

Complete Genomics

Downgrade To Neutral (2)

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Promise Intact, But GNOM's Valuation Seems Full For Now

Conclusion: Subsequent to the recent research blackout, we are downgrading GNOM to Neutral from Outperform. We continue to heartily believe in the promise of whole genome sequencing and GNOM's potential to be a dominant player in the outsourced sequencing market. We are also impressed with early operational execution. However, with (1) ASPs falling more rapidly than anticipated, (2) shares now trading at 7x our 2012 revenue estimate, and (3) low confidence in current 2012 consensus revenue estimates due to low visibility on market development and competition, we believe shares are fully valued.

- \$\int \text{Strong Q1; Guidance Targets Seem Very Reasonable.} Q1 revenue of \$6.8MM beat consensus expectations by \$1.3MM; GNOM sequenced more than 600 genomes, took in 1,700 orders, and closed Q1 with backlog of over 2,000 genomes. Management expects to sequence at least 900 genomes in Q2 and 4,000 this year. With over 600 genomes sequenced and a backlog of over 2,100 GNOM appears well positioned to meet FY11 expectations.
- ASPs Dropping More Rapidly Than Expected; Sales Concentrated. While unit backlogs doubled in Q1, the value of that backlog only increased 50%. Some orders are now being priced below \$5K/genome (vs. \$10K in Q4) in large part due to ILMN. Additionally, 52% of Q1 revenue was derived from 2 customers; those 2 customers accounted for a higher percentage of genomes.
- **2012 Expectations Could Prove Reasonable, But Visibility Is Low.** The total number of whole genomes sequenced grew from about 200 in 2009, to about 1,500 in 2010 and could approximate 8-10K this year. Given this trajectory, it may be reasonable to assume the number of genomes sequenced in 2012 approximates 40K and that GNOM captures about 50% of the market. However, this increasingly seems like a necessity to meet Street expectations as ASPs are seemingly on a trajectory towards \$3K by YE12.

GNOM (06/06)	\$1 <i>7</i> .11	Reve	nue \$MM						
Mkt cap	\$581.7MM	FY	2010	201	I E	201	2E	2013	3 <u>E</u>
Dil shares out	34.0MM	Dec	Actual	Prior	Current	Prior	Current	Prior	Current
Avg daily vol	379.6K	Q1	0.3	_	6.8A	11.1	13.0	_	_
52-wk range	\$6.6-18.6	Q2	1.1	6.4	6.9	16.7	15.5	_	_
Dividend	Nil	Q3	4.2	10.4	8.8	23.3	18.0	_	_
Dividend yield	Nil	Q4	3.8	13.0	10.9	24.9	18.5	_	
BV/sh	\$3.80	Year	9.4	34.4	33.5	76.0	65.0	141.3	93.0
Net cash/sh	\$4.50	EV/S	_	_	13.6x	_	7.0x	_	4.9x
Debt/cap	10.0%								
ROA (LTM)	NA								
E (EDC									
5-yr fwd EPS	NA	EPS \$	•						
growth (Norm)	NA	EPS \$	<u>2010</u>	<u>201</u>	<u>IE</u>	<u>201</u>	<u>2E</u>	2013	<u>3E</u>
,	NA			<u>201</u> Prior	<u>IE</u> Current	<u>201</u> Prior	<u>2E</u> Current	<u>2013</u> Prior	<u>3E</u> Current
,	NA	FY	<u>2010</u>						
,	NA	FY Dec	<u>2010</u> Actual		Current	Prior	Current		
,	NA	FY Dec Q1	2010 Actual 0.00	Prior —	Current (0.48)A	Prior (0.40)	Current (0.28)		
,	NA 1286.2	FY Dec Q1 Q2	2010 Actual 0.00 0.00	Prior — (0.52)	(0.48)A (0.36)	Prior (0.40) (0.25)	(0.28) (0.22)		
growth (Norm)		FY Dec Q1 Q2 Q3	2010 Actual 0.00 0.00	Prior (0.52) (0.46)	Current (0.48)A (0.36) (0.35)	Prior (0.40) (0.25) (0.10)	(0.28) (0.22) (0.17)		
growth (Norm)		FY Dec Q1 Q2 Q3 Q4	2010 Actual 0.00 0.00 - (0.69)	Prior (0.52) (0.46) (0.35)	(0.48)A (0.36) (0.35) (0.31)	Prior (0.40) (0.25) (0.10) (0.07)	(0.28) (0.22) (0.17) (0.16)	Prior 	Current



