



American Finance Association

Externalities and Financial Reporting

Author(s): George Foster

Source: *The Journal of Finance*, Vol. 35, No. 2, Papers and Proceedings Thirty-Eighth Annual Meeting American Finance Association, Atlanta, Georgia, December 28-30, 1979 (May, 1980), pp. 521-533

Published by: Blackwell Publishing for the American Finance Association

Stable URL: <http://www.jstor.org/stable/2327412>

Accessed: 28/11/2009 08:14

Your use of the JSTOR archive indicates your acceptance of JSTOR's Terms and Conditions of Use, available at <http://www.jstor.org/page/info/about/policies/terms.jsp>. JSTOR's Terms and Conditions of Use provides, in part, that unless you have obtained prior permission, you may not download an entire issue of a journal or multiple copies of articles, and you may use content in the JSTOR archive only for your personal, non-commercial use.

Please contact the publisher regarding any further use of this work. Publisher contact information may be obtained at <http://www.jstor.org/action/showPublisher?publisherCode=black>.

Each copy of any part of a JSTOR transmission must contain the same copyright notice that appears on the screen or printed page of such transmission.

JSTOR is a not-for-profit service that helps scholars, researchers, and students discover, use, and build upon a wide range of content in a trusted digital archive. We use information technology and tools to increase productivity and facilitate new forms of scholarship. For more information about JSTOR, please contact support@jstor.org.



Blackwell Publishing and American Finance Association are collaborating with JSTOR to digitize, preserve and extend access to *The Journal of Finance*.

<http://www.jstor.org>

Externalities and Financial Reporting

GEORGE FOSTER*

REFERENCES TO THE EXISTENCE of externalities in financial reporting are being made increasingly in the literature. For instance, a committee of the American Accounting Association [1977] observed that “financial accounting information shares much in common with the more traditional examples of externalities” and that “without intervention, too little information will be produced. This is one of the standard arguments for . . . disclosure policies” (p. 24).¹ This paper will discuss (a) the various ways that externalities may arise in financial reporting, and (b) how the traditional economic approaches to “controlling” for externalities apply in that context. One purpose of the discussion is to guide future empirical research on the significance of and problems in “controlling” externalities in financial reporting.

There is far from unanimity about the meaning of the externality term in the economics literature.² The definition adopted here stresses the interdependence notion and has antecedents dating back to at least 1962—see Buchanan and Stubblebine [1962]. An externality will be said to exist when the utility of individual m (U_m) is a function not only of his action choices (a_m) and the state occurrence (s_n), but also of the action choices of individuals $x, y \dots$ i.e.,

$$U_m[p(s_n, a_m)] \neq U_m[p(s_n, a_m, a_x, a_y \dots)]$$

where $p(\cdot)$ is an outcome function.³ One motivation for adopting this definition

* Graduate School of Business, Stanford University. The comments of R. Antle, W. Beaver, J. Demski, L. Marples, D. Ng, J. Patell, J. Stoeckenius and M. Wolfson helped to tighten the arguments in this paper. This research was sponsored by the Stanford Program in Professional Accounting.

¹ See also Benston [1976] and Beaver [1977].

² “There is a great and star-studded literature in economics which consists of defining externalities. One might even say we spend more time defining them than doing anything about them,” Whitcomb [1972, pp. 5–6].

³ The Buchanan and Stubblebine [1962] definition is—“We define an external effect, an externality, to be present when

$$u^A = u^A(X_1, X_2, \dots, X_m, Y_1)$$

This states that the utility of an individual, A , is dependent upon the “activities,” ($X_1, X_2, \dots, X_m$), that are exclusively under his own control or authority, but also upon another single activity, Y_1 , which is, by definition, under the control of a second individual, B , who is presumed to be a member of the same social group” (p. 372).

