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# Semiconductors

## Employee Stock Option Implications

Reason for Report: [Update](#)

# Industry

*The debate on Capitol Hill surrounding the accounting treatment of stock options has put the issue back into the spotlight. Although we can't claim to know how the debate will turn out, it's important to understand the potential impact that expending options could have on reported earnings for semiconductor companies. We are reprinting a report initially published in April of this year that deals with the issue.*

### Highlights:

- In this report, we analyze the impact of stock options on the earnings and cash flows of semiconductor companies in our coverage universe.
- On average, semiconductor companies reported outstanding options equivalent to 15-16% of total stocks outstanding at the end of the last three fiscal years. Despite the downturn and a tough job market, net option grants increased in 2001.
- Our analysis shows that, on average, reported GAAP net income would have declined by 43% in 1999, 31% in 2000, and by 69% in 2001 if companies expensed stock options.
- Tax benefits from options exercise accounted for about 13%, 26% and 25% of semiconductor companies' cash flow from operations in 1999, 2000, and 2001.
- Several legislators, most notably Senator Carl Levin of Michigan and Senator John McCain of Arizona, have been pushing for more aggressive recognition of options issuance in financial statements. Current efforts center on having the Public Company Accounting Oversight Board determine an appropriate treatment for recognizing employee options as an expense.

Refer to important disclosures at the end of this report.

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## ■ Getting a handle on stock option expenses

There has been much debate about the appropriate accounting treatment of employee stock options recently, especially post-Enron. There is also legislation pending that could adversely affect how companies report earnings and compensate employees. In this report, we analyze the impact of stock options on the earnings and cash flows of semiconductor stocks in our coverage universe.

For our analysis, we looked at 10-Ks of semiconductor companies for the last three fiscal years, from 1999 to 2001. On average, we found that reported GAAP net income would have declined by 43% in 1999, 31% in 2000, and by 69% in 2001 if companies expensed stock options. Tax benefits from options exercise accounted for about 13%, 26% and 25% of semiconductor companies' cash flow from operations in 1999, 2000, and 2001.

## ■ How are employee stock options treated today?

Companies use employee stock options as a way to attract talent cheaply. Options offer incentive to employees by tying compensation with stock performance, and thus aligning shareholder interest with that of employees. Companies benefit from options in many ways. First, stock-option based compensation is non-cash, meaning cash-strapped companies can attract talent without burning operating capital. Secondly, companies have the option not to recognize any expense (under "intrinsic value method" or APB 25) on their income statements as long as the grant price is greater than or equal to the market price of the stock at the time of the issue. As a result, companies often use the intrinsic value method and do not recognize option expenses. However, companies are required (under SFAS 123) to disclose pro forma earnings (not the same as "pro forma earnings" companies report quarterly) using a fair value method. Typical practice is to use the Black-Scholes method to value options and amortize the expense over a vesting period for pro forma reporting purposes in 10-Ks.

Companies also get a tax benefit for the difference in exercise and grant prices when employees exercise their options. The exercise of options thus increases cash flow, although it has no direct impact on reported earnings.

## ■ How many are granted by semiconductor companies?

Table 1 shows options outstanding as a percent of stocks outstanding at the end of the last three years for our universe of companies. BRCM, CNXT, CY, MXIM and SMTC lead the pack with options accounting for more than 25% of stock outstanding at the end of 2001. While some of the options were issued in acquisitions, we believe that the majority of the option grants were to existing employees. In 2001, many semiconductor companies cancelled their existing options to issue new options at a lower strike price as the stock prices plummeted. Despite the tough job market, option grants increased in 2001.

Table 1: Options as a percent of stocks outstanding

	1999	2000	2001
ADI	12%	14%	17%
ALTR	11%	12%	14%
AMCC	10%	17%	19%
AMD	12%	13%	15%
ATML	6%	5%	4%
BRCM	26%	31%	29%
CNXT	16%	25%	25%
CY	23%	17%	30%
EXAR	27%	22%	20%
FCS	9%	13%	15%
IDTI	19%	15%	12%
INTC	9%	9%	11%
ISIL	n/a	4%	5%
LLTC	14%	12%	13%
LSCC	17%	14%	17%
LSI	15%	16%	17%
MCHP	13%	13%	12%
MRVL	14%	15%	23%
MU	9%	8%	9%
MXIM	26%	23%	25%
NSM	18%	17%	21%
NVDA	17%	14%	16%
PLXT	7%	12%	12%
PMCS	16%	13%	16%
RFMD	9%	9%	10%
SMTC	29%	28%	25%
SNDK	15%	12%	11%
TQNT	13%	12%	13%
TXCC	17%	17%	18%
TXN	8%	8%	10%
VTSS	12%	12%	15%
XLNX	20%	16%	15%
<b>Average</b>	<b>15%</b>	<b>15%</b>	<b>16%</b>

Source: Company 10-Ks, Merrill Lynch

## ■ Impact on reported GAAP net income

Next, we looked at the impact on reported GAAP net income if the options were to be expensed. Table 2 summarizes the impact on GAAP net income were companies to expense options as reported under SFAS 123. On average, semiconductor company earnings would have declined by 43%, 31%, and 69% in 1999, 2000 and 2001. The worst hit semiconductor companies in 2001 would have been ALTR, AMD, FCS, RFMD, TQNT, TXN and XLNX with greater than 100% declines in hypothetical net income.

