Market Value Accounting for Banks: Pros and Cons

By Charles S. Morris and Gordon H. Sellon, Jr.

One of the more controversial issues in banking currently concerns the choice of an accounting system for banks. Recent proposals would have banks abandon their traditional accounting system based on historical costs of assets and liabilities in favor of a market value system. Some of the more moderate proposals call for reporting selected assets at market value. More comprehensive proposals would have banks mark to market all bank assets, liabilities, and off-balance-sheet items.

The push for market value accounting is largely motivated by changes in financial markets over the past decade. In an environment of greater interest rate volatility and increased bank failures, critics argue that the current bank accounting system does not accurately measure bank capital. They believe that by overcoming the limitations of the current system, market value accounting would give bank owners, creditors, and regulators better information for making investment and regulatory decisions.

The banking industry strongly opposes market value accounting, however. Bankers argue that such a radical change is not only unnecessary, but would also have undesirable side effects. Moreover, most bankers feel market value accounting is infeasible because it would be inaccurate, costly, and difficult to implement.

This article examines the merits of market value accounting. The article concludes that market value accounting is conceptually attractive, but that market value proposals have important practical limitations that must be balanced against their benefits. The first section examines the objectives of a bank accounting system, the principal features of the current system, and its strengths and weaknesses. The second section shows how market value accounting could improve on a book value approach. The third section discusses the pros and cons of recent market value proposals.

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What's Wrong With the Current System?

Bank owners, creditors, and regulators rely on accounting information for making investment and regulatory decisions. The current bank accounting system is based on a historical cost approach to measuring a bank's capital. A strength of the current system is that bank capital reflects changes in credit quality. One weakness of the current system, however, is that capital does not reflect changes in interest rates. Moreover, the current system can be manipulated to provide misleading estimates of bank capital.

Purpose of a bank accounting system

One of the most important pieces of information provided by a bank accounting system is a measure of a bank's net worth, or capital. Capital is the difference between the values of a bank's assets and liabilities. Capital plays a dual role in a bank. On the one hand, it represents the investment stake of bank owners. That is, it represents the amount of money bank owners would lose if unexpected losses forced the bank to be closed. On the other hand, by absorbing these losses, it acts as a buffer that protects creditors and depositors against financial loss.

The level of capital can influence the decisions made by bank owners, creditors, and regulators. Because capital represents the amount of money owners would lose if a bank fails, they are likely to choose less risky activities when the level of capital is high. Bank creditors are likely to lend more to a bank with a large capital cushion than to a bank with a small capital cushion. And, regulators may choose to increase the degree of supervision or even close a bank when capital levels become too low.

Accurate measures of capital are necessary to make correct investment and regulatory decisions. An important criterion of a bank accounting system is that capital accurately reflects the effects of a bank's risk exposure. In addition, banks should not be able to manipulate the measure of capital to mislead outside investors, creditors, and regulators.

A good measure of capital should reflect changes in the credit quality of a bank's loans and investments. All banks are exposed to credit risk—the risk that loans or other investments will not be repaid. Since bank depositors and creditors must be paid before owners receive any profit, credit losses may reduce a bank's capital. In the extreme, these losses may eliminate capital, causing the bank to be closed.

Capital should also reflect the effects of interest rate changes. Many banks are exposed to interest rate risk—the risk that changes in interest rates will affect a bank's current and future earnings. Changes in interest rates may affect bank earnings because profits depend on the difference between the interest received on loans and securities and the interest paid out to depositors and other bank creditors. A change in interest rates that eliminates this interest spread can cause losses that will reduce the value of a bank's capital.

An accounting system also should not be subject to manipulation if it is to provide an accurate measure of capital. For example, if a fall in the value of an asset causes the true value of capital to decline, an accounting system should not have rules that allow discretion on whether or not the decline is recognized in measured capital.

Features of the current accounting system

The present bank accounting system is based on a view of banking that dates back to the 1930s. According to this view, banks make loans or acquire securities with the intention of

holding them to maturity. In the absence of credit losses, banks can expect to receive the full value of these investments at maturity. That is, the bank can generally expect to receive the original contractual interest payments plus principal. In this view, changes in the current value of an asset due to changes in market interest rates are generally ignored. Such changes are viewed as temporary and as having no effect on an asset's cash flow or a bank's ability to collect the full value of the asset at maturity (Federal Deposit Insurance Corporation).

Following this approach, the current bank accounting system requires all assets that a bank intends to hold to maturity and all bank liabilities to be recorded on the bank's books at historical cost.[1] In practice, all bank loans are reported at cost because they are expected to be held to maturity. For securities, the bank must indicate whether it plans to hold them to maturity or engage in active trading. Those securities that a bank intends to hold to maturity are held in its investment account and are reported at cost.[2] Other securities are held in the bank's trading account and are reported at current market values.[3] As a practical matter, most banks hold very few securities in trading accounts so that the vast majority of bank assets are reported at cost.