Investment Thesis

Complete Genomics utilizes its proprietary DNA sequencing platform to compete in the rapidly growing \$1B genetic sequencing industry as an "end-to-end" whole human genome sequencing outsource service targeting the life science research, clinical, and consumer genetics markets. The company enables customers to offload the complex processes of sample preparation, sequencing, computing, and data storage and management at a cost per genome below that currently available on competitive platforms sold by instrument vendors. The company is positioned to opportunistically use its first-mover advantage in the sequencing outsourcing market and the cost-advantages unique to its proprietary instrumentation to expand and capitalize on this highly-elastic market opportunity. While remain enthused about the company's potential, with shares having doubled since the November IPO we believe shares are currently fairly valued and that the risk/reward is currently about balanced.



COMPLETE GENOMICS - Stateme	int or Operation	ons																	
\$MM, except per share data	Q1:10	Q2:10	Q3:10	Q4:10	Q1:11	Q2:11E	Q3:11E	Q4:11E	Q1:12E	Q2:12E	Q3:12E	Q4:12E	2010	2011E	2012E	2013E	2014E	2015E	5-yr CAGF
Revenues	\$0.3	\$1.1	\$4.2	\$3.8	\$6.8	\$6.9	\$8.8	\$10.9	\$13.0	\$15.5	\$18.0	\$18.5	\$9.4	\$33.5	\$65.0	\$93.0	\$139.0	\$185.0	81.5%
Growth	NM	NM	NM	NM	NM	NM	NM	NM	90%	NM	NM	70%	NM	257%	94%	43%	49%	33%	
Cost of sales	\$3.2	\$3.6	\$6.0	\$4.9	\$6.6	\$6.8	\$8.0	\$8.2	\$8.4	\$9.0	\$9.9	\$10.2	\$17.7	\$29.6	\$37.5	\$32.6	\$48.7	\$55.5	25.7%
Gross Profit	-\$2.8	-\$2.5	-\$1.8	-\$1.1	\$0.3	\$0.2	\$0.8	\$2.7	\$4.6	\$6.5	\$8.1	\$8.3	-\$8.3	\$3.9	\$27.5	\$60.5	\$90.4	\$129.5	NM
% of sales	-848%	-231%	-44%	-29%	3.7%	2.2%	8.6%	25.1%	35.5%	42.1%	44.8%	44.9%	-88.5%	11.6%	42.3%	65.0%	65.0%	70.0%	
Growth	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	49%	43%	
Sales & Marketing	\$1.3	\$1.5	\$2.0	\$2.5	\$2.7	\$3.0	\$3.5	\$4.1	\$4.0	\$4.1	\$4.1	\$4.1	\$7.3	\$13.3	\$16.3	\$19.1	\$21.0	\$22.7	25.4%
% of sales	386.9%	138.0%	48.1%	65.8%	39.5%	43.3%	39.4%	37.7%	30.6%	26.3%	22.7%	22.2%	77.8%	39.7%	25.0%	20.5%	15.1%	12.3%	
Growth	204.7%	677.2%	446.4%	207.9%	108.0%	100.4%	73.3%	64.2%	47.2%	35.8%	18.0%	0.0%	306.1%	81.9%	22.4%	17.4%	10.0%	8.0%	
General & Administrative	\$2.0	\$1.7	\$2.3	\$2.2	\$2.8	\$2.8	\$2.5	\$2.5	\$2.8	\$2.9	\$2.6	\$2.6	\$8.2	\$10.6	\$11.0	\$11.8	\$12.7	\$13.4	10.5%
% of sales	596.1%	154.1%	56.0%	56.7%	40.7%	40.3%	28.4%	22.9%	21.4%	19.0%	14.6%	14.2%	86.9%	31.6%	16.9%	12.7%	9.1%	7.3%	
Growth	54.0%	104.0%	72.3%	45.4%	39.0%	67.2%	7.3%	16.1%	0.0%	5.0%	5.0%	5.0%	64.7%	29.7%	3.7%	8.0%	7.0%	6.0%	
Research & Development	\$6.1	\$6.5	\$5.0	\$5.6	\$6.8	\$6.5	\$6.5	\$6.5	\$7.1	\$6.8	\$6.8	\$6.8	\$23.2	\$26.3	\$27.6	\$28.7	\$29.6	\$30.2	
% of sales	NM	599%	119%	148%	100%	94%	73.9%	59.6%	55.0%	44.0%	37.9%	36.9%	247.4%	78.6%	42.5%	30.9%	21.3%	16.3%	
Growth	-9.5%	75.9%	-12.1%	-11.0%	11.5%	-0.2%	31.2%	15.2%	5.0%	5.0%	5.0%	5.0%	3.5%	13.3%	5.0%	4.0%	3.0%	2.0%	
