

Equity Research  
North America

Industry

# Software, Internet, Semiconductors, Services

Charles Phillips  
Charles.Phillips@morganstanley.com  
Mary Meeker  
Mary.Meeker@morganstanley.com  
Mark Edelstone  
Mark.Edelstone@morganstanley.com  
David Togut  
David.Togut@morganstanley.com

## Industry Overview

November 13, 2002

## *Options: Separating the Cash from the Rash*

### MSCI SECTOR INFORMATION TECHNOLOGY

US Strategist Weight	14.6%
S&P 500 Weight	14.6%

*All of Morgan Stanley's equity research technology reports are available on the Internet through Client Link on [www.morganstanley.com](http://www.morganstanley.com). If you wish to receive this service, please contact your institutional sales representative.*

*The report also can be downloaded from [www.morganstanley.com/techresearch](http://www.morganstanley.com/techresearch)*

- Another side to the options-expensing debate**  
 The purpose of financial statements is to inform the reader/investor about the financial health of a company; these statements are not the place to create or enforce corporate governance policies or penalize management excesses.
- Focus on cash flow**  
 Valuation is inextricably linked to cash flow. A company is the sum of its cash flows which is the basis of the dividend discount model. Accounting changes that reduce the transparency of corporate cash flows should be avoided. Expensing options would place a volatile non-cash item on the income statement just as we are removing other non-cash items from the income statement (e.g. goodwill). The treatment is inconsistent.
- Studies show positive correlation with corporate performance**  
 We don't take a position on whether options are inherently good or bad and are fine if CEOs are paid in buffalo skins or bulk corn. We are interested in the appropriate accounting and the transparency of cash flows. Having said that, several empirical studies show that when properly used (i.e., distributed broadly to more than half of all employees), options are positively correlated with corporate performance.

## Options: Separating the Cash from the Rash

### Summary and Investment Conclusion

Intelligent minds can differ on the topic of expensing options — we note that there are many different views at Morgan Stanley on this topic. And we encourage you to watch for forthcoming reports from other Morgan Stanley analysts related to these topics which may offer different perspectives. Our purpose here is to provide a side to the options debate that has yet to be proffered. Instead of crafting financial statements with the intention of curbing abusive behavior, we submit that the better use of these reports is to inform investors about the financial health of a company. But in our view, financial statements are not the place to create new corporate governance policies.

Stripping away the noise, we believe that valuing a company means a focus on cash. Hence, our interest in this debate is in receiving financial statements that accurately depict a company's ability to generate free cash flow. We do not see how expensing options improves the information value or transparency of cash flows but we do find plenty of evidence that it will do just the opposite.

We don't take a position on whether options are inherently good or bad, but we think evidence from several empirical studies show that when properly used (i.e., distributed broadly to more than half of all employees), options are positively correlated with corporate performance. (See the final section of this note, titled "Empirical Research Document that Options Improve Corporate Performance — If Used Properly".)

We believe that shareholders can determine if they think options should be used or not. Our focus is on keeping the financial statements useful and not forcing investors to recreate useful statements by backing out non-cash items or creating volatile, non-cash expenses that, in our view, give the incorrect impression that the cost of generating revenue is fluctuating wildly from quarter to quarter.

In this note, we walk through options-related issues that we believe are important to sound financial analysis:

- Why Cash Should Be King in This Debate
- How *Not* to Set Accounting Policy
- The Pressure Is On, but We Should Stop and Analyze
- The Acme Cleaning Problem — It's Cash that Counts

- Costs: Let's Remember the Definition — 'Sacrifice'
- Value Conveyed May Not Always Translate into an Incremental Expense
- If Options aren't Expenses, What are They? Expensing Opportunity Costs?
- A Cost to Whom? Shareholders vs. Corporate Entity
- Even Accountants Have Problems with the Concept
- Let's Increase, not Decrease, the Cash Focus
- Confusing Corporate Governance with Accounting — Some Ideas...
- If the Regulators Really Want to Help...
- Let's at Least Get the Timing Right
- And Will the Market Care? Investors Like Cash
- Polluted Data Will Make Valuing Stocks Even More Challenging
- Lumpier Earnings? Perhaps More Stock Volatility
- It Could Backfire and Hurt Non-Management Employees
- Are Technology Companies Different? Yes, in Some Ways
- Empirical Research Document that Options Can Improve Corporate Performance — If Used Properly
- Inconsistent Tax Treatment Argues for Expensing Options — But for the Wrong Reasons

### Why Cash Should Be King in This Debate

Central to our thinking is that a business is a sum of its cash flows. That is the underlying assumption of the dividend discount model and no regulator or accounting change is likely to affect that tenet. In our view, investors' ability to assess a company's ability to return capital in the form of dividends or share repurchases is unavoidably and forever linked to the amount of free cash flow that the company can generate from operations.

We think investors should be given enough information to evaluate a two-step decision prior to committing capital:

- 1) What are the cash earnings of the company?
- 2) How widely must that stream of cash be shared with other shareholders?

Fusing the data for these two discrete decisions does not help investors but forces them to disaggregate the information to make the determination. Consequently, we believe, moving financial statements away from real-life

cash flow would not be a good thing and should be avoided when possible.

