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How can business reporting be improved? A research perspective

Martin Walker*

Abstract—This paper provides a commentary on the four main papers presented at the 2006 Information for Better Market's Conference. Since the purpose of the conference is to encourage policy relevant research, this commentary discusses some of the key policy issues raised by the papers, and it identifies areas where either further work is needed or where a change in the orientation of academic research may be appropriate in order to increase its policy relevance. A particular theme of this paper is the need to think about corporate accounting and financial disclosure policy issues in a realistic economic context which allows for: moral hazard (investors cannot observe managers' decisions), adverse selection (managers have insider information), significant proprietary costs of disclosure, and the possibility that the market has value relevant information that is not observed by managers.

This paper provides a commentary on the four main papers presented at the 2006 Information for Better Market's Conference.

Two of the papers provided useful surveys of the academic research literature on financial disclosure. Botosan (2006) focuses on the demand side of the market and Lundholm (2006) on the supply side. Thus in this paper I start by discussing some of the problems that arise when putting the demand side and supply side together into a single model. I then attempt to provide a little more detail on aspects of the disclosure literature that were not covered by the main papers.

Watts (2006) is a wide-ranging policy discussion with potentially profound implications for the way accounting standards are set. He believes that the Financial Accounting Standards Board (FASB) and the International Accounting Standards Board (IASB) need to adopt a broader frame of reference in thinking about the development of standards. Watts sets the development of corporate financial reporting in a historical context and argues that stewardship has traditionally been the main focus and purpose of corporate financial reporting. Current attempts to downplay the importance of stewardship may result in accounts that are not fit for purpose.

Gray (2006) focuses on environmental issues and the potential role of accountants in environmental accounting and social responsibility issues. Gray broadly advocates a stakeholder view of the corporation. I draw an important distinction between macro-governance and micro-governance and argue that the stakeholder view is a misguided attempt to devise a micro-governance solution to a macro-governance problem.

1. Disclosure and the cost of capital

Christine Botosan (2006) has provided an extremely helpful state-of-the-art survey of the literature on the cost of capital and corporate disclosure. She has pointed to some of the major theoretical and empirical issues that confront researchers in this area. In particular she has explained why it is currently unsafe to draw any firm conclusions about the nature of the relationship between disclosure and the costs of equity and/or debt capital. Incidentally, it seems to me that the number we should be really interested in, is the firm's cost of capital – i.e., the WACC.

Rather than summarising Christine's paper, I thought it might be helpful to explain why this literature is failing to arrive at clear-cut conclusions. The main point I wish to make is that one needs to be careful in interpreting what it is we see when we observe an empirical relation between two endogenous variables, i.e., disclosure and cost of capital. In particular I wonder just how safe it is to treat disclosure as an exogenous variable in the relation between disclosure and the cost of capital.

The important point here is that the cost of capital is a price. And like all prices it is determined by supply and demand. Thus it seems to me that we need to model the supply and demand relation between endogenous disclosure and endogenous cost of capital.

If all firms are wealth maximising then they will choose a disclosure level for which the marginal cost of additional disclosure equals the marginal benefit (see Figure 1). If all firms behave like this then what is the point of trying to estimate the relation between disclosure levels that vary between

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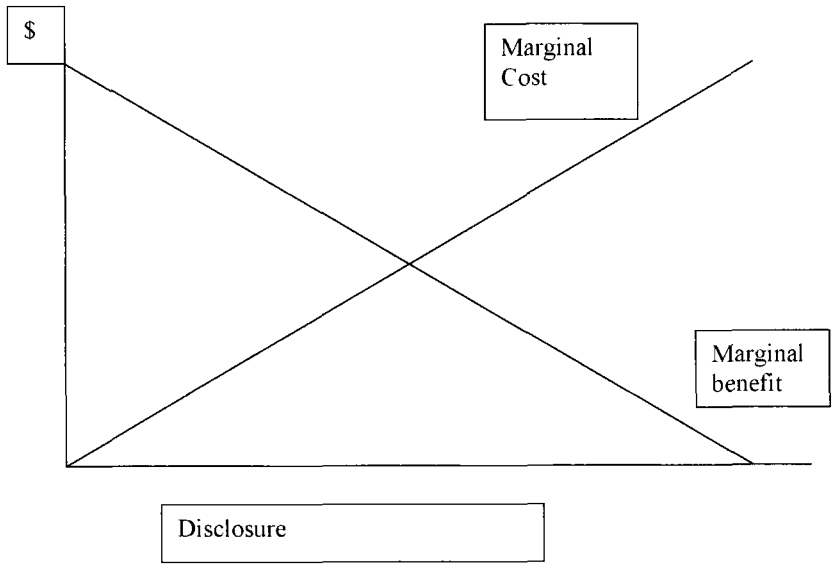
Figure 1



firms for equilibrium reasons?