Under the current system, the book value of capital may differ from historical cost. For example, when repayment on an asset becomes doubtful a bank must provide reserves for the impaired asset because it can no longer expect to receive the full value of the asset at maturity. This increase in reserves reduces the bank's capital below historical cost. The book value of assets will also increase or decrease due to capital gains or losses realized upon the sale of loans or investment account securities. For example, if a bank sells an investment security before maturity at a capital gain, the gain increases the book value of its capital. Finally, since assets in the trading account are reported at market value, both realized and unrealized capital gains and losses on these securities can affect the value of capital.

Strengths and weaknesses of the current system

One test of the current bank accounting system is whether it provides an accurate measure of capital. From this perspective, the current system has one important strength but two significant weaknesses.

The strength of the current system is that capital reflects changes in credit quality. Under the current system, book values of capital are marked down for expected credit losses. Most bank failures in recent years have been caused by credit losses on energy, agriculture, real estate, and foreign loans. Thus, capital as measured in the current accounting system reflects banks' principal risk exposure.[4]

One weakness of the current system, however, is its neglect of changes in interest rates. Under the current accounting system, interest rate changes do not affect the value of bank capital because they do not affect the values of assets or liabilities recorded at cost.[5] If a bank's earnings are exposed to interest rate risk, however, interest rate changes can cause future losses and the eventual failure of the bank. Indeed, in a world of increased interest rate volatility, failures due to changes in interest rates are more likely. Thus, the current accounting system may not accurately measure a bank's capital.

A second limitation of the current accounting system is that it allows banks to manipulate the book value of capital. This accounting abuse arises because of the asymmetrical treatment of realized and unrealized capital gains for most bank assets and liabilities. For assets and liabilities reported at cost, only *realized* capital

gains or losses affect the book value of the bank capital. Thus, a bank can boost current income and capital by selling assets that have increased in value while not recognizing losses on other assets. By selectively realizing capital gains, banks may provide potentially misleading information.[6]

The Case for Market Value Accounting

Critics of the current bank accounting system argue that changes in financial markets have undermined the reliability of this system. They believe a market value accounting system would overcome the limitations of the current system and thereby provide bank owners, creditors, and regulators with a more relevant measure of capital.

Motivation for market value accounting

In the past decade, market value accounting has grown from a largely academic issue to become the center of an active policy debate. Academic economists have long advocated a market value approach, arguing that market values, not book values, reflect the true economic values of financial instruments and institutions (Benston and others; Benston). More recently, the accounting profession, some regulatory agencies, and legislators have suggested that some form of market value accounting be implemented for banks, thrifts, and other financial institutions.[7]

The growing support for market value accounting can be explained by changes in financial markets and institutions during the 1980s. These changes accentuated the limitations of the current bank accounting system. For example, with financial deregulation and the associated increase in interest rate volatility, interest rate risk has become a greater concern for banks and other financial institutions. In addition, the growing number of bank failures and the deposit insurance crisis have emphasized the need for more accurate and timely information on banks' capital position. Because the current bank accounting system does not reflect banks' interest rate exposure and permits accounting abuses designed to inflate reported capital, critics have increasingly supported a change to market value accounting.[8]

Features of a market value system

Under market value accounting, banks measure all assets, liabilities, and off-balance-sheet items at current market value rather than historical cost. This information is used to determine a market value measure of bank capital. The market value of bank capital reveals the impact of changes in credit quality and interest rates on bank earnings.

Measuring market value of assets and liabilities. The market value of a financial instrument can be defined as the current price at which the instrument can be bought or sold. Obtaining market values is relatively easy for some bank assets and liabilities, but more difficult for others. Market prices are readily available for assets such as government securities, which are actively traded. But for instruments that are not actively traded, including most bank loans and deposits, market values must be estimated.

For many assets and liabilities, market values can be estimated using a present value model. In general, the price an investor will pay for a financial instrument depends on the return he will receive from this investment relative to the return on competing investments. Thus, as shown in the following equation, the market value of a financial instrument *(MV)* with maturity of T years is equal to the future interest cash flows *(C)* plus principal repayment *(P)*, discounted by a market interest rate *(r)*, which

represents the return on alternative investments.

$$MV = \frac{C}{(1+r)} + \frac{C}{(1+r)^2} + \cdots + \frac{C}{(1+r)^T} + \frac{P}{(1+r)^T}$$

This model shows how changes in credit quality and interest rates affect the market value of bank assets and liabilities. For example, a fall in the credit quality of bank assets is reflected by smaller expected interest or principal payments. Accordingly, the smaller cash flows reduce the market value of the asset.