Usually, the income-statement departures from current-period cash flow are simply ones of timing, which is a difference dictated by the matching principle — i.e., current-period revenue should be matched against current-period expenses. But we are still matching real revenue, which turns into cash, with expenses, which cost us real cash, to determine a profit. We think anything else is a distraction that should be removed for analytical purposes. If we already know we have to remove an item from the financial statements to determine cash earnings, then why go down that path to begin with?

It is the cash we care about. The type of cash a credit analyst in a commercial bank would focus on — what's coming in, and what's going out. Would putting options on the income statement increase or decrease the ability to calculate discounted cash flows?

We think no one could reasonably argue that if options are expensed, then the reader of a financial statement wouldn't have to adjust reported earnings even more to figure out cash flow. To us, financial statements should be tailored for the users of those statements who are interested in making investment decisions.

In other words, financial statements are not the place to make moral statements about the excessive pay of some management teams. Financial statements are not the place to make moral statements about the excessive pay of some management teams.

#### **How Not to Set Accounting Policy**

The argument that American industry would suffer if options were expensed is one that should not drive accounting policy, in our opinion. We think most Americans want to see American business survive and prosper and innovation to continue.

As worthy a goal as that might be, it is secondary to the objective of presenting accurate financial statements. Any other conclusion would endorse defrauding investors and lenders that take the risk to finance economic expansion — the risk capital that has attracted entrepreneurs to the US

from around the world. Besides, global commerce, which has benefited American industry, depends on accurate financial statements as well as a rigorous body of contract law.

Additionally, we believe the difficulty of valuing options is not a reason to avoid expensing options altogether.

*In our view, costs should be expensed when they are reasonably certain to occur and determinable. We estimate the useful lives of fixed assets and depreciate them over time because we think they are reasonably forecastable. At most, we believe, the uncertainty of valuing options would only delay when they should be expensed, which is a good argument for waiting until the exercise date.*

#### **The Pressure Is On, but We Should Stop and Analyze**

The pressure to do something quickly on options appears to be leading most non-technology companies to expense options, and the same could occur for many technology companies.

Angry people usually are in a bit of a hurry — they probably are not interested in lectures, analysis, or fireside chats, and they do not go to arbitration. Decisions made in such an environment are often rash, and the product of short-term pressures and emotional arguments; there is little interest in, or time for, analyzing complex issues.

Accounting can be very complex, however, and is simply not a subject that accurately lends itself to sound bites, as much as everyone would like a quick solution to the options-expensing issue. The pressure to expense seems to have grown inversely with the level of the NASDAQ.

In addition, CEOs are striving to regain credibility and to calm shareholders and the media and would ride the bus to work everyday if that would help. Directors feel a heightened sense of personal risk and have stepped up their efforts to offer more evidence of their worthiness as fiduciaries. Shareholders, still licking their financial wounds, would like some company. Bankers, accountants, and lawyers are under too much pressure, in our view, to mention the inconsistent accounting principles that expensing options creates. Technology CEOs' protestations are written off as audacious self-interest. It seems like every other week a council of executives, shareholders, or accountants — organizations that have been familiar with options for decades — announces that it has "changed" its

position on options and now feels strongly that they should be expensed.

We think no one could argue successfully against curbing excessive CEO pay. But whether they are paid in buffalo hides, baseball cards, or government cheese has no bearing on maintaining logical, consistent accounting and disclosure rules. We do not have a dog in that fight. All we look for is an accurate measurement of the cash impact on earnings from which investment decisions can be made.

Back in the 18th century, British statesman Edmund Burke said, “It is the nature of all greatness not to be exact.” Populist themes can rally opinion around a cause, but when it comes to accounting, we need to be exact.

### **The Acme Cleaning Problem — It’s Cash that Counts**

The fervor to expense options does not solve what we call the Acme Cleaners problem. Let’s say that the three partners who own Acme Dry Cleaning need a new pressing machine, and they also need all available cash to make payroll next week. The trio that owns and operates the business decides to add a fourth partner who happens to own a great pressing machine, which he contributes to the company for his equal share of the business.

The company makes payroll, has a new pressing machine, and even accelerates revenue growth from the expanding production capacity.

What just happened? The business now has four owners after the original three owners *chose* to dilute themselves to obtain a benefit which they deemed worth the additional shares granted to the newcomer. Cash flow, and even revenue in this case, is greater than it would have been had the newcomer not shown up — and they made payroll.

Expensing the fourth partner’s equity participation on the income statement provides no incremental information to the financial statement reader and might even be misleading. To figure out if Acme can make payroll, the reader would have to *adjust* the statement to exclude an expense created for the new partner’s ownership stake, which is in addition to the new shares already documented.

The partners were diluted, but Acme, the corporation, bore no “sacrifice” and instead *benefited*. The shareholders who deemed it a worthy trade-off to dilute themselves for a benefit made the sacrifice.

*The dilution is accurately reflected in the increased shares outstanding, and we do not see a strong accounting argument to “double count” and make up an expense on top of the increase in share count.*

### **Costs: Let’s Remember the Definition — ‘Sacrifice’**

Throughout the debate on options, no one seems to have begun at step one by documenting the definition of costs according to accounting literature. It is useful to remember how the world traditionally defined a cost before we all got angry about our decimated portfolios. According to Barron’s *Dictionary of Accounting Terms*, COST means:

- 1) *sacrifice*, measured by the price paid, to acquire, produce, or maintain goods or services. Prices paid for materials, labor, and factory overhead in the manufacture of goods are costs.
- 2) an asset. The term cost is often used when referring to the valuation of a good or service acquired. When it is used in this sense, a cost is an ASSET.

