Complete Genomics, Inc.

Initiating Coverage With an Outperform Rating

- On Monday, April 18, 2011, we initiated coverage of Complete Genomics (CGI) with an Outperform rating and Aggressive Growth company profile.
- Complete Genomics offers whole-human-genome sequencing services using its proprietary sequencing platform; incorporated in 2005, CGI began commercial operations in 2010 and raised more than $50 million in an IPO in late 2010.
- Its key differentiator is its sole focus on whole-human-genome sequencing, which has enabled the company to build instruments and workflows that are relatively inflexible but highly economical, driving down ASP while providing accuracy levels in line with or better than competing instruments.
- With peer-reviewed data now published from early adopters and a building customer list and backlog, CGI's platform has been increasingly validated and endorsed by the research community—further confirmed by our recent channel checks.
- Although sequencing costs have declined exponentially, the up-front investment and production cost outlays (particularly for whole human genomes) remain significant; we believe that the expense and IT horsepower needed to analyze DNA sequence data will drive demand for the outsourced model in three primary markets: research, drug discovery/clinical trials, and clinical diagnostics.
- Risks include 1) inability to drive down ASP, which could hamper adoption; 2) an increasingly competitive service provider landscape; and 3) significant execution risk given its early stage of commercialization.
- The stock has performed well in recent trading (up 107% since March 14, 2011) and thus appears to reflect some of this excitement; we are initiating coverage with an Outperform rating given our belief in the long-term viability of the business model and our DCF analysis, which implies an intrinsic price of $18.45 (up 25%).

Healthcare | Life Sciences

April 19, 2011

Stock Rating: **Outperform**
Company Profile: **Aggressive Growth**

Symbol:	GNOM (NASDAQ)
Price:	$14.75 (52-Wk.: $7-$15)
Market Value (mil.):	$349
Fiscal Year End:	December
Dividend/Yield:	None

	2010A	2011E	2012E
Estimates			
EPS Q1	NA	($0.52)	($0.38)
Q2	NA	($0.51)	($0.31)
Q3	NA	($0.49)	($0.20)
Q4	NA	($0.45)	($0.08)
FY	($13.60)	($1.97)	($0.96)
CY		($1.97)	($0.96)
Valuation			
FY P/E	NM	NM	NM
CY P/E		NM	NM

Trading Data (Thomson Financial)	
Shares Outstanding (mil.)	26
Float (mil.)	NA
Average Daily Volume	105,737

Financial Data (Thomson Financial)	
Long-Term Debt/Total Capital (MRQ)	NA
Book Value Per Share (MRQ)	NA
Enterprise Value (mil.)	327.5
EBITDA (TTM)	-39.6
Enterprise Value/EBITDA (TTM)	-8.3x
Return on Equity (TTM)	-78.3

Amanda Murphy, CFA
312.364.8951
amurphy@williamblair.com

Sylvia Chao
312.364.8654
schao@williamblair.com

Complete Genomics offers whole-human-genome sequencing services using its proprietary sequencing platform. Incorporated in 2005, CGI began commercial operations in 2010 and raised more than $50 million in an IPO in late 2010.

Investment Conclusions
On Monday, April 18, 2011, we initiated coverage of Complete Genomics (CGI) with an Outperform rating and Aggressive Growth company profile. A more comprehensive Basic Report is also available, which provides a synopsis of the investment highlights and risk associated with Complete Genomics (GNOM) shares, a summary of the company including a brief history and overview of the management team, as well as our financial model and estimates.

In the note below, we include the executive summary of our Basic Report, as well as our model. Please contact your William Blair & Company, L.L.C. sales representative to obtain a copy of the report.

Executive Summary
Complete Genomics is a DNA sequencing service provider based in Mountain View, California. While most vendors sell sequencing instruments via a razor/razorblade model, Complete Genomics has chosen a full-service approach, allowing customers to outsource sample prep through sequencing and data analysis. Customers send samples to Complete Genomics' lab in Mountain View; in return, they receive a research-ready, sequenced genome with fully annotated variant analysis. The whole process takes place within 90-120 days and is getting ever shorter. Finished data can be delivered using cloud technology (Amazon Web Services) and/or hard drives delivered by FedEx. Complete Genomics specifically focuses on the sequencing of whole human genomes (the company requires a minimum of eight whole genomes per order) with one input, human DNA, and one output, a standardized genome report. The company was incorporated in 2005, began commercial operations with the launch of its Complete Genomics Analysis Service in 2010, and raised $54 million in an initial public offering in November 2010.

Sequencing Market Overview
DNA sequencing is used to determine the order of nucleotide bases—adenine (A), cytosine (C), thymine (T), and guanine (G)—of a DNA strand, which carries information for building and maintaining an organism. Human DNA contains 3 billion base pairs, 99.9% of which are identical among individuals and across populations. The 0.1% that varies drives unique genetic traits or phenotypes (e.g., hair color and height), as well as predispositions to medical conditions. As a result, researchers have a strong interest in identifying and comparing genetic variation across individuals and populations as well as within and between other species of plants and animals to better understand the heritability and mechanism of disease. The sequencing market has become increasingly important, both from a life sciences research perspective and in applied markets (including agricultural biotechnology and diagnostics). Scientia Advisors, a life sciences consulting firm, estimates the sequencing market to be roughly $1.2 billion and growing at an annual compound rate of 20% to 25%.

