

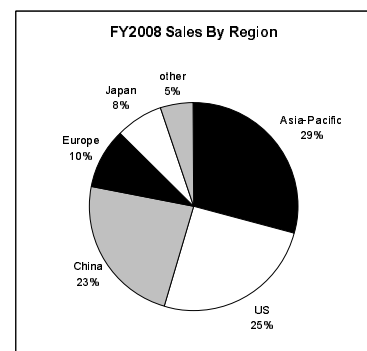
**Micron Technology Shares Attractive  
But NOT for the Faint of Heart**

**Summary:** I am initiating coverage of MU with a Buy recommendation and 12-month target price of \$12 based on two-times price-sales of current and expected revenue. The shares are trading at record low historical fundamental valuation levels and the potential appreciation from the current price level of \$3.70 is considerable. Unfortunately, so is the risk: no earnings are expected for at least a few quarters, long-term debt exceeds cash by 3:1, and the highly competitive and volatile NAND flash and DRAM product markets are undergoing a once-in-a-generation shake out. If you like high blood pressure and sleepless nights, you'll love this stock.

**Product Overview:** MU consists of four distinct product lines: PC-based DRAMs, specialty DRAMs, NAND flash, and CMOS image sensors. It reports revenue, gross margin and operating margin for two businesses: memory (including the two DRAM and one NAND product line), and CMOS image sensors. While enough information is provided to establish the sales across each of the four product lines, a certain amount of guesswork is required to determine the gross margins among the three memory products. We are told that DRAMs overall are significantly more profitable than NAND, but we have to rely on guesstimates for DRAM and NAND gross margin profits.

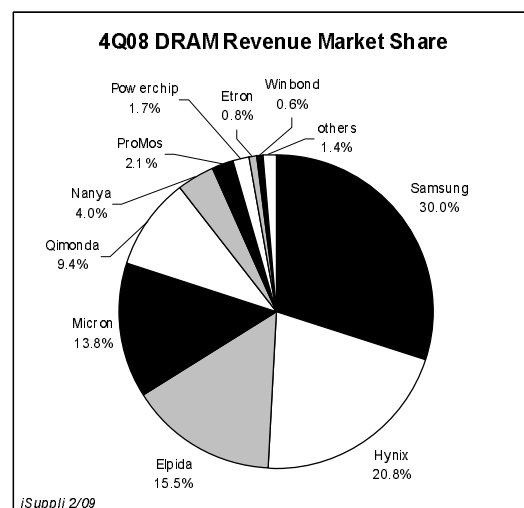
**MU Manufacturing Facilities**

Location	Operation	Product
Boise, ID	wafer fab (200mm), test, assembly, R&D, photomask	NAND
Lehi, UT	wafer fab (300mm)	NAND
Manassas, VA	wafer fab (300mm)	PC DRAM
Singapore	two wafer fabs (300mm), test, assembly, modules	PC DRAM
Nishiwaki, Japan	wafer fab (200mm)	Specialty DRAM
Avezzano, Italy	wafer fab (200mm)	Image Sensors
Idaho, China, Puerto Rico	test, (and module assembly in P.R.)	



**PC-Based DRAMs:** Commodity-based DRAMs used primarily in PCs accounted for 25% of total sales last quarter, down from 32% in the year-ago quarter. They are reported as DDR2/DDR3 sales which designates the type of interface the PC system uses to access the DRAM memory arrays (DDR stands for Double Data Rate, and version 3 is newer/faster/better than version 2), and is basically prescribed by the generation of microprocessor for which the PC system is based. These devices account for most of DRAM industry product sales and garner most of the attention, competition, and price-sensitivity for the sector—as well as increased volatility and depressed profitability (hence the company's decreased exposure over the last several quarters). DRAM technology is migrating from 78nm and 68nm technology to 50nm this year.

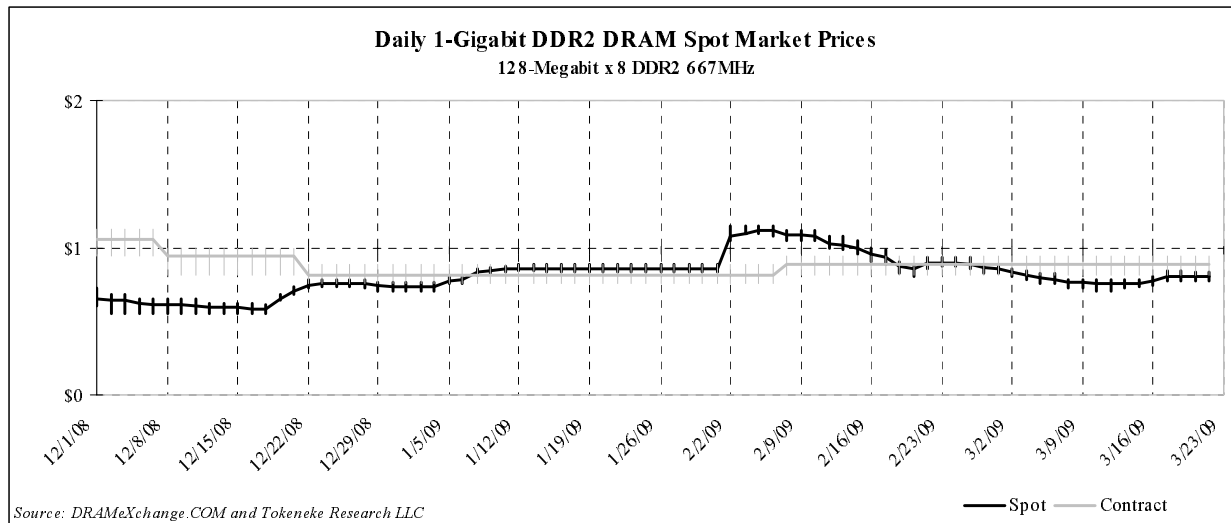
The big issue in the DRAM market is consolidation: Qimonda (spun-out from Infineon) has filed for bankruptcy, major players are curtailing production amid a sea of red ink, and the Taiwanese government is trying to preserve its DRAM industry—without necessarily picking winners and losers among its handful of smaller players. According to iSuppli, the total DRAM industry sales fell by -37.9% last year to \$4.155B, and this year total sales are expected to decline by -15% with an ASP drop of -31% and bit growth limited to +22% (compared to +50+100% typically) with capital expenditures dropping by 63% to \$4.1B. Micron management has been noting market research forecasts calling for bit growth of +30+40% this year. Leader Samsung is probably best-positioned among all the DRAM suppliers, although Micron is in relatively decent financial shape with gross cash just over \$1B or \$1.22 per share (albeit with \$3.2B in debt for net cash of -\$2.39 per share).



