

Verizon Communications Inc (VZ)

Alert: Cake Boss – Building a Layer Cake of Spectrum

- Background** – Verizon Wireless (VZW) has assembled an average spectrum position of over 100 MHz across the U.S. (pro forma for pending spectrum sales) and has optimized its holdings by creating what we would describe as a layer cake by trying to assemble a large contiguous block of spectrum throughout most or all of the country principally within four frequency bands. By acquiring substantial depth in each of these four highly-usable spectrum bands, VZW has room over time to deploy wide LTE channels that can boost speed and capacity per unit of spectrum. According to the FCC and our estimates, Verizon Wireless has proportionate average spectrum holdings that include ~22 MHz in the cellular band, ~21 MHz in the PCS band, ~23 MHz in the 700 MHz band, and ~34 MHz in the AWS band.
- More Mouths to Feed** – To our surprise, Verizon Wireless' spectrum depth as measured by MHz per million postpaid subscribers has fallen behind its competitors, partly because Verizon Wireless agreed to sell some of its unused, but attractive, 700 MHz spectrum holdings and has grown its postpaid base by 15% over a 3-year period. For example, we estimate pro forma for pending deals, that VZW's spectrum position has about 1.1 MHz per million postpaid customers vs. AT&T at a level of 1.7 MHz & an average for Sprint & T-Mobile US at 4.4 MHz.
- The Next Layer ...** – We believe Verizon Wireless will continue to pursue additional spectrum layers to expand its existing portfolio, and the pending divestiture of low-frequency spectrum to AT&T and others may increase its flexibility with respect to future purchase options. We believe Verizon Wireless could consider the acquisition of DISH' AWS-4 spectrum (previously referred to as S-band), because it fits nicely with the historical pattern for Verizon Wireless to pursue big, contiguous blocks of spectrum with nationwide reach. The AWS-4 spectrum (at 2.0/2.2 GHz) has an average depth of 40 MHz, although a shortcoming is that it's not a spectrum band that is currently used globally. DISH also has spectrum holdings in the 700 MHz E-block band representing an average of 6 MHz across a large portion of the U.S. population that pairs well with spectrum that is already licensed to AT&T. We still recognize the possibility that Verizon Wireless could consider a competing bid for Leap given the complimentary spectrum band overlap.
- Valuing the Ingredients** – We value the AWS-4 spectrum held by DISH at an average base case of \$0.75/MHz/POP, or ~\$9.6 billion, and believe Verizon Wireless would be interested in all of the holdings in that band. We value the 700 MHz spectrum held by DISH at around \$1.1 billion or \$0.87/MHz/POP based on an average paid by AT&T to Qualcomm.
- Implications** – A spectrum purchase of this size could affect the way VZW dividends flow back to the parents for up to 12-months for which Verizon could try to leverage in its negotiations in its efforts to buy Vodafone's stake in VZW. We remain a Buyer of Verizon, while we estimate VZ's share of the spectrum cost would be ~\$5.3 billion, or ~\$1.80/share. We highlight recent transactions & a high-level comparison of spectrum depth between the carriers in the Figures on page 2.

Buy	1
Price (16 Jul 13)	US\$50.13
Target price	US\$56.00
Expected share price return	11.7%
Expected dividend yield	4.2%
Expected total return	15.9%
Market Cap	US\$143,422M

Price Performance (RIC: VZ.N, BB: VZ US)



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Figure 1. Avg. Spectrum Per Carrier & Per MHz-Sub (Mil.) & MHz-Postpaid Sub (Mil.)

Carrier	MHz	MHz / Sub (Mil.)	MHz / Postpaid Sub (Mil.)
National Carrier			
AT&T (pre Leap)	113 MHz	1.1 MHz	1.6 MHz
AT&T (pf Leap)	122 MHz	1.1 MHz	1.7 MHz
Sprint	171 MHz	3.1 MHz	5.5 MHz
T-Mobile US	67 MHz	1.6 MHz	3.3 MHz
Verizon Wireless	103 MHz	0.9 MHz	1.1 MHz
Simple Average (pf Leap)	115 MHz	1.5 MHz	2.6 MHz
Regional Carrier			
US Cellular	30 MHz	5.2 MHz	5.7 MHz
Leap Wireless	23 MHz	4.4 MHz	NM
Simple Average	27 MHz	4.8 MHz	5.7 MHz