DNA sequencing methods were first developed in the late 1970s by two labs, Allan Maxam and Walter Gilbert's lab at Harvard and Frederick Sanger's lab at Cambridge University. Applied Biosystems (ABI, now part of Life Technologies) was the first to commercialize sequencing technology in 1986, leveraging Sanger's chain-termination sequencing methodology to introduce an automated sequencing platform based on slab electrophoresis. Later, ABI replaced the slab gel with capillary electrophoresis (CE) and remains the primary vendor of Sanger/CE-based machines, which labs continue to use to this day.

By leveraging better chemistry and massive parallelism, next-generation sequencing platforms first introduced by 454 Life Sciences (now a subsidiary of Roche) in 2005 dramatically improved the throughput (the amount of DNA sequenced per unit of time) relative to Sanger/CE sequencing. Over the past five years, scientists have improved these technologies and platforms, leading to a dramatic reduction in sequencing cost. As an example, the Human Genome Project, which sought to sequence the human genome for the first time, took 13 years and cost more than $3 billion (the sequencing component was estimated to cost roughly $500 million). Now, Illumina and Complete Genomics offer whole-genome sequencing to consumers for less than $10,000.

Despite the reagent cost improvements, however, sequencing instruments involve significant capital investment (from a few hundred thousand dollars to close to $1 million) and ongoing operational and maintenance costs (including depreciation; human resources, including technicians and bioinformaticians; ongoing reagent/consumable costs; and IT storage and processing expenses, to

name a few). Typically, when the cost to sequence a genome is quantified (e.g., the race to offer a $1,000 genome), estimates only include consumables expenses, such as flow cells and reagents. In reality, however, the cost per genome ends up closer to $30,000 after taking into account labor and overhead, data analysis, and storage and project management costs, in addition to the up-front capital investment of a sequencer (which is typically depreciated over a period of three years or less).

Table 1
All-in Cost to Sequence a Genome

Operating Costs	Per Flow Cell
Reagents/Consumables	$10,000
Depreciation	$2,500
Sample Acquisition Cost/Sample	$2,000
Sample Prep (Consumables and FTE)	$200
Total Operating Costs	$14,700
Labor	
Sample Acquisition	$10
IT	$375
LIMS	$375
Analysis	$480
Project Management	$400
Total Labor	$1,640
IT	
Storage	$1,000
Alignment	$100
Variant Analysis	$145
Validation	$2,000
Total IT Resources	$3,245
Total	$19,585
Institutional Overhead	$9,793
Total Cost Per Genome	**$29,378**
Assumptions	
FTE (Salary Per Year)	$60,000
Number of Samples	50
Machine Useful Life	3
Capacity (Runs Per Year)	40
Number of Flow Cells	2
Instrument Cost	$600,000

Source: www.politigenomics.com/2010/06/the-cost-of-doing-sequencing.html, accessed April 6, 2011

Although whole-human-genome sequencing is still mostly completed in the large labs, the sequencing market has proved to be highly elastic—as the ASP continues to fall, researchers have sought to sequence more and more of the genome. Given the rapid growth in the sequencing space and the desire to sequence samples from microbes to humans, a number of service providers have emerged to address the more capital- and cost-sensitive segment of the market. Illumina, for example, established its Illumina Genome Network in 2010, which offers whole-genome sequencing among other services through a network of service providers. BGI in China purchased 128 Illumina HiSeqs in early 2010 and has a total of 137 Illumina HiSeq 2000 machines, according to its website, as well as 27 SOLiD 4 sequencers, and has become the largest service provider in the world. These providers enable researchers to pay on a fee-for-service basis for DNA sequencing without having to invest in the capital equipment and resources to run the machines.

Brief Company History and Overview

While the service provider market has become increasingly competitive, Complete Genomics' focus on whole-human-genome sequencing and use of its proprietary sequencing technology allows the company to provide a differentiated and lower-cost model to customers. Because CGI is a service

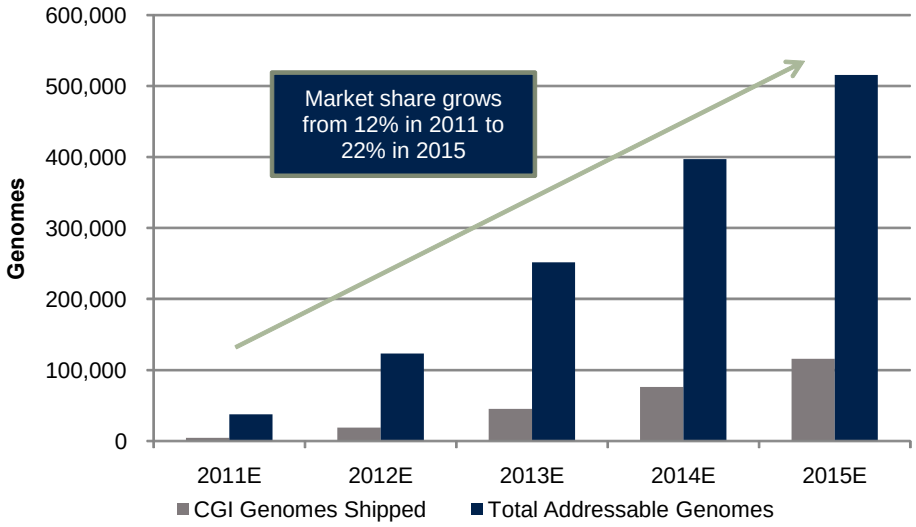
provider and operates its machines internally (with 16 instruments in production), it has not had to invest in self-contained automation, miniaturization, and user friendliness of its machines as compared with vendors that sell instruments directly to users. Rather, Complete Genomics has been able to invest research and development in further optimizing and enhancing its platform specifically for whole-human-genome sequencing.