“The concepts of cost and expense are often used interchangeably. *When the benefits of the acquisition of the goods or services expire*, the cost becomes an expense or loss. An EXPENSE is a cost with expired benefits. A loss is an expense (expired cost) with no related benefit.”

That is the definition in black and white. And we think the key phrases are “sacrifice” and “expired benefit”. Thus, to expense options, we have to identify who made what sacrifice, and when the benefit from that sacrifice expires.

In our opinion, we should expense costs that create a current or future cash, contractual obligation once it can reasonably estimated and eventually quantified precisely.

### **Value Conveyed May Not Always Translate into an Incremental Expense**

In our view, there is no debate about whether options have economic value. Compensation confers some value to the employee in exchange for services rendered.

But that is not the end of the analysis. The next question is whether value conferred to an employee is always an expense; that is whether the requisite “sacrifice” by the corporation, and not just its shareholders, exists in the transaction.

An employee might value things other than cash compensation. Maybe there are non-cash forms of compensation and if so, do we expense all forms of non-

cash compensation? Options are of course the main example, but a promotion, expanded responsibilities, a new title, or even simple recognition might all represent enough value to cause a person to remain with the company.

None of these events represent incremental cash expenses, nor do we book them as incremental accounting expenses, even though an employee may accept them in lieu of cash compensation. Many executives would willingly take less compensation to sit in the CEO's chair for a few years.

Grants of value without corresponding cash expenses occur in corporate relationships as well. Companies that land important distribution and co-marketing agreements from important partners or a listing in a partner's catalog receive potentially enormous value.

Other events such as co-support agreements (joint customer support for customers using both companies products), partner certification (endorsement of complementary technology), and technology integration agreements (sharing of technical integration agreement) are often major achievements for at least one party to the agreement.

These commitments, which are not optional once consummated by contract, can have significant value and companies compete fiercely to obtain them. Yet we do not expect companies to book an expense when they are conferred or a gain when received.

#### **If It's Not an Expense — What Is It?**

Options do confer potential monetary value. An option is also compensation, but compensation is conferred in the form of a cash expense or alternatively in the form of equity ownership — which seems to be a fairly straightforward concept to us.

One we expense — the cash compensation component — and with the other we dilute shareholders' stake by increasing the number of shares outstanding — one hopes with their knowledge and approval.

*We believe options are alternative compensation but do not qualify as cash equivalents; try paying off a bank loan with underwater options. In fact, if anyone thinks they are the same as cash, we have some we'd be happy to trade you for cold cash on a 3-to-1 basis to Black-Scholes value. Any takers?*

By accepting an option, the employee gives up cash compensation for something that might expire as worthless, which means the exchange increases cash flow for the company at the time of grant.

Options convert employees to equity partners, and in any other circumstance the co-owners do not represent expenses but dilution. The newly made partner presents dilution to the other partners. The new partner is made so because of past and expected performance.

It is not hard to argue that existing partners should have some say in admitting new partners, and they indeed do in private partnerships. In public partnerships, the original partners get diluted without a vote, and therein may lay the problem.

**Our preference would be for showing Currently diluted earnings per share and Potentially diluted earnings per share, which reflect all option and stock grants of any type and vesting schedule.**

#### **Expensing Opportunity Costs**

The argument that options have a cost because the company could have issued the shares to the public to raise capital is an interesting point. First, there is absolutely no assurance the shares could have been issued to the public instead of granting employees options to buy shares later.

Depending on the circumstances, the public market may not be hospitable to an offering at the current price or, even less likely, at the strike price of the options.

Moreover, what one *could* have done with the options is an opportunity cost, and expensing opportunity costs would require us to do the same in other areas. The logical extension of this approach would be to create a highly distorted income statement that shows what "could" have happened instead of what did happen.

*Similarly, the opportunity-cost logic would lead to expensing all acquisitions involving stock, which no one is arguing for today.*

The slightly stronger argument for opportunity costs is that companies may repurchase shares in the open market to offset the dilution from options. But the key word is "may",

since there is no requirement to repurchase and many technology companies don't. The repurchase is a separate decision and hence a separate accounting event.

*We see the benefit in disclosing some opportunity costs. Letting investors know the cash outflow that was avoided, and as a result the ability to dilute shareholders, is useful information. Putting this information in the footnotes would likely help shareholders make the trade-off of whether they would like to continue to accept the dilution for the benefit to be gained.*

#### **A Cost to Whom? Shareholders vs. Corporate Entity**

Options definitely have a cost to shareholders, but is that the same as a cost to the company? Merging shareholders and corporation into a single entity is at odds with the fact that sometimes their interests diverge.

*If shareholders and the corporation were one and the same, shareholders would be suing themselves when they file suit after a stock declines.*

The two are distinct legal entities, and once two entities are distinct, they have distinct interests that may or may not coincide at a given point in time. By extension, it is possible for an event to favor one's interest and not the other's, even if only for a short period.

Shareholders' "sacrifice" is reflected in the dilution, in our view. And expensing options attempts to create a sacrifice for the company as well, even if the cash-flow impact is positive (cash not paid out in salary).