Total Operating Expenses	\$9.4	\$9.7	\$9.3	\$10.3	\$12.3	\$12.3	\$12.5	\$13.1	\$13.9	\$13.8	\$13.5	\$13.6	\$38.7	\$50.2	\$54.8	\$59.7	\$63.3	\$66.3	
% of sales	NM	891%	223%	271%	180%	177%	142%	120%	107%	89.3%	75.2%	73.3%	412%	150%	84.4%	64.1%	45.5%	35.8%	
Growth																			
Operating Profit	-\$12.3	-\$12.2	-\$11.1	-\$11.4	-\$12.0	-\$12.2	-\$11.7	-\$10.4	-\$9.3	-\$7.3	-\$5.5	-\$5.2	-\$47.0	-\$46.3	-\$27.3	\$0.8	\$27.1	\$63.2	NM
% of sales	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	0.9%	19.5%	34.2%	
Growth	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	133%	
Other Expense (Income)	\$0.0	\$0.0	\$8.8	-\$1.4	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$7.4	\$0.1	\$0.0	\$0.0	\$0.0	\$0.0	
Interest Expense (Income)	\$0.0	\$0.0	\$0.9	\$0.8	\$0.3	\$0.4	\$0.4	\$0.4	\$0.4	\$0.4	\$0.4	\$0.4	\$1.7	\$1.5	\$1.6	\$1.5	\$1.5	\$1.5	
Earnings Before Taxes	-\$12.3	-\$12.2	-\$20.9	-\$10.8	-\$12.5	-\$12.6	-\$12.1	-\$10.8	-\$9.7	-\$7.7	-\$5.9	-\$5.6	-\$56.1	-\$47.9	-\$28.9	-\$0.7	\$25.6	\$61.7	NM
% of sales	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	18.4%	33.4%	
Growth	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	141.1%	
Taxes	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	\$0.0	
Rate	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	0.0%	0.0%	0.0%	
Net Income	-\$12.3	-\$12.2	-\$20.9	-\$10.8	-\$12.5	-\$12.6	-\$12.1	-\$10.8	-\$9.7	-\$7.7	-\$5.9	-\$5.6	-\$56.1	-\$47.9	-\$28.9	-\$0.7	\$25.6	\$61.7	NM
% of sales	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	122.0%	272.3%	
Growth													NM	NM	NM	NM	NM	134%	
EPS .				-\$0.73	-\$0.48	-\$0.36	-\$0.35	-\$0.31	-\$0.28	-\$0.22	-\$0.17	-\$0.16		-\$1.46	-\$0.83	-\$0.02	\$0.68	\$1.59	NM
Share Count (MM)				14.8	26.0	35.0	35.0	35.0	35.0	35.0	35.0	35.0		32.7	35.0	35.0	37.5	38.7	
Growth																			
	Q1:10	Q2:10	Q3:10	Q4:10	Q1:11	Q2:11E	Q3:11E	Q4:11E	Q1:12E	Q2:12E	Q3:12E	Q4:12E	2010	2011E	2012E	2013E	2014E	2015E	
Consensus Revenue				\$3.1	\$5.5	\$7.3	\$9.4	\$12.6	\$14.6	\$17.5	\$21.7	\$26.8	\$8.7	\$35.2	\$81.3	\$135.9	\$194.7	\$217.4	
Growth					NM	NM	NM	NM	114%	152%	146%	146%	20.	306%	131%	67%	43%	12%	
Actual / Cowen				\$4	\$6.8	\$6.9	\$8.8	\$10.9	\$13.0	\$15.5	\$18.0	\$18.5	\$9.4	\$33.5	\$65.0	\$93.0	\$139.0	\$185.0	•
Consensus Gross Margin				-29.0%	4%	-4.7% 2%	10.2%	22.9% 25.1%	33.2%	40.0% 42.1%	48.9%	55.1%	-88.5%	8.3%	48.4% 42.3%	60.4% 65.0%	66.4%	65.9% 70.0%	
Actual / Cowen Consensus Op. Margin				-29.0% NM	-245%	-182%	9% -137%	-89%	35.5% - 59.1%	-41.6%	44.8% -17.9%	44.9% - 4.9 %	-88.5% NM	11.6% NM	-29.0%	4.7%	65.0% 18.6 %	21.5%	
Actual / Cowen				NM	-245% NM	-182% NM	-137% NM	-89% NM	-59.1% NM	-41.6% NM	-17.9% NM	-4.9% NM	NM	NM	-29.0% NM	0.9%	19.5%	34.2%	
Consensus EPS			-	NM	-\$0.52	-\$0.52	-\$0.49	-\$0.42	-\$0.34	-\$0.26	-\$0.16	-\$0.06	-\$2.46	-\$1.95	-\$0.78	\$0.15	\$1.08	\$0.88	
				1 4141	-\$0.48	-\$0.36	-\$0.35	-\$0.31	-\$0.28	-\$0.22	-\$0.17	-\$0.16	\$0.00	-\$1.46	-\$0.83	-\$0.02	\$0.68	\$1.59	