Ultimately, this has enabled CGI to build an instrument and workflow that is relatively inflexible but highly economical in terms of reagent usage and instrument efficiency, while providing accuracy levels in line with or better than other instruments on the market. As a service provider, it is able to run many genomes in batches, which drives operating efficiencies and leverage from increased sample flow given the high fixed-cost nature of its business model. Ultimately, this leads to the ability to continually lower the company's production cost per genome, and in turn, ASP. The company's unique model has enabled it to lower its reagent cost per genome, which is now less than $1,000 a genome—significantly lower than Illumina, at $5,000 per genome. Complete Genomics' current ASP per genome is less than $10,000 (in line with BGI and the Illumina Genome Network), and with further improvements to its arrays, it expects to exit 2011 at an ASP of $5,000.

While there was initially some skepticism around the adoption and sustainability of the company's business model, our recent channel checks with researchers suggest that Complete Genomics has become an accepted player in the sequencing community. With data now published from early adopters and a building customer list and backlog, the company's platform has been increasingly validated and endorsed by the research community. A number of peer-reviewed journal articles have leveraged Complete Genomics' platform, which has helped support the accuracy (at 99.999% and above, which is at least in line with sequencing platforms on the market) and coverage (the average number of times a nucleotide is represented in the data, which is important for accuracy) of its data. The company has also amassed a notable customer list, including the primary research-and-development contractor for the National Cancer Institute, as well as the Institute for Systems Biology (ISB), which has placed three orders with CGI for a total of 719 genomes. Lastly, Complete Genomics has a backlog that has been consistently building (almost 2,000 genomes as of early March). Although the company has sequenced fewer than the initial 5,000 genomes promised in 2010 (it has sequenced 1,000 genomes as of March 2011), its model is clearly beginning to gain traction.

As discussed in more detail below, we assume the company will be able to garner 22% of the whole genome market by 2015, which we define as: 1) the base research market focused on sequencing whole human genomes; 2) the whole human exome market, which we assume converts to whole-human-genome sequencing at a certain price point; and 3) the oncology clinical trials market, which we assume becomes a viable opportunity once ASP drops below a certain price point (around 2013). We believe the oncology clinical trials market (which is estimated to be growing at a compound annual rate of close to 10%) could be a significant opportunity for the company, totaling around $300 million in revenue potential by 2015 (assuming that by that point, whole-human-genome sequencing is used for roughly 55% of patients enrolled). Given the uncertainty around the clinical diagnostic opportunity, we have not included this market in our estimates. We are modeling that the company ships roughly 4,600 genomes in 2011 (growth close to 470%), 19,000 genomes in 2012 (growth close to 310%), and around 45,000 genomes in 2013 (growth of 138%).

Figure 1
Complete Genomics, Inc.
Addressable Market Penetration



Source: William Blair & Company, L.L.C. estimates

Investment Highlights
The following summarizes the investment highlights for Complete Genomics. *For more details about Complete Genomics' business model and underlying technology, please see our Basic Report published on April 18.*

- **Unique service model allows the company to drive cost reductions by leveraging scale efficiencies.** Most sequencing vendors sell instruments via a razor/razorblade model—benefiting from machine sales, which then translate into a recurring revenue stream of higher-margin reagent sales. Complete Genomics, however, has opted to pursue a full-service model, selling sequencing on a fee-for-service basis via its Complete Genomics Analysis (CGA) Service. The company runs its own proprietary sequencing platform based on cPAL (combinatorial probe-anchor ligations) chemistry on DNA nanoball arrays, which is protected by exclusive patent license, some non-exclusive licenses, and 106 pending patent applications (owned or licensed). The company has optimized its instrumentation and workflow specifically to sequence whole human genomes, which provides both longer-term cost and accuracy advantages.

  Cost advantage. The benefit of Complete Genomics' service model is that the company does not bear the cost of service infrastructure support (including field installation and service support staff). In addition, Complete Genomics has not had to invest in the self-contained automation, miniaturization, and user friendliness of its machines as do the vendors that sell instruments directly to users. Instead, the company has been able to invest research and development in further enhancing its platform specifically for whole-human-genome sequencing, which has resulted in a relatively inflexible but highly economical model.

  As a result, CGI can offer whole-genome sequencing with at least 40-fold coverage (i.e., each nucleotide is represented on average 40 times in the sequence data) and thus high accuracy (with each nucleotide represented 40 times, the final assembled sequence is 99.999% accurate), all at a lower cost. Complete Genomics currently charges less than $10,000 per genome and roughly $5,000 per genome for large-scale customers as of our latest data point. The company can sequence a genome now for less than $1,000 in reagent costs and is targeting exiting 2011 at an all-in ASP of $5,000 per genome.