It is important to note that this definition and the related one adopted in this paper is broader than several other definitions proposed in the literature e.g., it is broader than the definition that restricts the externality term to cover only those interdependencies not internalized by the market mechanism.

is to separate existence and measurement issues pertaining to externalities from issues related to the choice between alternative mechanisms for controlling them.⁴

The generality of the above definition comes at a cost. Any attempt to empirically measure an externality requires analysis of individual utility functions. Typically, tests for the empirical significance of externalities have examined more observable surrogate variables that are assumed to affect $U_m(\cdot)$. For instance, airport noise pollution studies have examined residential house prices while water pollution studies have examined toxic material content per gallon. One important variable in a financial reporting context is the market price of the equity securities of each firm (P_i); an externality study could examine if $f(P_i | \eta_i, \eta_j) \neq f(P_i | \eta_i)$ holds for at least one signal from η_j where $f(\cdot)$ is a distribution function and $\eta_j(\eta_i)$ is firm j 's (i 's) financial reporting system. Another important variable in a financial reporting context is the resources devoted to private information production; an externality study could examine if the resources devoted to private information production by individual investors and security analysts are affected by the information production decisions of management.

1. Sources of Externalities in Financial Reporting

Externalities in financial reporting can arise from either the timing of information releases or the content of these releases.

A. Timing of Information Releases

One source of externalities arises from the differential timing of information releases by firms. For example, Palmon and Seidler [1978] argued that the differential timing at which two real estate companies released information about the present value appraisals of their assets could explain the lack of a capital market reaction to the latter reporter—"the minimal market reaction [to *Monumental's* figures] might be explained by the *earlier* release of *Rouse's* figures, which also showed a substantial excess of present value over historical cost figures. Thus, the nature of the *Monumental* results might have been anticipated, especially since the two companies and their properties are similar" (p. 786).

One test for an externality arising from the timing aspect would be to examine two firms which are in the same "risk class" and have the same reporting periods, but which do not simultaneously release their earnings (E) and investment (I) signals—firms are in the same "risk class" if investors perceive their E and I signals to be always proportional by a known scalar. This risk class assumption implies that the capital market reaction to the E/I releases of each firm should be in the same direction and should occur when the earliest reporter releases its

⁴ This separation means that empirical research that documents the existence of externalities as defined in this paper encodes no value judgment that a centralized or decentralized mechanism is necessarily the preferred approach to handling that externality. I am in agreement with Mishan's [1971] comment that "the original clarity of the externality concept has become blurred in consequence of the term being used over the years as a convenient peg on which to hang a variety of economic phenomena which might be used to justify intervention in the private enterprise sector of the economy" (p. 6).

results. In this context, differences across firms in the timing of E/I releases is a necessary condition for $f(P_i | \eta_i, \eta_j) \neq f(P_i | \eta_i)$. It is not a sufficient condition, as there could exist more timely perfect substitutes for the E/I signals from η_j .

Another area where timing externalities are alleged to be important concerns the capital market reaction to mandated disclosures. The impact on individual firms of the replacement cost releases under *ASR No. 190* was argued to be a function of the timing of that release, vis-a-vis the releases of other firms in the same industry:

Companies fear investors will simply subtract the higher replacement cost figures from reported earnings and conclude the companies have been overstating their profits. This could result in sharp markdowns of prices of stock in these companies. *The major impact*, some executives and accountants have said, *would hit the earliest reporting companies*. The reason is that as all the major companies in an industry reported, investors would realize that higher replacement costs for individual companies weren't as significant as they appeared at first.

(*The Wall Street Journal*, 23 November 1976, p. 7—emphasis added)

Testing this argument would entail ordering each firm complying with *ASR No. 190* according to whether it is the first, second . . . last reporter in its industry, and then examining whether differences in the timing of information release explain differences across firms in the capital market impact of the disclosures. Although evidence on this issue has not been reported for the *ASR No. 190* disclosures, Griffin [1977] has reported that the relative *timing* at which firms reported sensitive payments disclosures in the April 1975 to May 1976 period was a significant variable in determining the capital market reaction of the disclosing firms—earlier reporters had a “greater level of price variability [than] . . . firms with late disclosures” (p. 728).