 $Source: Company\ reports,\ Thomson\ One,\ and\ Cowen\ and\ Company\ estimates.$

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COMPLETE GENOMICS - Comparable Com	pany Ar	nalysis (\$MM, ex	cept sha	re data)																
			52 V	Veek				'10)-'13E		EV/S	àles			EV/ E	BITDA			Price/E	rnings	
								Sales	₽S											Ĭ	
Company Name		Price	Low	High	Div Yld	MV (MM)		Growth	Growth	2010	2011E		2013E	2010	2011E	2012E	2013E	2010	2011E	2012E	
Complete Genomics, Inc.	GNO	V 17.11	6.60	17.72	0.0%	553	453	77.4%	NM	48.3x	13.5x	7.0x	4.9x	-9.1x	-12.0x	-23.7x	30.4x	-7.0x	-11.7x	-20.7x	-849.1x
Life Science Tools Comps																					
Illumina, Inc.	ILMN	72.13		76.81	0.0%	8,882	8,510	16.1%	23.9%	9.5x	7.4x	6.2x	5.2x	33.5x	22.9x	17.8x	13.9x	68.0x	47.7x	37.1x	
Gen-Probe Incorporated		81.76	42.00	86.96	0.0%	3,920	3,898	7.9%	11.1%	7.2x	6.7x	6.0x	5.3x	20.8x	18.7x	16.5x	14.3x	38.2x	35.0x	29.7x	
Life Technologies Corporation	ЦÆ	50.33	41.10	57.25	0.0%	8,997	11,341	4.4%	8.3%	3.2x	3.0x	2.8x	2.7x	9.9x	8.4x	7.8x	7.4x	14.4x	13.0x	11.7x	
Luminex Corporation		(19.95	14.25	21.89	0.0%	840	721	13.8%	66.0%	5.2x	4.3x	3.7x	3.1x	33.9x	21.6x	15.5x	10.5x		65.4x	39.4x	
Qiagen N.V.		1 19.44	16.86	22.20	0.0%	4,543	4,477	5.7%	8.6%	4.1x	3.9x	3.5x	3.3x	12.4x	11.9x	10.6x	9.6x	22.3x	20.7x	18.1x	
Sgma-Aldrich Corporation	SIAL	67.41	48.80	72.37	1.1%	8,212	8,074	5.5%	7.9%	3.6x	3.2x	3.0x	2.9x	11.9x	10.6x	9.8x	9.1x	20.6x	18.2x	16.6x	15.2x
								IST	COMPS	2010	2011E	2012E	2013E	2010	2011E	2012E	2013E	2010	2011E	2012E	2013E
									Mean	5.4x	4.7x	4.2x	3.7x	20.4x	15.7x	13.0x	10.8x	60.5x	33.3x	25.4x	
									Median	4.6x	4.1x	3.6x	3.2x	16.6x	15.3x	13.0x	10.0x	30.3x	27.8x	23.9x	
									High	9.5x	7.4x	6.2x	5.3x	33.9x	22.9x	17.8x	14.3x	199.5x	65.4x	39.4x	
									Low	3.2x	3.0x	2.8x	2.7x	9.9x	8.4x	7.8x	7.4x	14.4x	13.0x	11.7x	10.5x
									GNOM	48.3x	13.5x	7.0x	4.9x	-9.1x		-23.7x	30.4x	-7.0x	-11.7x		-849.1x
