. Mr. Calhoun will stay on as Executive Chairman for two years. Mr. Barns has been with the company for 16 years in a variety of senior roles and so we do not anticipate any significant strategic shifts in the company's direction in the near-term. Read more in our note [here](#).
4. **ACN to Optimize Zurich Insurance Group's IT** - ACN is assisting Zurich Insurance Group to optimize its finance IT function. ACN manages finance and business intelligence application that support the insurer's operation in North America, Germany, Switzerland and the United Kingdom, and aims to help Zurich improve its finance IT processes to enable faster decision-making and reduce cost. The application supports accounts payable/receivable, month-end close and balance-sheet reconciliations.
5. **IBM Launches New Predictive Intelligence Software** - In the midst of companies' struggle to manage complex IT systems, the new software will enable clients to leverage cognitive computing and predictive analytics to gain insight from Big Data, and better manage the large volume of data inflow.
6. **ACN to Help Young Indians with Skill Development Program** - The multi-year skills development program will mobilize 3,300 Jammu and Kashmir youth and equip them with employment skills, providing an end-to-end experience from education to job placement. The program is part of the Indian Government's initiative to better socio-economic development.

Economic Updates

1. **US – Jobless Claims Decline** – Jobless claims for the week of November 2 fell 9k to 336k. This is the 4th decline in a row from 373k in October, and for the first time since September, there are no special factors distorting initial jobless claims. The 4-week moving average came in at 348.25k, below prior revised of 357.50k.
2. **US – GDP Grows in 3Q13** – Real GDP increased 2.8% in 3Q13, compared to consensus of 2.0% and following a 2.5% rise in 2Q13. There were mixed contributions: PCEs rose 1.5%, contributing to 1.04% to GDP, and inventories gained \$85.0 billion, contributing to 0.83% of GDP. However, overall demand is sluggish, with final sales of domestic product rising 2.0% in 3Q13 after a 2.1% rise in 2Q13. Final sales to domestic purchasers slowed to 1.7% gain, after a 2.1% rise in 2Q13.
3. **US – Employment Situation** – The overall jobs report topped expectations, with total payroll jobs in October coming in at 204k, vs. consensus of 120k and prior revised of 163k. Private payrolls gained 212k vs. consensus of 128k and after rising 150k in September.

Company Events Calendar (Nov 11 – Nov 25)

Figure 1. Company Events Calendar

Date	Time	Company / Topic	Ticker	Event Details
12-Nov-13	9:00 AM ET	Xerox	XRX	Investor Day
13-Nov-13	6:00 PM ET	Capco		The Capco Digital Innovation Lab Client Event
19-Nov-13	8:00 AM ET	GreenDot	GDOT	Investor Day
25-Nov-13	4:30 PM ET	Genpact	G	Meeting with "Tiger" Tyagarajan, CEO and President

Sector Stock Price Performance

Figure 2. Computer & IT Services Weekly Stock Price Performance (As of Friday, November 8, 2013)