The impact of interest rates is more complicated and depends on the types of assets and liabilities a bank holds. Assets and liabilities are generally of two kinds: fixed rate and variable rate. On a fixed-rate asset or liability, such as a Treasury security or long-term certificate of deposit, a bank receives or pays a contractually fixed interest rate for a specified period of time. In contrast, on a variable-rate instrument, such as an adjustable rate loan or deposit, the contractual interest rate varies directly in response to market interest rates.

Market values of fixed-rate instruments vary inversely with market interest rates. As shown in the market value equation, if contractual interest payments *(C)* and principal payment *(P)* are fixed, a rise in market rates *(r)* causes market value to fall. That is, an investor will pay less for a financial instrument when its earnings are fixed and the return on alternative investments rises.

In contrast, interest rate changes do not affect the market value of variable-rate instruments. For example, the market value of these instruments is unchanged if contractual interest payments rise in direct response to an increase in market rates. Market value does not fall when rates rise because future earnings on the variable-rate instrument also increase, leaving the return on the investor's instrument the same as on alternative investments.[9]

The market value of bank capital. With market values for all assets, liabilities, and off-balance-sheet items, a bank can determine the market value of capital. Changes in this measure will reflect the impact of changes in credit quality and interest rates on the bank's current and future earnings.[10]

A decline in credit quality directly reduces the market value of a bank's capital. Lower credit quality causes a bank to suffer reduced current and future earnings from loans and other assets. Because smaller expected cash flows from assets lower the market value of bank assets but not liabilities, the market value of the bank's capital will fall.

Interest rate changes may or may not affect the market value of capital. The response depends on the types of assets and liabilities held by the bank. For example, if a bank has variable-rate assets matched by variable-rate liabilities, interest rate changes will not affect the market values of either assets or liabilities. As a result, the market value of capital will be unchanged. The market value of a bank with long-term fixed-rate assets funded with long-term fixed-rate liabilities also would not change when interest rates change. In this case, the market value of the assets and liabilities individually would change, but the market value of their difference—capital—would not change.

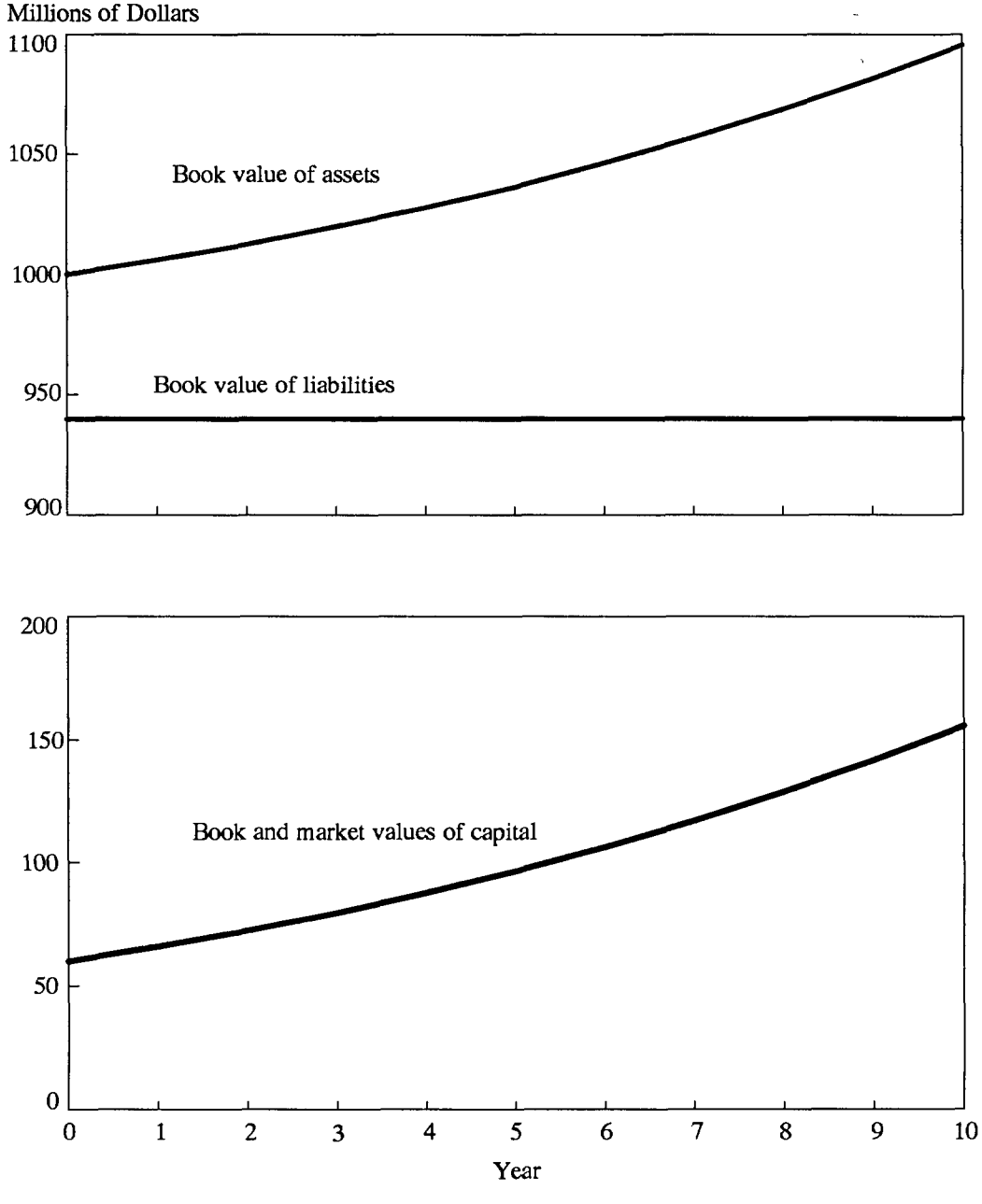
In contrast, changes in interest rates will affect the market value of capital when a bank has a mismatch of assets and liabilities. For example, with fixed-rate assets and variable-rate liabilities, an increase in market rates will lower the market value of assets but not liabilities. Thus, in this situation higher interest rates will lower the market value of capital.[11]

