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Fair value accounting and financial stability

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Market prices give timely signals that can aid decision making. However, in the presence of distorted incentives and illiquid markets, there are other less benign effects that inject artificial volatility to prices that distorts real decisions. In a world of marking-to-market, asset price changes show up immediately on the balance sheets of financial intermediaries and elicit responses from them. Banks and other intermediaries have always responded to changes in economic environment, but marking-to-market sharpens and synchronises their responses, adding impetus to the feedback effects in financial markets.

For junior assets trading in liquid markets (such as traded stocks), marking-to-market is superior to historical cost in terms of the trade-offs. But for senior, long-lived and illiquid assets and liabilities (such as bank loans and insurance liabilities), the harm caused by distortions can outweigh the benefits. We review the competing effects and weigh the arguments.

Accounting is sometimes seen just as a veil leaving the economic fundamentals unaffected. Indeed, in the context of completely frictionless markets, where assets trade in fully liquid markets and there are no problems of perverse incentives, accounting would be irrelevant since reliable market prices would be readily available to all. Just as accounting is irrelevant in such a world, so would any talk of establishing and enforcing accounting standards. To state the proposition the other way round, accounting is relevant only because we live in an *imperfect* world, where markets are not always fully liquid and incentives may be distorted. In such an imperfect world, transaction prices may not be readily available. Even those prices that are available may not correspond to the hypothetical market prices that would prevail in frictionless perfect markets. Therefore, when we debate issues regarding accounting, it is important to be clear on the nature and consequences of the imperfections.

Equally important in any debate in accounting is to be clear on the ultimate objectives of the accounting regime. What is the purpose of accounting standards? Whom should they serve? Should they serve the interests of equity investors? Should they serve the interests of a wider class of investors? Or, should we look beyond investors *per se* to the wider public interest, as for any other public policy issue?

Of course, in practice we may expect wide overlaps between the interests of equity investors, creditors and the wider public interest. However, the distinctions are important in principle, especially where the issues are complex and where our intuitions meet an unfamiliar landscape. In a recent paper,[1] we have provided a formal modeling framework to assess the various issues at stake in the move toward a "fair value" or "mark-to-market" reporting system in which market prices are employed in valuations as much as possible.[2] The purpose of this contribution to the *Financial Stability Review* of the Banque de France is to place our earlier paper in the wider context of the debate on financial stability, and to provide a review of the arguments for and against fair value accounting in this context.

Proponents of marking-to-market argue that the market value of an asset or liability is more relevant than the historical cost at which it was purchased or incurred because the market value reflects the amount at which that asset or liability could be bought or sold in a current transaction between willing parties. A measurement system that reflects the transactions prices would therefore lead to better insights into the risk profile of firms currently in place so that investors could exercise better market discipline and corrective action on firm's decisions.

The accounting scandals of recent years have further strengthened the hands of the proponents of fair value accounting. By shining a bright light into dark corners of a firm's accounts, fair value accounting precludes the dubious practices of managers in hiding the consequences of their actions from the eyes of outside observers. Good corporate governance and fair value accounting are seen as two sides of the same coin.

The US Savings and Loan crisis is a case often cited in this context (see, for instance, Michael –2004). The crisis stemmed in part from the fact that the (variable) interest rates on the S&Ls' deposit liabilities rose above the (fixed) rates earned on their mortgage assets. Traditional historical cost accounting masked the problem by allowing it only to show up gradually through negative annual net interest income. The insolvency of many S&Ls became clear eventually, but a fair value approach would arguably have highlighted the problem much earlier, and have allowed the resolution of the problem at lower fiscal cost. Similarly, the protracted problems faced by the Japanese banking system in the 1990s are also cited as a case where slow recognition of losses on the banks' balance sheet exacerbated the problems.

A pre-condition for the application of fair value accounting is that market values are available for the assets or liabilities in question. However, for many important classes of assets or liabilities, the prices at which transactions take place do not match up well to the ideal of the hypothetical frictionless competitive market. Loans are a good example. Loans are not standardised, and do not trade in deep and liquid markets. Instead, they are typical of many types of assets that trade primarily through the over-the-counter (OTC) market, where prices are determined *via* bilateral bargaining and matching. Loans are also packaged and tranched into asset backed securities such as collateralised debt obligations (CDOs). However, such transactions also