Tkr.	Major Market Indices	Close	-1W	-1M	-6M	QTD	YTD	-12M	-3Y	-5Y
	S&P 500	\$1,756.54	0%	4%	10%	4%	23%	24%	48%	81%
	NASDAQ	\$3,919.71	0%	4%	18%	4%	30%	32%	56%	128%
Tkr.	Customer Care/Billing	Close	-1W	-1M	-6M	QTD	YTD	-12M	-3Y	-5Y
DOX	Amdocs	\$38.45	1%	5%	8%	5%	13%	16%	25%	70%
CVG	Convergys	\$19.74	-1%	5%	16%	5%	20%	17%	74%	157%
WSTC	West Corp	\$22.02	-8%	-1%	5%	-1%	N/A	N/A	N/A	N/A
Tkr.	BPO Services	Close	-1W	-1M	-6M	QTD	YTD	-12M	-3Y	-5Y
EPAM	EPAM Systems	\$37.47	-2%	9%	74%	9%	107%	108%	N/A	N/A
EXLS	ExlService Holdings	\$28.91	-6%	2%	-11%	2%	9%	-2%	52%	296%
G	Genpact	\$19.83	-1%	5%	7%	5%	28%	13%	25%	153%
WNS	WNS Holdings	\$22.49	4%	6%	51%	6%	116%	114%	116%	152%
Tkr.	HR Services	Close	-1W	-1M	-6M	QTD	YTD	-12M	-3Y	-5Y
ADP	Automatic Data Processing	\$75.03	-1%	4%	11%	4%	32%	30%	69%	115%
PAYX	Paychex	\$42.27	-1%	4%	16%	4%	36%	30%	52%	48%
TW	Towers Watson	\$114.81	0%	7%	57%	7%	104%	114%	123%	170%
Tkr.	Consulting	Close	-1W	-1M	-6M	QTD	YTD	-12M	-3Y	-5Y
ACN	Accenture	\$73.50	0%	0%	-10%	0%	11%	9%	64%	122%
CTSH	Cognizant	\$86.93	0%	6%	34%	6%	18%	30%	33%	353%
CSC	Computer Sciences	\$49.26	-5%	-5%	5%	-5%	23%	62%	0%	63%
IBM	IBM	\$179.21	1%	-3%	-12%	-3%	-6%	-8%	25%	93%
NLSN	Nielsen	\$39.44	1%	8%	14%	8%	29%	36%	N/A	N/A
Tkr.	Financial Processing	Close	-1W	-1M	-6M	QTD	YTD	-12M	-3Y	-5Y
ADS	Alliance Data Systems	\$237.06	1%	12%	38%	12%	64%	66%	290%	373%
FIS	Fidelity National Info Services	\$48.75	3%	5%	16%	5%	40%	48%	80%	223%
FISV	Fiserv	\$104.73	-1%	4%	15%	4%	33%	40%	92%	214%
FLT	FleetCor Technologies	\$115.35	4%	5%	50%	5%	115%	143%	N/A	N/A
GPN	Global Payments	\$59.48	0%	16%	28%	16%	31%	39%	53%	47%
GDOT	Green Dot	\$21.46	5%	-18%	37%	-18%	76%	111%	-58%	N/A
HAWK	Blackhawk Network	\$22.86	-3%	-5%	-5%	-5%	N/A	N/A	N/A	N/A
MA	MasterCard	\$717.10	-1%	7%	30%	7%	46%	56%	199%	385%
TSS	Total Systems	\$29.83	-1%	1%	26%	1%	39%	33%	91%	117%
PAY	VeriFone Systems	\$22.66	0%	-1%	5%	-1%	-24%	-24%	-33%	99%
V	Visa	\$196.67	-3%	3%	17%	3%	30%	42%	152%	255%
VNTV	Vantiv	\$27.50	4%	-2%	22%	-2%	35%	36%	N/A	N/A
WU	Western Union	\$17.02	-12%	-9%	15%	-9%	25%	34%	-3%	12%
WEX	WEX Corp.	\$93.35	6%	6%	23%	6%	24%	27%	148%	582%

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

As of Friday, November 8, 2013

Figure 3. Consolidated Financial Statistics (\$ in millions, except per-share data)