#### **Even Accountants Have Problems with the Concept**

It is not just by happenstance that accounting regulators have been struggling with how to account for options for over 25 years, since APB 25 was first passed. As a former member of FASAC (the Financial Accounting Standards Advisory Council), Chuck Phillips watched accountants debate this issue more than a decade ago. Even then, before the current media focus on options, there were strong opinions on both sides of the issue from people with no monetary interest in the outcome. To us, there is no getting around the fact that expensing options creates inconsistencies in the accounting system and is at odds with how we treat other non-cash expenses. And accountants have always struggled with that notion.

*For example, putting non-cash expense on the income statement contrasts with recent decisions that accountants*

*(FAS 142) made to remove goodwill amortization from the income statement, which has a much stronger tie to cash flow.*

Performance-based options and grants of stock currently are expensed, while stock options are not. We can move all the shareholder-ownership information into the income statement, or we can isolate it all in the share count and through additional disclosure. But inconsistent treatment among different types of options and share grants also distorts the income statement.

One thoughtful idea that has been thrown around is that, perhaps options, at the time of grant, could be added to the balance sheet as a liability that gets marked to market each quarter with value changes (not unlike how investments are handled now). And at the time of exercise, the liability could move to the income statement. There are inconsistencies in this approach as well but at least the options would be expensed on exercise when the value is known. Investors would end up adjusting liabilities and the income statement for financial statement analysis.

Additionally, current proposals allow companies to pick from *one of three valuation methodologies* that can produce substantially different numbers. *How is that helping investors determine the financial condition of a company if there is no consistency of measurement of a large, volatile expense?*

*FASB has also proposed three transition alternatives, which includes the option of restating prior periods — not a popular option with investors.*

#### **Let's Increase, Not Decrease, the Cash Focus**

In our view, the accounting profession should be taking this in the opposite direction. In our view, rather than clouding the statements with more non-cash charges and rendering them less useful, why not move us toward the Direct Method of cash flow statements?

The direct method cash flow statement focuses on gross operating receipts and payments instead of reconciliation with net income. The direct method statement is formatted to clearly disclose cash paid to and received from specific constituencies, such as:

- Cash paid to suppliers
- Cash paid to employees
- Cash paid for taxes
- Cash collected from customers

- Cash spent on inventory
- Cash received in interest income
- Cash used to purchase equipment
- Cash used to pay loan principle

Wouldn't that be nice? The direct method provides a lot more information, but few companies use it. Even if some people prefer the current format, why not provide both? The data should be available. Having the components of an account always provides more information than a net change figure.

A study by Professors Gopal V. Krishnan of George Mason University and James A. Largay III of Lehigh University concluded that financial statement users not privy to direct method cash flow statements are at a disadvantage to those that are. Moreover the professors found the indirect method misleading because of all the management discretion involved in classifying the period changes.

#### **Confusing Corporate Governance with Accounting — Some Ideas...**

The outcry over options clearly materialized once the market declined and the wealth accrued to management far exceeded the returns that shareholders realized. Moreover, shareholders had been significantly diluted without the opportunity to vote on the matter.

But curbing options abuse is a separate issue from accounting, where the aim is to convey to the financial statement reader the economic condition of the company.

Accounting rules should accurately convey economic reality and financial clarity for decision-making — revenues, cost, and cash flows — while laws, regulations, shareholders, and boards of directors curb bad behavior.

The prevention of abuse is probably best left to adequately ambitious regulators and law enforcement, instead of attempting to sensor bad actors and set governance policy with accounting changes.

A management team can spend too much money on marketing, build an unneeded, expensive headquarters building, or waste money on unwise acquisitions. The financial statements should accurately quantify the expenses

related to the excess, but it is up to the board, the shareholders, and regulators to curb excessive behavior.

*We don't double-count marketing expenses to penalize bad marketing decisions. We would just change the management.*

We believe that accounting rules should lead to clarity, disclosure, and financial accuracy and withstand all other pressures — even ones with good intentions.

Abuse can be controlled in many ways, but we think accounting is probably one of the least effective routes. We would suggest the following avenues instead:

- 1) Shareholder approval for aggregate options granted, combined with an annual commitment by management regarding percentage range of options to be granted in the upcoming year.
- 2) Performance-based options tied to growth and profitability goals.
- 3) Longer vesting periods in stages.
- 4) Option plans with broad distribution among employees.
- 5) Improved disclosure of grants and exercises and a reduction in the lag time in reporting transactions.
- 6) A documented, public explanation on how compensation was evaluated and which comparable companies were analyzed to come up with a competitive, fair compensation for the management team. Description of what outside sources were used to determine competitive compensation levels.
- 7) Prohibition against hedging restricted shares (which in effect create a synthetic sale of the stock and remove risk for the owner of the shares).
- 8) Shareholder approval for exchange programs and re-pricing of options.
- 9) A Currently diluted EPS number and Potentially diluted EPS number that include all grants, whether vested or in the money.
- 10) A thoughtful examination of the arguments for different types of option-incentive plans to suit the needs of private vs. early-stage public vs. late-stage public companies.

See our report, "Option Practices — A Look at the Past...", dated September 20, 2002, for a perspective on historical option practices for the companies that went public post-1980 (and that were founded after 1970) and created the most wealth for investors. We believe that data for these companies can be effective in demonstrating best practices.