The response of the market value of capital to interest rates simply reflects the impact of interest rates on a bank's current and future earnings. Interest rate changes do not affect earnings when assets and liabilities are matched because changes in interest income are offset by

Chart 1

Book and Market Values

No Change in Interest Rates



changes in interest expense. When assets and liabilities are unmatched, however, interest rate changes will affect earnings. With fixed-rate assets and variable-rate liabilities, for example, a rise in interest rates reduces bank earnings because interest expense rises while interest income is unchanged.

Advantages of market value accounting

Proponents believe that a market value framework overcomes the two principal limitations of the current bank accounting system. Specifically, they argue that a market value system provides a better measure of capital when a bank is exposed to interest rate risk and eliminates accounting abuses caused by the current system.

Market value reflects changes in interest rates. As discussed earlier, one limitation of the current accounting system is its neglect of the effects of changes in interest rates on capital. In assuming that banks hold assets to maturity, the current system implicitly assumes that interest rate changes will not significantly affect a bank's earnings or its solvency.

Market value proponents believe, instead, that changes in financial markets have left banks increasingly exposed to interest rate risk. They feel that because a market value approach accounts for the effect of this risk, it is superior to a book value system.

The advantages of a market value system can be illustrated with a numerical example. Consider a bank with a severe interest rate exposure—$1 billion of 10-year fixed-rate bonds funded with $940 million of variable-rate deposits and $60 million of capital. Initially, the bank is assumed to receive 10 percent interest on these bonds and to pay 10 percent on its deposits.[12] Book and market value of capital are initially equal to $60 million, or 6 percent of assets.[13]

Chart 1 shows the condition of this bank over time assuming no change in credit quality or interest rates. Bank owners receive a 10 percent return on their investment and reinvest their earnings in new assets so that the book value of assets and capital increases over time. With no change in credit quality or interest rates, the book and market values of capital are always equal and provide the same information about the bank's condition.

This bank's interest rate exposure is so severe, however, that a small increase in interest rates will cause losses that lead to insolvency. Chart 2 shows the impact of a 150-basis-point rise in interest rates. The bank now pays 11.5 percent on its variable-rate deposits but continues to receive only 10 percent on its fixed-rate assets. Because interest expense rises above interest income, the bank suffers losses. These losses force the bank to sell some of its fixed-rate assets to pay depositors, causing the book value of assets and capital to decline. The bank's losses are so severe that they exhaust its capital, causing the bank to become insolvent on a book value basis long before the scheduled maturity of its assets.