There are number of key levers the company can use to further push down the cost barrier, including additional chemistry and hardware improvements, more automation in the sample prep to reduce labor requirements, and further leveraging scale to lower marginal cost.

The company is also working on a second generation of the sequencing instrument, which should be able to capture signals 10 times faster (by switching to faster cameras and installing four cameras instead of the current two) than the current platforms. In theory, a 10-fold increase in throughput would drive the instrument cost down from $1,000 today to $100 per genome. The company is targeting completion of prototypes for these machines in 2011 and expects them to be ready for commercial use in 2012.

Accuracy. In peer-reviewed publications, Complete Genomics has demonstrated 99.999% accuracy (or 1 error in 100,000 bases called), which is compatible with Sanger sequencing. Despite adopting a short read length technology, the company is able to take advantage of the high accuracy of the ligase (versus the polymerase used in sequencing-by-synthesis methods of other sequencing platforms). In addition, it leverages its high throughput to increase coverage of each nucleotide base sequenced, thereby driving consensus accuracy of 99.999%.

In the future, we expect Complete Genomics' long-fragment read technology and haplotyping service offering will increase accuracy by 100-fold, to 99.99999% (1 error in 10,000,000 bases). The improvement suggests a decrease from roughly 30,000 errors per whole human genome sequenced to roughly 300 errors. This accuracy rate would surpass other available sequencing platforms and is expected to be in beta testing with two early-access customers by the end of 2011; it is expected to be introduced commercially in 2012.

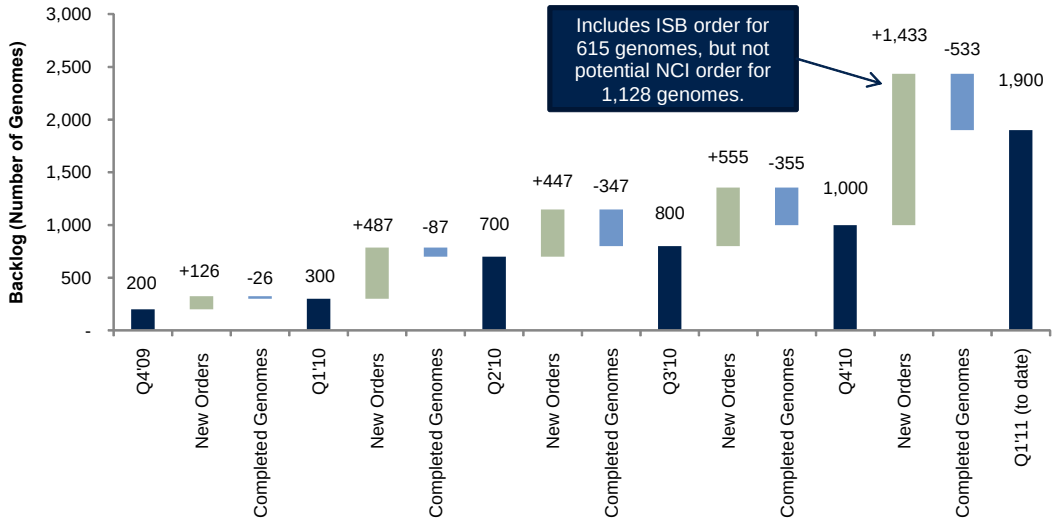
- **Validated approach and large orders from major research institutes lend credibility to Complete Genomics.** With data now published from early adopters, and with a building customer list and backlog, the company's platform has been increasingly validated and endorsed by the research community. While there was initially some skepticism around the adoption and sustainability of the company's business model, our recent channel checks with researchers suggest that Complete Genomics has become an accepted player in the sequencing community.

  A number of peer-reviewed journal articles have leveraged Complete Genomics' platform, which has helped support the accuracy (at 99.999% accuracy and above, which is at least in line with other sequencing platforms on the market) and coverage of its data (averaging greater than 40-fold). In addition, Complete Genomics has seen more than 350 downloads of the 60 genomes that it made public in early January; thus, we would be not be surprised to see more presentations, abstracts, and publications evaluating Complete Genomics' data quality over the next year.

  The company has also amassed a notable customer list, which includes the primary research-and-development contractor for the National Cancer Institute as well as the Institute for Systems Biology (ISB), which has placed three orders for whole-genome sequencing. Please refer to section "Customer Case Studies Point to Advantages of Complete Genomics' Technology" of our Basic Report for more detail on the company's key customers; as of the end of March 2011, Complete Genomics had more than 45 past and present customers (up from more than 35 as of its IPO in November 2010).

  Complete Genomics has also been consistently building its backlog of whole human genomes. Although the company has sequenced fewer than the initial 5,000 genomes promised in 2010 (it has sequenced an estimated 1,000 genomes as of March 2011), clearly its model is beginning to gain traction. We note that roughly 2,000 whole human genomes were sequenced in 2010, which helps put the magnitude of 1,000 completed genomes in perspective. In addition, the company expects to add eight new instruments this year to meet projected demand in the second half, which provides further support for its ongoing traction. Lastly, on its last earnings call, management indicated that it has had more than 50% repeat orders, which points to a high rate of satisfaction with results.

Figure 2
Complete Genomics, Inc.
Historical Backlog Build



Source: William Blair & Company, L.L.C. estimates

- **Sequencing is a large, growing market; human genome sequencing could benefit from the wave of personalized medicine.** In theory, every person could have his or her genome sequenced. In the case of cancer tumors, whole-genome sequencing (WGS) could be performed multiple times. Basing market size calculations on population and cancer incidence numbers leads to impractical estimates, however.