### If the Regulators Really Want to Help...

We can think of a lot of other information that should be much more helpful in valuing companies than expensing stock options. Our broad-based wish list would include the likes of the following on a quarterly basis in the 10-Q:

- Product line revenue and profitability
- Division revenue and profitability
- Unit volume for all key products
- Average prices for all key products
- The largest transaction in the quarter
- Revenue by month in the quarter
- Revenue by vertical market and separately managed geographies
- Revenue by distribution channel
- Revenue by recognition policy (percentage of completion)
- Allocation of research spending by product and expense category (labor, equipment, facilities, overhead)
- Segmentation of support costs by product and expense category
- Segmentation of selling and marketing expenses by division, expense category, and product, if appropriate
- Segmentations of fixed assets by line of business
- Option grants and cumulative grants outstanding
- List of top holders of options, vested and non-vested
- List of top holders of restricted and un-restricted shares
- Outstanding loans to corporate officers
- Outstanding employee contracts with all details in the 10-Q
- In addition, production of cash flow statements at the time of earnings release (prior to release of 10Q) would be optimal.

And we could construct a much longer list. We appreciate the competitive intelligence these data represent but other industries disclose extensive operating metrics and if all companies participate, there is no competitive disadvantage for anyone and investors are a lot more informed and less dependent on management forecasts. The industry would quickly adjust to expanded disclosure practices; these are public, not private companies.

### Let's at Least Get the Timing Right

*If options are to be expensed, we think the more logical time would be on the exercise date, when the value in fact exists and all ambiguity has been resolved.* Options have potential value but could end up worthless — a not uncommon event over the last two years, given the market's overall decline. In fact, we think the most probable scenario is for the options to expire as worthless in light of the high casualty rate among high tech start-ups.

Prior to exercise, the value is not reasonably forecastable, so delaying the expense to show actual costs instead of substantially incorrect estimates makes sense to us. Until they are exercised, the value can still evaporate — especially in technology, where a bad quarter can cut a stock's value in half.

Critics of this approach believe it violates the matching principle, but that presupposes there was a measurable, direct expense associated with revenue in prior periods.

*What if the options expire as worthless — was the revenue that much cheaper to produce in prior periods and we just didn't realize it?*

### And Will the Market Care? Investors Like Cash

The danger of dumping non-cash-flow-related expenses to the income statement is that the market adjusts for the distortion on its own. If the market is focused on the sum of all cash flows, it tends to “back out” items from the financial statements that don't help quantify that stream of cash flows. The SEC can pass as many regulations as it likes, but investors are always free to decide how to determine value, and it seems they tend to always migrate back to cash earnings.

Markets discount known or easily discoverable information quickly; either we believe in efficient markets or we don't. If so, the financial statement footnotes and proxy statements have long shown the options overhang. If the market planned on discounting multiples based on options expense, it probably would have already done so by now.

*Conversely, if options were a new expense that affected the cash flow stream, the market would correct for this suddenly discovered expense.*

Yet there is no evidence that the market or individual stocks have reacted to the requirement to expense options. *Of the 104 companies that we have identified as electing to expense options from July 8 to September 26, 2002, the median stock price change on the day following the announcement was a positive 1%. The average was a positive 1.5%. One week after the announcement the median stock price change was a positive 2.4% — hardly any indication that investors believe a new expense has been unveiled.*

### Polluted Data Will Make Valuing Stocks Even More Challenging

We think individual investors would be the most confused by options expenses. Institutional investors have the time and expertise to adjust the income statements as needed for their analyses.

*But an individual investor could own a stock in a company that pays dividends each year and is cash-flow positive, yet reports accounting losses for ten years in a row. Many will find that inconsistency confusing and not know whether the company is going out of business or conducting business as usual.*

The investment databases that institutions use would all contain historical data that show wildly fluctuating costs to produce a given level of revenue. A stock dropping in half or doubling within a quarter would show data which suggest that the underlying cost to produce the revenue fell sharply, which should produce a cash-flow windfall, or jumped substantially, which might create losses and the perceived need for financing.

Yes we would all probably back out the effects of the options to analyze the real cost of producing the revenue in prior periods, but then why go through the exercise of expensing options in the first place?

Why create expenses with full knowledge that the amount estimated is highly unpredictable and misleading if there is no cash impact, while at the same time curtailing the amortization of goodwill?

### Lumpier Earnings; More Stock Volatility

Expensing options could produce much lumpier earnings from companies depending on the stock price and the overall market price. If the options have to be marked to market, a stipulation that has not been debated or decided, the related earnings volatility could translate into stock and market volatility. One could argue that options which increase significantly in value before the exercise date should translate into an increase in the expense level on the income statement.

Options are not always granted in smooth increments. The timing may depend on the ebb and flow of the business cycles and the resulting need to hire more aggressively in some years than in others.

If we get to that point, the related volatility in earnings cannot be a good thing for most investors, perhaps with the exception of options traders. If it reflected actual lumpier cash flows, then so be it. But when it is a mirage stemming from an attempt to implement corporate governance standards, that is quite another thing. More volatility is not quite the thing the markets need right now.

The notion that expensing options will restore investor confidence seems far-fetched to us in light of the possible increase in earnings volatility and masking of cash flow.

### It Could Backfire and Hurt Non-Management Employees

A recent survey by iQuantic/Buck Consultants revealed that over half of the 117 companies in its survey would make non-exempt employees ineligible for options if they had to be expensed. According to the American Electronics Association, non-officers received 66% of the value of the options granted in the technology sector over the last three years and 84% of employees received options.