Micron recently purchased a portion of a Taiwanese wafer fab called Inotera, which was formerly a joint-venture between Qimonda and Nanya. Micron bought Qimonda's 35.5% share of that joint venture and has rights and

obligations to half of its 120,000 monthly 200mm wafer output. The cost was \$400M, but MU got a two year loan from Nanya for \$200M and a 6-month loan from Inotera (both at LIBOR +2%) to do the deal. Taiwanese behemoth Formosa Plastics is backing this deal and very recently contributed nearly \$300M-worth of capital expenditures to Inotera to assist in the conversion of DRAM technology away from Qimonda's trench architecture and towards Micron's stacked architecture. Micron will also collect royalties from Nanya for the stacked product that Nanya receives from Inotera and resells under the Nanya moniker. Micron also owns 73% of TECH in Singapore with partners Canon and Hewlett Packard that consists of two 300mm wafer fabs running PC DRAM product.

The recent Nanya/Inotera deal has been only one part of a larger (and extremely entertaining) soap opera where Elpida and Taiwanese partner Powerchip have been competing with Micron/Nanya for Taiwanese government monies of nearly \$2B in exchange for technology in terms of patent rights. At one point Micron was rumored to have approached Elpida in search of a giant consolidated deal. However, the Taiwanese government retreated a couple of weeks ago to funding the Taiwan Memory Corp. (TMC) with around \$800M to preserve Taiwan's DRAM industry—and specifically NOT to save any specific players. Nobody seems to know what this means, but Formosa Plastics has been the only player in this theatre with enough mojo to trigger such a significant change at the last minute on the home stretch, in my opinion—and Micron is partnered with this king-maker. Also in the background: Winbond has curtailed shipments to Qimonda due to lack of payment; and ProMos has crammed debt-holders down by \$0.10 on the dollar for \$300M in an attempt to get a line on \$90M from local banks. The DRAM business is clearly experiencing a shake-out.

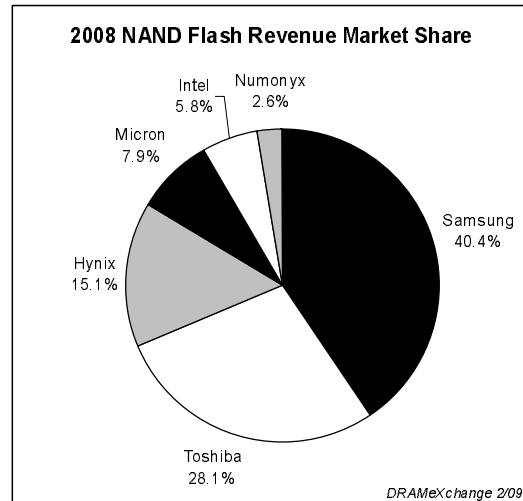


**Specialty DRAMs:** Specialty DRAMs are a less-competitive segment of the greater DRAM sector, where higher-performance devices face less competition and greater profitability in smaller end-market opportunities. Older DDR DRAMs (without the -2 or -3 suffixes) are used in networks, servers, consumer electronics, communication equipment and certain computer peripherals. Low-power devices that go by acronyms like SDRAM, PSDRAM and RLD RAM have been successful offerings by Micron of late in to portable handheld markets that include smartphones, PDAs, GPSs, and digital cameras. Some of these parts are legacy in generation and most are smaller-density than the mainstream, PC-based DRAMs described above. Specialty DRAMs have been running at approximately 24% of total sales at Micron over the last several quarters.

My earnings model consolidates both PC-based and specialty DRAMs into a single revenue stream and gross margin profile, mostly due to the difficulty in tracking and obtaining pricing and competitive information into the many market niches served by the plethora of different DRAM device configurations covered under the specialty DRAM umbrella.

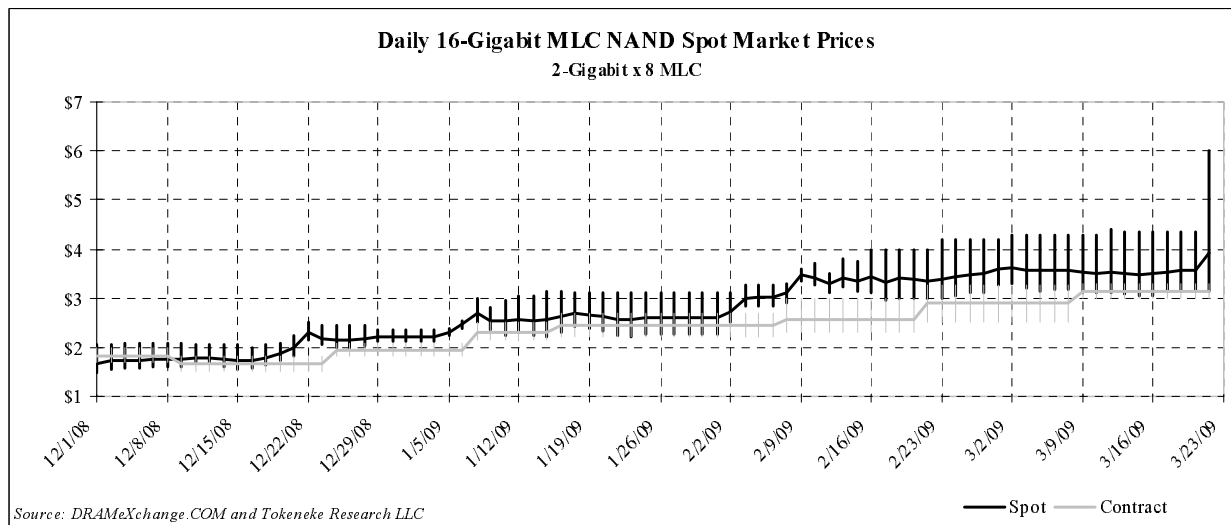
**NAND Flash:** Micron got into the NAND flash business with backing by partner Intel. Technically, Micron owns 51% and Intel owns 49%, but both companies share development costs and manufacturing output of IM Flash (and IM Flash Singapore). Micron reported R&D costs of \$178M last quarter, but this did not include \$32M-worth of activities paid for by Intel. NAND accounted for 38% of total sales last quarter, up from 33% in the prior year