  Still, the sequencing market is highly elastic. Thus, as the ASP continues to fall, sequencing is becoming more viable for more capital-sensitive researchers. To put some context around the opportunity, we believe there are three primary markets that Complete Genomics can penetrate: in the short term, the WGS research market, and in the longer term, drug-discovery/clinical trials and clinical diagnostics.

  If sequencing technology is incorporated into cancer diagnosis, therapeutic decision-making, and monitoring, markets would be sizable and defined by annual cancer incidence rates (1.5 million people are diagnosed with cancer in the United States annually) and could extend to prevalence estimates if tests are obtained on an ongoing basis.

  In addition, although Complete Genomics appears committed to human DNA sequencing, management has suggested that transcriptome and methylome analysis are within the company's strategic footprint, which could further expand Complete Genomics' research market opportunity.

  Although as mentioned it is difficult to precisely size the addressable market, we attempted to use several available data points we have garnered from both industry conferences and our recent channel checks. Admittedly the capacity and the nature of work done at large genome centers are vastly different from smaller labs; thus, we have assumed labs that have greater or equal to six Illumina sequencers are most likely to sequence whole genomes and whole exomes. In addition, we have assumed these genome centers will convert all the existing Genome Analyzers to HiSeqs, and they either have started using the latest Illumina TruSeq reagent kits (which increase sequencing capacity from 200 GB to 600 GB), or will have the kit by sometime this year. With these assumptions, we arrived at the estimate of around 35,200 whole genomes, and around 49,400 exomes to be sequenced this year, or a market of $459 million in 2011.

  For the following years, we have assumed continued growth in sequencing capacity and sequencing cost decline. We have also incorporated the oncology clinical trial market beginning in 2013. In addition, we believe a portion of the whole-exome sequencing market will convert to

whole-genome sequencing when the price of WGS drops to certain point. Based on these assumptions, we arrived at the estimate of around 201,000 whole genomes, 200,800 whole exomes converted to whole genome sequencing, and 206,700 clinical trial participants, which translates to a market of around $1.8 billion in 2015.

Please see table 2 for more detail.

Table 2
Complete Genomics, Inc.
Addressable Market

	2011E	2012E	2013E	2014E	2015E	
Whole-Exome Market						
Qualified Illumina HiSeqs	457	594	772	1,004	1,305	
Exome sequenced per HiSeq per year	2,700	2,700	2,700	2,700	2,700	
Capacity allocated to WES[1]	4%	20%	30%	20%	10%	Assume gradual decline due to conversion to WGS
Exomes per year	49,356	320,814	625,587	542,176	334,793	
Sequencing Cost	$1,667	$1,250	$938	$750	$600	
Implied Market ($ million)	$82	$401	$586	$407	$201	
Base Research Market						
Qualified Illumina HiSeqs	457	594	772	1,004	1,305	
Capacity allocated to WGS[2]	35%	45%	65%	65%	70%	Assumes no change in HiSeq throughput
Genome sequenced per HiSeq per year	220	220	220	220	220	
Genomes per year (research)	35,189	58,816	110,443	143,576	201,007	
Exomes converted to WGS	2,468	64,163	125,117	189,761	200,876	
Total whole genomes	37,657	122,979	235,561	333,338	401,883	
Sequencing Cost	$10,000	$7,500	$5,625	$4,219	$3,164	
Implied Market ($ million)	$377	$922	$1,325	$1,406	$1,272	
Clinical Trial Market						
Patient Enrolled	125,908	142,418	161,167	182,468	206,676	
Number Using WGS	0%	0%	10%	35%	55%	
Blair estimated ASP	$7,387	$4,703	$3,049	$2,573	$2,573	
Implied Market ($ million)	$0	$0	$49	$164	$292	
Total Market ($ million)	**$459**	**$1,323**	**$1,961**	**$1,977**	**$1,765**	
Total Addressable Genomes	**37,657**	**122,979**	**251,677**	**397,201**	**515,554**	CGI accounts for 22% of the market by 2015
Growth		*227%*	*105%*	*58%*	*30%*	
Complete Genomics Penetration	**12%**	**16%**	**18%**	**19%**	**22%**	

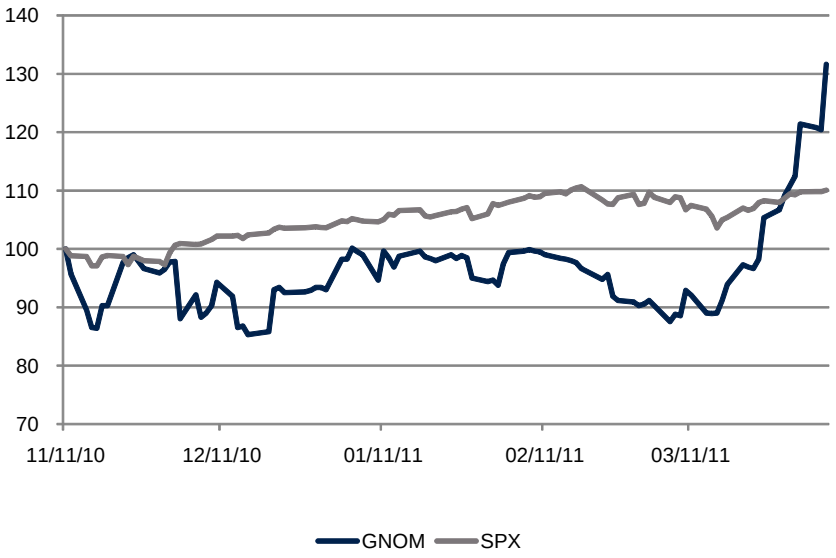
[1]WES: Whole-exome sequencing
[2]WGS: Whole-genome sequencing