Source: Citi Research Estimates, IR Conversations, FCC & Company Reports

Note: Spectrum Holdings are pro forma for 1) Sprint's purchase of PCS spectrum from US Cellular; 2) AT&T's pending purchase of 700 MHz spectrum from Verizon Wireless; 3) T-Mobile US' pending purchase of AWS spectrum from US Cellular; 4) Sprint's acquisition of Clearwire; & 5)) AT&T's pending purchase of ~9 MHz of AWS and PCS spectrum from Leap. Our calculation of AT&T's spectrum position excludes ~7MHz of currently unusable WCS spectrum. Citi estimates USM has on average 30 MHz of spectrum in its operating markets. National carriers assessed on average nationwide MHz holdings, regional carriers assessed on average regional MHz holdings

Figure 2. Summary of Spectrum Auctions and Private Transaction for Spectrum

Private Transactions	Date	Net Price Paid(\$mil)	Total MHz	Total POPs (mil)	Price/POP	Price/POP/MHz
Discreet and Implied Valuation of Spectrum for Mid- and Low-Frequency Spectrum						
Verizon Wireless-Northcoast	12/19/2002	\$750	10	47	\$15.82	\$1.58
Cingular-NextWave	2/13/2004	\$1,400	10	83	\$16.87	\$1.69
T-Mobile-Cingular	5/25/2004	\$180	10	11	\$16.70	\$1.67
Metro PCS-NextWave	7/8/2004	\$44	10	3	\$13.18	\$1.32
Nextel Spectrum Swap	8/6/2004	\$3,200	10	286	\$11.20	\$1.12
Metro PCS-US Cellular	9/23/2004	\$9	20	0.4	\$21.25	\$1.06
Verizon Wireless-Qwest	3/4/2005	\$418	10	31	\$13.57	\$1.36
Verizon Wireless-NextWave	4/13/2005	\$3,000	14	73	\$41.10	\$2.85
AT&T-Qualcomm (700 MHz spectrum)	12/20/2008	\$1,925	7	309	\$6.23	\$0.87
Verizon-SpectrumCo (AWS spectrum)	12/2/2011	\$3,600	20	259	\$13.90	\$0.69
Implied T-Mobile-MetroPCS (at close on announcement of \$12.29)**	11/3/2012	\$4,202	19	144	\$29.21	\$1.54
Implied Sprint-US Cellular**	11/7/2012	\$305	18	15	\$2	\$1.10
Implied AT&T-Atlantic TeleNetworks***	1/22/2013	\$195	35	5	\$42.39	\$1.21
AT&T-Verizon (B-Block 700 MHz Spectrum)	1/25/2013	\$1,900	12	42	\$45.24	\$3.77
Grain Management-Verizon (700 MHz B-Block)****	1/25/2013	\$189	12	3	\$61.66	\$5.14
T-Mobile US-US Cellular (AWS spectrum)	6/28/2013	\$308	10	33	\$9.35	\$0.94
Subtotal		\$20,873	13	1296	\$16.11	\$1.25
Discreet and Implied Valuation of Spectrum for High-Frequency or Alternative Spectrum Bands Before Mobile Approval						
DISH-Terrestrial	7/7/2011	\$1,375	20	313	\$4.39	\$0.22
DISH-DBSD	2/1/2012	\$1,000	20	313	\$3.19	\$0.16
AT&T-NextWave (WCS spectrum)	8/2/2012	\$600	19	212	\$2.83	\$0.15
Sprint-Clearwire (2.5 GHz spectrum)	7/9/2013	\$14,000	150	313	\$44.73	\$0.30
Subtotal		\$16,975	55	1151	\$14.75	\$0.27
Total U.S. Auctions/Select Sales						
		\$37,848	33	2447	\$15.47	\$0.47
As Announced, Including Operations:						
T-Mobile-MetroPCS (at close on announcement of \$12.29)	11/3/2012	\$6,967	19	144	\$48.44	\$2.55
Sprint-US Cellular	11/7/2012	\$480	18	15	\$32.00	\$1.74
AT&T-Atlantic TeleNetworks	1/22/2013	\$780	35	5	\$169.57	\$4.84
AT&T-Verizon	1/25/2013	\$1,900	12	42	\$45.24	\$3.77
T-Mobile US-US Cellular	6/28/2013	\$308	10	33	\$9.35	\$0.94
Sprint-Clearwire (2.5 GHz spectrum)	7/9/2013	\$14,000	150	313	\$44.73	\$0.30
Total Recent Acquisitions of Spectrum and Operations		\$24,435	93	551	\$44.32	\$0.48