quarter, but this \$533M in sales included \$318M to Intel at a price contractually intended to be close to cost. Another interesting aspect of this business is the long-term supply contract with Apple, which included \$99M of pre-paid product at the end of last quarter good through 12/31/10. NAND technology is migrating from 50nm to 34nm by the end of this year. Over half of NAND manufacturing is already occurring at 34nm based on wafer starts, and the company's new 32Gb MLC NAND device in 34nm began shipping last quarter.



The NAND business is also going through extremely difficult times, although market prices have improved considerably in recent weeks. According to DRAMeXchange, industry sales declined by -14.6% last year to \$11.42B as ASPs dropped by 63%, including a -32% fall per bit during 4Q08 alone. Bit growth is expected to fall to +64% this year (compared to +133% last year), and DRAMeXchange expects manufacturing capacity to decline by -59% consistent with Toshiba's (and partner SanDisk) announced cuts of 30%, Hynix's discontinued expansion of previously planned 300mm wafer fabs, and the retiring of older 200mm wafer fab operations by both Hynix and Samsung. Micron has also announced the closing of its 200mm fabs in Boise and the suspension of its new 300mm fab in Singapore. Micron management claims market research data expecting industry bit growth of +70+100% this year.

While Samsung leads the industry, SanDisk collects royalties on most of the technology and is supported by manufacturing partner Toshiba. Numonyx was created by combining the former NOR flash operations of both Intel and STMicroelectronics, and has subsequently expanded into NAND. NAND flash is used in USB, flash-drives, solid-state drives, and various memory card configurations for use in PCs, digital cameras, MP3 and MP4 players, and cell phone handsets.



**CMOS Image Sensors:** CMOS image sensors (CIS) are cameras on a chip used in digital cameras, camcorders, cell phone handsets and PCs, and accounted for 13% of sales at 29% gross margin last quarter, up from 11% at 26% in the prior year's quarter. Micron structured this business—named Aptina—last October as a wholly owned subsidiary pre-positioned for eventual divestiture with likely some kind of residual exposure. Primary competitors include OmniVision, Samsung, Sony, STMicroelectronics, Toshiba and a large number of smaller wanna-be's.

**Management Guidance:** Management guidance for F2Q included decreasing bit production for both DRAM and NAND due to holiday slowdowns in manufacturing, flat DRAM cost per bit, continuing NAND decreases in cost per bit, SG&A of \$100-105M, R&D of \$165-170M, and depreciation at \$520M. If market pricing were to remain

where it was when F1Q09 was announced on December 23, then management estimated that DRAM ASPs for the quarter would decline in the mid-teens percentage, while NAND ASPs would decline in the high-20s to mid-30% range. In general this year, cost per bit is expected to decrease each quarter in the high-single-digit/low-double-digit percent for DRAMs, and in the mid- to high-teens percent for NAND. Both DRAM and NAND quarterly bit production growth is expected in the mid-teens percent. FY2009 cap ex is expected at \$650-750M (down from \$1B last year and last quarter's FY09 forecast of \$1-1.3B) with 36% to Micron, 23% to TECH and 41% to IM Flash.

US tax NOL carry forwards total \$2.7B, and US tax credit carry forwards total \$205M. State NOL carry forwards are at \$1.8B and state tax credit carry forwards total \$189M. NOLs are good through 2022-2028, and the credits are good through 2013-2028. US patents total 17,300 with 2,600 foreign patents. Anti-dilutive potential common shares totaled 219.1M last quarter. Outstanding legal issues include a number of patent challenges with Rambus, DRAM anti-trust charges, and a patent infringement challenge with Mosaid scheduled for trial this June.

Micron announced a restructuring last October that included a 15% layoff, the closing of its 200mm wafer fabs in Boise, and the suspension of the facilitation of its new 300mm NAND fab in Singapore. The Boise fabs account for 35,000 wafers per month, the company expects to save \$200M this fiscal year, and restructuring costs are expected to total \$60M over the same period.

**Earnings Model:** My earnings model incorporates management guidance for operating costs, and then breaks down revenue and COGS by DRAM, NAND and image sensors. For image sensors I make assumptions for revenue growth and gross margin for each quarter. For DRAM and NAND I make assumptions for bit growth (or manufacturing output), ASP changes (average selling prices), and manufacturing cost per bit changes. Moore's Law of advancing technology drives bit growth and cost reductions in a somewhat predictable manner, but market dynamics drive pricing changes—which is the primary factor that accounts for a wide range of possible revenue and earnings expectations. My assumptions by quarter are spelled out in the financial model on page 7. I have chosen more favorable ASP changes than management indicated at the beginning of the quarter due to the benefit of hindsight offered by DRAM and NAND pricing trends over the last three months.

**Attractive Valuation:** I am initiating coverage on the shares with a Buy recommendation and 12-month target price of \$12. My target price is based on a slightly less than historical average, two-times price-sales ratio based on expected revenue this year, divided by nearly 1B shares which includes the anti-dilutive potential common shares that totaled 219.1M last quarter.

MU shares are currently trading at record low valuation levels based on historical trailing price-sales and price-book ratios, as well as lower than average price-sales ratios relative to two separate peer groups identified on page 8. The shares are very attractive from a fundamental valuation perspective.