1 *See Plantin, Sapra and Shin (2008).*
2 *A (small) selection of literature debating the issue includes Volcker (2001), Herz (2003), Hansen (2004), European Central Bank (2004). See also industry studies, such as the joint international working group of banking associations (JWGBA, 1999), and the Geneva Association (2004).*

take place in OTC markets. Thus, finding the "fair value" of a loan or securitised asset is an exercise in finding the hypothetical price that would prevail were frictionless markets to exist for such assets. Hypothetical prices can be inferred from discount rates implied by transactions prices of related securities, but OTC markets do not conform to the ideal of deep and liquid markets of the frictionless economy. OTC markets are often illiquid, displaying time varying risk premia that depend sensitively on supply shocks. They exhibit low "resiliency" in the sense that transactions prices jump after large supply shocks, with prices recovering only slowly after the shock, consistent with slow absorption of the new supply by investors and intermediaries.

The key to the debate is whether fair value accounting injects excessive volatility into transactions prices –*i.e.* whether marking-to-market leads to the emergence of an additional, endogenous source of volatility that is purely a consequence of the accounting norm, rather than something that reflects the underlying fundamentals. Real decisions would then distorted due to the measurement regime.

1| LESSONS FROM THE MILLENNIUM BRIDGE

A good way to highlight the relevant questions is to take an example from outside the world of finance, by drawing on the lessons from the Millennium Bridge in London. Some readers may wonder why a bridge is relevant for accounting policy, but the case of the Millennium Bridge offers a classic case study of exactly the sort of market failure that is at debate in accounting policy.[3]

Many readers will be familiar with the Millennium Bridge in London. As the name suggests, the bridge was part of the Millennium celebrations in the year 2000. It is a pedestrian bridge that used an innovative "lateral suspension" design, built without the tall supporting columns that are more familiar with other suspension bridges. The vision was of a "blade of light" across the Thames. The bridge was opened by the Queen on a sunny day in June 2000, and the press was there in force. Many thousands of people turned up to savour the occasion. However, within moments of the bridge's opening, it began to shake violently. The shaking was so severe that many pedestrians clung on to the side-rails. The BBC's news website has some interesting video news clips. The bridge was closed soon after its opening and was to remain closed for over 18 months.

When engineers used shaking machines to send vibrations through the bridge, they found that horizontal shaking at 1 hertz (that is, at one cycle per second) set off the wobble seen on the opening day. This was an important clue, since normal walking pace is around two strides per second, which means that we are on our left foot every second and on our right foot every second. And because our legs are slightly apart, our body sways from side to side when we walk. Readers who have ever been on a rope bridge will need no convincing from us on this score.

But why should this be a problem? We all know that soldiers should break step before they cross a bridge. The pedestrians on the bridge were not soldiers. In any case, for thousands of pedestrians walking at random, one person's sway to the left should be cancelled out by another's sway to the right. If anything, the principle of diversification suggests that having many people on the bridge is the best way of cancelling out the sideways forces on the bridge.

Or, to put it another way, what is the probability that a thousand people walking at random will end up walking exactly in step, and remain in lock-step thereafter? It is tempting to say "close to zero". After all, if each person's step is an independent event, then the probability of everyone walking in step would be the product of many small numbers –giving us a probability close to zero.

However, we have to take into account the way that people react to their environment. Pedestrians on the bridge react to how the bridge is moving. When the bridge moves from under your feet, it is a natural reaction to adjust your stance to regain balance. But here is the catch. When the bridge moves, everyone adjusts his or her stance *at the same time*. This synchronised movement pushes the bridge that the people are standing on, and makes the bridge move even more. This, in turn, makes the people adjust their stance more drastically, and so on. In other words, the wobble of the bridge feeds on itself. When the bridge wobbles, everyone adjusts his

3 *We draw on the discussion in Danielsson and Shin (2003), who used the Millennium Bridge analogy to discuss a wider range of issues in financial stability.*

or her stance, which makes the wobble even worse. So, the wobble will continue and get stronger even though the initial shock (say, a small gust of wind) has long passed.

What does all this have to do with accounting standards and financial markets? Financial markets are the supreme example of an environment where individuals react to what's happening around them, and where individuals' actions affect the outcomes themselves. The pedestrians on the Millennium Bridge are rather like modern banks that react to price changes, and the movements in the bridge itself are rather like price changes in the market. So, under the right conditions, price changes will elicit reactions from the banks, which move prices, which elicit further reactions, and so on.

Financial development has meant that banks and other financial institutions are now at the cutting edge of price-sensitive incentive schemes and price-sensitive risk-management systems. Mark-to-market accounting ensures that any price change shows up immediately on the balance sheet. So, when the bridge moves, banks adjust their stance more than they used to, and marking-to-market ensures that they all do so at the same time.