Source: FCC, Company Reports and Citi Research Estimates

*Overlapping regions double-counted as multiple licenses and double-counted in population count.

**Assumes EV/Sub on liquidation basis of \$300 for prepaid and lower value postpaid subscribers.

***Assumes EV/Sub on liquidation basis of \$1,000 for better-valued postpaid subscribers.

****NC Licenses tied to lease-back of Dallas AWS license.

Figure 3. Wireless Spectrum Licensed Currently for Mobile Use by the FCC

(MHz is Weighted on a Nationwide Average)

Commercially Available Spectrum	Band	MHz	Carrier	MHz	% Total	Low Band	% Total	Mid-Band	% Total	High Band	% Total
700 MHz	700 MHz	70 MHz	AT&T	122 MHz	20%	53 MHz	39%	49 MHz	19%	20 MHz	10%
Cellular	850 MHz	50 MHz	Leap	0.4 MHz	0%	0.4 MHz	0%	0 MHz	0%	0 MHz	0%
Nextel/SMR	800/900 MHz	14 MHz	Sprint Nextel	171 MHz	28%	14 MHz	10%	36 MHz	14%	121 MHz	58%
PCS	1.9 GHz	130 MHz	T-Mobile US	67 MHz	11%	0 MHz	0%	67 MHz	26%	0 MHz	0%
AWS-1	1.7/2.1 GHz	90 MHz	US Cellular	7 MHz	1%	4 MHz	3%	3 MHz	1%	0 MHz	0%
AWS-4	2.0/2.2 GHz	40 MHz	Verizon Wireless	103 MHz	17%	48 MHz	36%	55 MHz	21%	0 MHz	0%
WCS	2.3 GHz	20 MHz	DISH	45 MHz	7%	5 MHz	4%	40 MHz	15%	0 MHz	0%
BRS	2.5 GHz	75 MHz	Other (implied)	87 MHz	14%	9 MHz	7%	11 MHz	4%	66 MHz	32%
EBS	2.5 GHz	113 MHz									
Total		602 MHz	Total/Simple Avg.	602 MHz	100%	134 MHz	100%	260 MHz	100%	207 MHz	100%
			Total/Simple Avg. ex S	431 MHz							

Source: Citi Research Estimates, IR Conversations, FCC & Company Reports

Note: Spectrum Holdings are pro forma for 1) Sprint's purchase of PCS spectrum from US Cellular; 2) AT&T's pending purchase of 700 MHz spectrum from Verizon Wireless; 3) T-Mobile US' pending purchase of AWS spectrum from US Cellular; 4) Sprint's acquisition of Clearwire; & 5) AT&T's pending purchase of ~9 MHz of AWS and PCS spectrum from Leap. Citi Research labels Low-Band spectrum as sub-1GHz spectrum; Mid-Band spectrum as 1.0 GHz-2.2 GHz; and High-Band spectrum as above-2.2 GHz.

Note: Our valuation estimate of \$9.6 billion and \$1.1 billion for DISH's spectrum holdings are based on a future value calculation using a rough estimate of population for 2015 of 320 million people to be consistent with Citi's Research on DISH.

Verizon Communications Inc

Valuation

Our \$56 target price for Verizon Communications Inc. is based on the average of the following methodologies.

Our DCF analysis uses an average weighted average cost of capital (WACC) of 5.7% (based on a beta of 0.80, a risk-free rate of 1.81% and a market risk premium of 6.54%) and a consolidated terminal growth rate of 0.9% to arrive at a firm value estimate of roughly \$208 billion at year-end 2014. This is adjusted for net debt and other adjustments for investments and minority interests to arrive at an equity value of around \$169 billion or around \$56 per fully diluted share.

