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DERIVATIVES AND RISK MANAGEMENT IN THE BANKING INDUSTRY

Abraham Mulugetta, Hristo Hadjinikolov

Ithaca College, New York

Abstract

The purpose of this study is to examine issues surrounding the enactment of Financial Accounting Statement 133 (SFAS 133) in managing risk in the banking industry. It examined the financial statements of ten major U.S. banks by investigating their 10Ks and 10Qs from 1999 to 2002. It found out that banks that had large hedge positions before SFAS 133 reduced their exposures for a while and increased their positions in 2002. Interestingly, those banks with small hedged positions before the rule, increased their positions after the adoption of SFAS 133. As expected the statement increased the degree of disclosure and transparency of derivative activities which compliments the Sarbanes Oxley Act of 2002.

1. Introduction

The implementation of Financial Accounting Statement 133 (SFAS 133) was triggered by a surge in the use of derivative instruments in the last two decades by government-sponsored agencies, municipalities and corporations. Corporations often use derivatives properly to hedge various currency, interest rate, cash and fair value risk exposures. However, they often find it difficult to design perfect hedges, which eliminate risk, without creating additional profits or losses. Furthermore, some firms have intentionally engaged in speculative derivative trading, which has proved a significant revenue source for some, but a financial disaster for others. As a result, regulators, analysts and institutional investors had registered a number of complaints in regard to the failure of financial statements to reflect the embedded risk and fair value of these derivative securities. The release of SFAS 133 in June 1988, and its adoption in January 2001, was a decade-long effort to develop a comprehensive accounting framework for derivatives and hedge accounting by the U.S. Financial Accounting Standards Board to address the complaints raised. Regulators and investors hope that financial statements and the risk management process will become more transparent under this rule (Hwang and Potouhas, 2001.) SFAS 133 offers an innovative accounting approach, which is more result- than instrument-oriented. In some instances, while improving the existing accounting procedures, it fails to effectively deal with some of the problems that led to its creation. On other occasions, earnings volatility, which was one of the main concerns, has become more significant than before the standard's implementation, as amply demonstrated recently by the

wide swings of quarterly earnings of Freddie Mac and Fannie Mae. Even in its short existence, SFAS 133 has raised seemingly irreconcilable issues from different quarters. If one can speculate, a number of procedural, technical, managerial, and security innovations will inevitably accompany SFAS 133 for its smooth implementation. While these changes have the potential to confuse and hinder the clarity of financial performance in the short-run, these changes will bring a number of efficiencies in the disclosure arena of financial statements in the future.

This study will first examine the background, benefits and shortcomings of SFAS 133. This will be followed by the assessment of SFAS 133 on banking —, the industry that is most affected by the statement. The impacts on this industry will be explored by analyzing the 10Ks and 10Qs of ten major banks in pre-and post-SFAS 133 implementation. It will then conclude with a summary and implications.

2. Issues surrounding SFAS 133

Previous derivatives accounting standards had a number of weaknesses. They lacked the essential prerequisite of disclosure in terms of visibility and/or transparency in financial statements. Derivatives that do not require an upfront outlay of cash, such as forward contracts, interest rate swaps, and currency swaps, were not reported in the financial statements. They often were referred to as "off-balance-sheet" transactions. Those derivatives that qualified for hedge accounting were always considered to be "perfect hedges," although in general their effectiveness was questionable. In addition, FASB has not been able to react quickly to keep up with the introduction of new derivative instruments in the financial markets, albeit different FASB rulings were issued after new instruments started trading.

In another dimension, the accounting procedures implemented by SFAS 133 is based on the type of instruments rather than on their purpose and this led to a number of inconsistencies. For example, future contracts and forward contracts could be used for similar purposes, but their accountings were very different. In the past, SFAS 80 required that changes in the fair value of futures contracts be recognized in current earnings. This resulted in deferred gains/losses being reported on the balance sheet as assets/liabilities even before the hedged transaction occurred (Feay and Abdullah, 2001). In addition, disclosure about derivatives has not been uniform, and most MNCs have not provided additional quantitative information about market risk of derivatives as encouraged by SFAS 119.

From a valuation perspective, this lack of disclosure made it difficult for financial analysts and investors to determine the level of risk of MNCs, and consequently, distorted their valuation of such corporations, sometimes quite significantly. Consequently, the need for a new accounting standard increased after the derivatives' popularity rose to unprecedented levels particularly in the last two decades. As a result, FASB promulgated its SFAS 133, which, even after a one-year delay, still caught many companies unprepared. The complexity of the new procedures and lack of proper direction on exactly how it should be implemented, poses as the major problem of the new rule.

The major tool that the new rule offers for avoiding significant income fluctuations is qualifying the derivatives as a hedge. Such hedges must perform in a "highly effective" manner the purpose of the transaction as measured by various tests. Basically, the value change of the derivative should be within 80% to 120% from the value change of the underlying item. Gains or losses that do not pass this litmus test are treated as income that could lead to earnings volatility. The initial step in the rule's implementation is identifying all potential derivatives to analyze the impact the standard will have on them. Users of hedge strategies should take particular care in this step, since items not historically considered derivatives, such as purchase orders for inventory, might be deemed derivatives under this statement. Several entities have expressed concerns that many of their purchase orders for commodities, such as natural gas, would be considered derivatives under SFAS 133, even though they had expected physical delivery under the contract and did not use these contracts as derivatives (Hwang and Patouhas, 2001).

SFAS 137 and 138 eliminated many of the problems that SFAS 133 had created for the commodities industry. Under SFAS 138, FASB has permitted purchase orders for commodities contracts to fall under the "normal purchase and sales" exception. Thus, it solved the problem when it amended the statement to exclude contracts, other than financial contracts, from the requirements of SFAS 133 when physical delivery was probable.