The Millennium Bridge example points to the importance of the dual role of prices. Not only are they a reflection of the underlying economic fundamentals, they are also an imperative to action. Prices induce actions on the part of the economic agents, as well as mirror the actions of the economic agents.

It is important here to distinguish volatility of prices that merely reflect the volatility of the underlying fundamentals from volatility that cannot be justified by these fundamentals. If the fundamentals themselves are volatile, then market prices will merely reflect the underlying reality. However, the "artificial" nature of the volatility refers to something more pernicious. When the decision horizon of market participants is shortened due to short-term incentives, binding constraints or other market imperfections, then short term price fluctuations affect the interests of these market participants, and hence will influence their actions. There is then the possibility of a feedback loop where anticipation of short-term price movements will induce market participants to act in such as a way as to amplify these price movements. When such feedback effects are strong, then banks' decisions are based on the second-guessing of others' decisions rather than on the basis of perceived fundamentals. In this sense, there is the danger of the emergence of an additional, endogenous source of volatility that is purely a consequence of the accounting norm, rather than something that reflects the underlying fundamentals. Understanding the nature and severity of such effects is the key to appreciating the nature of the controversy surrounding the fair value reporting standards.

2| HISTORICAL COST *VERSUS* MARKING-TO-MARKET

Plantin, Sapra and Shin (2008) develop a parsimonious model that compares the economic effects of the historical cost and mark-to-market measurement regimes. The fundamental trade-off can be described as follows. The historical cost regime relies on past transaction prices, and so accounting values are insensitive to more recent price signals. This lack of sensitivity to price signals induces inefficient decisions because the measurement regime does not reflect the most recent fundamental value of the assets.

Marking-to-market overcomes this price distortion by extracting the information conveyed by market prices, but in doing so, it also *distorts* this information. The choice is between relying on obsolete information or the distorted version of current information. The ideal of having an undistorted, true picture of the fundamentals is unattainable.

Under the historical cost regime, shortsighted firms find it optimal to sell assets that have recently appreciated in value, since booking them at historical cost understates their worth. Despite a possible discount in the secondary market, the inertia in accounting values gives these short horizon firms the incentives to sell. Thus, when asset values have appreciated, the historical cost regime leads to inefficient sales.

A remedy to the inefficiency in the historical cost regime would be to shift to a mark-to-market regime where asset values are recorded at their current transaction prices. This is only an imperfect solution, however. When markets are only imperfectly liquid in the sense that sales or purchases affect the short term price dynamics, the illiquidity of the secondary market causes another type of inefficiency. A bad outcome for the asset will depress fundamental values somewhat, but the more pernicious effect comes from the negative externalities generated by other firms selling. Under a mark-to-market regime, the value of my assets depends on the prices at which *others* have managed to sell their assets. When others sell, observed transaction prices are depressed more than is justified by the fundamentals, and exerts a negative effect on all others, but especially on those who have chosen to hold on to the asset. Anticipating this negative outcome, a short-horizon bank will be tempted to preempt the fall in price by selling the asset itself. However, such preemptive action will merely serve to amplify the price fall. In this way, the mark-to-market regime generates endogenous volatility of prices that impedes the resource allocation role of prices.

In general, marking-to-market tends to amplify the movements in asset prices relative to their fundamental values, while the historical cost regime injects excessive conservatism. The mark-to-market regime leads to inefficient sales in bad times, but the historical cost regime turns out to be particularly inefficient in good times. The seniority of the asset's payoff (which determines the concavity of the payoff function) and the skewness of the distribution of the future cash flows have an important impact on the choice of the optimal regime.

These effects lead to clear economic trade-offs between the two measurement regimes. In particular, the model of Plantin, Sapra and Shin (2008) generates the following three main implications:

• For sufficiently short-lived assets, marking-to-market induces lower inefficiencies than historical cost accounting. The converse is true for sufficiently long-lived assets.

• For sufficiently liquid assets, marking-to-market induces lower inefficiencies than historical cost accounting. The converse is true for sufficiently illiquid assets.

• For sufficiently junior assets, marking-to-market induces lower inefficiencies than historical cost accounting. The converse is true for sufficiently senior assets.