One possibility is that for some reason some firms might be choosing to ration their levels of disclosure. For example, if some managers want to hide what they are doing then they may choose to restrict disclosure. In this case you will get a set of observed points such as in Figure 2. In this case the points nicely track the marginal cost line and the observed line would be a true estimate of the relation between disclosure and the marginal costs of disclosure to shareholders. Note that in order for this story to hold true we need to be able to explain why some managers restrict disclosure below an optimal level, and how and why they can get away with doing this. What prevents the optimum level of disclosure from being enforced? Lundholm's (2006) paper to some extent addresses this issue.

Another problem with this rationed disclosure story is that an alternative equilibrium story gives the same empirical prediction. For example, if all firms disclose optimally and the marginal cost of disclosure is constant across firms then firms with less steep marginal benefit (MB) lines will disclose more (see Figure 3). Note that fitting a line through the equilibrium points here produces an estimate of the disclosure supply curve not the demand curve. In general, what you get depends on which curve has the most variation. If the cost curve varies across firms but not the marginal benefits curve then you will get an estimate of the marginal benefit curve. Such results are largely irrelevant for policy makers since all firms are already behaving optimally.

Figures 4 and 5 show some other patterns that could theoretically be observed in the cross-section. Here each point is the intersection between the demand and supply curves of the individual firms. In Figure 4 steeper marginal cost (MC) lines are associated with shallower MB lines.

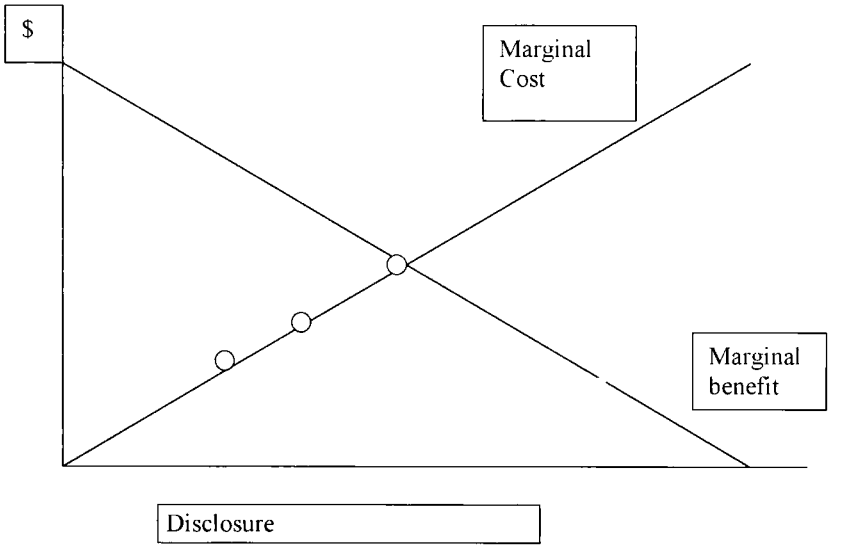
In this case the will be no simple functional relation from disclosure to the benefits of disclosure. In Figure 5, in which steeper MB lines are associated with steeper MC lines, we get a negative relation between estimates of the marginal benefit of disclosure and disclosure. In these two cases the fit of equilibrium points measures neither the demand nor the supply side of the market.

In the light of this analysis it seems reasonable to conclude that we are a long way from being able to model the economic effects of corporate disclosure on the cost of capital, and vice versa.

2. Motives for disclosure and non-disclosure

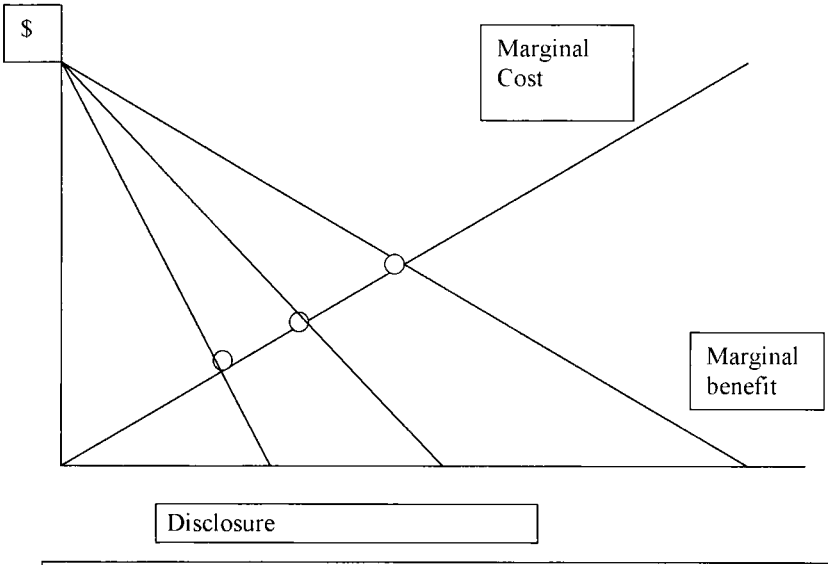
Any attempt to model the supply side of financial disclosure needs to understand the motives for and against disclosure. Russell Lundholm's paper provides a neat summary of the empirical literature in this area as well as taking us through some of the