In general, SFAS 133 has not been well received by MNCs, particularly by the banking and financial services industries. One of the major issues is the complexity of the standard for implementation purposes. It requires substantial inputs from and cooperation among several divisions or departments of the corporations, including accounting, internal audit, treasury, finance, investments, legal, information systems, risk management, etc. It also requires MNCs to establish approval levels for authorizing various types of derivatives. Although existing standards already required designation of the hedging purpose of derivatives, the requirements of SFAS 133 go further than the existing ones. Each hedging transaction is supposed to fit the overall risk management objective and strategy documented in the company's overall risk management philosophy. In reality, this is a laudable approach, for in the long run, it will only lead to increased understanding of the company's hedging strategy across corporate departmental boundaries, which will make it easier to implement an all-encompassing optimal hedging portfolios strategy. However, there is heavy cost associated with the implementation of the new standard. It requires extensive modifications in the accounting and information systems, purchase of new software and training of workers in the affected divisions to ensure compliance with the new provisions.

Similar to many FASB statements including the recent option expensing statement under consideration, is the issue of valuation under SFAS 133. Many of these issues involve the valuation of the hedged item, rather than the derivative. This becomes problematic especially when the hedged item is a nontraded item, and the hedging relationship does not qualify for the shortcut method. Thus, to assess effectiveness, the company must have a valuation model that separately values the hedged item for

changes in fair value (or cash flows) due to changes in market interest rates, creditworthiness, or other factors. In short, without providing any specific guidance or model on how to carry out this valuation, SFAS 133 requires companies to value components of financial instruments that they have not had to value in the past. This has created a serious problem in determining fair values for hedged items as well as derivatives, particularly for previously unrecognized ones, such as interest rates and foreign currency swaps. Therefore, there may loom unintended consequences in such valuation for it may tempt managers to skew these valuations in the direction they desire, such as smoothing earnings.

Hedge designations are critical to the implementation and the ongoing accounting of derivative strategies. Classification as either a fair value or cash flow hedge can depend on a slight change in facts. Once a company chooses how to document (or designate) the hedging relationship, different accounting results may occur. Gains and losses on derivative instruments are either offset against corresponding gains or losses of the hedged item through earnings in a fair value hedge, or accounted for in other comprehensive income for a cash flow hedge. This may indicate that FASB has not yet totally eliminated the problem of reflecting the tools used for the implementation of the hedge, rather than its purpose.

Moreover, since SFAS 133 requires marking-to-market of all derivatives, it is possible that this practice may force financial managers of MNCs to avoid derivative instruments that cross over the fiscal year cut-off date. Managers may attempt to minimize any year-end income fluctuation caused by derivatives, as amply demonstrated recently by Freddie Mac and Fannie Mae, by simply timing the derivative to expire prior to the cut-off date. Their goal usually is to show stable performance in their financial statements in order to attract more investors. The result of such short-term income- smoothing objectives may deter the implementation of optimal long-term financing decisions. As has been observed in recent times, such may be the case where management compensation is tied to the results of short-term performance.

Furthermore, the excessive volatility that may be brought to MNCs' financial statements as a result of recognizing changes in derivatives values, could distort investors' and analysts' perceptions on the value of the company's stock. This could again result in significant market fluctuations similar to the ones that the standard was created to eliminate. In the long run, however, investors and analysts can be acclimated to performance variations that can be caused by efficient long-term hedging strategies.

As indicated by many researchers (Bloom and Fuglister, 1999; Feay and Abdullah, 2001; Hwang and Patouhas, 2001), an intractable and more serious problem rests on inter-markets enforceability of the rule even among the advanced industrial countries, given the informal structure of the derivative markets, their global reaches, and their relatively unregulated status. Considering this globally permeating endemic problem of enforceability, will industrial nations' financial market regulators rise to the occasion and create an overarching solution on how to regulate this ever increasing derivative transactions that transcend national financial markets? Is there a will to bring together

the U.S. Financial Accounting Standards Board and the International Accounting Standards Board on some vital accounting issues, particularly issues that are global, similar to the one covered by SFAS 133 and International Accounting Standard 39 (IAS39)?

3. Some of the possible effects on banking activities

The banking industry is and will be most profoundly affected by SFAS 133. Notwithstanding the fact that this industry is one of the most sizeable and active users of derivatives, it will inevitably have to adjust to and address the various issues that SFAS 133 will have on its clients. Therefore, to adapt to the needs of its customers, it will have to transform its procedures of corporate client evaluation as well as creation of a number of new financial instruments that will meet the needs of its customers.

The accounting presentation of clients' hedges is only one of the ways in which SFAS 133 will affect the banking industry. Many more dramatic changes will result from the fact that the new rule will cause a shift in many MNCs' hedging instrument preferences. Some of them will try to avoid hedging altogether, by redirecting a significant portion of their capital flows overseas. Banks will have to respond to this demand change by providing new services and hedging instruments.

The new rule requires that the time value of options be marked-to-market and passed through to earnings. Previously, options premiums could be expensed on a straight-line basis. Committed options users will accept increased earnings volatility, but the overall bias will be to hedge with forwards rather than options. The new bias towards forward contracts over options will prompt some accounting-sensitive companies to shift most or all of their hedging to forwards. Since SFAS 133 allows foreign currency forwards to be designated as hedges of anticipated transactions (previous practice did not), some multinationals may increase their use of foreign currency forwards as hedging instruments. This would make forward contracts even more attractive. Since large positions in derivative instruments cause greater fluctuations in income than smaller positions due to timing, MNCs may be better off in the short-run to break derivative transactions into smaller contracts. Such actions could result in diseconomies and larger transaction costs. One possible remedy is for the banking and financial service industries to create new types of derivative instruments of smaller value and shorter duration. It is expected that many managers will avoid more customized or targeted derivatives and stay with "plain vanilla" until they fully understand the possibility of any earnings consequences (Survey of the Fortune 1000, June 2000). The uncertainty over financial statement impact caused corporations to minimize the number of derivatives on their books at year-end (Feay and Abdullah, 2001). In fact, in the calendar year of 2000 hedging activity slowed down.