However, this attraction comes with ample risk: significant expected financial losses over the next few quarters; \$3.2B in debt against only \$1.0B in cash; a dominant and financially robust competitor in Samsung; and participation in two of the most volatile and competitive, commodity-oriented product markets in the semiconductor industry—NAND and DRAM (never mind that image sensors are no walk in the park, either).

Mitigating factors to these risks include the following: demonstrated and expected positive operating cash flow on the order of \$250M per quarter; debt due per the adjacent table; multiple joint-venture partner capital expenditure and development subsidies; deep-pocketed partners in Intel and Formosa Plastics; significantly more financially strained competitors across most of the rest of the field in both NAND and DRAM; and significantly improving spot market prices in both of these product areas over the last several weeks. Market volatility is finally turning positive from very depressed levels.

Debt	(\$mil)
Current portion of long-term debt	343
5.6% convert due April 2010	70
1.875% converts due June 2014	1,300
Notes payable in periodic installments thru July 2015	852
Capital lease obligations in monthly installments thru February 2023	644
	3,209

I think there is a significantly favorable risk-reward opportunity in MU shares at current price levels, but it is certainly NOT for the faint of heart.

—Dan K. Scovel  
Semiconductor Analyst

**Micron Technology**

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**Income Statement**

www.micron.com

dollars in thousands, except per share data  
fiscal year ends August

	FY06	FY2007				FY07	FY2008 act				FY08	FY2009 est				FY09	FY2010				FY10
		Q1	Q2	Q3	Q4		Q1	Q2	Q3	Q4		Q1A	Q2	Q3	Q4		Q1	Q2	Q3	Q4	
Total Revenue	5,272	1,530	1,427	1,294	1,437	5,688	1,535	1,359	1,498	1,449	5,841	1,402	1,134	1,513	1,805	5,853	2,205	1,882	2,174	2,324	8,585
COGS	4,072	1,088	1,070	1,188	1,264	4,610	1,530	1,402	1,450	1,514	5,896	1,851	1,365	1,549	1,671	6,437	1,864	1,732	1,841	1,883	7,320
Gross Profit	1,200	442	357	106	173	1,078	5	(43)	48	(65)	(55)	(449)	(231)	(37)	133	(583)	341	150	333	442	1,265
SG&A	460	180	153	134	143	610	112	120	116	107	455	102	102	102	102	408	102	102	102	102	408
R&D	656	183	243	195	184	805	163	180	170	167	680	178	167	167	167	679	167	167	167	167	668
Restructuring	-	-	-	-	19	19	13	471	8	4	496	(66)	-	-	-	(66)	-	-	-	-	-
Other	(266)	(31)	(5)	(28)	(12)	(76)	(23)	(42)	(21)	(5)	(91)	9	-	-	-	9	-	-	-	-	-
Operating Expenses	850	332	391	301	334	1,358	265	729	273	273	1,540	223	269	269	269	1,030	269	269	269	269	1,076
Operating Income	350	110	(34)	(195)	(161)	(280)	(260)	(772)	(225)	(338)	(1,595)	(672)	(500)	(306)	(136)	(1,613)	72	(119)	64	173	189
Interest Income	76	40	31	17	15	103	9	3	(6)	(9)	(3)	(20)	(20)	(20)	(20)	(81)	(20)	(20)	(20)	(20)	(82)
Other Non-Opn Inc.	7	3	5	1	-	9	(1)	(6)	-	(6)	(13)	(14)	-	-	-	(14)	-	-	-	-	-
Tax Expense	18	9	6	9	6	30	7	(4)	13	2	18	13	10	10	10	43	10	10	10	10	40
Minority Interest	(7)	(29)	(48)	(39)	(6)	(122)	(3)	(6)	8	11	10	13	15	20	20	68	20	20	20	20	80