Figure 2



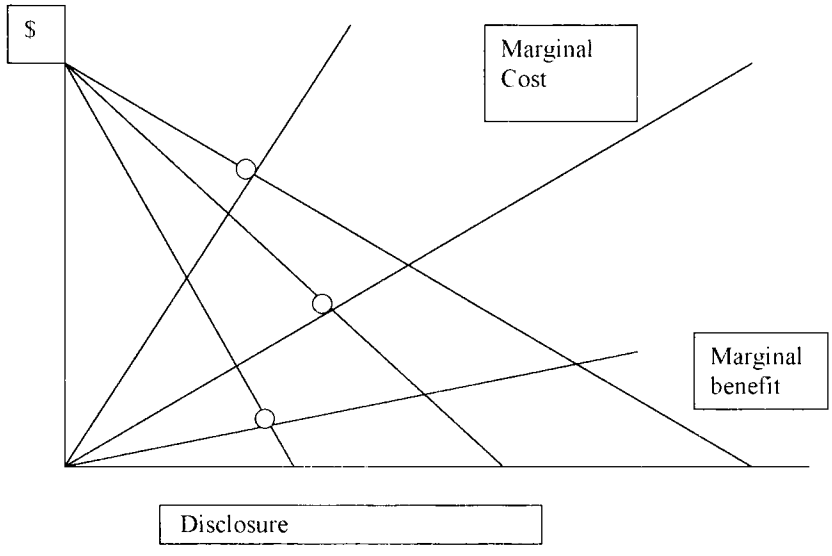
When some managers ration disclosure more than others, we get a disequilibrium story of the relation between marginal cost and disclosure

Figure 3



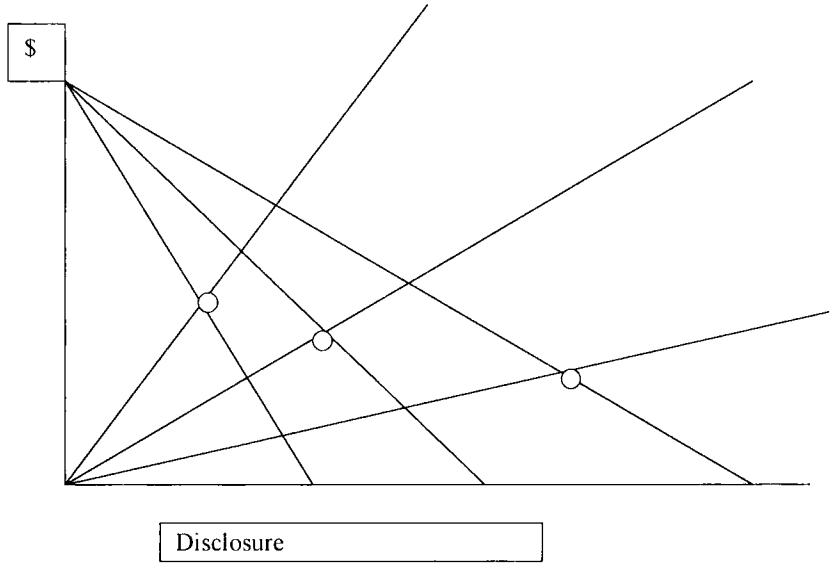
Equilibrium relations when marginal benefits of disclosure differ. Observationally this is the same as the rationed model

Figure 4



This is what happens in equilibrium if steeper MC lines are associated with shallower MB lines.

Figure 5



Disclosure equilibria when steeper MC lines are associated with steeper MB lines.

theoretical work that helps us to think more rigorously about the determinants of disclosure choice.

The starting point of Russell's paper is the *disclosure principle*. The disclosure principle is based on the following assumptions:

1. Management knows a value-relevant bit of information.
2. Outside investors know that management knows this information.
3. Management is motivated to maximise the value of current shareholders' equity.
4. Management can credibly disclose the information at zero cost.
5. All outside investors interpret the disclosures/non-disclosure in the same way

(Dye, 2001).