EPS & Revenues				Calendar EPS				EPS Growth				Revenues				Revenue Growth			
	Ticker	Rating	MktCap	2012	2013E	2014E	2015E	2012	2013E	2014E	2015E	2012	2013E	2014E	2015E	2012	2013E	2014E	2015E
Accenture	ACN	1	\$53,139	\$3.95	\$4.23	\$4.66	\$5.19	9%	7%	10%	11%	\$28,098	\$28,595	\$29,801	\$31,324	5%	2%	4%	5%
Amdocs Limited	DOX	1	6,541	2.81	2.97	3.24	3.53	14%	6%	9%	9%	3,266	3,382	3,576	3,773	2%	4%	6%	6%
Cognizant Technology Solutions	CTSH	1	27,455	3.44	4.02	4.77	5.65	21%	17%	19%	19%	7,346	8,855	10,502	12,287	20%	21%	19%	17%
Computer Sciences Corp.	CSC	2H	7,704	0.20	4.23	4.18	4.53	NA	NA	-1.2%	8%	14,492	13,155	13,182	13,465	-3%	-9%	0%	2%
Convergys Corporation	CVG	2	2,147	0.92	1.11	1.20	1.34	-11%	21%	9%	11%	2,005	2,045	2,117	2,210	-11%	2%	4%	4%
EPAM Systems	EPAM	1	1,661	1.41	1.62	1.92	2.22	-47%	15%	18%	15%	434	545	659	803	30%	26%	21%	22%
EXLServe Holdings, Inc.	EXLS	1	813	1.58	1.75	2.00	2.35	14%	10%	15%	17%	443	478	532	615	23%	8%	11%	16%
Genpact	G	2	4,207	0.96	1.13	1.12	1.28	-1%	18%	-2%	14%	1,902	2,125	2,371	2,711	19%	12%	12%	14%
IBM*	IBM	1	197,773	15.30	16.98	18.61	20.09	13%	11%	10%	8%	104,507	100,085	102,912	105,530	-2%	-4%	3%	3%
Nielsen	NLSN	1	15,204	1.87	2.00	2.40	2.64	17%	7%	20%	10%	5,590	5,706	6,311	6,614	2%	2%	11%	5%
Towers Watson	TW	1	7,781	5.26	5.77	6.10	6.60	6%	10%	6%	8%	3,508	3,534	3,634	3,848	3%	1%	3%	6%
West Corp	WSTC	1	1,945	3.05	2.83	2.86	2.95	1%	-7%	1%	3%	2,638	2,673	2,764	2,889	6%	1%	3%	5%
WNS Holding	WNS	1	1,054	0.99	1.25	1.41	1.60	-14%	26%	13%	14%	423	461	514	577	9%	9%	11%	12%

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

Figure 4. Valuation Metrics

Valuation				P/E				PEG			PEG (using NOPAT earnings)			EV/EBITDA			
	FYE	Price	Target	2012	2013E	2014E	2015E	FY12/15 GR	2013E	2014E	FY12/15 GR	2013E	2014E	2012	2013E	2014E	2015E
Accenture	Aug	\$75.24	\$86.00	19.1x	17.8x	16.2x	14.5x	9%	1.9x	1.8x	7%	2.6x	2.3x	10.5x	10.3x	9.6x	9.0x
Amdocs Limited	Sep	40.05	46.00	14.3x	13.5x	12.4x	11.3x	8%	1.6x	1.5x	6%	2.3x	2.1x	8.3x	8.1x	7.7x	7.2x
Cognizant Technology Solutions	Dec	90.23	101.00	26.3x	22.4x	18.9x	16.0x	18%	1.2x	1.0x	17%	1.3x	1.1x	16.0x	13.1x	11.4x	9.7x
Computer Sciences Corp.	Mar	51.03	54.00	NA	12.1x	12.2x	11.3x	NA	NA	NA	NA	NA	NA	6.4x	4.5x	4.1x	4.0x
Convergys Corporation	Dec	19.90	21.00	21.7x	18.0x	16.5x	14.9x	14%	1.3x	1.2x	NA	NA	NA	7.2x	6.8x	6.5x	6.1x
EPAM Systems	Dec	35.72	39.00	25.3x	22.0x	18.6x	16.1x	16%	1.4x	1.1x	20%	1.1x	0.9x	18.4x	15.2x	12.6x	10.5x
EXLServe Holdings, Inc.	Dec	23.94	35.00	15.1x	13.7x	12.0x	10.2x	14%	1.0x	0.9x	15%	0.9x	0.8x	7.4x	6.6x	5.8x	5.0x
Genpact	Dec	17.80	N/A	18.5x	15.7x	15.9x	13.9x	10%	1.6x	1.6x	15%	1.0x	1.0x	12.4x	10.9x	10.8x	9.5x
IBM*	Dec	179.99	235.00	11.8x	10.6x	9.7x	9.0x	10%	1.1x	1.0x	8%	1.4x	1.3x	8.5x	8.2x	7.5x	7.2x
Nielsen	Dec	39.77	42.00	21.2x	19.9x	16.6x	15.1x	12%	1.6x	1.4x	3%	NA	NA	13.5x	13.2x	11.7x	10.9x
Towers Watson	Jun	109.52	119.00	20.8x	19.0x	18.0x	16.6x	7%	2.8x	2.7x	5%	3.8x	3.6x	11.3x	11.1x	10.4x	9.7x
West Corp	Dec	22.87	25.50	7.5x	8.1x	8.0x	7.8x	-1%	NA	NA	2%	4.2x	4.2x	7.6x	7.5x	7.4x	7.1x
WNS Holding	Mar	20.10	23.50	20.3x	16.1x	14.3x	12.6x	12%	1.3x	1.2x	27%	0.6x	0.5x	13.6x	11.8x	10.2x	9.0x
Averages				18.5x	16.1x	14.6x	13.0x	11%	1.5x	1.4x	11%	1.9x	1.8x	10.8x	9.8x	8.9x	8.1x