Net Income	408	115	(52)	(225)	(158)	(320)	(262)	(777)	(236)	(344)	(1,619)	(706)	(515)	(316)	(146)	(1,683)	61	(129)	53	162	148
EPS-basic	\$0.59	\$0.15	(\$0.07)	(\$0.29)	(\$0.20)	(\$0.42)	(\$0.34)	(\$1.01)	(\$0.31)	(\$0.45)	(\$2.10)	(\$0.91)	(\$0.67)	(\$0.41)	(\$0.19)	(\$2.18)	\$0.08	(\$0.17)	\$0.07	\$0.21	\$0.19
Shares-basic	691.7	767.0	768.7	769.9	770.9	769.1	771.9	772.4	772.8	772.9	772.5	773.3	773.3	773.3	773.3	773.3	773.3	773.3	773.3	773.3	773.3
EPS-diluted	\$0.56	\$0.15	(\$0.07)	(\$0.29)	(\$0.20)	(\$0.42)	(\$0.34)	(\$1.01)	(\$0.31)	(\$0.45)	(\$2.10)	(\$0.91)	(\$0.67)	(\$0.41)	(\$0.19)	(\$2.18)	\$0.08	(\$0.17)	\$0.07	\$0.21	\$0.19
Shares-diluted	725.1	779.6	768.7	769.9	770.9	769.1	771.9	772.4	772.8	772.9	772.5	773.3	773.3	773.3	773.3	773.3	773.3	773.3	773.3	773.3	773.3
EPS-pro forma				(\$0.18)	(\$0.39)	(\$0.26)	(\$0.41)		(\$0.28)	(\$1.25)	(\$0.72)										
<b>Margin Analysis</b>																					
Gross Margin	22.8%	28.9%	25.0%	8.2%	12.0%	19.0%	0.3%	-3.2%	3.2%	-4.5%	-0.9%	-32.0%	-20.4%	-2.4%	7.4%	-10.0%	15.5%	8.0%	15.3%	19.0%	14.7%
SG&A	8.7%	11.8%	10.7%	10.4%	10.0%	10.7%	7.3%	8.8%	7.7%	7.4%	7.8%	7.3%	9.0%	6.7%	5.7%	7.0%	4.6%	5.4%	4.7%	4.4%	4.8%
R&D	12.4%	12.0%	17.0%	15.1%	12.8%	14.2%	10.6%	13.2%	11.3%	11.5%	11.6%	12.7%	14.7%	11.0%	9.3%	11.6%	7.6%	8.9%	7.7%	7.2%	7.8%
Operating Expense	16.1%	21.7%	27.4%	23.3%	23.2%	23.9%	17.3%	53.6%	18.2%	18.8%	26.4%	15.9%	23.7%	17.8%	14.9%	17.6%	12.2%	14.3%	12.4%	11.6%	12.5%
Operating Income	6.6%	7.2%	-2.4%	-15.1%	-11.2%	-4.9%	-16.9%	-56.8%	-15.0%	-23.3%	-27.3%	-47.9%	-44.1%	-20.2%	-7.5%	-27.6%	3.3%	-6.3%	2.9%	7.4%	2.2%
Interest/Other Income	1.6%	2.8%	2.5%	1.4%	1.0%	2.0%	0.5%	-0.2%	-0.4%	-1.0%	-0.3%	-2.4%	-1.8%	-1.3%	-1.1%	-1.6%	-0.9%	-1.1%	-0.9%	-0.9%	-1.0%
Tax Rate	4.2%	5.9%	300.0%	-5.1%	-4.1%	-17.9%	-2.8%	0.5%	-5.6%	-0.6%	-1.1%	-1.8%	-1.9%	-3.1%	-6.4%	-2.5%	19.5%	-7.2%	23.0%	6.6%	37.2%
Net Income	7.7%	7.5%	-3.6%	-17.4%	-11.0%	-5.6%	-17.1%	-57.2%	-15.8%	-23.7%	-27.7%	-50.4%	-45.4%	-20.9%	-8.1%	-28.8%	2.8%	-6.9%	2.5%	7.0%	1.7%
<b>Qtr-to-Qtr Growth</b>																					
Revenue			-6.7%	-9.3%	11.1%		6.8%	-11.5%	10.2%	-3.3%		-3.2%	-19.1%	33.4%	19.3%		22.2%	-14.6%	15.5%	6.9%	
Operating Expenses			17.8%	-23.0%	11.0%		-20.7%	175.1%	-62.6%	0.0%		-18.3%	20.6%	0.0%	0.0%		0.0%	0.0%	0.0%	0.0%	
Operating Income			-130.9%	473.5%	-1.7%		61.5%	197%	-70.9%	50%		98.8%	-25.6%	-39%	-56%		-153%	-265.6%	-154%	170%	
Net Income			-145.2%	332.7%	-29.8%		65.8%	197%	-69.6%	46%		105.2%	-27.1%	-39%	-54%		-142%	-310.6%	-141%	203%	
EPS			-145.9%	332.0%	-29.9%		65.6%	196%	-69.6%	46%		105.1%	-27.1%	-39%	-54%		-142%	-310.6%	-141%	203%	
<b>Year-to-Year Growth</b>																					
Revenue						8%	0%	-5%	15.8%	0.8%	2.7%	-9%	-1.7%	1.0%	24.5%	0.2%	57%	66%	43.7%	28.8%	46.7%
Operating Expenses						59.8%	-20.2%	86.4%	-9.3%	-18.3%	13.4%	-15.8%	-63.1%	-1.5%	-1.5%	-33.1%	20.6%	0.0%	0.0%	0.0%	4.5%
Operating Income						-180%	-336%	2171%	15%	110%	470%	158%	-35.2%	36%	-60%	1.2%	-110.7%	-76.2%	-121%	-227.1%	-112%
Net Income						-178%	-328%	1394%	5%	118%	406%	169%	-33.7%	34%	-58%	4.0%	-108.7%	-74.9%	-117%	-210.9%	-109%
EPS						-174%	-330.1%	1387%	4%	117%	404%	169.0%	-33.8%	34%	-58%	3.8%	-108.7%	-74.9%	-117%	-210.9%	-109%