If the disclosure principle holds, then the only possible disclosure equilibrium is one in which all managers disclose except those with the worst possible information, in which case investors can automatically infer that the news must be bad. Thus in this equilibrium all, the ex-ante information available to management is fully reflected in share prices.

Russell surveys a body of empirical evidence that is broadly consistent with the disclosure principle. He then examines the implications of relaxing assumptions 1, 3 and 4. With regard to assumption 1, (managers have nothing to disclose) the evidence reviewed is rather narrow. This points to the need for more work on identifying the specific circumstances and types of firms where assumption 1 is more likely to be true. Papers that focus on all firms at all points in time inevitably include observations where nothing was disclosed because there was nothing to disclose. These are hardly interesting cases!

With regard to assumption 3, the evidence suggest that firms in which managerial wealth is less closely linked to shareholder value tend to exhibit lower levels of disclosure. This evidence is consistent with the disequilibrium disclosure rationing model illustrated in Figure 2. There has been much work documenting the relation between corporate governance quality and earnings quality. The results surveyed in this section suggest that research on the relation between disclosure quality and corporate governance quality might also be worthwhile. In particular, it would be interesting to know how the disclosure stance of the firm is decided. Is this something that is left to the discretion of the chief financial officer and the chief executive, or is it something in which corporate boards in general – and non-executive directors in particular – take a close interest?

With regard to assumption 4, the evidence shows that commercial sensitivity issues limit the willingness of some firms to disclose. This is consistent with the cross-sectional equilibrium sketched in Figure 6.

There are a number of areas where I felt the survey could be extended.

First, Russell's paper focuses on disclosure as a potential solution to the adverse selection problem, but it is important to bear in mind that financial reporting confronts a moral hazard problem as well an adverse selection.[1] There is a principal-agent relation between shareholders and corporate managers. To some extent this point is picked up in the 'Don't care' section of the paper. Managers may not be motivated to maximise share price, and so they may not bother to disclose. However, this section does not explain why any managers would choose not to disclose, it simply recognises that some managers may have a stronger motive to disclose than others. In a principal-agent context, whether or not full disclosure ensues depends on whether the conditions for the *revelation principal* hold (Lambert, 2001). Sufficient conditions for the revelation principle to hold are: 1) communication is costless and the message space is rich enough[2] to carry the information; 2) there are no restrictions on the form of the principal-agent contract, and in particular both sides can pre-commit not to renegotiate the contract at a later date; 3) the principal can pre-commit to how any information revealed by the agent will be used. It is well known that, if the revelation principle holds, there will be no demand for earnings management. Thus one might interpret the voluminous findings that demonstrate the widespread presence of earnings management as indicating that the revelation principle probably does not hold, i.e. one or more of the above conditions are not true.

If the revelation principle does not hold, then we may end up facing a trade-off between the provision of information for contracting purposes and the provision of information to deal with the adverse selection issue. For example, it may be necessary to constrain how management disclosures will be used in executive compensation or related performance contracts within the firm, in order to induce full disclosure.[3]

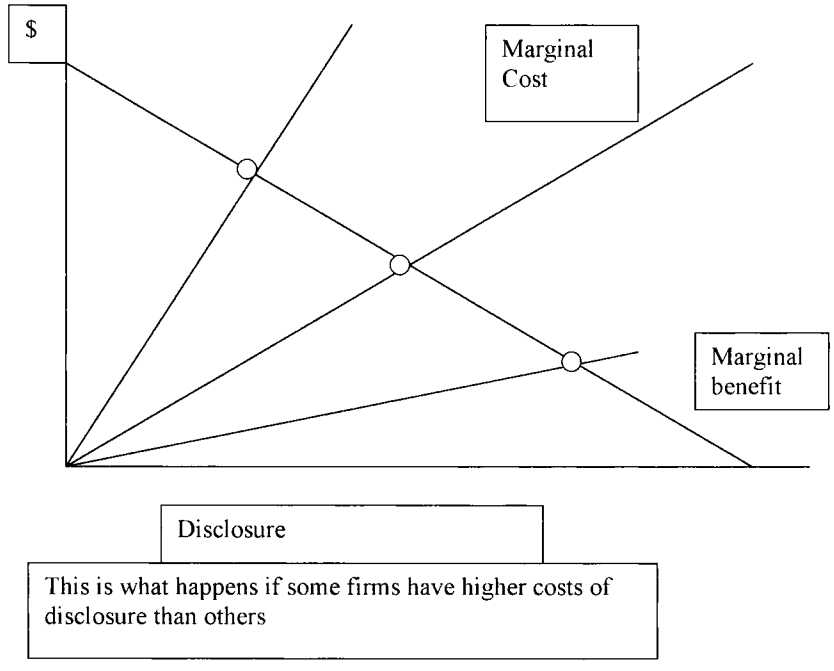
Second, the papers reviewed by Russell all assume that managers are at least as well informed about the determinants of firm value as the market. I frankly doubt that this is an entirely accurate as-

[1] A moral hazard problem arises when the agent's action choice is not observed by the principal. An adverse selection problem arises when the agent has information about the state of the world that is not observed by the principal.