Many common financial instruments contain embedded derivatives because of the expanded definition of a derivative. Embedded derivatives may or may not be required to be separated from the host instrument, depending on certain criteria described in the statement. For example, for the buyer, convertible bonds contain an

embedded derivative (equity call option) that must be separated from the "host" instrument. This is not true for the issuer due to a special exception in the statement. The process of separately accounting for the derivative may prove burdensome and will almost certainly add increased volatility to earnings. As a result, domestic market demand may diminish for convertible debt. This shift may, in turn, prompt an increase in investments in convertible debt by foreign entities not affected by U.S. GAAP requirements.

Demand for cross-currency interest-rate swaps will probably decrease significantly since these instruments will not qualify for hedge accounting under SFAS 133. Alternatively, demand will increase for interest-rate swaps and short-term foreign currency forwards. Similarly, the demand for other complex derivatives that include written options, like index amortizing swaps and swaptions, may diminish, as these products will rarely qualify for hedge accounting under the new standard.

4. Data collection and analysis of the effects of SFAS 133 on banks

As gleaned from the 10K and 10Q, the most significant accounting effects of SFAS 133 on the major US banks were related to interest rates and foreign exchange derivatives. Bank of America classified derivative financial instruments, mainly interest rate swaps, as fair value hedges or cash flow hedges. Interest rate swaps that did not meet certain criteria were designated as derivatives used in trading activities and were accounted for at estimated fair value. The bank's overall accounting policies for derivatives used in trading activities, however, have not changed as the result of SFAS 133. Hedge ineffectiveness is recorded in current earnings.

In the case of Washington Mutual, the instruments designated in fair value hedges include interest rate swaps that qualify for the "short cut" method of accounting under SFAS 133. It assumes no ineffectiveness in the hedging relationship for there is no charge to earnings for changes in fair value. All changes in fair value are recorded as adjustments to the basis of the hedged borrowings based on changes in the fair value of the derivative instrument. The Bank of New York recorded at fair value in its trading account all the derivative financial instruments not designated as hedges. The amounts recognized as other comprehensive income for cash flow hedges are reclassified to net interest income as interest is realized on the hedging derivative.

One of our major goals was to study how the utilization of derivative instruments changed after the adoption of SFAS 133. Several databases were evaluated for this purpose, but none of them currently offer information on companies' derivative positions. The only available option was to collect data from the SEC Edgar database. We examined the 1999, 2000, and 2001 10-K forms, and nine 10-Q forms, fourth quarter of 1999 and 2000, as well as all the quarters of 2001 up to the third quarter of 2002. The emphasis was on the absolute and relative values of derivative assets and liabilities, and derivative gains and losses. We used 10 major US banks, since smaller ones do not utilize derivatives to the same degree, especially those dealing with foreign exchange risk.

We collected data for the value of total assets, total liabilities, and net income, as well as the value of derivative liabilities, derivative assets, and net derivative gains

and losses. Net derivative gains and losses represent the inefficiencies in hedging positions (under- or over-hedges) taken after tax. Before 2001, information regarding derivative instruments in the 10-K's and 10-Q's was either absent or poorly presented. We found that the distribution of derivative gains and losses among the three major types of hedges is not consistently disclosed. This is why we focused on the 10-K's for 1999 and 2000, which tend to cover company fundamentals more in-depth than the 10-Q forms. After the adoption of SFAS 133 in 2001, derivatives-related information was better presented, but still considerably inconsistent. Although information on derivative hedging inefficiencies is readily available, disclosures regarding fair and notional value and distinction between derivative assets and liabilities are not always present.

Having collected the absolute values, which are presented in Table I, we combined them in order to assess their relative interrelationships over time for comparative purposes. We measured derivative assets, liabilities, gains and losses against total bank assets, liabilities, gains, and losses, respectively. We separated the selected banks into two groups on the basis of the value of their derivative hedge positions – the first group having relatively larger positions than the second one. We averaged the results of the two groups for each period, and used the average values to draw graphs depicting the trend established before and after January 2001. The net derivative gain or loss in Table 1 is presented in total, but it is also subdivided among the three major derivative types – fair value, cash flow, and foreign operations investment hedges.

Table 2 presents the average and relative values of derivative assets and liabilities of the banks with larger hedge positions for the nine quarters. Table 3 contains the same values for the banks with smaller hedge positions. Table 4 presents the average and relative derivative gains and losses for the banks with larger hedge positions over seven quarters, starting in Q1 of 2001. Table 5 presents the same values for the banks with smaller hedge positions.

Figure 1 represents the absolute values from Table 2, while Figure 2 depicts the relative values of this table. Figure 3 shows derivative dynamics of the average values presented in Table 3, and Figure 4 portrays the relative relationships presented in the same table. Figure 5 combines the average derivative gains and losses presented in Tables 3 and 4, while Figure 6 presents the relative average values from these two tables.

Figure 1 shows that banks with large derivative positions decreased their positions in the first quarter of 2001 – the first quarter in which they had to comply with the new FASB rule. The downward trend continued until the second quarter in 2002, when derivative positions were increased substantially, more significantly by Citigroup and Bank of America, which are the two banks with the largest derivative positions. In relative terms (Figure 2), the trend is about the same, except that the increase in 2002 is not so significant.