Exhibit 1

#### Historical Growth in Option Plans

Year	Plans	People
1975	1,600	248K
1980	4,000	3.1M
1990	8,080	5M
1993	9,225	7.5M
1996	10,670	8.7M
2001	11,400	8.5M

Source: National Center for Employee Ownership

In practice, we think it might be difficult to suddenly stop granting options to the rank and file, but they could surely be reduced.

The other risk we see is that expensing options could unleash the tax collector. If we declare that companies have for certain provided cash value at the time of option grant and it should be expensed to the corporation, that must mean the employee received something of cash value, which in the absence of special legislation would make the receipt a taxable event. If the employee has received nothing of cash value, then why expense it?

One could argue that the shift toward more employee ownership is consistent with structural changes in the economy. Professor Baruch Lev, an expert on the valuation

of intangibles, published a report for the Brookings Institution, which estimated that intangible assets now represent 60-75% of corporate value. The study showed that tangible book value as percentage of market capitalization fell from 83% to 31% over the 20 years ending in 1998. In other words, the intangibles — patents, process knowledge, research, trade secrets, and such — represents a greater percentage of the value of a company. Those soft assets are created by intellectual capital — people; consequently, we think it is logical to compensate employees differently and include them as owners, since they are creating more of the value than capital or hard assets.

### Is Technology that Different? Yes, in Some Ways

The dynamic, unpredictable nature of technology inventions that can obsolete entire industries in a matter of months makes it different ball game. Coke will likely be selling that magic brown soda water 50 years from now. Who knows what Cisco or Apple will be selling in 50 years? Brand names in technology are more fragile, since falling off the technology curve can sour the name irreparably.

Tech is a competitive industry with short product cycles. And employees drawn to that environment often relish the prospect of changing the world with a new invention, plus the possibility of a financial jackpot if they are right. They either get to work for a small, no-name company that goes nowhere — the more likely outcome — or they can hit a home run. In other words, they skipped the perceived safety of working for more stable companies.

All that translates into higher risk and more work for employees. Not too many employees in technology companies retire with a gold watch and a fat pension plan. So all the panels of non-technology CEOs that have quickly endorsed expensing options may not have an appreciation for the inherent risk in technology. Many non-technology executives come from companies with much less (historical) stock volatility and more narrowly distributed options, which means the expense they would recognize from options is small.

The extra risk is not a reason to not expense options but an explanation of why options are more prevalent in technology. To convince high-quality employees to take extra risk, technology companies had to offer something extra to offset that risk to make the trade-off worth it. Would these jobs go unfilled were it not for stock options?

Unlikely. But they might become entry-level jobs for those who cannot get lower-risk jobs elsewhere.

The risk/reward of technology companies has been around for years — many of the facts are detailed in our annual *Technology IPO Yearbook*. And, as noted in our aforementioned recent option report, the wealth creation has been especially significant.

*Despite all the US technology trashing of the day, the innovation (and the net wealth and job creation) could still be called the envy of the world.*

### Empirical Research Documents that Options Improve Corporate Performance — If Used Properly

We believe there is plenty of solid research documenting the impact on corporate performance from options. Whether positive or negative, that should not change how we account for options. Accuracy for the reader to determine the financial health of the company is the one and only goal.

We have combed through a number of what we believe are solid academic research studies showing the effect of stock options programs — much of it pre-bubble, so that we can see the correlation before things got so distorted.

The bottom-line conclusion from the academic research, in our opinion, is that stock options are positively correlated with corporate performance *if, and only if*, they are distributed *broadly*, defined as to more than 50% of the employees.

The most comprehensive of all the studies, in our view, is one by Professors Douglas Kruse and Joseph Blasi of Rutgers University. It is an ongoing study of the effect of options grants on corporate performance and is widely considered the authoritative report because of the extensive data collected and rigorous analysis. We tend to use the Kruse-Blasi study because, unlike most studies, it distinguishes between employees who were simply eligible to receive options and those who actually were awarded them. But there are other reports that we think provide useful angles, and we will touch on some of those as well.

The Kruse and Blasi study showed a 17% incremental improvement in productivity (relative to non-option-granting companies) three years following options grant for companies that gave most or all employees options. For this same group, return assets improved 2.3% per year more

than the rest of the sample. We think these are interesting data points that support co-ownership between employees and shareholders.

Exhibit 2

### Difference in Post-ESP to Pre-ESOP Corporate Performance

Annual Sales Growth	+2.4%
Annual Employment Growth	+2.3%
Annual Growth in Sales Per Employee	+2.3%

Source: National Center for Employee Ownership

Additionally, the professors determined that companies that had broad-based option plans (defined as the majority of non-management employees), performed well enough to equal or exceed the dilution caused by option plans — like the “Is it Worth It?” analysis the hypothetical Acme Cleaners partners conducted.

The key variable that best predicted whether options affected corporate performance was breadth. If the option plan was “broad-based” — defined in the study as more than half of all employees receiving options and not just being legible — it affected corporate performance in a positive, statistically significant way.

A William M. Mercer Co. study found that less than half of all corporations granting options have “broad-based” programs and that companies tended to exaggerate the extent to which options were actually granted. Again, eligibility is much different from actual grants, and few analyses make a distinction. A Watson Wyatt Worldwide study cited the average overhang from options at 13%.

But the data do not address the disproportionate mega-grants to a small number of executives — some who were founders and already had substantial stock. But much of the excess occurred after the mid-1990s. A 1990 study (Jensen and Murphy) documented that the average CEO saw a wealth increase of only \$3.50 for every \$1,000 increase in shareholder wealth. That was of course an acceptable “Is it Worth It” trade-off, but all that changed as the decade wore on.