[2] For an example of a message space that is not sufficiently rich, suppose the agent observes that the true state is high, medium, or low, but can only send one of two messages (not high, or high).

[3] If managers believe that their disclosures will be used to assess their performance than they may have an incentive to provide either misleading or incomplete information.

Figure 6



sumption. Watts (2006) points to the fact share prices aggregate the views of potentially thousands of investors, some of whom may have insights about the value of the firm that are not known by managers.[4] Thus while it seems entirely reasonable to assume that company managers have information that the market does not have, it seems less reasonable to assume that managers know everything that the market knows. Perhaps one reason why managers do not disclose is because they don't actually know how the market will respond to the disclosure.

In addition to exploring the implications of the possibility that the market is better informed than the managers, more work is also needed on models in which the market responds inappropriately to corporate disclosures. Many corporate financial managers argue that it may be unsafe to disclose certain information because they will not be understood by the market. In part this may reflect ignorance by financial managers of how the market works. It does not matter if the average investor has limited decision-making ability so long as the marginal investor is really smart. If the average investor is dumb then the marginal investors (hedge funds) will soon move in to correct any mis-pricing. However, to the extent to which there are limits to the arbitrage opportunities available to smart investors (e.g. short sales restrictions) the possibility arises that the market may respond incorrectly). In particular if short sales restrictions are the main limit on arbitrage then the most likely form of mispricing will be an excessive overreaction to good news. Some preliminary theoretical work on mispricing and firm disclosure can be found in Hirshleifer and Teoh (2003).[5]

Third, a general concern I have with the economics of disclosure literature is that it does not seem to mesh very well with the financial reporting process. Related to this is the tendency of this literature to focus on simple one-shot games. More attention needs to be paid to the possibility that in repeated games firms have a powerful incentive to build a reputation for frank and truthful disclosure. All of this needs to be placed in a context in which the earnings process is paramount, and where unaudited voluntary disclosures are largely concerned with explaining why the current accounting numbers are what they are, and how future accounting numbers are expected to benefit from current managerial decisions.

[4] For example, some investors may have a better feel for the way macro-economic developments will affect the firm. Others may have a better understanding of how technological developments elsewhere may affect the firm.

[5] Short-selling is particularly risky if any mis-pricing takes a long time to correct itself.

3. What has the invisible hand achieved?

It is always a pleasure to listen to Ross Watt's views on accounting policy. Ross has consistently challenged conventional views about accounting standard-setting and has raised fundamental issues about the context and purpose of the standard setters' task as well as their political motivation.

3.1. Context

Watts (2006) views financial accounting as one of the cogs in a complex machine. The function of this machine is to facilitate the operation of the financial system, especially that part of the financial system that provides and regulates corporate finance. Within this financial system a complex network of arrangements need to be made for corporate governance and corporate financial communication. Accounting standards are just one small part of the machine, and it is therefore vitally important for there to be a good fit between this part of the machine and the other parts of the machine. Attempts to set accounting standards that fail to reflect the broader context in which they operate are likely to produce sub-optimal standards i.e. standards that are not fit for purpose.

Another important aspect of context, that Watts (2006) highlights, is the role of the legal system, and in particular the litigation rights of shareholders and other suppliers of capital. In general accounting practice needs to accommodate and respond to litigation risks. Again, there needs to be a fit between accounting standards and the legal context.

One wonders, for example, how this will play out in the context of International Financial Reporting Standards (IFRSs) in the European Union where common standards are being imposed across a diverse set of legal and corporate governance systems.

3.2. Purpose

In recent months the FASB, in association with the IASB, have been asking some searching questions about the primary purpose of financial statements. For example, FASB have recently hinted that they believe the concept of stewardship is secondary to the provision of information for decision-making purposes.

> 'Stewardship and accountability. The Board agreed that stewardship or accountability should not be a separate objective of financial reporting by business entities in the converged framework.' (FASB, 2005)

This contrasts sharply with the historical record Watts (2006) recalls in his paper: 'The original development of accounting and financial reporting appears to be driven by agency costs' (Watts, 2006).