Figure 3 clearly shows that banks with smaller hedge positions continued to increase their positions in 2001, despite the new rule. After a short decline around the end of 2001, the positions increased substantially, more significantly by Wells Fargo, Washington Mutual, and Wachovia. The trend is the same, and the 2002 increase

Table 1
Total net derivative gain

Bank	Total L	Total A	NI	Fair Value Hedges Gain/ Loss	Cash Flow Hedges Gain/Loss	Investment in Foreign Operations Hedges Gain/Loss	Derivative Liabilities Fair Market Value	Derivative Liabilities Relative to Total Liabilities	Derivative Assets Fair Market Value	Derivative Assets Relative to Total Assets	Net Increase in Trading and Hedging Instruments	Net Derivative Gain	Net Derivative Gain Relative to NI
Q4 1999													
BAC	588,142	632,574	7,882				16,200	2.75%	16,055	2.54%			
ONE	249,335	269,425	3,479				1,546	0.62%	1,892	0.70%			
C	737,294	795,584	11,243				39,053	5.30%	31,646	3.98%			
BK	68,113	74,756	1,739				2,230	3.27%	2,020	2.70%			
Avg(BH)	**410,721**	**443,085**	**6,086**				**14,757**	**3.59%**	**12,903**	**2.91%**			
WFC	97,968	112,282	1,077				234	0.24%	315	0.28%			
WM	177,461	186,514	1,817				59	0.03%	78	0.04%			
FLT	175,385	190,692	2,038				154	0.09%	143	0.07%			
WB	236,315	253,024	3,223				387	0.16%	336	0.13%			
STI	84,630	92,820	1,326				119	0.14%	100	0.11%			
PNC	62,492	69,286	1,264				113	0.18%	110	0.16%			
Avg(SH)	**139,042**	**150,770**	**1,791**				**178**	**0.13%**	**180**	**0.12%**			
Q4 2000													
BAC	594,563	642,191	7,517				22,402	3.77%	15,534	2.42%			
ONE	250,665	269,300	-511				1,172	0.47%	1,254	0.47%			
C	836,004	902,210	13,519				36,618	4.38%	35,177	3.90%			
BK	69,462	77,114	1,429				2,047	2.95%	1,702	2.21%			
Avg(BH)	**437,674**	**472,074**	**5,489**				**15,560**	**3.56%**	**13,417**	**2.84%**			
WFC	111,935	112,282	1,620				387	0.35%	632	0.56%			
WM	184,550	194,716	1,899				104	0.06%	120	0.06%			
FLT	163,347	179,519	3,420				413	0.25%	642	0.36%			
WB	238,823	254,170	92				177	0.07%	345	0.14%			
STI	90,896	98,397	1,294				130	0.14%	115	0.12%			
PNC	62,340	69,844	1,279				71	0.11%	33	0.05%			
Avg(SH)	**141,982**	**151,488**	**1,601**				**214**	**0.15%**	**315**	**0.21%**			

Table 1 *(continued)*

Q1 2001													
Bank	**Total L**	**Total A**	**NI**	**Fair Value Hedges Gain/ Loss**	**Cash Flow Hedges Gain/ Loss**	**Investment in Foreign Operations Hedges Gain/Loss**	**Derivative Liabilities Fair Market Value**	**Derivative Liabilities Relative to Total Liabilities**	**Derivative Assets Fair Market Value**	**Derivative Assets Relative to Total Assets**	**Net Increase in Trading and Hedging Instruments**	**Net Derivative Gain**	**Net Derivative Gain Relative to NI**
BAC	560,869	609,755	1,870		-8.0		17,100	3.05%	16,508	2.71%	5,293	-8.0	-0.43%
ONE	255,286	274,352	679	0.1	0.3		1,695	0.66%	2,341	0.85%	140	0.4	0.06%
C	875,668	944,327	3,538	65.0	-3.0		36,928	4.22%	36,231	3.84%		62.0	1.75%
BK	65,518	73,073	384	0.5	0.5	1.0	2,369	3.62%	2,063	2.82%		2.0	0.52%
Avg(BH)	**439,335**	**475,377**	**1,618**	**21.9**	**-2.6**	**1.0**	**14,523**	**3.31%**	**14,286**	**3.01%**	**2,717**	**14.1**	**0.87%**
WFC	252,805	279,670	1,165	-6.0	1.0		648	0.26%	764	0.27%		-5.0	-0.043%
WM	207,589	219,925	641	-28.0	1.0		164	0.08%	251	0.11%		-27.0	-4.21%
FLT	192,363	211,741	512	-14.0	0.4	-6.0	612	0.32%	735	0.35%		-19.6	-3.83%
WB	236,868	252,949	584	-2.0	29.0		652	0.28%	707	0.28%		27.0	4.62%
STI	56,033	60,472	110		-0.5	-0.2	17	0.03%	2	0.00%		-0.7	-0.64%
PNC	63,337	70,966	300	-5.0	-3.0		94	0.15%	55	0.08%		-8.0	-2.67%
Avg(SH)	**168,166**	**182,621**	**552**	**-11.0**	**4.7**	**-3.1**	**365**	**0.22%**	**419**	**0.23%**		**-5.6**	**-1.01%**
Q2 2001													
BAC	576,223	625,525	2,023		-3.0		13,100	2.27%	16,881	2.70%	18,378	-3.0	-0.15%
ONE	252,961	272,412	664	12.0	0.2	0.3	1,425	0.56%	1,678	0.62%	-153	12.5	1.88%
C	882,899	953,427	3,536	6.0	9.0		28,365	3.21%	29,198	3.06%		15.0	0.42%
BK	69,045	76,831	385	-0.2	-0.2		1,760	2.55%	1,602	2.09%		-0.4	-0.10%
Avg(BH)	**445,282**	**482,049**	**1,652**	**5.9**	**1.5**	**0.3**	**11,163**	**2.51%**	**12,340**	**2.56%**	**9,113**	**6.0**	**0.36%**
WFC	262,697	289,758	-87	2.0	1.0	5.0	642	0.24%	719	0.25%		8.0	-9.20%
WM	215,887	229,298	798	-6.0	3.0	-7.0	316	0.15%	724	0.32%		-10.0	-1.25%
FLT	182,824	202,100	531	-5.0	0.1	6.0	512	0.28%	480	0.24%		1.1	0.21%
WB	229,797	245,941	633	-4.0	-5.0		233	0.10%	273	0.11%		-9.0	-1.42%
STI	55,017	59,524	157	4.0	-3.0	8.0	21	0.04%	10	0.02%		9.0	5.73%
PNC	62,417	70,013	295	-10.0	-5.0		105	0.17%	45	0.06%		-15.0	-5.08%
Avg(SH)	**168,107**	**182,772**	**388**	**-3.2**	**-1.5**	**3.0**	**305**	**0.18%**	**375**	**0.21%**		**-2.7**	**-0.68%**