B. Content of Information Releases

The content of the signals released by firms, in addition to or in association with their timing of release, can also give rise to externalities in financial reporting. One example is when investors use signals from η_j to make inferences about $f(P_i)$. For instance, the earnings releases of other firms in an industry can be useful in determining how much of (say) a 20% earnings increase by firm i is due to industry developments as opposed to firm i developments—see Foster [1978, pp. 146–149] for discussion of industry (and economy) comovements in the behavior of the financial variables of firms. Designing empirical tests to capture these non-firm i factors that affect inferences drawn about $f(P_i)$ represents a challenging area for future capital market research.⁵

Content externalities can also arise due to the effect that η_j 's disclosures have on the productive decisions of firm i . The argument that firms will suffer a “competitive disadvantage” when “sensitive” items are disclosed rests on this form of an externality. Variants of this “competitive disadvantage” argument have been put forward by firms opposing disclosure of sales, costs and net income

⁵ See Firth [1976] and Boim [1977] for work in this area.

by line of business (LOB), of customer groupings or customer names, of future-based information such as budgets, and of the detailed assumptions underlying publicly released earnings forecasts. Apart from a questionnaire survey by Mautz and May [1978], there is very little empirical research that pertains to this argument. Empirical research that probes reasons for a "competitive disadvantage" occurring would appear to be very useful to a policy maker.

Mautz and May [1978] suggest that one determinant of the degree of "competitive disadvantage" suffered by firms providing LOB data is the extent of "reciprocal disclosure" in the industry. This "disadvantage" was argued to be particularly severe for U.S. firms in industries with a high percentage of foreign competitors (who would not be affected by U.S. reporting requirements). One means of probing this argument would be to partition firms affected by the SEC's LOB reporting rules (SEC Release No. 34-9000) or the FASB's LOB rules (*SFAS No. 14*) according to (say) the % of sales (or the number of competitors) for which the LOB data was not available. The hypothesis tested would be whether those U.S. firms in industries with minimal reciprocal disclosure suffered a greater "competitive disadvantage" vis-a-vis U.S. firms in industries with substantial reciprocal disclosure. "Competitive disadvantage" could be operationalized in various ways—e.g., market share shifts or advertising media expenses per unit of sales. As utilizing the LOB disclosures of a competitor is but one aspect of the competitive strategies that a firm may use, an understanding of these other strategies could be useful in designing empirical tests in this area. (My impression, however, is that the analytical work on competitive strategies has considerably outstripped the existing empirical technology and the available data. Some very simplistic game theory assumptions may be necessary in early empirical work).

Two factors that may influence the extent of "competitive disadvantage" are (i) the availability of competing information sources for the "competitive sensitive" item, and (ii) the defense mechanisms firms have to reduce the "information content" of a mandated disclosure item. To illustrate (i), consider the following argument used by *A. H. Belo Corp.* (owner of the *Dallas Morning News*) against a minority shareholder proposal that it become a publicly listed company:

The company maintains that publishing information required of public companies by the SEC would put it at a *severe competitive disadvantage*, since the data would be available to its main competitor, the *Dallas Times Herald*, which is owned by Times Mirror Co., Los Angeles. Belo maintains that because it is significantly smaller than Times Mirror, *financial disclosures required by the SEC would reveal too much of its inner workings*. Times Mirror owns several major papers and can group its newspaper financial data for reporting purposes. By contrast, the *Dallas Morning News* is the only major newspaper property of Belo.

(*The Wall Street Journal*, 29 December 1978, p. 11—emphasis added)

On at least the revenue side, competing sources already provide considerable information about the *Dallas Morning News*. This paper is a member of the *Audit Bureau of Circulations* which publishes very detailed unit circulation figures on the *Dallas Morning News* every six months. The advertising rates of the paper are readily available to an external party in a booklet titled *Retail Advertising Rates*. The list of advertising clients of the paper is available for 15¢

a day (50¢ on Sunday). These competing sources of information are considerably more detailed and cover more facets than does the “sales” figure required in the 10K of a publicly listed company.

As an example of a defense mechanism a company can use to reduce the “information content” of a mandated disclosure, consider the grouping of products when reporting LOB data. Suppose a firm has activities in FTC code 20.16 (malt beverages), 20.17 (wines, brandy and distilled liquor) and 20.18 (soft drinks). If there is (say) 100% reciprocal disclosure in 20.18 but less than 50% reciprocal disclosure in 20.16 and 20.17, the firm could report 20.16 and 20.17 in aggregate form under the alcoholic beverage category and 20.18 under the non-alcoholic beverage category. Transfer pricing rules are another mechanism firms can use to add “noise” to mandated disclosures. At present, there is limited evidence on the factors firms consider when reporting data over which they have considerable flexibility as to content and timing. One approach to this issue would be to examine characteristics associated with firms that voluntarily report items that other companies (especially competitors) argue are in the “highly sensitive” category. Benston [1969] documents considerable evidence of voluntary disclosure. The characteristics analyzed could relate to the firm itself, its competitors, the nature of its information markets, etc. The aim of the analysis would be to understand why a subset of firms decided that the “competitive disadvantage” problem was not significant or was outweighed by other factors.