These results shed some light on the political economy of accounting policy. The opposition to marking-to-market has been led by the banking and insurance industries, while the equity investors have been the most enthusiastic proponents for marking-to-market. For banks and insurance companies, a large proportion of their balance sheet consists precisely of items that are of long duration, senior, and illiquid. For banks, these items appear on the asset side of their balance sheets. Loans, typically, are senior, long-term, and very illiquid. For insurance companies, the focus is on the liabilities side of their balance sheet. Insurance liabilities are long-term, illiquid and have limited upside from the point of view of the insurance company. In contrast, equity is a class of assets that are junior, and (in the case of marketed equity) traded in liquid stock markets. For investors in such assets, marking-to-market tends to be superior. This observation helps to explain why equity investors have been the most enthusiastic supporters of marking-to-market.

The model also highlights the interplay between liquidity and the measurement regime. As the liquidity of the asset dries up, marking-to-market becomes significantly more inefficient than the historical cost regime because strategic concerns overwhelm fundamental analysis. Strategic concerns create procyclical trades that destabilise prices in the mark-to-market regime while strategic concerns result in countercyclical trades that reduce fundamental volatility in the historical cost regime.

3| AMPLIFICATION "ON THE WAY UP"

So far, we have focused on inefficient sales and distortions that occur during periods of market distress. However, it would be important to keep in mind that crises are invariably preceded by a period of excess in the financial markets. Although the clamor for the suspension of marking-to-market is most vocal during periods of market distress, it should be borne in mind that most of the excesses that are being unwound during crises were built up

during the preceding boom period. In short, it is important to identify the distortions "on the way up", as well as the distortions "on the way down".

Financial institutions manage their balance sheets actively in response to price changes and to changes in measured risk. Since market-wide events are felt simultaneously by all market participants, the reactions to such events are synchronised. If such synchronised reactions lead to rises in asset prices and subdued readings on measured risk, there is the potential for a further round of synchronised reactions. Financial intermediaries –the broker dealers and commercial banks– have balance sheets that are leveraged and hence whose net worth is most sensitive to price changes and shifts in measured risk.

Adrian and Shin (2007) show that financial intermediaries react in a very different way as compared to households to shifts in prices and risk. Households tend not to adjust their balance sheets drastically to changes in asset prices. In aggregate flow of funds data for the household sector in the United States, leverage falls when total assets rise. In other words, for households, the change in leverage and change in balance sheet size are negatively related. However, for security dealers and brokers (including the major investment banks), there is a *positive* relationship between changes in leverage and changes in balance sheet size. Far from being passive, financial intermediaries adjust their balance sheets actively and do so in such a way that leverage is high during booms and low during busts. Leverage is procyclical in this sense.

The accounting regime affects the degree to which such procyclical actions led to amplification of the financial cycle. When balance sheets are marked-to-market continuously, changes in asset values show up immediately as increases in the marked-to-market equity of the financial institution, and elicit responses from them. Consider the following simple example, taken from Adrian and Shin (2008). A financial intermediary manages its balance sheet actively to as to maintain a constant leverage ratio of 10. Suppose the initial balance sheet is as follows. The financial intermediary holds 100 worth of assets (securities, for simplicity) and has funded this holding with debt worth 90.

Assets		Liabilities	
Securities	100	Equity	10
		Debt	90

Assume that the price of debt is approximately constant for small changes in total assets. Suppose the price of securities increases by 1% to 101.

Assets		Liabilities	
Securities	101	Equity	11
		Debt	90

Leverage then falls to 101/11 = 9.18. If the bank targets leverage of 10, then it must take on additional debt worth 9, and with the proceeds purchases securities worth 9. Thus, an increase in the price of the security of 1 leads to an increased holding worth 9. The demand curve is upward-sloping. After the purchase, leverage is back up to 10.

Assets		Liabilities	
Securities	110	Equity	11
		Debt	99

The mechanism works in reverse, on the way down. Suppose there is shock to the securities price so that the value of security holdings falls to 109. On the liabilities side, it is equity that bears the burden of adjustment, since the value of debt stays approximately constant.

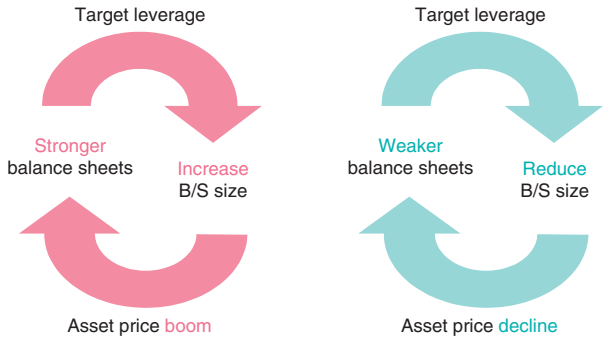
Assets		Liabilities	
Securities	109	Equity	10
		Debt	99

Leverage is now too high (109/10 = 10.9). The bank can adjust down its leverage by selling securities worth 9, and paying down 9 worth of debt. Thus, a fall in the price of securities of leads to sales of securities. The supply curve is downward-sloping. The new balance sheet then looks as follows.