Table 1 *(continued)*

Bank	Total L	Total A	NI	Fair Value Hedges Gain/Loss	Cash Flow Hedges Gain/Loss	Investment in Foreign Operations Hedges Gain/Loss	Derivative Liabilities Fair Market Value	Derivative Liabilities Relative to Total Liabilities	Derivative Assets Fair Market Value	Derivative Assets Relative to Total Assets	Net Increase in Trading and Hedging Instruments	Net Derivative Gain	Net Derivative Gain Relative to NI
Q3 2001													
BAC	585,954	640,105	841	-9.0	-6.0		18,193	3.08%	23,816	3.72%	19,788	-15.0	-1.78%
ONE	249,870	270,252	754	0.1	0.2	7.0	1,624	0.65%	1,834	0.68%	-236	7.3	0.97%
C	989,850	1,068,249	3,177	-12.0	10.0		29,736	3.00%	29,837	2.79%		-2.0	-0.06%
BK	81,710	89,677	243	-0.6	-0.7		2,343	2.87%	2,344	2.61%		-1.3	-0.53%
Avg(BH)	**477,846**	**517,071**	**1,254**	**-5.4**	**0.9**	**7.0**	**12,974**	**2.72%**	**14,458**	**2.80%**	**9,776**	**-2.8**	**-0.22%**
WFC	270,778	298,100	1,164	5.0	4.0		564	0.21%	712	0.24%		9.0	0.77%
WM	209,109	223,638	832	6.0	-14.0		498	0.24%	514	0.23%		-8.0	-0.96%
FLT	182,087	201,862	766	-2.5	0.5	2.4	327	0.18%	331	0.16%		0.4	0.05%
WB	297,391	325,897	-334	-1.0	-12.0	-3.0	614	0.21%	786	0.24%		-16.0	4.79%
STI	58,128	62,676	205	4.0	3.0	-5.0	59	0.10%	57	0.09%		2.0	0.98%
PNC	64,269	71,944	298	3.0	2.0	2.0	186	0.29%	200	0.28%		7.0	2.35%
Avg(SH)	**180,294**	**197,353**	**489**	**2.4**	**-2.8**	**-0.9**	**375**	**0.21%**	**433**	**0.22%**		**-0.9**	**-0.19%**
Q4 2001													
ONE	248,728	268,954	2,638	0.1	0.2	6.0	1,534	0.62%	1,825	0.68%	-198	6.3	0.24%
C	970,203	1,051,450	14,126	5.0	20.0	3.0	28,728	2.96%	29,762	2.83%		28.0	0.20%
BK	74,708	81,025	1,343	0.1	0.1		2,266	3.03%	2,487	3.07%		0.2	0.01%
Avg(BH)	**431,213**	**467,143**	**6,036**	**1.7**	**6.8**	**4.5**	**10,843**	**2.51%**	**11,358**	**2.43%**	**-198**	**11.5**	**0.19%**
WFC	280,355	307,569	3,423	11.0	2.0		672	0.24%	841	0.27%		13.0	0.38%
WM	228,341	242,506	3,114	1.0	2.0	2.0	614	0.27%	725	0.30%		5.0	0.16%
FLT	186,030	203,638	931	-18.0	0.7	-1.3	279	0.15%	312	0.15%		-18.6	-2.00%
WB	301,997	330,452	1,619	-1.0	-4.0	1.0	474	0.16%	213	0.06%		-4.0	-0.25%
STI	96,381	107,741	1,376	1.6	-10.6		1 2	0.01%	6	0.01%		-9.0	-0.65%
PNC	62,727	69,568	377	1.0	3.0		135	0.22%	127	0.18%		4.0	1.06%
Avg(SH)	**192,639**	**209,746**	**1,807**	**-0.7**	**-1.2**	**0.6**	**364**	**0.19%**	**371**	**0.18%**		**-1.6**	**-0.09%**