By 1998, the average CEO in an updated study by Hall and Liebman realized a \$25 increase for every \$1,000 increase in shareholder wealth, and that figure understates the wealth effect for CEOs since it’s not adjusted for absolute size.

There are other academic studies that tend to support a positive impact from option grants. Increased corporate performance from stock option grants is an extension of incentive contract theory first described by Professors Jensen and Mecklin in 1976. Still other theories suggest that companies perform better when most employees have an ownership interest because it encourages communication and manages superior information from rank-and-file employees who collectively have access to information management needs. Another study (Conte and Svejnar, 1990) espoused efficiency wage theory in which higher performing employees tend to gravitate to pay for performance environment and take more compensation risk.

A review of 30 studies with 345 estimates showed that 92% of the estimates indicate a positive relationship between profit-sharing and productivity or profitability (Belle and Kruse 1995). A study in 1991 (Blasi, Cotie, and Kruse) showed that as of 1991, companies with more than 5% employee ownership had greater share price appreciation than otherwise-similar firms throughout the decade of the 1980s. Companies with more than 20% employee ownership had average product gains but better return on assets and total shareholder returns.

None of these studies is perfect, but there are many, and they all arrive at similar conclusion — broad based employee ownership or profit-sharing is positively correlated with corporate performance.

### Inconsistent Tax Treatment Argues for Expensing Options — But for the Wrong Reasons

Under current tax law, Incentive Stock Options and Non-Qualified Stock Options are treated differently.

For Incentive Stock Options, no obligations are created at the time of grant. If the employee holds the stock for at least one year post-exercise and two years following the grant date, the employee can pay taxes at the lower capital gains rate. The company gets no deduction unless the employee disposes of the stock prior to the required holding periods. Since the holding requirements represent a difficult hurdle for employees and most companies want the tax deduction, Incentive Stock Options have not been broadly used. This category of options was popular with companies that did not have earnings, since they were not paying taxes anyway.

---

Most companies use Non-Qualified Stock Options. With these options, the employee pays no taxes at the time of grant, but taxes must be paid on the gain at the time of exercise at ordinary income tax rates. The company can deduct an expense equal to the amount of the gain at the time of exercise.

*In our view, the net of all this is that companies are getting tax deductions — a real cash-flow impact — for stock options they are not expensing for financial statement purposes.*

This does create an obvious inconsistency, but on the other hand the extremely complex US tax code has many inconsistencies; so we think that should not drive accounting policy. In our view, however, it does create some interesting political questions, and we wonder if lawmakers fully understand the windfall some companies likely received by expensing options for tax purposes while simultaneously arguing they were not expenses on the income statement; perhaps you can have your cake and eat it too.

That brings us to our final point: We think companies should be careful about what they wish for. If successful in stalling the options-expense movement, lawmakers might just learn enough about the subject to turn their attention to the tax considerations. As the saying goes, Don't look at a gift horse in the mouth — but we can see this one rearing its head in force at some point. Ironically, we think companies would maximize cash flow by letting options be expensed, assuming the lawmakers eventually demand consistent tax and financial statement treatment. The tax deduction is real cash.

*So we believe that companies could be faced with the Hobson's choice of distorting the financial statements with an expense that does not affect cash to preserve a tax deduction that does. One could argue that a company should maximize the cash flow, expense the options, and help investors adjust the reported income statement for this non-cash expense, which is what we think would likely happen.*

## Global Stock Ratings Distribution

(as of October 31, 2002)

Stock Rating Category	Coverage Universe		Investment Banking Clients (IBC)		
	Count	% of Total	Count	% of Total IBC	% of Rating Category
<b>Overweight</b>	660	32%	249	37%	38%
<b>Equal-weight</b>	980	47%	315	47%	32%
<b>Underweight</b>	434	21%	105	16%	24%
<b>Total</b>	2,074		669		

Data include common stock and ADRs currently assigned ratings. For disclosure purposes (in accordance with NASD and NYSE requirements), we note that Overweight, our most positive stock rating, most closely corresponds to a buy recommendation; Equal-weight and Underweight most closely correspond to neutral and sell recommendations, respectively. However, Overweight, Equal-weight, and Underweight are not the equivalent of buy, neutral, and sell but represent recommended relative weightings (see definitions below). An investor's decision to buy or sell a stock should depend on individual circumstances (such as the investor's existing holdings) and other considerations.

## ANALYST STOCK RATINGS

**Overweight (O).** The stock's total return is expected to exceed the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

**Equal-weight (E).** The stock's total return is expected to be in line with the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

**Underweight (U).** The stock's total return is expected to be below the average total return of the analyst's industry (or industry team's) coverage universe, on a risk-adjusted basis, over the next 12-18 months.

**More volatile (V).** We estimate that this stock has more than a 25% chance of a price move (up or down) of more than 25% in a month, based on a quantitative assessment of historical data, or in the analyst's view, it is likely to become materially more volatile over the next 1-12 months compared with the past three years. Stocks with less than one year of trading history are automatically rated as more volatile (unless otherwise noted). We note that securities that we do not currently consider "more volatile" can still perform in that manner.

Ratings prior to March 18, 2002: SB=Strong Buy; OP=Outperform; N=Neutral; UP=Underperform. For definitions, please go to [www.morganstanley.com/companycharts](http://www.morganstanley.com/companycharts).