**Micron Technology**

**Balance Sheet**

(dollars in thousands)

Fiscal year ends August

	FY2007	FY2008	F4Q07	F1Q08	F2Q08	F3Q08	F4Q08	F1Q09
<b>Assets</b>								
Cash and equivalents	2,616	1,362	2,616	2,031	1,853	1,584	1,362	1,028
Net accounts receivable	<u>994</u>	<u>1,032</u>	<u>994</u>	<u>1,067</u>	<u>894</u>	<u>995</u>	<u>1,032</u>	<u>1,031</u>
<b>Quick Assets</b>	3,610	2,394	3,610	3,098	2,747	2,579	2,394	2,059
Inventory	1,532	1,291	1,532	1,443	1,449	1,453	1,291	883
Other	<u>92</u>	<u>94</u>	<u>92</u>	<u>111</u>	<u>108</u>	<u>97</u>	<u>94</u>	<u>95</u>
<b>Current Assets</b>	5,234	3,779	5,234	4,652	4,304	4,129	3,779	3,037
Property, plant and eqt, net	8,279	8,811	8,279	8,576	8,634	8,721	8,811	8,460
Goodwill and intangibles	916	364	916	515	58	433	364	354
Long-term equities	0	84	0	0	0	0	84	432
Other	<u>389</u>	<u>392</u>	<u>389</u>	<u>755</u>	<u>789</u>	<u>333</u>	<u>392</u>	<u>393</u>
<b>Total Assets</b>	14,818	13,430	14,818	14,498	13,785	13,616	13,430	12,676
<b>Liabilities and Shareholders Equity</b>								
Current portion lt debt	423	275	423	281	244	262	275	343
Accounts payable	1,385	1,111	1,385	1,317	1,299	1,374	1,111	943
Deferred income	84	114	84	0	0	80	114	192
Other	<u>134</u>	<u>98</u>	<u>134</u>	<u>254</u>	<u>177</u>	<u>68</u>	<u>98</u>	<u>157</u>
<b>Current Liabilities</b>	2,026	1,598	2,026	1,852	1,720	1,784	1,598	1,635
Long-term debt	1,987	2,451	1,987	1,936	2,162	2,159	2,451	2,523
Other	<u>446</u>	<u>338</u>	<u>446</u>	<u>449</u>	<u>357</u>	<u>354</u>	<u>338</u>	<u>332</u>
<b>Total Liabilities</b>	4,459	4,387	4,459	4,237	4,239	4,297	4,387	4,490
Minority interest	2,607	2,865	2,607	2,760	2,808	2,811	2,865	2,702
Common stock	6,595	6,642	6,595	6,634	6,634	6,634	6,642	6,650
Retained earnings	1,164	(456)	1,164	(112)	(112)	(112)	(456)	(1,162)
Other	<u>(7)</u>	<u>(8)</u>	<u>(7)</u>	<u>(7)</u>	<u>(14)</u>	<u>(14)</u>	<u>(8)</u>	<u>(4)</u>
<b>Total Shareholders Equity</b>	<u>7,752</u>	<u>6,178</u>	<u>7,752</u>	<u>7,501</u>	<u>6,738</u>	<u>6,508</u>	<u>6,178</u>	<u>5,484</u>
<b>Total Liabilities and Equity</b>	14,818	13,430	14,818	14,498	13,785	13,616	13,430	12,676
<b>Sales and Income</b>								
Revenue	5,688	5,841	1,437	1,535	1,359	1,498	1,449	1,402
COGS	4,610	5,896	1,264	1,530	1,402	1,450	1,514	1,851
Net income	(320)	(1,619)	(158)	(262)	(777)	(236)	(344)	(706)
<b>Other</b>								
Capital Expenditures	4,090	2,916		887	693	577	759	334
Depreciation and Amortization	1,718	2,060		504	511	513	532	594
Shares (weighted average diluted)	769	773	770.9	771.9	772.4	772.8	772.9	773.3
Employees (units)		23,509					23,509	21,888
Cash Flow from Operations	937	1,018	144	276	282	217	243	359
<b>Ratios</b>								
<b>Liquidity</b>								
Quick Ratio	1.78	1.50	1.78	1.67	1.60	1.45	1.50	1.26
Current Ratio	2.58	2.36	2.58	2.51	2.50	2.31	2.36	1.86
<b>Leverage</b>								
Debt Ratio	0.30	0.33	0.30	0.29	0.31	0.32	0.33	0.35
Long-term Debt/Capital	0.16	0.21	0.16	0.16	0.18	0.18	0.21	0.23
<b>Asset Management</b>								
Fixed Asset Turnover	1.4	0.7	0.69	0.72	0.63	0.69	0.66	0.65
Total Asset Turnover	0.8	0.4	0.39	0.42	0.39	0.88	0.43	0.43
Receivables DSO	63	64	62	63	59	60	64	66
Inventory Days	120	79	109	85	93	90	77	43
Inventory Turnover	6.0	4.2	3.30	4.24	3.87	3.99	4.41	6.81
Revenue/Employee								0.062
<b>Profitability</b>								
Gross Margin	19.0%	-0.9%	12.0%	0.3%	-3.2%	3.2%	-4.5%	-32.0%
Net Margin	-5.6%	-27.7%	-11.0%	-17.1%	-57.2%	-15.8%	-23.7%	-50.4%
Return on Assets	-4.3%	-11.5%	-8.5%	-14.5%	-45.1%	-13.9%	-10.2%	-21.6%
Return on Equity	-8.3%	-23.2%	-16.3%	-27.9%	-92.3%	-29.0%	-21.7%	-48.4%
<b>Per Share Data</b>								
Book Value/Share	\$10.08	\$8.00	\$10.06	\$9.72	\$8.72	\$8.42	\$7.99	\$7.09
Tangible Book Value/Share	\$8.89	\$7.53	\$8.87	\$9.05	\$8.65	\$7.86	\$7.52	\$6.63
Cash/Share (gross)	\$3.40	\$1.76	\$3.39	\$2.63	\$2.40	\$2.05	\$1.76	\$1.33
Cash/Share (net)	\$0.27	(\$1.77)	\$0.27	(\$0.24)	(\$0.72)	(\$1.08)	(\$1.76)	(\$2.38)
Earnings/Share	(\$0.42)	(\$2.10)	(\$0.20)	(\$0.34)	(\$1.01)	(\$0.31)	(\$0.45)	(\$0.91)