2. Alternative Approaches to Externalities

A variety of mechanisms have been proposed in the economics literature for “controlling” externalities—(a) expanding the set of markets, (b) unitization, (c) taxes/subsidies and (d) regulation. In this section, issues that arise in using these mechanisms in a financial reporting context are discussed.⁶ We will suggest various reasons that could explain the limited use of several of these mechanisms in the current U.S. financial reporting environment. These suggestions are offered as hypotheses; they are obviously not offered as empirically supported explanations for the limited use of (say) taxes/subsidies or the heavy reliance on the regulatory mechanism. One issue that arises in this section is the importance of explicitly considering that the good being discussed is information, with its many atypical properties vis-a-vis normal economic goods.

A. Expanding the Set of Markets

Expanding the set of markets potentially is a very effective way to handle externalities. The classic example of this solution is the bees-apple tree problem—see Meade [1952]. Apple trees provide nectar for bees while bees perform the service of pollinating the apple blossoms. By expanding the set of markets to include “provision of nectar” and “pollination services,” these external effects can

⁶ In this section I am assuming that externalities (as defined in this paper) are important and represent one set of factors that may explain (but do *not* uniquely imply) regulation of financial reporting. Other approaches to explaining regulation exist—see Posner [1974].

be internalized into the decisions of the beekeeper and the orchardist. In a financial reporting context, the commodity being sold is the right to receive signals from an information system. Thus, separate markets for the LOB information of each firm, its customer lists, budgets, etc. would be created under an "expand the markets" approach. One benefit of a market solution to the disclosure of so-called "competitive sensitive" items is that the buyer and seller can each take into account the potential benefit each party to the transaction gains and the harm that each party may suffer through the other party having that information. The set of commodities to be priced would appear to be very large, especially when it is recognized that the timeliness of signals as well as their content can affect the demand schedules of external parties. Note that if a complete and perfect set of markets for the rights to each firm's information system is established, any externalities will be internalized into the decisions of the buyers and sellers of those information rights—see Arrow [1971].

Given that incentives exist for the firm to sell its financial information, it is not surprising that we do observe information markets in existence. Some firms do sell their customer lists to other companies, e.g., *McGraw-Hill* sells lists of *Business Week* subscribers to "carefully screened companies whose products or services might be of interest" to these subscribers. Ross [1979] has also stressed the incentives of management to signal information about the firm to external parties; in some cases these incentives include gains from information market transactions. Yet, while these cases of firms (and possibly management) selling financial information to external parties do exist, it is observable that a complete set of markets for financial information does not exist. As an example, *Texas Instruments* does not offer to sell its five year budgeted income statement (with the strategic assumptions underlying it) to *Hewlett Packard*, *National Semiconductor*, etc.

This absence of a complete set of markets for financial statement items of a potential externality generating kind could be explained by a variety of reasons. One reason could be the limited empirical significance of externalities associated with some financial reporting items vis-a-vis the cost of setting up and operating a market in those items (even making the heroic assumption that information is a "normal economic good"). There is little empirical evidence that pertains to this explanation. Another possible reason is that markets already exist for close-substitutes for these items. The market for "inside-information" is one obvious example. Watts [1977] argues that "managers are likely to have little incentive to supply information in corporate financial statements. Individuals who are the first to discover information relevant to the valuation of a corporation's securities (e.g., that oil has been discovered) can trade on that information and increase their wealths" (pp. 63–64). This argument ignores several constraints to such trading. One constraint is that the Securities Acts and the courts have explicitly stated that management does not have property rights to "material" information gained during employment with the firm; the property right belongs to the firm

itself.⁷ Indeed, there is a case that explicitly covers the mineral discovery situation Watts cites i.e., *SEC v. Texas Gulf Sulphur Co.*, 401 F.2d 833 (1968).