									vs. mean	787%	185%	66%	30%	NM	NM	NM	NM	-111%	NM	NM	-4278%
Somione (CDOs) Comme																					
Services (CROs) Comps Charles River Laboratories International, Inc.	n Chai	37.38	28.20	42.84	0.0%	1,931	2,630	2.3%	12.8%	2.3x	2.3x	2.2x	2.1x	10.8x	10.0x	9.2x	8.6x	19.8x	15.6x	13.8x	12.2x
Ovance Inc.	CVD	57.21	37.44	63.86	0.0%	3,470	3,232	5.5%	16.5%	1.7x	2.3x 1.6x	1.5x	1.4x	11.3x	10.0x	9.2x 8.6x	7.7x	26.9x	20.9x	17.5x	
Pharmaceutical Product Development, Inc.		27.27	22.71	32.26	2.2%	3,088	2,715	8.3%	20.6%	2.0x	1.8x	1.6x	1.5x	10.7x	8.2x	7.0x	6.1x	26.5x	17.1x	14.5x	
Tharmaccatical Froduct Development, inc.	110	21.21	22.71	02.20	2.270	0,000	2,710	0.070	20.070	2.00	1.0x	1.0x	1.00	10.77	0.2	7.0x	0.17	20.01	17.18	17.07	12.00
								SERVIC	ESCOMPS	2010	2011E	2012E	2013E	2010	2011E	2012E	2013E	2010	2011E	2012E	2013E
									Mean	2.0x	1.9x	1.8x	1.6x	10.9x	9.4x	8.3x	7.5x	24.4x	17.9x	15.3x	13.1x
									Median	2.0x	1.8x	1.6x	1.5x	10.8x	10.0x	8.6x	7.7x	26.5x	17.1x	14.5x	12.5x
									High	2.3x	2.3x	2.2x	2.1x	11.3x	10.0x	9.2x	8.6x	26.9x	20.9x	17.5x	14.6x
									Low	1.7x	1.6x	1.5x	1.4x	10.7x	8.2x	7.0x	6.1x	19.8x	15.6x	13.8x	12.2x
									01014	40.0	40 =				40.0				44 =		040.4
									GNOM	48.3x	13.5x	7.0x	4.9x	-9.1x		-23.7x	30.4x	-7.0x	-11.7x		
									vs. mean	2320%	618%	295%	197%	NM	NM	NM	NM	-129%	NM	NM	-6580%
								TOTAL	LCOMPS	2010	2011E	2012E	2013E	2010	2011E	2012E	2013E	2010	2011E	2012E	2013E
								.0	Mean	4.3x	3.8x	3.4x	3.0x	17.2x	13.6x	11.4x	9.7x	48.5x	28.2x	22.0x	
									Median	3.6x	3.2x	3.0x	2.9x	11.9x	10.6x	9.8x	9.1x		20.7x	17.5x	
									High	9.5x	7.4x	6.2x	5.3x	33.9x	22.9x	17.8x	14.3x	199.5x	65.4x	39.4x	
									Low	1.7x	1.6x	1.5x	1.4x	9.9x	8.2x	7.0x	6.1x	14.4x	13.0x	11.7x	10.5x
									GNOM	48.3x	13.5x	7.0x	4.9x	-9.1x	-12.0x	-23.7x	30.4x	-7.0x	-11.7x		-828.7x
									vs. mean	1024%	257%	105%	60%	NM	NM	NM	NM	-114%	NM	NM	NM