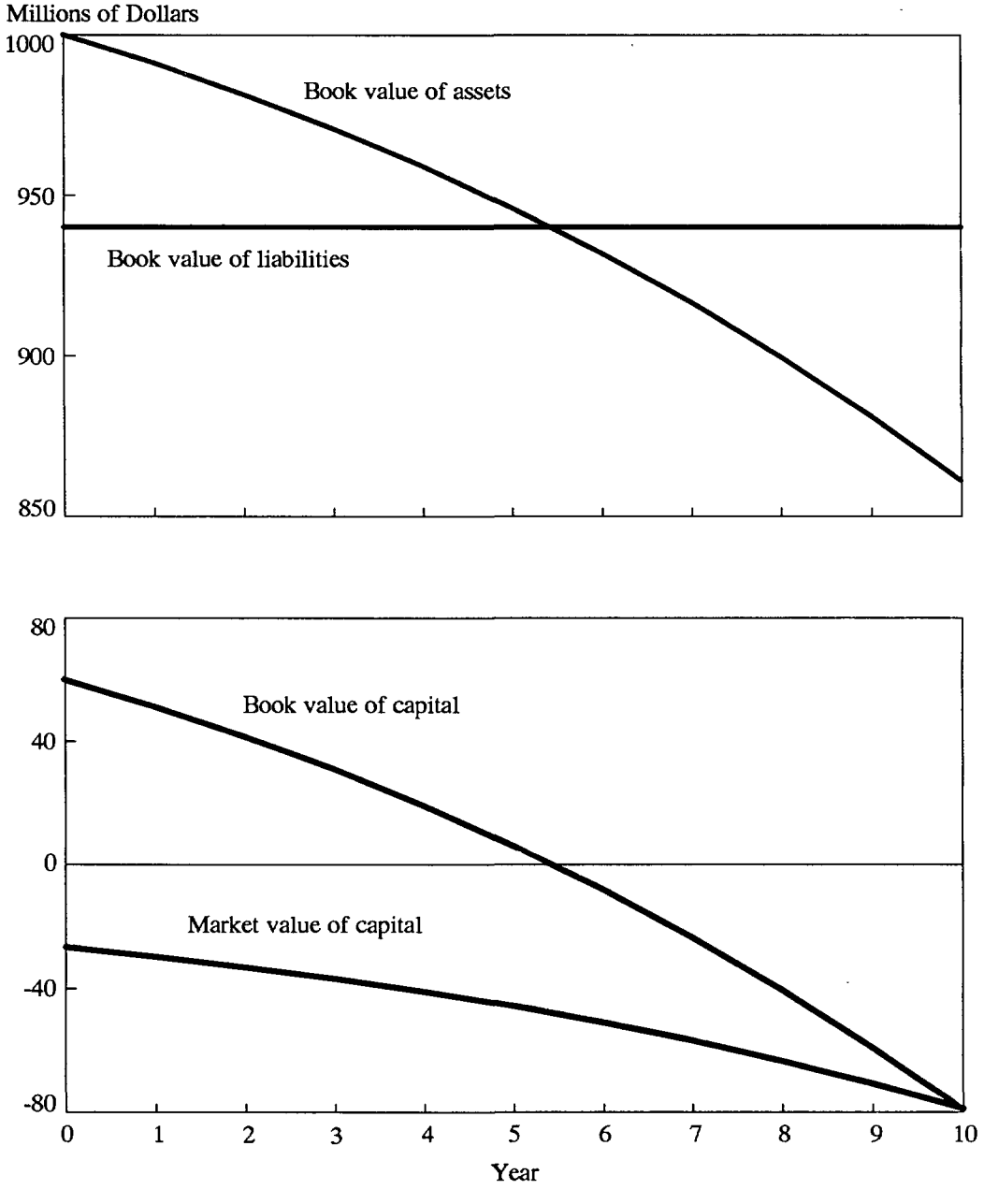
In this example, the current market value of the bank's capital shows these problems, while current book value does not. Market value falls immediately from $60 million to -$27 million, reflecting the negative effect of higher interest rates on future earnings.[14] Thus, the market value of capital not only anticipates the eventual decline in the book value of capital but also the eventual book value insolvency of the bank. In contrast, book value does not fall immediately. Instead, it declines over time only as earnings fall. Thus, book value does not anticipate the future earnings problems.

Overcoming accounting abuses. Market value accounting is also seen as a solution to accounting abuses arising under the current bank accounting system. One abuse is the

Chart 2

Book and Market Values

Interest Rates Rise 150 Basis Points



practice of gains trading in which banks can selectively realize capital gains by selling investment account assets that have appreciated in value. These realized gains boost current income and increase the book value of a bank's capital. However, the bank can continue to value assets with unrealized losses at book value. This practice is potentially misleading to the extent that it suggests that higher current income and capital imply higher future income and capital.[15]

A market value accounting system would eliminate gains trading and other similar practices. Under market value accounting, no distinction is made between realized and unrealized capital gains, since all assets and liabilities would be reported at current market values. Thus, it would not be possible for a bank to report gains on some assets without also reporting losses on other assets.

Market Value Proposals and Critiques

In light of the benefits of market value accounting, several proposals have been advanced to increase the use of market value accounting by banks. These proposals range from partial approaches that only measure certain assets at market value to more comprehensive programs in which all assets, liabilities, and off-balance-sheet items are marked to market. Despite the conceptual appeal of market value accounting, however, critics have raised a number of objections to its use by banks (American Bankers Association; Independent Bankers Association of America; and *ABA Banking Journal)*. This section discusses the pros and cons of some of the principal market value proposals.[16]

Partial market value accounting

Proposals. Most partial market value proposals would require banks to mark some or all of their tradeable securities to market. Loans, other nonmarketable assets, and all liabilities would continue to be measured on a book value basis. Under these proposals, many securities currently reported at cost in the investment account would be reported at market value. Because unrealized capital gains and losses would affect a larger share of bank assets, measured capital would become more volatile.