The FASB statement ignores the fact that in general there are two kinds of information asymmetry involved in managing the relations between insider managers and external suppliers of capital. First, there is an adverse selection problem. Managers have access to information about the value of the firm that is not available to investors. Companies need to devise mechanisms to signal to potential and current investors that managers will not exploit their information advantage to the detriment of external parties. Second, there is a moral hazard problem. Managers observe their own action choices, but external investors do not. Moreover, managers observe the information they had at the time they made their decision and external investors do not. An important role of external financial reporting is to control the agency cost[6] arising from the moral hazard problem. It is unfortunate that the terms of discourse of FASB and IASB fail to pick up on this fundamental point. Terms like relevance, reliability, materiality, and understandability do not map neatly onto the agency theory framework. At some point these conventional frames of reference will need to change to reflect modern understandings of agency costs.

As evidence for the agency point of view, Watts (2006) points to the demand for conservatism within financial reporting. The demand for conservatism only makes sense in a model of the financial reporting that recognises that insiders have an information advantage over external parties. Accounting standard-setters need to change their conceptual frameworks to explicitly allow for such conflicts of interest. Conflicts of interest are a key driver of the demand for financial reporting and so they should be an explicit feature of the standard-setting logic, not an after thought or a second order issue.

In developing the role and purpose of financial accounting Watts (2006) points to the comparative advantage of accounting over other forms of financial communication. He notes:

> '[T]hat the evidence suggests accounting's comparative advantage in supplying information to capital markets is something other than producing a broad range of information or an estimate of firm value. It is to produce "hard" verifiable numbers that discipline other sources of information.'

In particular, Watts (2006) points to the important ex-post verification role of accounting. Hard accounting numbers can be more easily related to forecasts made in the past either by insider managers or investment analysts. Within a financial communication system in which there is a rich

[6] Agency costs include the costs of contracting, monitoring, providing incentive payments, bonding costs, and the residual loss of value that occurs when managers make sub-optimal choices.

flow of forward looking information outside the financial reports themselves, there is a need for an objective historical record of financial performance that can be related back to prior expectations and promises.

In our ongoing research for the Institute of Charted Accountant in England and Wales (ICAEW) I interviewed a senior manager from a major investment house. I asked the subject for their views about performance reporting in general and Headline Earnings in particular:

> Answer: 'Well, this is where you have the whole issue of what is the purpose of earnings. In my mind there are two earnings numbers essentially. Maybe more than two. One is this year's earnings as a predictor of next year's and clearly removing a one off item that's not going to recur will give you a number for this year that is a better predictor of next year's earnings. Then there is "earnings" as a measure of company performance this year and a one-off loss on a contract or something may not be a good predictor of next year's earnings, but it certainly tells you the management's performance this year. So as a measure of performance I have quite a lot of sympathy with the headline earnings type of approach. From a predictive value point of view, yes you could argue that identifying other items as one off would be useful. But, then there's one off and there's one off, and then you get a problem of companies showing restructuring charges every year as one off. So [X PLC][7] for example shows restructuring charges every years for the last five years...So I think the forecasting of earnings should be left to analysts. The company should not say here is our earnings number cleaned up which is pre-exceptional etc because you could even go a stage further and you could normalise margins! But where do you stop in terms of this normalising approach? I think earnings should be a historical record of what you have achieved, and then it should be left to the market to decide what you will achieve next year. So you need to provide enough information about your historical results to enable that to take place, including for example details about your restructuring program. Disclose what you have spent on restructuring in the last few years, disclose information that will enable you to how much of that was non-recurring. So in that sense I am really in the headline earnings camp rather than the normalised earnings camp.'

> Interviewer: 'You make an interesting distinction between performance measurements on the one hand and predictions of the future on the other. Do you feel that has always been an area of conflict in financial reporting, that there is this difficulty about what financial statements are for? Should they primarily be a performance statement and other information as a basis of predicting future performance, or should they primarily be a statement for predicting the future and that seems to be a tension that has been going on for a long time?'

> Answer: 'Well, I think they should be both. The trouble is that people seem to think that in order for them to be useful in predicting the future the summary bottom line numbers need to be changed in some way. Whereas, I think to predict the future, you just need to provide good useful relevant information which is why I support the new performance reporting statement. I think it helps in providing that information. Many people go on about value reporting and how we should be reporting about the value of the business. I mean, the ICAEW brought out a report about value reporting and it's emphasising the future cash flows of the company and almost advocating that you should be reporting on a net present value basis, the change in the net present value of the future cash represents your earnings – all that sort of thing. Well, that's fine, but who's working out what these future cash flows are, who's working out the normalised level of profitability? It can't be the company because *they're the people whose performance is being measured*. So, what you should be doing is providing objective information about what has happened with additional disclosures to enable users to work out their own forecasts.'