We apply a 7.5x FV/OIBDA multiple on our proportionate 2014 OIBDA estimate of \$27.7 billion. We believe the diversified telcos in our coverage universe should trade at 4x-7x '12E OIBDA given similar growth prospects. We expect an OIBDA CAGR of 2.4% between 2014-2017, yielding a fair value of around \$56 per share.

We use a P/E multiple of 16x our 2014 EPS estimate of \$3.19 to arrive at a value for the core business of around \$51 per share. We believe this multiple properly reflects an earnings growth of around 6.7% between 2014 and 2017.

We apply a 65% probability to our PF Verizon Wireless Buyout Scenario valuation of \$57 per share, which we arrive at by using a P/E multiple of 14.5x our 2014E pro forma EPS estimate of \$3.93.

Risks

Risk to our thesis for Verizon Communications Inc. are based on: 1) wireless results are diluted by incremental competition within the sector, as all of the national carriers are poised to deploy 4G LTE service in most major cities by year-end 2014; 2) Verizon decides to pursue an outright merger with Vodafone that can complicate the direct financial benefits that we forecast on a more straight-forward buyout of part or all of the Verizon Wireless minority stake from Vodafone; 3) Vodafone decides to retain its stake in Verizon Wireless without any meaningful transactions; 4) wireline margins are unable to recover, despite a more aggressive focus and effort from management; and 5) rising interest rates could pose a risk to the fundamental value of Verizon, and negatively impact the accretion prospects of a possible LBO scenario of Vodafone's ownership stake in Verizon Wireless.

Appendix A-1

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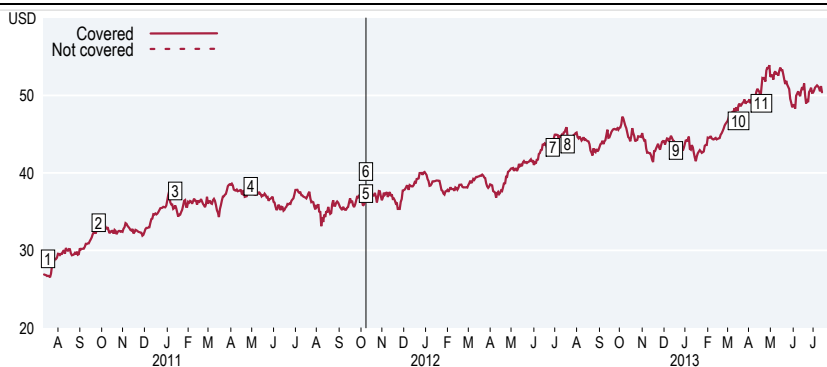
IMPORTANT DISCLOSURES

Verizon Communications Inc (VZ)

Ratings and Target Price History

Fundamental Research

Analyst: Michael Rollins, CFA



Date	Rating	Target Price	Closing Price
1 15-Jul-10	1H	*\$32.00	26.80
2 28-Sep-10	*1M	*\$36.00	32.72
3 13-Jan-11	1M	*\$39.00	35.80
4 29-Apr-11	*2M	39.00	37.78

* Indicates change

Date	Rating	Target Price	Closing Price
5 8-Oct-11	Stock rating system changed		
6 8-Oct-11	*2	39.00	36.16
7 28-Jun-12	2	*\$44.00	43.97
8 19-Jul-12	2	*\$45.00	44.54

Date	Rating	Target Price	Closing Price
9 19-Dec-12	2	*\$46.00	43.38
10 18-Mar-13	*1	*\$54.00	48.75
11 18-Apr-13	1	*\$56.00	50.91

Rating/target price changes above reflect Eastern Standard Time

Verizon Communications Inc (VZ)

Ratings and Target Price History

Best Ideas Research

Relative Call (3 Month)

Analyst: Michael Rollins, CFA



Date	Rating	Target Price	Closing Price
1 20-Jan-11	*ADD MP	-	34.61
2 21-Mar-11	*REM MP	-	36.46

* Indicates change

Date	Rating	Target Price	Closing Price
3 5-Apr-11	*ADD LP	-	38.38
4 21-Jun-12	*REM LP	-	43.33

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Data current as of 30 Jun 2013

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