**Micron Technology**

**Financial Model**

*fiscal year ends August*

	FY2008 act				FY2009 est				FY2010				FY2011			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
<b>DRAM</b>																
Bits Sold	25.0%	0.0%	10.0%	-5.0%	35.0%	-10.0%	20.0%	15.0%	30.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
ASP change	-20.0%	-15.0%	-5.0%	0.0%	-34.0%	-10.0%	0.0%	0.0%	0.0%	-5.0%	-5.0%	-5.0%	-5.0%	-5.0%	-10.0%	-10.0%
Revenue	859.5	748.4	802.7	763.9	689.2	558.3	669.9	770.4	1,001.6	1,046.6	1,093.7	1,142.9	1,194.4	1,248.1	1,235.6	1,223.3
Royalties (included)	5.0	-	-	38.0	36.0	-	-	-	-	-	-	-	-	-	-	-
Revenue growth	-	-12.9%	7.3%	-4.8%	-9.8%	-	-	-	-	-	-	-	-	-	-	-
Revenue % (incl roy)	56.0%	55.1%	53.6%	52.7%	49.2%	-	-	-	-	-	-	-	-	-	-	-
Production Bits		0.0%	15.0%	15.0%	23.0%	-	-	-	-	-	-	-	-	-	-	-
DDR2/3 Revenue	491.2	407.7	449.4	405.7	350.5	-	-	-	-	-	-	-	-	-	-	-
DDR2/3 Revenue %	32.0%	30.0%	30.0%	28.0%	25.0%	-	-	-	-	-	-	-	-	-	-	-
Cost/bit change	-10.0%	-15.0%	-15.0%	-5.0%	-12.0%	0.0%	-18.0%	-8.0%	-8.0%	-8.0%	-8.0%	-8.0%	-8.0%	-8.0%	-8.0%	-8.0%
Gross Margin	5.0%	2.6%	12.1%	17.7%	-13.0%	-21.7%	-7.6%	-0.2%	7.8%	10.6%	13.5%	16.4%	19.5%	22.6%	19.1%	15.8%
Gross Profit	43.0	19.7	97.4	135.5	(89.4)	-	-	-	-	-	-	-	-	-	-	-
COGS	816.5	728.6	705.3	628.4	778.6	679.3	720.7	771.8	923.4	935.6	946.2	955.1	961.9	966.4	999.2	1,030.0
<b>NAND</b>																
Bits Sold	60.0%	30.0%	40.0%	10.0%	40.0%	-10.0%	35.0%	20.0%	20.0%	-10.0%	25.0%	15.0%	20.0%	-15.0%	25.0%	10.0%
ASP change	-30.0%	-30.0%	-20.0%	-20.0%	-24.0%	-10.0%	15.0%	5.0%	0.0%	-25.0%	5.0%	-5.0%	-10.0%	-20.0%	5.0%	-5.0%
Revenue	506.6	475.7	524.3	507.2	532.8	431.5	670.0	844.1	1,013.0	683.8	897.4	980.4	1,058.9	720.0	945.1	987.6
Revenue growth	-	-6.1%	10.2%	-3.3%	5.0%	-	-	-	-	-	-	-	-	-	-	-
Revenue %	33.0%	35.0%	35.0%	35.0%	38.0%	-	-	-	-	-	-	-	-	-	-	-
Production Bits		30.0%	55.0%	12.0%	17.0%	-	-	-	-	-	-	-	-	-	-	-
Cost/bit change	-15.0%	-25.0%	-25.0%	-15.0%	-14.0%	-13.0%	-25.0%	-10.0%	-10.0%	-10.0%	-10.0%	-10.0%	-8.0%	-8.0%	-8.0%	-8.0%
Gross Margin	-6.7%	-18.4%	-18.4%	-24.9%	-34.9%	-33.8%	-4.9%	9.9%	20.9%	-0.3%	15.2%	20.3%	17.0%	1.1%	14.6%	17.6%
gm est	-6.7%	-17.0%	-20.7%	-25.3%	-37.7%	-	-	-	-	-	-	-	-	-	-	-
Gross Profit	(34.0)	(80.7)	(108.4)	(128.5)	(200.6)	-	-	-	-	-	-	-	-	-	-	-
COGS	540.5	556.4	632.7	635.6	733.4	577.5	702.6	760.8	801.7	685.8	761.4	781.0	879.2	712.4	807.0	813.9
<b>Memory Revenue</b>																
Revenue	1,366.0	1,224.0	1,327.0	1,271.0	1,222.0	-	-	-	-	-	-	-	-	-	-	-
Revenue Growth	-	-10.4%	8.4%	-4.2%	-3.9%	-	-	-	-	-	-	-	-	-	-	-
Revenue %	89.0%	90.1%	88.6%	87.7%	87.2%	-	-	-	-	-	-	-	-	-	-	-
Gross Profit	(39.0)	(76.0)	(11.0)	(115.0)	(502.0)	-	-	-	-	-	-	-	-	-	-	-
Adjusted Gross Profit	9.0	(61.0)	(11.0)	77.0	(290.0)	-	-	-	-	-	-	-	-	-	-	-
Gross Margin	0.7%	-5.0%	-0.8%	6.1%	-23.7%	-	-	-	-	-	-	-	-	-	-	-
COGS	1,357.0	1,285.0	1,338.0	1,194.0	1,512.0	-	-	-	-	-	-	-	-	-	-	-
<b>Image Sensors</b>																
Revenue	169.0	135.0	171.0	178.0	180.0	144.0	172.8	190.1	190.1	152.1	182.5	200.7	200.7	160.6	192.7	212.0
Revenue growth	-	-20.1%	26.7%	4.1%	1.1%	-20.0%	20.0%	10.0%	0.0%	-20.0%	20.0%	10.0%	0.0%	-20.0%	20.0%	10.0%
Revenue %	11.0%	9.9%	11.4%	12.3%	12.8%	-	-	-	-	-	-	-	-	-	-	-
Gross Profit	44.0	33.0	59.0	50.0	53.0	-	-	-	-	-	-	-	-	-	-	-
Gross Margin	26.0%	24.4%	34.5%	28.1%	29.4%	25.0%	27.0%	27.0%	27.0%	27.0%	27.0%	27.0%	27.0%	27.0%	27.0%	27.0%
COGS	125.0	102.0	112.0	128.0	127.0	108.0	126.1	138.8	138.8	111.0	133.2	146.5	146.5	117.2	140.7	154.7
<b>TOTAL</b>																
Revenue	1,535.0	1,359.0	1,498.0	1,449.0	1,402.0	1,133.8	1,512.7	1,804.7	2,204.6	1,882.5	2,173.6	2,324.1	2,454.0	2,128.7	2,373.4	2,422.8
Royalty	5.0	-	-	38.0	36.0	-	-	-	-	-	-	-	-	-	-	-
Revenue growth	-	-11.5%	10.2%	-3.3%	-3.2%	-19.1%	33.4%	19.3%	22.2%	-14.6%	15.5%	6.9%	5.6%	-13.3%	11.5%	2.1%
COGS	1,482.0	1,387.0	1,450.0	1,392.0	1,639.0	1,364.8	1,549.4	1,671.4	1,863.8	1,732.4	1,840.8	1,882.6	1,987.6	1,796.0	1,946.8	1,998.6
Gross Profit	53.0	(28.0)	48.0	57.0	(237.0)	(231.0)	(36.7)	133.3	340.8	150.1	332.8	441.5	466.4	332.7	426.6	424.2
Gross Margin	3.5%	-2.1%	3.2%	3.9%	-16.9%	-20.4%	-2.4%	7.4%	15.5%	8.0%	15.3%	19.0%	19.0%	15.6%	18.0%	17.5%
<b>Reported</b>																
Revenue	1,535.0	1,359.0	1,498.0	1,449.0	1,402.0	-	-	-	-	-	-	-	-	-	-	-
COGS	1,530.0	1,402.0	1,450.0	1,514.0	1,851.0	-	-	-	-	-	-	-	-	-	-	-
Gross Margin	0.3%	-3.2%	3.2%	-4.5%	-32.0%	-	-	-	-	-	-	-	-	-	-	-
Adjusted COGS	1,482.0	1,387.0	1,450.0	1,392.0	1,639.0	-	-	-	-	-	-	-	-	-	-	-
Adjusted Gross Margin	3.5%	-2.1%	3.2%	3.9%	-16.9%	-	-	-	-	-	-	-	-	-	-	-