(Continued)

**Table 2: Net Income before and after the options expense**

	1999		2000		2001	
	Before	After	Before	After	Before	After
ADI	197	163	607	527	356	192
ALTR	224	200	497	441	(40)	(124)
AMCC	17	13	49	19	(436)	(682)
AMD	(89)	(122)	983	830	(61)	(179)
ATML	53	45	266	258	(418)	(436)
BRCM	72	(117)	(688)	(1,012)	(2,742)	(3,408)
CNXT	13	(20)	(191)	(349)	(1,455)	(1,810)
CY	88	55	277	217	(412)	(517)
EXAR	5	2	15	11	28	13
FCS	(114)	(114)	273	240	(42)	(108)
IDTI	(299)	(333)	131	110	415	374
INTC	7,314	6,860	10,535	9,699	1,291	254
ISIL	24	24	(43)	(44)	40	28
LLTC	194	167	288	247	427	366
LSCC	(48)	(56)	168	148	(110)	(132)
LSI	67	11	237	150	(992)	(1,220)
MCHP	47	38	115	94	143	117
MRVL	(1)	(2)	13	12	(235)	(243)
MU	(69)	(131)	1,504	1,388	(625)	(747)
MXIM	265	221	373	293	335	205
NSM	(1,010)	(1,069)	621	550	246	133
NVDA	4	3	38	30	100	55
PLXT	7	6	(7)	(12)	(7)	(13)
PMCS	72	51	75	19	(639)	(747)
RFMD	20	18	50	32	35	(2)
SMTC	13	3	29	15	60	39
SNDK	27	20	299	276	(298)	(332)
TQNT	56	36	150	95	(26)	(65)
TXCC	25	13	38	(4)	(77)	(137)
TXN	1,451	1,303	3,058	2,796	(201)	(510)
VTSS	61	48	28	(4)	(112)	(160)
XLNX	103	65	652	560	35	(100)
<b>Average</b>		<b>43%</b>		<b>31%</b>		<b>69%</b>
<b>% Decline</b>						

Source: Company 10-Ks, Merrill Lynch; Options value based on Black-Scholes Method

## ■ Impact on cash flow from operations

Companies normally include the tax benefit they receive from option exercises in operating cash flow. Our analysis shows that, on average, tax benefits from options exercise accounted for about 13%, 26% and 25% of semiconductor companies' cash flow from operations in 1999, 2000, and 2001. Tax benefits for semiconductor companies as a share of operating cash flow doubled in 2000, helped by the bull market and sky high stock prices. While the average benefit in 2001 was 25%, we note that this is mainly due to some outliers and a lower denominator. Actual tax benefit dollars declined significantly in 2001 as majority of the options remained underwater. As expected, high-growth companies, including NVDA, AMCC, EXAR and BRCM benefited the most.

**Table 3: Tax benefit from option exercise as a percent of cash flow from operations**

	1999	2000	2001
ADI	3%	4%	11%
ALTR	16%	21%	NMF
AMCC	19%	23%	85%
AMD	0%	13%	0%
ATML	2%	2%	1%
BRCM*	47%	75%	0%
CNXT	7%	102%	NMF
CY	9%	11%	0%
EXAR	3%	114%	46%
FCS	0%	3%	1%
IDTI	0%	2%	23%
INTC	4%	7%	5%
ISIL	0%	0%	0%
LLTC	18%	23%	16%
LSCC	10%	22%	179%
LSI	11%	9%	0%
MCHP	4%	6%	6%
MRVL	0%	0%	6%
MU	6%	10%	7%
MXIM	31%	23%	30%
NSM	0%	0%	0%
NVDA	NMF	67%	93%
PLXT	0%	0%	0%
PMCS	0%	5%	NMF
RFMD	0%	36%	34%
SMTC	28%	46%	47%
SNDK	58%	35%	NMF
TQNT	23%	29%	8%
TXCC	48%	60%	NMF
TXN	0%	0%	0%
VTSS	52%	43%	NMF
XLNX	14%	33%	42%
<b>Average</b>	<b>13%</b>	<b>26%</b>	<b>25%</b>

Source: Company 10-Ks, Merrill Lynch;

\*only \$122M reported as cash benefit in 2000, BRCM also reported \$344M in non-cash tax benefit in 2000

## ■ Future implications

There have been several legislative efforts, most recently an amendment offered by Senator Levin to the Senate's accounting oversight bill, that could require explicit recognition of employee options expenses on GAAP P&Ls. The outcome is difficult to determine at this point, but one possibility is that companies will no longer be able to continue take the tax benefit from employee options exercise if they don't recognize options grants on P&Ls. The issue is a sticky one, as options grants and options exercises are two totally different events, but legislators seem much concerned with the idea that tax benefits are being generated by options exercises while no GAAP mandated recognition of options costs exists.

We also note that discussion surrounding how to value options grants appropriately has been inadequate. Coca-

Cola, which has chosen to recognize options expense on its P&L, chose not to use the Black-Scholes formula, and we suspect that will be the first of a myriad of approaches to valuing options grants. We don't think that a straightforward Black-Scholes options valuation exercise will prove appropriate for employee options grants in our sector, and we think a uniform (and reasonable) alternative approach is badly needed.

Intermediate-Term Ratings Distribution: Technology Group (as of 05 July 2002)					
Coverage Universe	Count	Percent	Inv. Banking Relationships*	Count	Percent
Strong Buy	45	16.13%	Strong Buy	15	25.00%
Buy	88	31.54%	Buy	24	40.00%
Neutral	126	45.16%	Neutral	17	28.33%
Reduce/Sell	20	7.17%	Reduce/Sell	4	6.67%
Intermediate-Term Ratings Distribution: Global Group (as of 05 July 2002)					
Coverage Universe	Count	Percent	Inv. Banking Relationships*	Count	Percent
Strong Buy	521	17.82%	Strong Buy	228	25.94%
Buy	1048	35.84%	Buy	339	38.57%
Neutral	1163	39.77%	Neutral	267	30.38%
Reduce/Sell	193	6.60%	Reduce/Sell	45	5.12%

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