Another problem in relying on an active "insider trading" market to internalize externalities in financial reporting is the adverse selection problems associated with information asymmetries between management and external parties—see Akerlof [1970], Gonedes, Dopuch and Penman [1976], Beaver [1977] and Ross [1979] for a discussion of these problems and of the mechanisms that may be used to provide "protection" to the lesser-informed party. For several of the items alleged to cause significant externalities in financial reporting, there appear to be non-trivial difficulties and costs associated with traditional "protection" mechanisms such as certification and guarantees. Consider the use of such mechanisms in relation to the sale by *Texas Instruments* of its five year budgeted income statement (with the strategic assumptions underlying it). The incentives for *TI* to misrepresent the information it sells to *Hewlett Packard*, *National Semiconductor*, etc., would appear considerable. For instance, by "misrepresenting" releases concerning future advertising expenditures, R&D outlays and the pricing assumptions underlying budgeted sales, *TI* may perceive that its competitors will take actions less likely to harm them than they would take if they honestly reported such information. Although an auditor could certify to certain numerical aspects of the budget and that GAAP was followed, it is difficult to see how he could certify that the budget represented management's current intentions, let alone that it would be attained. One possible approach would be for management to "signal" its personal commitment to the budget, e.g., by agreeing to forego an annual base salary of \$360,000 for an annual salary of \$1 unless the budgeted income figure is met in each of the first two years.⁸ Not all managers would find this agreement attractive. This example illustrates how the "expand the markets" approach to controlling externalities in financial reporting could potentially entail substantive changes not only in existing information markets, but also in existing management compensation schemes, in the managers firms attract, etc.

Another potential reason for the lack of complete markets for financial reporting items of an externality generating kind is the existing disclosure philosophy of the SEC. This philosophy appears to be that (i) the right to receive financial information is tied to ownership rights, (ii) that no additional costs should be charged by the firm for this information right, (iii) that all owners should have equal access to this information, and (iv) that non-owners should be able to examine, at minimal cost, the information that firms file with the SEC.⁹ Major

⁷ Another "property right" issue with information is the problem of excluding non-purchasers when price itself is recognized as a revelation source of that information—see Grossman and Stiglitz [1976].

⁸ This contingent salary contract is similar to what Lee A. Iacocca committed himself to when submitting income budgets of *Chrysler* to Congress—see *The Wall Street Journal* (31 August 1979). Note that this \$1 contingent salary contract does not necessarily remove the information asymmetry problem. In a multi-period game, it may be an optimal misrepresentation strategy to give the appearance of a high personal commitment to the budget in the first period.

⁹ The joint effect of (i) to (iv) is to increase the costs of excluding non-purchasers. Benston [1976] and Lev [1976] note that there are forces that operate in the opposite direction—e.g., "strong competitive forces [operate] in capital markets—users having initial access to financial information

changes in this philosophy would be required in a "complete the markets" approach to externalities. A "complete the markets" approach entails unbundling the information and ownership rights of shareholders and allowing the firm both to charge for the information right and to exclude those owners (and non-owners) who do not pay the market price. Given the problems that ambiguity over property rights create for the existence of markets (Coase [1960]), an explicit statement of policy by the SEC on the legal rights of firms to supply financial information only to purchasers would help to reduce uncertainty over the potential legal exposure of a firm denying disclosure of a "material item" to a non-paying owner. At present, a firm or individual is in violation of the Securities Act if it (he/she) selectively excludes a subset of owners from having access to "material" information about the firm that is provided to other external parties.¹⁰ Yet, selective exclusion is what the market mechanism is all about!

B. Unitization

Another approach to "controlling" externalities is to combine two legally independent units such that whatever externalities previously existed are internalized into the decisions of the new legal entity. An oft cited example of unitization is in the oil industry where unrestricted drilling by individual operators can reduce gas pressure in an oilfield and thus reduce the total oil that can be pumped. Given this productive sector loss, there are incentives for individual operators to voluntarily pool (unitize) their property rights into a new unit that adopts a more restricted drilling approach. In a financial reporting context, there are also incentives for voluntary unitization to occur. The financial data published by many trade associations is an example of voluntary unitization. Members send their financial statements to a central body which in turn publishes summary financial information, median ratios, etc. A similar example occurs with the industry commonsize statements and median financial ratios that *Robert Morris Associates* publishes in its *Annual Statement Studies*. The gains from such voluntary unitization can occur for several reasons, e.g., inter-firm comparison data can point to ways to reduce general and administrative expense outlays and can be used by banks when predicting the bankruptcy risk of loan applicants.