Source: William Blair & Company, L.L.C. estimates

Valuation and Risks

As illustrated in figure 3, the stock has performed well in recent trading (up 106% since March 14, 2011) and thus appears to reflect some of this excitement. We evaluated the stock on two different valuation metrics, enterprise-value-to-revenue ratio and our own discounted-cash-flow analysis.

Figure 3
Complete Genomics, Inc.
Stock Performance (Normalized to 100)



Source: Thomson One

In terms of enterprise value to revenue, it is difficult to identify a comparable peer group given Complete Genomics' sequencing competitors operate with an instrument/consumable model (e.g., Illumina and Pacific Biosciences) and are at much different stages in terms of commercialization and maturity. Service-based companies in our coverage universe that have a proprietary offering service such as Myriad Genetics and Genomic Health represent one potential comparable group, while companies that service pharma such as the CROs represent another. On an EV/revenue basis, the stock is trading at 2.8 times our 2012 revenue estimate of $90 million. This is well below Illumina, which has the largest component of its business attributable to sequencing and is trading at 6.5 times our 2012 revenue estimate. Complete Genomics trades somewhat below Life Technologies, at 2.9 times, but Life also has multiple operating segments with varying growth rates. Myriad Genetics and Genomic Health trade at an average of 3.1 times our 2012 revenue estimates—also slightly above Complete Genomics. Companies that service pharma, including the CROs and tech companies such as Medidata, trade at an average 1.9 times, but many of these companies are more mature and thus have lower earnings growth potential. Please see table 7 of our Basic Report for more detail.

Given the difficulty of evaluating Complete Genomics on a multiple basis because of a lack of true comparables and the company's early stage, we also used an intrinsic value approach. Our DCF analysis (based on a weighted average cost of capital of 14.8% and a terminal growth rate of 2%) suggests an intrinsic value of $18.45, or a 58% premium to where the stock was trading on April 14. Please see table 8 of our Basic Report for more detail about our DCF analysis.

Although the company is in early stages and therefore carries significant commercialization risk, there are a number of indications that its model is gaining traction (including a building repertoire of peer-reviewed publications, customers, and backlog). We believe Complete Genomics offers a differentiated model that facilitates a continued reduction in cost for researchers, and thus is positioned to gain share of the developing whole-human-genome sequencing market. In our view, Complete Genomics represents a compelling way for small-cap investors to participate in the high-growth sequencing market and/or a diversification mechanism for investors concerned about the ability of researchers to secure funding for large-box purchases. Therefore, despite the recent stock performance, we are initiating coverage with an Outperform rating and an Aggressive Growth company profile, which reflects our belief in the long-term viability of the business model.

Complete Genomics, Inc.
Projected Income Statement (2010 to 2014E)