Table 1 *(continued)*

Bank	Total L	Total A	NI	Fair Value Hedges Gain/ Loss	Cash Flow Hedges Gain/ Loss	Investment in Foreign Operations Hedges Gain/Loss	Derivative Liabilities Fair Market Value	Derivative Liabilities Relative to Total Liabilities	Derivative Assets Fair Market Value	Derivative Assets Relative to Total Assets	Net Increase in Trading and Hedging Instruments	Net Derivative Gain	Net Derivative Gain Relative to NI
Q1 2002													
BAC	571,752	619,921	2,179		1.0	-12.0	12,053	2.11%	19,116	3.08%	5,395	-11.0	-0.50%
ONE	242,034	262,947	787	3.0	4.0		1 ,124	0.46%	1,554	0.59%		7.0	0.89%
C	974,019	1,057,657	4,843	-8.0	7.0	-6.0	24,710	2.54%	25,836	2.44%		-7.0	-0.14%
BK	70,425	76,779	362	-1.0	-2.0	-2.0	2,002	2.84%	1,825	2.38%		-5.0	-1.38%
Avg(BH)	**464,558**	**504,326**	**2,043**	**-2.0**	**2.5**	**-6.7**	**9,972**	**2.15%**	**12,083**	**2.40%**	**5,395**	**-4.0**	**-0.20%**
WFC	283,182	311,509	1,103	1.0	1.0		682	0.24%	731	0.23%		2.0	0.18%
WM	256,993	275,223	950	3.0	2.0		557	0.22%	663	0.24%		5.0	0.53%
FLT	174,446	192,032	735	0.1	0.5	0.6	97	0.06%	105	0.05%		1.2	0.16%
WB	291,068	319,853	913	3.0	1.0		256	0.09%	82	0.03%		4.0	0.44%
STI	54,154	58,813	18	3.0	-2.0	-1.0	47	0.09%	6	0.01%		0.0	0.00%
PNC	59,554	66,564	317	-4.0	-3.0	-2.0	94	0.16%	15	0.02%		-9.0	-2.84%
Avg(SH)	**186,566**	**203,999**	**673**	**1.0**	**-0.1**	**-0.8**	**289**	**0.15%**	**267**	**0.13%**		**0.5**	**0.08%**
Q2 2002													
BAC	590,684	638,448	2,221			-20.0	17,800	3.01%	24,809	3.89%	6,209	-20.0	-0.90%
ONE	248,780	270,343	843	3.0	4.0		1,375	0.55%	1,845	0.68%	-47	7.0	0.83%
C	997,591	1,083,306	4,084	5.0	16.0		40,570	4.07%	38,399	3.54%		21.0	0.51%
BK	74,195	80,805	361		3.0		2 ,891	3.90%	2,639	3.27%		3.0	0.83%
Avg(BH)	**477,813**	**518,226**	**1,877**	**4.0**	**7.7**	**-20.0**	**15,659**	**3.28%**	**16,923**	**3.27%**	**3,081**	**2.8**	**0.15%**
WFC	285,275	314,802	1,420	1.0	1.0		1,235	0.43%	1,497	0.48%		2.0	0.14%
WM	241,593	261,281	984	2.0	4.0		1,304	0.54%	1,744	0.67%		6.0	0.61%
FLT	174,224	191,040	-386	-0.4	0.6	2.6	164	0.09%	246	0.13%		2.8	-0.73%
WB	283,753	314,125	868	7.0	-2.0		1 ,101	0.39%	1,073	0.34%		5.0	0.58%
STI	98,991	107,988	343		0.5		5 3	0.05%	3	0.00%		0.5	0.15%
PNC	59,465	66,913	320	2.0	5.0		199	0.33%	80	0.12%		7.0	2.19%
Avg(SH)	**190,550**	**209,358**	**592**	**2.3**	**1.5**	**2.6**	**676**	**0.35%**	**774**	**0.37%**		**3.9**	**0.66%**

Table 1 *(continued)*

Q3 2002													
Bank	**Total L**	**Total A**	**NI**	**Fair Value Hedges Gain/ Loss**	**Cash Flow Hedges Gain/ Loss**	**Investment in Foreign Operations Hedges Gain/Loss**	**Derivative Liabilities Fair Market Value**	**Derivative Liabilities Relative to Total Liabilities**	**Derivative Assets Fair Market Value**	**Derivative Assets Relative to Total Assets**	**Net Increase in Trading and Hedging Instruments**	**Net Derivative Gain**	**Net Derivative Gain Relative to NI**
BAC	611,769	660,008	2,235		-12.0		23,071	3.87%	32,838	4.98%	5,049	-12..0	-0.54%
ONE	252,262	262,538	823	-2.0	-4.0		2,045	0.81%	2,615	1.00%	96	-6.0	-0.73%
C	950,802	1,031,568	3,920	17.0	-1.0		39,316	4.14%	36,116	3.50%		16.0	0.41%
BK	74,354	80,987	79	5.0	10.0		2 ,857	3.84%	30	0.04%		15.0	
Avg(BH)	**472,297**	**508,775**	**1,764**	**6.7**	**-1.8**		**16,980**	**3.60%**	**17,900**	**3.52%**	**2,573**	**3.3**	**0.18%**
WFC	304,176	334,250	1,444	1.0	1.0		1,645	0.54%	1,824	0.55%		2.0	0.14%
WM	242,444	262,605	976	-1.0	-2.0		2,465	1.02%	2,645	1.01%		-3.0	-0.31%
FLT	170,322	187,188	579	0.4	0.5	-0.2	328	0.19%	342	0.18%		0.7	0.12%
WB	301,775	333,880	916	8.0	1.0		2,427	0.80%	2,729	0.82%		9.0	0.98%
STI	103,573	112,422	342	1.0	2.0		53	0.05%	1	0.00%		3.0	0.88%
PNC	59,839	67,659	285	1.0	3.0	2.0	334	0.56%	148	0.22%		6.0	2.11%
Avg(SH)	**197,022**	**216,334**	**757**	**1.7**	**0.9**	**0.9**	**1,209**	**0.61%**	**1,281**	**0.59%**		**3.0**	**0.39%**