The lessons for policy makers are clear. From a value relevance point of view investors focus on forward looking estimates of sustainable earnings. Investors are looking to firms to produce measures of performance to date, and objective information to assist investors in producing their own estimates of sustainable earnings.

A major unsettled issue for accounting standard-setters is the role of earnings within the financial reporting process. Standard-setters need to understand that earnings play a vital dual role in linking the past to the present, and the present to the future.

Looking backwards, investors should be able to trace the link between past investments (including investments in intangibles) and current payoffs, i.e. earnings. The replacement of historic cost accounting with fair value balance sheets would reduce the ability of investors to trace these links.[8]

[7] Name of company disguised.

[8] There may be good reasons for supplying investors with fair value accounting information. However, this could be supplied as a supplementary disclosure rather changing than the main historic cost accounts. Another alternative, that might help preserve the link between investment history and current earnings, would be historic cost accounts as supplementary disclosures and fair value accounts as the main accounts.

Looking forward, investors need to be able to relate current investments and other historic, current, and planned actions by managers to future earnings. Eventually all worthwhile investments, including investments in intangibles such as R & D, must affect future earnings. Claims that earnings are no longer relevant in the context of a knowledge-based economy fail to understand this basic truth. Even if one accepts that the relation between investment in intangibles and future earnings is more difficult to predict than conventional investments, this does not alter the fact that investors need to be able to estimate and understand this relation in order forecast future earnings.

3.3. Equilibrium accounting policies

Watts (2006) argues that the setting of accounting standards is a political process, and that as well as analysing the economics of accounting standards one must also pay attention to the political forces that shape them. This point is very important. Many years ago I studied the possibility of Pigovian taxes for the regulation of pollution. A number of economists proved that an efficient outcome could in principle be achieved through Pigovian taxes. However it is never enough to show what is economically desirable. One must also understand what is politically feasible, and Pigovian taxes contain a fatal flaw, because they assume that the proceeds of such taxes can be distributed without anyone realising where they came from. Once people realise that they can reduce their other taxes by voting for more Pigovian taxes, the pollution controller loses control of the level of the tax.

At the present time, the FASB and the IASB are choosing to place greater emphasis on the value relevance of the balance sheet over the general stewardship role of financial reports, and hypothetical current asset values over historic cost. FASB fundamentalists like to refer to this approach as CAP GAAP.

Watts (2006) argues that CAP GAAP is actually inconsistent with what the market wants (Cap Gap perhaps?), and that such changes will be politically unpopular. If Watts (2006) is correct then the FASB cannot assume that anything it does will be a political equilibrium. Political and economic forces will combine either to replace or restructure FASB or to initiate other forms of financial reporting to correct the deficiencies of CAP GAAP.

More generally, there is an issue about the possibility and desirability of global accounting standards. Watts (2006) points to the general unwillingness of US politicians to concede any influence over what happens in America to international regulatory bodies. One only has to look at Kyoto to appreciate this. Here we see another example of a clash between what is (or at least may be) economically desirable, and what is politically feasible. Suppose that in spite of the significant differences in culture, legal arrangements, tax rules, and national cultures, it is generally accepted that a single set of global accounting standards are economically desirable. Does it inevitably follow that all individual nation states will agree to accept the standards mandated by an all-powerful IASB? What forces would exist for individual states to opt out of this equilibrium? Assuming that global standards are accepted then what forces would exist for standards of audit, enforcement, and disclosure, to vary across nation states etc?

In the new world order, when China becomes the largest economy in the world round about the middle of this century, it is doubtful if anyone outside the US will accept the proposition that international accounting standards should be determined by the needs of US investors and US preparers. It is entirely possible that both the EU and China will develop corporate governance and corporate financing systems that differ significantly from the arrangements currently operating in the US. It is even possible that the US will decide to reform its own systems as events unfold and as more is learned about the limitations of its current corporate governance arrangements. International accounting standards need to be flexible enough to accommodate a variety of corporate governance practices, legal systems, and national cultures. The assumption that a single CAP GAAP will be fit all regimes needs to be tested to destruction.

4. Does sustainability reporting improve corporate behaviour?

Turning to Rob Gray's paper, I first wish to thank Rob for agreeing to present his ideas at a conference designed to encourage debate between the various ideological groupings that exist in accounting. Academics on the right and the left of the subject tend to meet at separate conferences, publish in different journals, and generally try to pretend that the other side does not exist. I believe that this failure to engage in debate is unsustainable.

Rob points to the enormous gap that exists between what he calls real sustainability and the perverted representations of the notion of sustainability that appear in so called corporate social responsibility and environmental disclosure reports. I think he makes some telling points which indicate that so much that appears as social responsibility disclosure comes across as just hollow rhetoric apparently designed to delude its readers into believing that they are 'doing the right thing'.