 $Source: Company\ reports, Thomson\ One, and\ Cowen\ and\ Company\ estimates.$



Addendum

STOCKS MENTIONED IN IMPORTANT DISCLOSURES

Ticker	Company Name
GNOM	Complete Genomics

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Rating	Definition
Outperform (1)	Stock expected to outperform the S&P 500
Neutral (2)	Stock expected to perform in line with the S&P 500
Underperform (3)	Stock expected to underperform the S&P 500

(a) Assumptions: Time horizon is 12 months; S&P 500 is flat over forecast period.

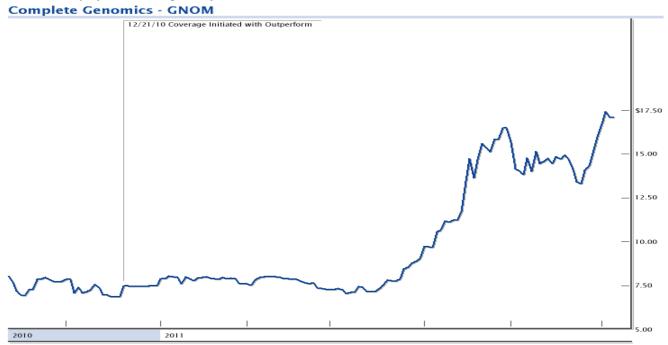
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Rating	Pct of companies under coverage with this rating	Pct for which Investment Banking services have been provided within the past 12 months
Buy (b)	48.9%	6.7%
Hold (c)	47.7%	1.4%
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(a) As of 03/31/2011. (b) Corresponds to "Outperform" rated stocks as defined in Cowen and Company, LLC's rating definitions (see above). (c) Corresponds to "Neutral" as defined in Cowen and Company, LLC's ratings definitions (see above). (d) Corresponds to "Underperform" as defined in Cowen and Company, LLC's ratings definitions (see above). Note: "Buy," "Hold" and "Sell" are not terms that Cowen and Company, LLC uses in its ratings system and should not be construed as investment options. Rather, these ratings terms are used illustratively to comply with NASD and NYSE regulations.



Cowen and Company Price and Ratings History



~ Pricing data provided by Reuters America. Chart as of 6/6/11 in USD

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