Table 2
Large hedge positions

	Average Derivative Liabilities (In	Average Derivative Assets	Relative Average Derivative Liabilities	Relative Average Derivative Assets
Q4 1999	14,757	12,903	3.59%	2.91%
Q4 2000	15,560	13,417	3.56%	2.84%
Q1 2001	14,523	14,286	3.31%	3.01%
Q2 2001	11,163	12,340	2.51%	2.56%
Q3 2001	12,974	14,458	2.72%	2.80%
Q4 2001	11,849	14,055	2.54%	2.78%
Q1 2002	9,972	12,083	2.15%	2.40%
Q2 2002	15,659	16,923	3.28%	3.27%
Q3 2002	16,980	17,900	3.60%	3.52%

Table 3
Small hedge positions

	Average Derivative Liabilities (In	Average Derivative Assets	Relative Average Derivative Liabilities	Relative Average Derivative Assets
Q4 1999	178	180	0.13%	0.12%
Q4 2000	214	315	0.15%	0.21%
Q1 2001	365	419	0.22%	0.23%
Q2 2001	305	375	0.18%	0.21%
Q3 2001	375	433	0.21%	0.22%
Q4 2001	364	371	0.19%	0.18%
Q1 2002	289	267	0.15%	0.13%
Q2 2002	676	774	0.35%	0.37%
Q3 2002	1,209	1,281	0.61%	0.59%

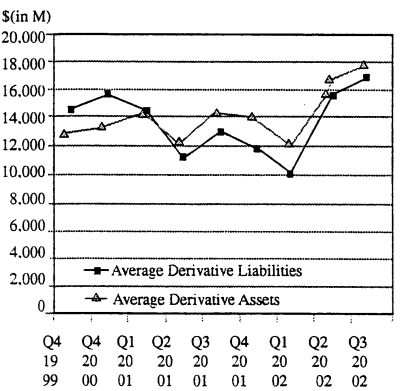

Fig. 1: Large hedge positions average derivative A & L

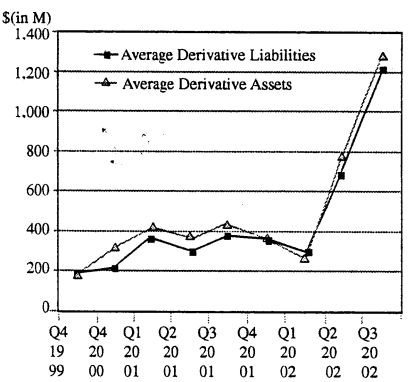

Fig. 3: Small hedge positions average derivative A & L

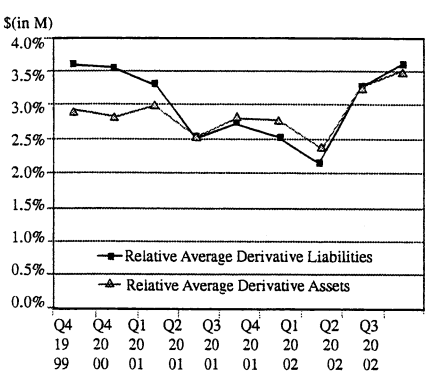

Fig. 2: Large hedge positions relative average derivative A & L

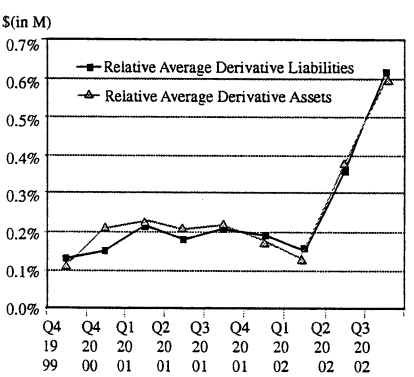

Fig. 4: Small hedge positions relative average derivative A & L

Table 3
Large hedge positions

	Derivative Gain/Loss Net of Tax (In M)	Relative Derivative Gain/Loss Net of Tax
Q1 2001	14.10	0.87%
Q2 2001	6.03	0.36%
Q3 2001	-2.75	-0.22%
Q4 2001	6.11	0.10%
Q1 2002	-4.00	-0.20%
Q2 2002	2.75	0.15%
Q3 2002	3.25	0.18%

Table 4
Small hedge positions

	Derivative Gain/Loss Net of Tax (In M)	Relative Derivative Gain/Loss Net of Tax
Q1 2001	-5.55	-1.01%
Q2 2001	-2.65	-0.68%
Q3 2001	-0.93	-0.19%
Q4 2001	-1.60	-0.09%
Q1 2002	0.53	0.08%
Q2 2002	3.88	0.66%
Q3 2002	2.95	0.39%

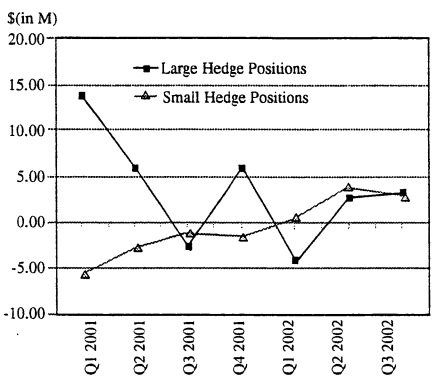

Fig. 5: Derivative gains/losses

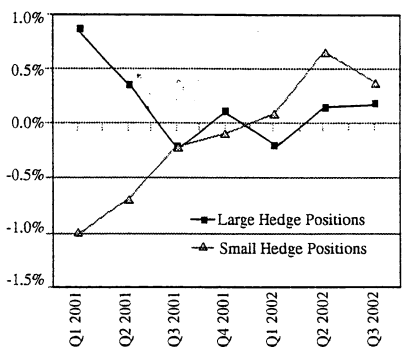

Fig. 6: Relative derivative gains/loss

remains noteworthy, even when evaluated as a change relative to the increase in total bank assets and liabilities (Figure 4). Figures 5 and 6 show another interesting fact. First, it is important to point out that since the start of the period under study, banks had positive net income, with only a few exceptions. This is why any derivative points on the two graphs, which are below the zero Y-axis point, depict derivative losses. Banks with larger derivative positions had more volatile average derivative gains and losses than banks with smaller positions. The relative values of these gains and losses, however, look much smoother. Figure 6 shows that average, and especially relative derivative gains and losses were quite volatile in the first three quarters of 2001. This is the period in which banks for the first time evaluated in practice the effect of SFAS 133 on their financial statements. After gaining some experience, they were able to design derivative hedging strategies, which were much more efficient, and were able to smooth their derivative gains and losses. From the last quarter of 2001 until the end of the period under observation, relative derivative gains and losses were almost flat around the zero point of the Y-axis.