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

Citi Research Processors Comp Sheet

As of Friday, November 8, 2013

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

EPS & Revenues				Calendar EPS				EPS Growth				Revenues				Revenue Growth			
	Ticker	Rating	MktCap	2012	2013E	2014E	2015E	2012	2013E	2014E	2015E	2012	2013E	2014E	2015E	2012	2013E	2014E	2015E
Alliance Data Systems^	ADS	2	16,033	8.71	9.95	12.15	13.85	14%	14%	22%	14%	3,641	4,329	4,788	5,224	15%	19%	11%	9%
Automatic Data Processing	ADP	2	36,812	2.78	3.00	3.33	3.75	6%	8%	11%	13%	10,920	11,708	12,600	13,560	6%	7%	8%	8%
Blackhawk Network	HAWK	2	1,228	1.00	1.10	1.32	1.60	30%	10%	20%	21%	959	1,158	1,400	1,642	28%	21%	21%	17%
Fidelity National Info Services	FIS	1	14,167	2.50	2.85	3.17	3.54	13%	14%	11%	12%	5,808	6,063	6,418	6,843	3%	4%	6%	7%
Fiserv	FISV	2	13,931	4.94	6.00	6.61	7.35	8%	21%	10%	11%	4,436	4,850	5,083	5,293	2%	9%	5%	4%
FleetCor Technologies^	FLT	1	9,645	2.99	4.05	4.85	5.55	38%	35%	20%	14%	708	893	1,097	1,202	36%	26%	23%	10%
Global Payments	GPN	1	4,518	3.61	3.90	4.30	4.79	8%	8%	10%	11%	2,325	2,461	2,641	2,848	12%	6%	7%	8%
Green Dot	GDOT	2	1,050	1.37	1.20	1.38	NA	N/A	-12%	14%	NA	555	580	639	NA	N/A	5%	10%	NA
MasterCard*	MA	1	88,797	22.04	26.36	31.00	36.60	18%	20%	18%	18%	7,391	8,337	9,298	10,415	10%	13%	12%	12%
Paychex	PAYX	3	15,478	1.55	1.61	1.76	1.93	4%	4%	9%	9%	2,277	2,397	2,532	2,691	5%	5%	6%	6%
Total Systems Services	TSS	1	5,773	1.45	1.74	2.02	2.29	26%	20%	16%	13%	1,871	2,143	2,552	2,725	3%	15%	19%	7%
Vantiv	VNTV	1	5,544	1.22	1.56	1.83	2.05	41%	28%	18%	12%	1,023	1,171	1,288	1,416	18%	14%	10%	10%
VeriFone Systems^	PAY	2	2,590	2.69	1.40	1.31	NA	33%	-48%	-7%	NA	1,889	1,708	1,770	NA	35%	-10%	4%	NA
Visa*	V	2	127,699	6.64	7.82	9.33	10.92	26%	18%	19%	17%	10,720	12,054	13,269	14,732	13%	12%	10%	11%
Western Union	WU	2	9,565	1.74	1.43	1.46	1.55	11%	-18%	2%	6%	5,665	5,550	5,737	5,904	3%	-2%	3%	3%
WEX Corp^	WEX	2	3,634	4.06	4.43	5.20	5.80	11%	9%	17%	11%	623	715	785	864	13%	15%	10%	10%