## ANALYST INDUSTRY VIEWS

**Attractive (A).** The analyst expects the performance of his or her industry coverage universe to be attractive vs. the relevant broad market benchmark over the next 12-18 months.

**In-Line (I).** The analyst expects the performance of his or her industry coverage universe to be in line with the relevant broad market benchmark over the next 12-18 months.

**Cautious (C).** The analyst views the performance of his or her industry coverage universe with caution vs. the relevant broad market benchmark over the next 12-18 months.

Stock price charts and rating histories for companies discussed in this report are also available at [www.morganstanley.com/companycharts](http://www.morganstanley.com/companycharts). You may also request this information by writing to Morgan Stanley at 1585 Broadway, 14th Floor (Attention: Research Disclosures), New York, NY, 10036 USA.

---

This report does not provide individually tailored investment advice. It has been prepared without regard to the individual financial circumstances and objectives of persons who receive it. The securities discussed in this report may not be suitable for all investors. Morgan Stanley recommends that investors independently evaluate particular investments and strategies, and encourages investors to seek the advice of a financial adviser. The appropriateness of a particular investment or strategy will depend on an investor's individual circumstances and objectives.

The information and opinions in this report were prepared by Morgan Stanley & Co. Incorporated ("Morgan Stanley").

Morgan Stanley policy prohibits research analysts, strategists and research associates from investing in securities in their MSCI sub industry. Analysts may nevertheless own such securities to the extent acquired under a prior policy or in a merger, fund distribution or other involuntary acquisition.

This report is not an offer to buy or sell any security or to participate in any trading strategy. Morgan Stanley, Morgan Stanley DW Inc., affiliate companies and/or their employees may have investments in securities or derivatives of securities of companies mentioned in this report, and may trade them in ways different from those discussed in this report. Derivatives may be issued by Morgan Stanley or associated persons.

The research analysts, strategists, or research associates principally responsible for the preparation of this research report have received compensation based upon various factors, including quality of research, investor client feedback, stock picking, competitive factors, firm revenues and investment banking revenues.

Morgan Stanley has no obligation to tell you when opinions or information in this report change. Morgan Stanley and its affiliate companies are involved in many businesses that may relate to companies mentioned in this report. These businesses include market making and specialized trading, risk arbitrage and other proprietary trading, fund management, investment services and investment banking.

This report is based on public information. Morgan Stanley makes every effort to use reliable, comprehensive information, but we make no representation that it is accurate or complete.

This report has been prepared by Morgan Stanley research personnel. Facts and views presented in this report have not been reviewed by, and may not reflect information known to, professionals in other Morgan Stanley business areas, including investment banking personnel.

The value of and income from your investments may vary because of changes in interest rates or foreign exchange rates, securities prices or market indexes, operational or financial conditions of companies or other factors. There may be time limitations on the exercise of options or other rights in your securities transactions. Past performance is not necessarily a guide to future performance. Estimates of future performance are based on assumptions that may not be realized.

This publication is disseminated in Japan by Morgan Stanley Japan Limited; in Hong Kong by Morgan Stanley Dean Witter Asia Limited; in Singapore by Morgan Stanley Dean Witter Asia (Singapore) Pte., regulated by the Monetary Authority of Singapore; in Australia by Morgan Stanley Dean Witter Australia Limited A.B.N. 67 003 734 576, a licensed dealer, which accepts responsibility for its contents; in certain provinces of Canada by Morgan Stanley Canada Limited, which has approved of, and has agreed to take responsibility for, the contents of this publication in Canada; in Spain by Morgan Stanley, S.V., S.A., a Morgan Stanley group company, which is supervised by the Spanish Securities Markets Commission (CNMV) and states that this document has been written and distributed in accordance with the rules of conduct applicable to financial research as established under Spanish regulations; in the United States by Morgan Stanley & Co. Incorporated and Morgan Stanley DW Inc., which accept responsibility for its contents; and in the United Kingdom, this publication is approved by Morgan Stanley & Co. International Limited, solely for the purposes of section 21 of the Financial Services and Markets Act 2000 and is distributed in the European Union by Morgan Stanley & Co. International Limited, except as provided above. Private U.K. investors should obtain the advice of their Morgan Stanley & Co. International Limited representative about the investments concerned. In Australia, this report, and any access to it, is intended only for "wholesale clients" within the meaning of the Australian Corporations Act.

The trademarks and service marks contained herein are the property of their respective owners. Third-party data providers make no warranties or representations of any kind relating to the accuracy, completeness, or timeliness of the data they provide and shall not have liability for any damages of any kind relating to such data. The Global Industry Classification Standard ("GICS") was developed by and is the exclusive property of MSCI and S&P.

This report or any portion hereof may not be reprinted, sold or redistributed without the written consent of Morgan Stanley.

**Additional information on recommended securities is available on request.**

**The Americas**

1585 Broadway  
New York, NY 10036-8293  
United States  
Tel: +1 (1)212 761 4000

**Europe**

25 Cabot Square, Canary Wharf  
London E14 4QA  
United Kingdom  
Tel: +44 (0)20 7513 8000

**Japan**

20-3, Ebisu 4-chome  
Shibuya-ku,  
Tokyo 150-6008, Japan  
Tel: +81 (0)3 5424 5000

**Asia/Pacific**

Three Exchange Square  
Central  
Hong Kong  
Tel: +852 2848 5200