	2008	2009	2010	Q1'11E	Q2'11E	Q3'11E	Q4'11E	2011E	Q1'12E	Q2'12E	Q3'12E	Q4'12E	2012E	2013E	2014E
Revenue:															
Total Revenue	**-**	**$623**	**$9,389**	**$4,478**	**$6,446**	**$9,350**	**$13,897**	**$34,171**	**$18,424**	**$19,431**	**$23,609**	**$28,331**	**$89,795**	**$138,366**	**$195,868**
Cost of Revenue	-	5,033	19,895	6,504	7,024	8,069	10,324	31,921	12,378	10,881	11,018	10,624	44,901	49,952	62,528
Gross Profit	-	($4,410)	($10,506)	($2,026)	($578)	$1,281	$3,574	$2,250	$6,045	$8,550	$12,591	$17,707	$44,893	$88,414	$133,340
R&D	23,633	22,424	21,691	6,717	7,090	7,667	8,338	29,813	8,659	8,900	9,562	10,341	37,461	45,353	52,545
SG&A	4,224	6,751	15,456	4,837	5,608	6,545	7,504	24,494	7,922	8,161	8,617	9,491	34,191	41,736	48,222
Total Operating Expenses	27,857	29,175	37,147	11,554	12,698	14,212	15,843	54,307	16,581	17,061	18,179	19,832	71,652	87,089	100,767
Operating Income	(27,857)	(33,585)	(47,653)	(13,580)	(13,276)	(12,931)	(12,269)	(52,057)	(10,536)	(8,511)	(5,587)	(2,125)	(26,759)	1,325	32,572
Interest Expense (Income) and Other, net	537	2,364	10,034	130	130	138	162	560	211	211	160	181	763	894	991
Pretax Income	($28,394)	($35,949)	($57,687)	($13,710)	($13,406)	($13,070)	($12,431)	($52,617)	($10,747)	($8,722)	($5,747)	($2,306)	($27,522)	$431	$31,581
Income Tax Expense (Benefit)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Net Income (excl. non-recurr items)	($28,394)	($35,949)	($57,687)	($13,710)	($13,406)	($13,070)	($12,431)	($52,617)	($10,747)	($8,722)	($5,747)	($2,306)	($27,522)	$431	$31,581
Stock-Based Comp	336	1,410	1,751	537	645	748	973	2,903	1,013	1,069	1,180	1,275	4,537	6,226	8,814
Tax Adjustments		-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stock-Based Comp (net of tax)	336	1,410	1,751	537	645	748	973	2,903	1,013	1,069	1,180	1,275	4,537	6,226	8,814
Adjusted Net Income (excl. stock-based comp)	(28,058)	(34,539)	(55,936)	(13,173)	(12,762)	(12,321)	(11,459)	(49,714)	(9,734)	(7,653)	(4,567)	(1,031)	(22,985)	6,657	40,395
Non Recurring Items	-	-	(405)	-	-	-	-	-	-	-	-	-	-	-	-
Tax Adjustments	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Non Recurring Items (net of tax)	-	-	(405)	-	-	-	-	-	-	-	-	-	-	-	-
Net Income (GAAP)	**($28,394)**	**($35,949)**	**($58,092)**	**($13,710)**	**($13,406)**	**($13,070)**	**($12,431)**	**($52,617)**	**($10,747)**	**($8,722)**	**($5,747)**	**($2,306)**	**($27,522)**	**$431**	**$31,581**
EPS (excl. non-recurr. Items)	($305.32)	($386.56)	($13.51)	($0.52)	($0.51)	($0.49)	($0.45)	($1.97)	($0.38)	($0.31)	($0.20)	($0.08)	($0.96)	$0.01	$1.03
Adjusted EPS (excl. stock-based comp)	($301.71)	($371.40)	($13.10)	($0.50)	($0.48)	($0.46)	($0.42)	($1.86)	($0.35)	($0.27)	($0.16)	($0.03)	($0.80)	$0.22	$1.31
EPS (GAAP)	**($305.32)**	**($386.56)**	**($13.60)**	**($0.52)**	**($0.51)**	**($0.49)**	**($0.45)**	**($1.97)**	**($0.38)**	**($0.31)**	**($0.20)**	**($0.08)**	**($0.96)**	**$0.01**	**$1.03**
W. Avg. Shares Outstanding (Diluted)	93	93	4,271	26,200	26,500	26,900	27,400	26,750	27,950	28,500	29,050	29,600	28,775	30,350	30,800
MARGIN ANALYSIS:															
Total Gross Profit	**NM**	(707.9%)	(111.9%)	(45.2%)	(9.0%)	13.7%	25.7%	6.6%	32.8%	44.0%	53.3%	62.5%	50.0%	63.9%	68.1%
R&D	NM	3599.4%	231.0%	150.0%	110.0%	82.0%	60.0%	87.2%	47.0%	45.8%	40.5%	36.5%	41.7%	32.8%	26.8%
SG&A	NM	1083.6%	164.6%	108.0%	87.0%	70.0%	54.0%	71.7%	43.0%	42.0%	36.5%	33.5%	38.1%	30.2%	24.6%
EBIT	**NM**	**NM**	**(507.5%)**	**(303.2%)**	**(206.0%)**	**(138.3%)**	**(88.3%)**	**(152.3%)**	**(57.2%)**	**(43.8%)**	**(23.7%)**	**(7.5%)**	**(29.8%)**	**1.0%**	**16.6%**
Tax Rate	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Stock-Based Comp	NM	226.3%	18.6%	12.0%	10.0%	8.0%	7.0%	8.5%	5.5%	5.5%	5.0%	4.5%	5.1%	4.5%	4.5%
Net Income (GAAP)	**NM**	**NM**	**(614.4%)**	**(306.1%)**	**(208.0%)**	**(139.8%)**	**(89.5%)**	**(154.0%)**	**(58.3%)**	**(44.9%)**	**(24.3%)**	**(8.1%)**	**(30.7%)**	**0.3%**	**16.1%**
GROWTH METRICS:															
Total Revenue Growth	**NA**	**NM**	**1407%**	**1233%**	**492%**	**125%**	**265%**	**264%**	**311%**	**201%**	**152%**	**104%**	**163%**	**54%**	**42%**
COGS	NA	NM	295.3%	60%	43%	34%	111%	60.4%	90%	55%	37%	3%	41%	11%	25%
Gross Profit	NA	NM	NM	NM	NM	NM	NM	NM	NM	NM	883%	395%	NM	97%	51%
R&D	NA	(5%)	(3%)	9%	44%	55%	48%	37%	29%	26%	25%	24%	26%	21%	16%
SG&A	NA	60%	129%	12%	82%	67%	82%	58%	64%	46%	32%	26%	40%	22%	16%
Operating Income	**NA**	**NM**	**NM**	**NM**	**NM**	**NM**	**NM**	**NM**	**NM**	**NM**	**NM**	**NM**	**NM**	**NM**	**2358%**
Net Income (excl. nonrecur.)	NA	NM	NM	NM	NM	NM	NM	66%	NM	NM	NM	NM	NM	NM	7228%
Stock Based Comp	NA	320%	24%	(0%)	85%	77%	121%	66%	89%	66%	58%	31%	56%	37%	42%
EPS (GAAP)	**NA**	**NM**	**NM**	**NM**	**NM**	**NM**	**NM**	**NM**	**NM**	**NM**	**NM**	**NM**	**NM**	**NM**	7120%
EPS (excl. stock-based comp)	**NA**	**NM**	**NM**	**NM**	**NM**	**NM**	**NM**	**NM**	**NM**	**NM**	**NM**	**NM**	**NM**	**NM**	498%
Diluted Shares Outstanding	NA	-	4493%	513%	520%	530%	85%	526%	7%	8%	8%	8%	8%	5%	1%

E=William Blair & Company, L.L.C. estimate

William Blair & Company, L.L.C. is a market maker in the security of Complete Genomics, Inc. and may have a long or short position.