Assets		Liabilities	
Securities	100	Equity	10
		Debt	90

The balance sheet is now back to where it started before the price changes. Leverage is back down to the target level of 10. Leverage targeting entails upward-sloping demands and downward-sloping supplies. The perverse nature of the demand and supply curves are even stronger when the leverage of the financial intermediary is pro-cyclical –that is,

when leverage is high during booms and low during busts. When the securities price goes up, the upward adjustment of leverage entails purchases of securities that are even larger than that for the case of constant leverage. If, in addition, there is the possibility of feedback, then the adjustment of leverage and price changes will reinforce each other in an amplification of the financial cycle.



If we hypothesise that greater demand for the asset tends to put upward pressure on its price, then there is the potential for a feedback effect in which stronger balance sheets (B/S) feed greater demand for the asset, which in turn raises the asset's price and lead to stronger balance sheets. The mechanism works exactly in reverse in downturns. If we hypothesise that greater supply of the asset tends to put downward pressure on its price, then there is the potential for a feedback effect in which weaker balance sheets lead to greater sales of the asset, which depresses the asset's price and lead to even weaker balance sheets.

Bearing in mind the amplification mechanism sketched above, consider the following passage from a commentary published in the *Wall Street Journal* in 2005.[4]

"While many believe that irresponsible borrowing is creating a bubble in housing, this is not necessarily true. At the end of 2004, US households owned USD 17.2 trillion in housing assets, an increase of 18.1% (or USD 2.6 trillion) from the third quarter of 2003. Over the same five quarters, mortgage debt (including home equity lines) rose USD 1.1 trillion to USD 7.5 trillion. The result: a USD 1.5 trillion increase in net housing equity over the past 15 months."

The author minimises the dangers from the USD 1.1 trillion increase in debt by appealing to the marked-to-market value of housing equity. The argument is that when the whole US housing stock is valued at the current marginal transactions price, the increased marked-to-market equity is USD 1.5 trillion. This increased housing equity is seen as an argument against the view that increased debt is leading to an overheating housing market.

If the purpose of the exercise is to assess the soundness of the aggregate household sector balance sheet, then the marked-to-market value of the total US housing stock (assessed at the current marginal transaction price) may not be a good indicator of the soundness of the aggregate balance sheet. Instead, it would be better to ask how much value can be realised if a substantial proportion of the housing stock were to be put up for sale. The value realised in such a sale would be much smaller than the current marked-to-market value. This is one instance in which marking-to-market gives a misleading indicator of the aggregate position.

There is a larger issue. For leveraged financial institutions, the increased marked-to-market equity that results from a boom in asset prices leads to a feedback effect as they attempt to expand lending in order to keep leverage high enough to sustain an acceptable return on equity. The reasoning captured in the *Wall Street Journal* commentary above would be innocuous if financial intermediaries did not react to changes in their marked-to-market equity. However, the fact is that financial intermediaries *do* react to market prices. It is this reaction, and the subsequent feedback effect that leads to the excesses on the way up. Understanding the Millennium Bridge analogy is therefore crucial for understanding the role of measurement systems in promoting financial stability.

4| POLICY OPTIONS

The choice of an accounting measurement regime for financial institutions is one of the most contentious policy issues facing financial regulators and accounting standard setters at the moment.

4 *"Mr. Greenspan's cappuccino", Commentary by Brian S. Wesbury,* Wall Street Journal, *May 31, 2005. The title makes reference to Alan Greenspan's comments on the "froth" in the US housing market.*

Measurement policies affect firms' actions, and these actions, in turn, affect prices. We have compared a measurement regime based on past prices (historical cost) with a regime based upon current prices (mark-to-market). The historical cost regime is inefficient because it ignores price signals. However, in trying to extract the informational content of current prices, the mark-to-market regime distorts this content by adding an extra, non-fundamental component to price fluctuations. As a result, the choice between these measurement regimes boils down to a dilemma between ignoring price signals, or relying on their degraded versions.