I am tempted to conclude from Rob's analysis that companies should be discouraged from making any such disclosures, and that they should focus on conventional performance reporting,

though I suspect that perhaps this was not the intention of Rob's negative appraisal of the state of the art in this area.

Towards the end of his paper Rob takes a sideswipe at the notion of shareholder value.

> 'The evidence as I read it – and as I have been reading it for 30 years – is that the only way in which we can continue to pursue shareholder value is if we continue to destroy the planet or if we redefine shareholder value to include something other than the making of even more money for people who already have too much. A shareholder value that embraced compassion, respect, trust, life, air, water, safety, nature, beauty sunshine etc. might be quite a nice idea?'

While I am inclined to agree with Rob that the planet faces potential environmental catastrophe, I am afraid I profoundly disagree with him about the desirability of redefining the meaning of shareholder value.

I see the issue of sustainability as a macro governance issue to be managed by macro policies and regulations. On the other hand I view shareholder value maximisation as a core organising principle of micro governance. It is vitally important to draw a clear distinction between the micro governance of the corporation (through delivering shareholder value) and macro governance. Macro governance is concerned about the governance of the relations between business in general and society as a whole. In particular it is concerned with the governance of the relations between society (represented by political and regulatory bodies) and large and powerful 'mega' corporations.

Any complete approach to management of the economy and society needs excellent micro governance and excellent macro governance. The problem comes if you fail to distinguish carefully between these two forms of corporate governance, and especially if you try to solve a macro governance problem by meddling with the arrangements for micro governance. I view stakeholder theory as a misguided attempt to apply a micro governance solution to a macro governance problem. Thus I view the stakeholder approach to corporate governance as well meaning, but completely misguided.

Let us take, for example, the issue of pollution permit trading. It is almost certainly the case that the planet has a limited capacity to assimilate carbon dioxide emissions. If the total annual emissions of carbon dioxide exceed this limit then global temperatures will continue to rise and many people will die. It seems to me that the obvious economic solution to this problem is to establish a global market in tradable carbon dioxide emission permits, with the number of permits set well below the estimated maximum sustainable amount.

This solution is not only sustainable environmentally, it is also deliverable through normal micro-governance mechanisms. Let us consider the advantages of this approach. First, the market will automatically ensure that the permits are allocated to the polluters who can generate the most value from their licences. Second, the owners of the permits will have an incentive to ensure that no other parties exceed their permitted limits. Third, polluters will have a powerful incentive to invent technologies that cause less pollution. Finally, there will be a publicly observable price per permit that provides an objective measure of the marginal cost of achieving the target emission level (at present we have to rely on the private estimates of polluters, who can hardly be relied upon to tell the truth). This looks to me like a win-win outcome, as Rob calls it.

Some might object to this policy because it might lead to a situation where the rich nations buy up all the rights for themselves. However this objection can be circumvented by auctioning off the permits through a global agency such as the UN or the World Bank. The proceeds of the auction could then be used to ameliorate world poverty. I would call this a win-win-win outcome!

What is it that prevents this obviously attractive economic solution from being introduced? I would argue that it principally is the Energy Lobby (and perhaps also airlines and other energy intensive companies) in the US that has captured the White House and a majority of US legislature. The problem does not stem from shareholder value maximisation as an *economic* organising principle. What it stems from is the excessive *political* power of the mega-corporate sector. This is a crisis of macro governance, not micro governance.

The crucial macro governance question we need to consider is, how can individual citizens protect themselves from the political power of the mega-corporation? In particular, how can a free society place strict limits on the political power and regulatory influence of the giant energy, defence, chemical, biological, transport (e.g. airlines), software, and media corporations?

We should remind ourselves that the private sector corporation was introduced purely as a convenient legal device for the financing and organisation of economic activity. It was never the intention of the inventors of the corporation that it should become a political entity, let alone an entity that threatens the foundations of a democratic society, and even the very survival of the planet. Furthermore, the fact that corporations have been granted the enormous privilege of legal personality should not imply that such legal entities have the same rights to freedom as individual flesh and

blood human beings.

How can accounting help in constraining the political power of corporations? Well, perhaps a useful starting point would be to require all corporations to maintain an auditable record of any communications (direct or indirect) between any of its owners or employees with any politicians or political/regulatory bodies. In accounting for a corporation we are required to maintain adequate records of all its business transactions. Perhaps we should now recognise that, an addition to business transactions, corporations have political/regulatory 'transactions', and that these also should be recorded and appropriately summarised.

If the leaders of such organisations complain about this proposal they should simply be informed that this is part of the price of limited liability for their own corporations and freedom for all.

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