The stimulus for partial market value approaches comes from two sources. One motivation is cost or feasibility. Market values for tradeable securities are easily obtained, while market values for bank loans and liabilities would have to be estimated. Thus, some proponents see a partial approach as an initial step toward a more complete market value system. Partial approaches are also viewed as a solution to current accounting abuses, such as gains trading.

One example of a partial approach is a recent proposal by the Federal Financial Institutions Examination Council directed at the gains trading problem (1990). Under current accounting rules, if banks classify assets that they do not intend to hold to maturity as investments, they can pursue a gains trading strategy to boost the book value of equity. The FFIEC proposal would tighten restrictions on assets held in the investment account, effectively forcing banks to reduce the amount of securities held in the investment account.[17] As a result, banks would be expected to value more of their security portfolio at market prices.

Critiques. Most criticism of partial market value proposals focuses on the increased volatility of bank earnings and capital. Some critics argue that any increase in volatility is bad because it will discourage investors from buying bank stock and will lead creditors to demand higher risk premiums for holding bank debt. Other critics attack the asymmetrical nature of the partial approach—assets are marked to

market but liabilities are not. According to these critics, marking assets but not liabilities to market will produce an increase in volatility that may misrepresent a bank's true condition.

Critics also charge that banks may be led to make undesirable changes in the structure of their balance sheets. For example, banks might be led to reduce their holdings of long-term Treasury securities in favor of less volatile shorter term assets. Banks might also be inclined to shift from marketable securities to nonmarketable assets, such as loans, to reduce the volatility of earnings and capital.

Evaluation. Whether the increased volatility of earnings and capital resulting from partial market value accounting is good or bad depends largely on whether a bank is exposed to interest rate risk. For banks exposed to interest rate risk, the volatility of market values reflects its true exposure to changes in interest rates. This volatility, therefore, provides useful information.[18]

However, if a bank is not exposed to interest rate risk, a partial market value approach may do more harm than good. Suppose, for example, that a bank has long-term fixed-rate assets matched by long-term fixed-rate liabilities. Both the book value and true market value of this bank's capital are unaffected by interest rate changes. Under a partial approach that marked assets but not liabilities to market, however, measured capital would change. This increased volatility would be artificial, providing a misleading signal of the bank's true interest rate exposure.[19]

Changes in bank portfolios due to partial market value accounting may also be beneficial or harmful. A shift from long-term securities to short-term securities is desirable if a bank is funding the securities with short-term liabilities because this shift would also reduce the bank's interest rate exposure. However, if the bank is funding the long-term securities with long-term liabilities, such a shift would increase the bank's exposure to changes in interest rates. Moreover, a shift in the bank's portfolio from marketable securities to nonmarketable assets could be detrimental. Such a shift could reduce the overall liquidity of the bank's asset portfolio and, at the same time, increase the bank's exposure to credit risk.

Full market value accounting

Proposals. More comprehensive market value proposals go beyond partial approaches in requiring banks to provide market values for most, if not all, assets, liabilities, and off-balance-sheet items. These proposals fall into two categories. Some merely require banks to disclose market values as footnotes on financial statements. Other proposals go further in requiring banks to use market values instead of book values as the basis for financial reporting.

Currently, the most comprehensive market value approach is a recent proposal for increased disclosure advanced by the Financial Accounting Standards Board (1990). Existing accounting rules require market value disclosures only for selected financial instruments. The FASB proposal would extend disclosure to virtually all financial instruments that are on or off the balance sheet. This proposal recognizes, however, that it may be too costly to estimate the market value of some instruments. As a result, the FASB proposal falls short of being a complete market value system.[20]

Critiques. Bankers and other critics have raised many objections to comprehensive market value accounting. These critiques generally fall into three categories: market value accounting is unnecessary, potentially harmful, or infeasible.

The argument that market value accounting is unnecessary reflects the traditional view that banks hold loans and most other assets to

maturity. In this view, changes in the current market values of assets caused by interest rate changes do not affect a bank's ability to collect the full value of an asset at its scheduled maturity.

Other opponents argue that market value accounting is unnecessary because interest rate risk is not a large problem for banks. According to this view, most problems at banks are related to changes in credit quality rather than to changes in interest rates. Because the current system already reflects changes in credit quality, a change to a market value system would provide few, if any, benefits.

Many bankers believe that full market value accounting would lead to increased volatility of earnings and capital. As in the case of partial market value accounting, this increased volatility is seen as harmful to banks because it would become more difficult and costly to raise funds from investors and creditors.