This obviously gave confidence to the banks, and to a great degree gives ground to the confidence with which they increased their derivative asset and liability positions in 2002. As pointed out earlier, this increase is much more significant for banks, which held smaller derivative positions. They steered away from derivatives because they were unsure of what exactly the effect of the new FASB rule would be. This is apparent from the low derivative levels for 1999, 2000, and even 2001, presented in Figures 3 and 4. From the sharp increase in 2002, we can conclude that SFAS 133 did not deter banks, that traditionally do not utilize derivatives as much as their peers, from using those financial instruments. In order to be able to comply with the new rule, they had to become very familiar with all the particulars of their derivatives, since the regulation required them to design highly efficient hedging strategies. As a result of the exerted effort in this direction, and after they were able to almost perfectly smooth relative derivative inefficiencies around the end of 2001, they felt confident in their capability to successfully manage their positions. Surprisingly enough, SFAS 133 stimulated derivative use where it was most needed – among the banks that used this type of instruments the least. This stimulation, however, is one based on knowledge, experience, and a solid management strategy, rather than on the sheer gambling zeal of some aggressive traders.

As far as banks with larger derivative positions are concerned, the effect was not so significant. These institutions are traditionally prone to using derivatives and, as such, have much more experience. Their relatively large positions forced them to be extremely cautious after the adoption of SFAS 133. Figures 1 and 2 show how derivative use in this group has been decreasing for the most part since FASB announced its intention to create the rule in 1998. They also waited for about a year, after 2001 adoption, to determine with a greater degree of certainty what the actual effect will be, and how well they are able to comply with the rule without negatively affecting their profitability. The derivative inefficiencies they encountered were more significant in relative terms than the ones experienced by the banks with smaller positions, as can be seen from Figure 6. This may be the reason why they were not enthusiastic to increase their derivative portfolios. The increase following the first quarter of 2002, however, seemed to be well planned, since positive and negative inefficiencies cancelled each other out almost perfectly.

The impact of SFAS 133 on the income statements of the major US banks in 2001 did not exceed 1% of net income on average. While this amount may not be significant, it may be just the tip of the iceberg representing the initial efforts that the banking industry has put in place to comply with the new rule. After a short transition period, banks' interest in derivative instruments usage appears to be on the upswing. It remains to be seen, however, what new financial vehicles will be created and which of them will become most popular among the clients of U.S. GAAP-compliant financial institutions.

5. Conclusion and implications

In general, the most likely impact of SFAS 133 is positive and complementary to accounting harmonization efforts of International Accounting Standard Board.

Even the additional short-term income variability that the new rule brings is, to a certain extent, beneficial to the market. Uninformed investors who often invest based on their sentiments may avoid companies with high fluctuating incomes. As a result, the stock prices will avoid noise traders input in prices volatility, thus reflecting more professional assessment of companies' fundamentals. Additional disclosures in the financial statements will provide financial analysts and investors with better insight into the financial strategies and performances of MNCs, which rests well with the fair disclosure rule of the Securities and Exchange Commission. Understandably, the new disclosure requirements are not expected to be perfect. Yet, they bring a significant improvement to disclosure of financial statements that can portray a more realistic picture of companies' financial positions.

It is too early to determine if SFAS 133 will significantly affect the types of derivatives utilized by banks and their clients. We can, however, confidently state that the new rule forced bank managers to learn more about derivatives and apply this knowledge in the design of new, more efficient asset and liability hedging strategies. The resulting decrease in hedge ineffectiveness instilled confidence in managers, which triggered a significant increase in derivative utilization, especially in banks that were not comfortable with the instruments in the past. SFAS 133 did not have the negative effect of forcing banks out of their reasonable hedge positions, or at least not for too long. It did not negatively affect banks with traditionally large derivative positions either, which proves that better derivative disclosure did not come at too high a cost for the financial market as a whole. It should be remembered, however, that nine quarters' derivatives usage analysis is no enough to draw strong inferences. Although it has been observed that some additional effectiveness of disclosure has been brought by the new rule, there may lurk some deeper, more complex issues that have yet to be uncovered. The fact that derivative ineffectiveness was reduced in the observed periods in which the market experienced excessive volatility means that managers are capable of hedging effectively if they are internally and externally required to do so. It does not mean, however, that all of them will abide by the requirements. The recent past accounting scandals have proven that there are companies that try to go the extra mile, but not always in the right direction. It remains to be seen if some will manage to find loopholes in the rule, and will continue to speculate with portions of their serious risky derivative instruments, without disclosing these activities well enough to investors. Banks know that after the adoption of the rule and the passage of Sarbanes-Oxley Act, they will be watched closely and cannot afford the risk of additional financial improvisations. However, as time passes, some of the managers may fail to enforce the restrictions established on their traders, and derivative transactions may again become one of the important and excessively risky sources of income. Continuous monitoring is a must if the investment public is to gain and sustain trust in the disclosure of financial statements imposed by the transparency requirements of SFAS 133.

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