In Section 1.A., arguments about externalities arising with the SEC's replacement cost disclosures under *ASR No. 190* were quoted. A *Wall Street Journal* article on November 23, 1976 noted that one proposal was for "the SEC to receive the reports on schedule but keep individual ones secret until all the major companies in an industry have reported. Then, perhaps in May, the SEC would release the statistics in a batch" (p. 7). An SEC mandate for this form of "time unitization" to control externalities is not without problems e.g.:

can, by their own market actions, exclude others from enjoying the monopoly benefits (rents) of this information." Lev [1976, p. 135]. Note, however, that there is not a one for one correspondence between those having initial access and purchasers and those not having initial access and nonpurchasers.

¹⁰ E.g., *SEC v. Bausch & Lomb, Inc.* 565 F.2d 8(2d Cir. 1977) and the SEC's decision to prosecute *R. L. Dirks re Equity Funding* (see Administrative Proceeding File No. 3-5068, 1978).

1. The SEC and other regulatory bodies appear to adopt a “similarity in end product” definition of an industry. However, due to the considerable degree of corporate diversification, selecting well-defined classification rules that result in all major end-product competitors being in the same “industry” appears quite difficult.
2. Just as commonalities exist between the earnings of a firm and those of other firms in its industry, commonalities can also exist between the earnings of an industry and those of other industries in the economy. A concerted effort to control for “spill-over” effects across industries could well entail unitization at the economy level.
3. The financial statements of firms are only a subset of the many information items that firms release to external parties. To the extent that management can use other releases (e.g., plant investment announcements) to signal information to external parties, they could convey at an earlier date part of the “information” the SEC was withholding until all firms in the industry had filed their financial statements. Less than complete unitization of all the releases of each firm, produces the very real possibility of circumvention of the system via the non-regulated set of information items.

Time-unitization of financial statements would not address the externalities discussed in Section 1.B, e.g., those arising from firms suffering a “disadvantage” due to competitors having access to their detailed LOB data. Application of a unitization approach to internalize these externalities would appear to require merging both the information and ownership rights of these firms. Merging the information rights but not the ownership rights would create moral hazard problems for shareholders monitoring the management of each firm—see Holmstrom [1979]. Taken to its extreme, unitization of both the information and ownership rights would involve merging all firms into one corporate unit.

Why do we observe less than complete unitization of firms to internalize information externalities in financial reporting? A major reason could be that their empirical significance is not that pervasive. Moreover, in those cases where they may be important (e.g., in certain highly competitive industries), there are severe institutional constraints to merging the ownership rights of firms. Within-industry mergers is the class of mergers that comes under the strictest scrutiny of the Anti-Trust Division of the Department of Justice. Another reason could relate to problems associated with the market mechanism. Given certain restrictive assumptions, Coase [1960] demonstrates that the market mechanism will ensure the “appropriate” level of unitization. Relaxing the Coase assumptions (e.g., allowing for differential information among participants), however, means that the market mechanism will no longer always guarantee that unitization of all externalities will be achieved. Indeed in some cases, non-existence of markets may be associated with differential information. In this context, the administrative costs of a central authority “supplementing” market forces to use the unitization approach to controlling externalities can be significant. For instance, considerable statute and case law has been necessary to “supplement” market forces inducing individual oil operators to join larger drilling units—see Williams and Meyers [1977].

C. Taxes and Subsidies

A sizeable part of the economics literature on externalities deals with taxes and subsidies; the underlying theme is to tax those units producing harmful externalities and subsidize those units producing beneficial externalities—e.g., Lin [1976] and Polinsky [1979]. As an example, companies that empty certain trade effluent into rivers may be taxed according to both the volume and content of the effluent they release. Determining what attributes to tax or provide subsidies for in a financial reporting context is a non-trivial task and may help explain the limited use of taxes and subsidies in that context. Consider whether firms should be subsidized for providing more detailed LOB data. It is often argued that the more detailed the LOB disclosure, the more informative they are to competitors and to investors—see Mautz and May [1978].¹¹ Yet, at an analytical level, Baiman [1975] has shown that the fineness corollary of Blackwell's Theorem does not (in general) hold in a multi-person non-cooperative game setting. Consider also whether firms should be taxed for delaying the release of information. In an exchange economy, it is far from obvious that (in general) timeliness is a beneficial attribute of financial information; though there may be conditions in the productive sector in which this case holds—see Ijiri and Itami [1973]. In short, there is limited analytical or empirical work to guide a central authority determining whether to (say) tax firms for delaying the release of a financial report, and if so whether the tax should be \$100 or \$10,000 for each day that elapses between the end of the fiscal year and the date when the firm's financial report is publicly released.