Additional information is available upon request.

Current Rating Distribution (as of 03/31/11)

Coverage Universe	Percent	Inv. Banking Relationships*	Percent
Outperform (Buy)	58	Outperform (Buy)	9
Market Perform (Hold)	31	Market Perform (Hold)	2
Underperform (Sell)	1	Underperform (Sell)	0

*Percentage of companies in each rating category that are investment banking clients, defined as companies for which William Blair has received compensation for investment banking services within the past 12 months.

Amanda Murphy attests that 1) all of the views expressed in this research report accurately reflect his/her personal views about any and all of the securities and companies covered by this report, and 2) no part of his/her compensation was, is, or will be related, directly or indirectly, to the specific recommendations or views expressed by him/her in this report. We seek to update our research as appropriate, but various regulations may prohibit us from doing so. Other than certain periodical industry reports, the majority of reports are published at irregular intervals as deemed appropriate by the analyst.

Stock Rating: William Blair & Company, L.L.C. uses a three-point system to rate stocks. Individual ratings reflect the expected performance of the stock relative to the broader market over the next 12 months. The assessment of expected performance is a function of near-term company fundamentals, industry outlook, confidence in earnings estimates, valuation, and other factors. Outperform (O) – stock expected to outperform the broader market over the next 12 months; Market Perform (M) – stock expected to perform approximately in line with the broader market over the next 12 months; Underperform (U) – stock expected to underperform the broader market over the next 12 months; Not Rated (NR) – the stock is currently not rated.

Company Profile: The William Blair research philosophy is focused on quality growth companies. Growth companies by their nature tend to be more volatile than the overall stock market. Company profile is a fundamental assessment, over a longer-term horizon, of the business risk of the company relative to the broader William Blair universe. Factors assessed include: 1) durability and strength of franchise (management strength and track record, market leadership, distinctive capabilities); 2) financial profile (earnings growth rate/consistency, cash flow generation, return on investment, balance sheet, accounting); 3) other factors such as sector or industry conditions, economic environment, confidence in long-term growth prospects, etc. Established Growth (E) – Fundamental risk is lower relative to the broader William Blair universe; Core Growth (C) – Fundamental risk is approximately in line with the broader William Blair universe; Aggressive Growth (A) – Fundamental risk is higher relative to the broader William Blair universe.

The ratings and company profile assessments reflect the opinion of the individual analyst and are subject to change at any time.

The compensation of the research analyst is based on a variety of factors, including performance of his or her stock recommendations; contributions to all of the firm's departments, including asset management, corporate finance, institutional sales, and retail brokerage; firm profitability; and competitive factors.

Our salespeople, traders, and other professionals may provide oral or written market commentary or trading strategies—to our clients and our trading desks—that are contrary to opinions expressed in this research. Our asset management and trading desks may make investment decisions that are inconsistent with recommendations or views expressed in this report. We will from time to time have long or short positions in, act as principal in, and buy or sell the securities referred to in this report. Our research is disseminated primarily electronically, and in some instances in printed form. Electronic research is simultaneously available to all clients. This research is for our clients only. No part of this material may be copied or duplicated in any form by any means or redistributed without the prior written consent of William Blair & Company, L.L.C.

THIS IS NOT IN ANY SENSE A SOLICITATION OR OFFER OF THE PURCHASE OR SALE OF SECURITIES. THE FACTUAL STATEMENTS HEREIN HAVE BEEN TAKEN FROM SOURCES WE BELIEVE TO BE RELIABLE, BUT SUCH STATEMENTS ARE MADE WITHOUT ANY REPRESENTATION AS TO ACCURACY OR COMPLETENESS OR OTHERWISE. OPINIONS EXPRESSED ARE OUR OWN UNLESS OTHERWISE STATED. PRICES SHOWN ARE APPROXIMATE.

THIS MATERIAL HAS BEEN APPROVED FOR DISTRIBUTION IN THE UNITED KINGDOM BY WILLIAM BLAIR INTERNATIONAL, LIMITED, REGULATED BY THE FINANCIAL SERVICES AUTHORITY (FSA), AND IS DIRECTED ONLY AT, AND IS ONLY MADE AVAILABLE TO, PERSONS FALLING WITHIN COB 3.5 AND 3.6 OF THE FSA HANDBOOK (BEING "ELIGIBLE COUNTERPARTIES" AND "PROFESSIONAL CLIENTS"). THIS DOCUMENT IS

William Blair & Company®

CHICAGO BOSTON LONDON NEW YORK SAN FRANCISCO SHANGHAI WILMINGTON ZURICH