Even under the historical cost regime, the accounting measurement for a long-lived asset is based on a historical cost with an impairment measurement regime. Namely, if the fair value of a long-lived asset is below its recorded cost, it is written down toward its fair value. Under a historical cost with impairment regime, our reasoning would predict that the inefficiencies of such a regime would depend on the nature of the impairment of the asset. This is because the nature of the impairment determines how the fair value of the long-lived impaired asset is computed. In particular, suppose the impairment of a loan is due to increased market risk so that the fair value of the long-lived loan is derived using stochastic discount rates obtained from recent transactions of comparable loans. In such a scenario, our reasoning would predict that such a measurement regime would be plagued with the same inefficiencies in the left tail of fundamentals as the inefficiencies in the left tail of fundamentals in a mark-to-market regime. Given that the inefficiencies in the right hand tail of fundamentals would still persist, our model would then imply that a historical cost with impairment regime would be unambiguously worse than a mark-to-market regime. On the other hand, suppose impairment of the loan is due to the deterioration of the credit risk of a specific borrower so that the fair value of such a loan would be derived using a discount rate specific to the borrower rather than relying on discount rates of other similar transactions. In such a scenario, our model would imply that the strategic effect associated with the lower tail of fundamentals in the mark-to-market regime may be weaker or may not even arise at all. Given that the inefficiencies in the right hand tail of fundamentals would still persist, our reasoning would predict that the inefficiencies in a historical cost with impairment would then be qualitatively similar to the inefficiencies in a historical cost regime without impairment.

So far, we have only discussed a "pure" historical cost regime, in which the price of an asset or liability is kept constant over time. Our analysis has emphasised the respective weaknesses of pure historical cost and mark-to-market regimes. However, it opens the door to a more general analysis of the normative implications for the design of an optimal standard. For instance, a measurement regime in which the accounting value of an asset is the average over some interval of time would allow market prices to fully exert themselves over the medium term, but prevent the short-run dynamics that lead to distorted decisions. A measurement regime for illiquid assets that discount future cash flows with discount factors that are an average of past observed discount factors may have desirable properties. In doing so, managers would be confident that fire sales by other firms would have a limited impact on the end-of-period valuation of their assets. This procedure may remove to a large extent the risk of self-fulfilling liquidity shocks that we have emphasised, while also mitigating the absence of price signals in a historical cost regime.

From a system stability perspective, inducing actions that dampen financial cycles are to be desired. Although historical cost accounting has the limitation that recent prices are not taken into account, it does have the virtue that it induces actions that dampen the financial cycle. When the market price of an asset rises above the historical cost of the asset, the manager of the firm has the incentive to sell the asset, in order to realise the capital gain. In other words, when the price *rises*, the incentive is to *sell*. Contrast this with the amplifying response of a market-to-market regime. As we saw above, when balance sheets are marked-to-market, an increase in the price of assets leads to purchases of the asset. In other words, when the price *rises*, the incentive is to *buy more*. It is this amplifying response of marking-to-market that is at the heart of the debate.

Our discussion suggests that the full implementation of a mark-to-market regime may need considerable investigation and care. We would emphasise the importance of the second-best perspective in accounting debates. When there are multiple imperfections in the world, removing a (strict) subset of them need not always improve welfare.

We close with some remarks on governance issues. The accounting standard setters –the International Accounting Standards Board (IASB) and the

US Financial Accounting Standards Board (FASB)– do not see it as part of their remit to consider the overall economic impact of accounting standards. Instead, they see their role in much narrower terms, of ensuring that accounting values reflect current terms of trade between willing parties. However, we have seen that accounting standards have far-reaching consequences for the working of financial markets, and for the amplification of financial cycles. To the extent that accounting standards have such far-reaching impact, the constituency that is affected by the accounting standard setters may be much broader than the constituency that the accounting standard setters have in mind when setting standards. This raises an obvious question. Is accounting too important to be left solely to the accountants? It is difficult to escape the conclusion that the answer to this important question is "yes". Accounting has all the attributes of an area of public policy, intimately linked to financial regulation and the conduct of macroeconomic policy. As such, there may be strong arguments for ensuring that accounting rules play their role in the overall public policy response.

Our paper has attempted to shed light on how the second-best perspective can be brought to bear on the debate on optimal accounting standards, and to provide a framework of analysis that can weigh up the arguments on both sides. Issues of measurement have a far-reaching influence on the behaviour of financial institutions, and determine to a large extent the efficiency of the price mechanism in guiding real decisions.

Accounting would be irrelevant in a perfect world. The fact that accounting is so controversial shows us that we live in an imperfect world. Our task has been to show how the nature of those imperfections speaks to the appropriate policy responses.

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