Taxes and subsidies have, on the surface, an appealing simplicity as a mechanism for controlling externalities. There are, however, considerable problems in their operation. For instance, Lin and Whitcomb [1976] outline a tax/subsidy scheme which (not uncommon to the literature) assumes that firms have perfect information about their production functions. There is very little published information to guide a firm determining the production function for newly mandated items such as the “internal control” disclosures proposed by the SEC under Release No. 34-15772. This limited knowledge on production functions creates obvious problems for a central authority; the “optimal” set of taxes for firms with decreasing returns to scale in information production may be “non-optimal” for firms with increasing returns to scale in information production. (Empirical research on these production functions for financial information is an important but little explored topic of research.) The assumption that firms honestly transmit information to a central authority also is commonly made in the tax/subsidy literature. Yet, absent some mechanism for internalizing honest reporting, there appear to be incentives for a firm to (say) overstate the costs of

¹¹ Given the existence of a capital market, there is not a one for one correspondence between externality effects at the firm level and externality effects at the investor level. For instance, if an externality in financial reporting causes only an exchange of a given set of resources between firms, investors could protect themselves from externalities by portfolio readjustments, e.g., if the only effect of a mandate that firm *B* publish LOB data is that firm *A* gains \$1 million in sales and *B* losses \$1 million in sales, an investor in *B* could protect himself by rebalancing his portfolio to include shares in *A*.

producing detailed LOB information using FTC codes and to understate the advantages it gains by having access to the LOB data of its competitors.¹²

Even if firms have perfect information about their information production functions and they honestly transmit this to a central authority, there are still problems that may explain the limited use of tax-subsidies in financial reporting. These include (1) the possible inability of the central authority to “balance” the transfers in a tax-subsidy scheme (see Green and Laffont [1979, Chapter 5]), (2) the problems in providing incentives to the central authority itself to “honestly” select the optimal set of taxes and subsidies, and (3) the administrative costs of the central authority collecting the externality related information, issuing the tax-subsidy rules and then enforcing them. These administrative costs can be especially large in an environment where shifts in technology, alternative information sources, etc., cause frequent changes in the magnitude of any externalities in financial reporting.

D. Regulation

The *modus operandi* of the previously discussed approaches to externalities is for a market or a central authority to internalize into the decisions of each unit the beneficial or harmful effects that its actions have for other units in society. In the case of some externalities, however, a central authority may attempt to more directly regulate the decisions of firms and individuals.¹³ For instance, there may be legal prohibitions against dumping certain chemicals in waterways or allowing certain gases to escape into the general atmosphere.

My interpretation of the existing institutional set-up is that a “regulatory approach” best describes policy decision making with respect to externalities in U.S. financial reporting. For instance, there are many examples of government bodies mandating certain financial information be produced by firms. Consider the *Federal Trade Commission’s* LOB program instituted in 1974. The FTC argued that one beneficial external effect of firms providing LOB information was increased competition in product markets; firms considering entry into new markets would be better able to discern existing “excess” profit situations. The FASB and the SEC also operate in a regulatory mode. For instance, they often mandate certain items be reported e.g., sales information was mandated by the SEC in Form 10K over the objections of some single-product firms that it would cause them a “competitive disadvantage.”

It is important to note that a regulatory approach to externalities does not avoid many of the problems discussed in Sections 2.A–2.C (although they may reappear in a different guise). For instance, just as there are problems in inducing

¹² A promising line of research is that by Groves [1976] on devising a set of taxes and subsidies that internalizes the incentives for a firm to honestly transmit information to a central authority—see also Green and Laffont [1979].