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 6. Valuation Metrics

Valuation				P/E				PEG			PEG (using NOPAT earnings)			EV/EBITDA			
	FYE	Price	Target	2012	2013E	2014E	2015E	FY12/15 GR	2013E	2014E	FY12/15 GR	2013E	2014E	2012	2013E	2014E	2015E
Alliance Data Systems^	Dec	242.86	242.00	27.9x	24.4x	20.0x	17.5x	17%	1.5x	1.2x	11%	2.2x	1.8x	15.0x	13.1x	11.8x	10.8x
Automatic Data Processing	Jun	76.01	75.00	27.4x	25.4x	22.8x	20.3x	9%	2.9x	2.6x	9%	2.9x	2.6x	16.6x	15.5x	14.3x	13.1x
Blackhawk Network	Dec	23.14	25.00	23.3x	21.1x	17.5x	14.5x	17%	1.3x	1.0x	21%	1.0x	0.8x	11.3x	9.8x	8.0x	6.6x
Fidelity National Info Services	Dec	48.32	53.50	19.3x	16.9x	15.2x	13.6x	12%	1.4x	1.2x	7%	2.3x	2.1x	10.5x	10.0x	9.5x	9.0x
Fiserv	Dec	105.62	107.00	21.4x	17.6x	16.0x	14.4x	14%	1.2x	1.1x	8%	2.2x	2.0x	12.5x	11.1x	10.5x	10.0x
FleetCor Technologies^	Dec	113.60	128.00	38.0x	28.1x	23.4x	20.5x	23%	1.2x	1.0x	23%	1.2x	1.0x	26.3x	20.0x	16.4x	14.3x
Global Payments	May	60.82	59.00	16.9x	15.6x	14.1x	12.7x	8%	1.9x	1.7x	14%	1.1x	1.0x	11.0x	10.7x	10.1x	9.4x
Green Dot	Dec	23.13	N/A	16.9x	19.2x	16.8x	NA	NA	NA	NA	NA	NA	NA	6.5x	6.7x	5.6x	NA
MasterCard*	Dec	734.47	835.00	33.3x	27.9x	23.7x	20.1x	18%	1.5x	1.3x	15%	1.9x	1.6x	19.6x	16.9x	14.7x	12.8x
Paychex	May	42.21	36.00	27.3x	26.1x	23.9x	21.9x	6%	4.1x	3.7x	7%	4.0x	3.6x	15.3x	14.3x	13.5x	12.5x
Total Systems Services	Dec	30.18	34.00	20.8x	17.4x	14.9x	13.2x	17%	1.1x	0.9x	16%	1.1x	1.0x	12.8x	10.8x	9.1x	8.4x
Vantiv	Dec	27.58	31.00	22.7x	17.7x	15.0x	13.4x	19%	0.9x	0.8x	6%	3.0x	2.6x	14.8x	12.8x	11.7x	10.6x
VeriFone Systems^	Oct	23.44	23.00	8.7x	16.7x	17.9x	NA	-17%	NA	NA	NA	NA	NA	7.7x	11.7x	11.9x	NA
Visa*	Sep	198.29	212.00	29.9x	25.4x	21.2x	18.2x	19%	1.3x	1.1x	16%	1.6x	1.4x	18.2x	15.7x	13.8x	12.2x
Western Union	Dec	17.21	17.00	9.9x	12.0x	11.8x	11.1x	-4%	NA	NA	NA	NA	NA	7.3x	8.5x	8.5x	8.2x
WEX Corp^	Dec	92.98	99.00	22.9x	21.0x	17.9x	16.0x	13%	1.7x	1.4x	13%	1.6x	1.4x	12.2x	10.7x	9.5x	8.6x
Averages				22.9x	20.8x	18.3x	16.2x	11%	1.7x	1.5x	13%	2.0x	1.8x	13.6x	12.4x	11.2x	10.5x

Appendix A-1

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