Most arguments against comprehensive market value accounting, however, focus on the cost and difficulty of implementing such a system. Many bankers would argue that partial approaches are at least feasible, even if not desirable, because they rely on tradeable securities for which market values are readily obtained. Full market value accounting would require the estimation of market values for many financial instruments that have no established markets.[21]

Because of the need to estimate market values, critics of market value accounting argue that market values are costly to obtain and potentially inaccurate. For example, in using a present value model to calculate the market value of a loan, a bank would need to estimate the expected future cash flows from the loan, determine the appropriate period over which to discount, and choose appropriate discount rates. This process might be relatively easy for certain types of loans and deposits with contractual cash flows and fixed maturities. Calculating market values could be considerably more difficult, however, for other items, such as highly leveraged loans, loans with prepayment options, and intangible assets. Thus, critics of market value accounting see estimated market values as more costly and less reliable than traditional book values.

Evaluation. A weakness of the "hold to maturity" objection to market value accounting is that it ignores interest rate risk. Regardless of whether a bank intends to hold its assets to maturity, if interest rates rise and the bank is exposed to interest rate risk, the value of the capital cushion protecting creditors and depositors will decline. Moreover, as was shown in Chart 2, banks exposed to interest rate risk may not be able to hold assets to maturity. Higher interest rates may lead to an increase in funding costs that cause losses, forcing banks to sell assets prior to maturity. Thus, contrary to the traditional view, changes in current interest rates can affect the ability of a bank to collect the full value of an asset at maturity.

While changes in credit quality were the primary cause of bank problems in the past, interest rate risk may be more of a problem for banks in the future. With the decline of the S&L industry, banks are becoming increasingly involved in activities exposed to high degrees of interest rate risk, such as home mortgage lending and investments in mortgage-backed securities. Banks are also increasing their exposure to interest rate risk by selling products to manage interest rate risk, such as interest rate swaps. With a market value accounting system, problems related to interest rate risk will show up in measures of capital before they become too large.

The second objection, that full market value accounting will lead to harmful volatility of earnings and capital, is also flawed. If a bank is not exposed to interest rate risk, a full market

value approach will not lead to increased volatility. While interest rate changes may affect the market values of assets and liabilities separately, they will not affect the market value of capital. In contrast, if a bank is exposed to interest rate risk, market value accounting will lead to increased volatility of earnings and capital. However, an accounting system that reflects this volatility is good, not bad, because it reveals a bank's true exposure to changes in interest rates.

In contrast to the first two objections, criticisms of full market value accounting based on feasibility have more merit. One issue is the accuracy of market value measures of bank capital. The case for market value accounting is based on the view that market values provide a more accurate measure of a bank's capital. Because market values must be estimated for many financial instruments, however, estimated market values may be inaccurate measures of true economic values.[22] If so, it might be argued that market value accounting may not be an improvement over the current bank accounting system.

While important in principle, this criticism is subject to two practical qualifications. First, even recognizing inaccuracies, market value estimates may still be more accurate and relevant than book values. For banks exposed to interest rate risk, for example, imprecise estimates of market value may still provide better information than accurate, but irrelevant, book values (Mengle 1989). Second, inaccuracy is most likely to be a significant problem in the early stages of using a market value framework and for instruments that require complex valuation models. As banks and regulators gain more experience and develop better valuation models, this source of inaccuracy is likely to become less important. Thus, rather than undermining the basis for market value accounting, the accuracy issue may suggest the need for caution in the use of market value information and a gradual approach to implementation.[23]

Another difficulty with full market value accounting is its potential cost. Implementing a full market value system would clearly be costly to banks that must estimate market values, particularly for smaller institutions that do not have the necessary resources and expertise to implement such a system. Banks would have to collect new information for calculating market values, develop systems to keep track of the data, and train personnel to use the systems. Market value accounting would also be costly for supervisory agencies responsible for verifying and monitoring this information. This burden could be especially large when institutions with complex operations are examined.

Although full market value accounting will certainly be more costly than the current system, these costs must be balanced against the benefits of market value accounting to individual banks and to society. Market values can provide more accurate and relevant information about a bank's capital. This information can lead to better risk management that improves the performance of bank managers and increases the investment return to bank owners. Market value information may also enable regulators to take actions that reduce the likelihood of bank failure, protecting the interests of depositors, creditors, and taxpayers.

Summary and Conclusions

Market value accounting is conceptually attractive because it overcomes serious limitations of the current bank accounting system. To the extent that market values provide a more accurate measure of a bank's health, bank owners, creditors, and regulators would have better information for making investment and regulatory decisions.

The difficulty with market value accounting lies in its implementation. The various partial and full market value proposals all have limitations that must be balanced against their benefits. Partial proposals would reduce accounting abuses such as gains trading and would not be costly to implement. At the same time, however, partial approaches do not show an institution's full interest rate exposure and may lead to artificial and misleading volatility of capital. Full market value accounting would show a bank's interest rate exposure and would also eliminate accounting abuses. However, this approach would be more costly to implement. Moreover, until better valuation models are developed, full market value accounting might not provide accurate measures of bank capital.

In deciding whether to require banks to adopt market value accounting, regulators will have to weigh these advantages and disadvantages. If regulators decide that the benefits of market value accounting outweigh its costs, the time and effort needed to develop accurate market value models suggest a gradual approach to implementation.