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3/24/09

**Micron Technology**

**Valuation**

**Relative Valuation**

Company	Ticker	Price 3/23/2009	52-Week		CY EPS				CY P/E				Diluted Shares(mil)	CAP (\$ mil)	Price-Sales			FY Ends	
			Low	High	2007	2008	2009	2010	2007	2008	2009	2010			TTM	Cur FY	Nxt FY		
Micron Technology	MU	3.81	1.59	8.97	-0.80	-1.71	-1.19	0.32	NM	NM	NM	11.9	773	2,946	0.5	0.5	0.3	Aug	
Advanced Micro Devices	AMD	3.02	1.62	7.98	-2.59	-1.96	-2.01	-1.40	NM	NM	NM	NM	609	1,839	0.3	0.4	0.4	Dec	
Atmel	ATML	3.92	2.50	4.69	0.16	0.17	-0.08	0.12	24.5	23.1	NM	32.7	467	1,830	1.2	1.5	1.3	Dec	
Intel	INTC	15.52	12.05	25.29	1.16	0.93	0.45	0.63	13.4	16.7	34.5	24.6	5,623	87,269	2.3	3.0	2.7	Dec	
STMicroelectronics	STM	4.49	3.73	13.74	0.44	0.18	-0.66	-0.01	10.2	24.9	NM	NM	878	3,943	0.4	0.5	0.5	Dec-ADR	
Texas Instruments	TXN	17.01	13.38	33.00	1.80	1.51	0.24	0.71	9.5	11.3	70.9	24.0	1,289	21,926	1.8	2.7	2.6	Dec	
Average									14.4	19.0	52.7	27.1				1.2	1.6	1.5	

Company	Ticker	Price 3/23/2009	52-Week		CY EPS				CY P/E				Diluted Shares(mil)	CAP (\$ mil)	Price-Sales			FY Ends	
			Low	High	2007	2008	2009	2010	2007	2008	2009	2010			TTM	Cur FY	Nxt FY		
Micron Technology	MU	3.81	1.59	8.97	-0.8	-1.71	-1.19	0.32	NM	NM	NM	11.9	773	2,946	0.5	0.5	0.3	Aug	
Integrated Silicon Solutions	ISSI	1.70	1.31	6.34	0.49	0	-0.71	-0.5	3.5	NM	NM	NM	26	44	0.2	0.3	0.3	Sep	
OmniVision	OVTI	7.20	4.12	19.75	1.47	0.47	-0.55	-0.39	4.9	15.3	NM	NM	50	360	0.6	0.7	1.0	Apr	
SanDisk	SNDK	11.25	5.07	33.17	1.72	-2.13	-1.79	-0.26	6.5	NM	NM	NM	226	2,544	0.8	1.0	1.0	Dec	
SMART Modular	SMOD	1.50	0.76	6.60	0.86	0.38	-0.02	0.18	1.7	3.9	NM	8.3	63	95	0.1	0.2	0.2	Aug	
STEC	STEC	8.47	3.42	14.25	0.23	0.31	0.46	0.79	36.8	27.3	18.4	10.7	51	428	1.9	1.8	1.4	Dec	
Average									10.7	15.5	18.4	9.5				0.7	0.8	0.8	

Source: First Call as of 3/23/09

**Historical Valuation**

Company	Ticker	Price 3/23/2009	Trailing 12-month							
			Price/Earnings		Price/Sales		Price/Book			
			Current	Historical*	Current	Historical*	Current	Historical*		
Micron Technology	MU	\$3.81	NM		0.5		0.5			
			Average	50.6	Average	2.7	Average	2.5		
			High	568.0	High	9.0	High	9.8		
			Low	4.6	Low	0.8	Low	0.6		

\* weekly since 1990

### The Company

Tokeneke Research is an independent research firm specializing in semiconductor industry business issues, providing fundamental research focused on US equities across all market capitalizations within the sector to investors. The company was founded in 2005 and is based in Connecticut.

### The Offering

- *Monthly Newsletter:* A summarized review of noteworthy industry business developments, sales statistics, and sector equity market performance, as well as a near-term and annual outlook for sector business fundamentals and share prices. This report typically includes two pages of text and a handful of recurring charts and tables. It is intended for relatively broad-based distribution.
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### My Background

I have an electrical engineering background, nearly 12 years of semiconductor industry experience, and was on Wall Street for nearly eight years where I was selected as the Best On The Street semiconductor analyst for 2002 by The Wall Street Journal, and third-rated Best of the Best across all sectors.

I obtained my undergraduate BS degree in electrical engineering from the University of Washington, and my MBA from Santa Clara University. My industry experience consists of nearly 12 years in various technical sales and marketing roles at four different semiconductor firms located in Silicon Valley beginning with Advanced Micro Devices in 1984, followed by two small start-up companies, and ending at Cirrus Logic where I supported the firm's Japanese market development. I joined Fahnestock & Co. as a senior semiconductor analyst in 1996 and was recruited by Needham & Co. in April 2000.

My formal coverage list as a sell-side analyst included the following equities: AMD, ALSC, ALTR, ARTI, ATML, CUBE, CY, ESST, GNSS, INTC, ISSI, LSI, MOSY, MU, OIIM, OVTI, RMTR, SIII, SMSC, STEC, SVTG, TDFX, TSRA, TXN, and ZRAN.

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