Endnotes

[1] Assets are actually reported at amortized cost. For loans and other assets that repay some principal before maturity, amortized cost is the difference between historical acquisition cost and principal payments. For securities bought at a discount, the difference between maturity value and discounted price is amortized as income over the life of the security. Throughout this article, cost should be understood to mean amortized cost.

[2] Prior to 1938, all securities were reported at market value. At that time, it was believed that requiring banks to report securities at market value caused excessive volatility in earnings and capital that reduced banks' ability to make business loans (Federal Deposit Insurance Corporation).

[3] Securities held with the intent to sell, but which are not actively traded, are reported in the trading account at the lower of cost or market value. Because intent to sell is difficult to determine, most securities in the trading account are reported at market value.

[4] It could be argued that capital does not accurately reflect banks' exposure to credit risk because the current system allows too much discretion in providing reserves for expected loan losses (U.S. Department of the Treasury). For example, banks have not had to fully mark down their loans to lesser developed countries.

[5] Changes in interest rates will affect a bank's capital to the extent that trading account assets make up a large share of total assets. For most banks, the share of assets in trading accounts is very small so that interest rate changes generally have little impact on capital under the current accounting system.

[6] Another weakness of the existing accounting system is that it does not reflect foreign exchange risk. Although foreign exchange risk could be incorporated into a market value framework, this issue is beyond the scope of this article.

[7] Market value proposals have recently been developed by the American Institute of Certified Public Accountants (1990), the Financial Accounting Standards Board (1990), the Federal Financial Institutions Examination Council (1990), and the Office of Thrift Supervision (1990).

[8] Another factor motivating market value accounting is the changing role of banks in the financial system. During the 1980s many banks began to move away from traditional portfolio lending toward investment banking activities. Moreover, such assets as loans, which banks traditionally held to maturity, were increasingly securitized and sold.

[9] Some assets and liabilities have a combination of fixed-rate and variable-rate features—for example, a variable-rate mortgage with an annual cap. The sensitivity of the market values of such instruments to interest rate changes will differ from the simple fixed-rate and variable-rate instruments described in the text.

[10] For simplicity, the treatment of off-balance-sheet items is ignored throughout this article.

[11] Because the market value of a long-term instrument changes more than the market value of a short-term instrument in response to a change in interest rates, the same result would occur if the bank had long-term fixed-rate assets funded by shorter term fixed-rate liabilities.

[12] For simplicity, this example assumes there is no spread in the yields on assets and liabilities. This assumption does not affect the qualitative results of the example.

[13] This example assumes the yield curve is flat. The market value of assets is calculated using the present value formula.

Because the rate on liabilities adjusts immediately to changes in interest rates, the market value of liabilities will always equal the original book value of $940 million. The bank in this example clearly does not correspond to any real bank. Despite this lack of realism, however, this example provides a graphic illustration of the dangers of interest rate risk.

[14] The 150-basis-point increase in interest rates causes the market value of the 10-year bonds to fall from $1 billion to $913 million, while the market value of liabilities remains unchanged at $940 million. Thus, the market value of capital falls to -$27 million.

[15] Because assets sold at a capital gain have yields above current market rates, a bank is effectively trading higher current income for lower future income.

[16] For a more detailed discussion of the pros and cons of market value accounting, see U.S. Department of the Treasury.

[17] Under current supervisory reporting rules, securities held for sale are reported in the trading account at the lower of cost or market value. The FFIEC proposal adds a held-for-sale account for reporting purposes. Securities that do not meet the criteria for inclusion in the investment or trading portfolios would be reported in the held-for-sale account at the lower of cost or market value. Loans held for sale would also be included in this account. The proposal provides guidelines for banks to follow in determining which assets should be included in the three accounts.

[18] A partial system does not reflect an institution's complete interest rate exposure to the extent that some fixed-rate assets are not reported at market value.

[19] For a bank with variable-rate assets matched by variable-rate liabilities, a partial system would not have any effect since all assets and liabilities would already be recorded at market value.

[20] Because the FASB proposal does not require complete disclosure, it may not be possible to calculate a market value measure of capital. Thus, it may not be possible to examine an institution's overall interest rate exposure.

[21] For a more complete discussion of issues involved in implementing market value accounting for banks, see Berger and others; Mengle (1989, 1990).

[22] Some people argue that market values for traded instruments may also be inaccurate because their prices do not reflect fundamental economic factors. For a discussion of this issue, see U.S. Department of the Treasury.

[23] Even if the level of the market value of capital is difficult to estimate, the sensitivity of market value to interest rate changes may be accurately measured. If so, closure decisions based on an estimated level of the market value of capital would require caution. However, the sensitivity of market values to hypothetical changes in interest rates could still be used to determine a bank's exposure to interest rate risk.

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