¹³ The distinction I am drawing between taxes/subsidies and regulation is that the former explicitly aims to internalize externalities via the optimizing behavior of individual units in society whereas with the latter explicit reliance on optimizing behavior by individual units is not integral to the operation of the chosen set of regulations. In practice, this distinction between taxes/subsidies and regulations is not always clear cut.

firms to honestly transmit information to a central authority determining taxes and subsidies, there are also problems in inducing corporations, accounting firms, etc., to honestly present their position and arguments at public hearings held by regulatory bodies. As many of the issues that arise with a regulatory approach to financial disclosure have been much discussed elsewhere, they will not be repeated here—see, for instance, Beaver and Demski (1974), Gonedes and Dopuch (1974), Benston (1976) and Beaver (1977) and the papers cited therein.

3. Conclusion

This paper is part of an emerging literature that examines financial disclosure issues from an economics perspective. Four mechanisms that may be used to “control” externalities in financial reporting were examined. These alternative mechanisms exhibit some fundamental differences, e.g., in the role of the government (or a central authority), in the extent to which information is kept decentralized at the firm (individual unit) level, and in the ways that individuals have the incentive to misrepresent their preferences (or positions). Several of these mechanisms also involve fundamental changes from the existing institutional set-up in the U.S., e.g., in the SEC’s philosophy that ownership rights also entail information rights at zero incremental cost and in the Department of Justice’s position on intra-industry mergers.

One problem in evaluating these alternative mechanisms (but by no means the only one) is that there is little detailed empirical work on the significance of externalities in financial reporting. Due to the many areas in which externalities may arise, it is likely that future empirical research will be very context specific and of limited generalizability. However, one way to increase the generalizability of this research is for researchers to probe not just the existence of an externality in a specific context, but also the factors that determine its magnitude.

REFERENCES

1. Akerlof, G., “The Market for ‘Lemons’: Quality Uncertainty and the Market Mechanism,” *Quarterly Journal of Economics* (August 1970): 488–500.
2. American Accounting Association Committee on Concepts and Standards for External Financial Reports. *Statement on Accounting Theory and Theory Acceptance*, American Accounting Association, 1977.
3. Arrow, K. J., “Political and Economic Evaluation of Social Effects and Externalities,” in M. D. Intriligator (ed.), *Frontiers of Quantitative Economics*, (North-Holland, Amsterdam, 1971): 3–25.
4. Baiman, S., “The Evaluation and Choice of Internal Information Systems Within a Multiperson World,” *Journal of Accounting Research* (Spring 1975): 1–15.
5. Beaver, W. H., “The Nature of Mandated Disclosure,” (in) *Report of the Advisory Committee* ... [1977]: 618–656.
6. Beaver, W. H. and Demski, J. S., “The Nature of Financial Accounting Objectives: A Summary and Synthesis,” *Studies on Financial Accounting Objectives: 1974*, Supplement to *Journal of Accounting Research*, 1974: 170–187.
7. Benston, G. J., “The Value of the SEC’s Accounting Disclosure Requirements,” *The Accounting Review* (July 1969): 515–532.

8. Benston, G. J., *Corporate Financial Disclosure in the UK and the USA*, Saxon House, Westmead (U.K.), 1976.
9. Boim, N. C. B., "The Effects of Consolidated Edison's 1974 Dividend Omission Upon the Common Stock Returns of the Utilities Industry," *The Chicago MBA* (Spring 1977): 85-117.
10. Buchanan, J. M. and Stubblebine, W. C., "Externality," *Economica* (November 1962): 371-384.
11. Coase, R. H., "The Problem of Social Cost," *Journal of Law and Economics*, (October 1960): 1-44.
12. Firth, M., "The Impact of Earnings Announcements on the Share Price Behaviour of Similar Type Firms," *The Economic Journal* (June 1976): 296-306.
13. Foster, G., *Financial Statement Analysis*, Prentice-Hall, Englewood Cliffs, 1978.
14. Gonedes, N. J. and Dopuch, N., "Capital Market Equilibrium, Information Production, and Selecting Accounting Techniques: Theoretical Framework and Review of Empirical Work," *Studies on Financial Accounting Objectives: 1974*, Supplement to *Journal of Accounting Research*, 1974: 48-129.
15. Gonedes, N. J., Dopuch, N. and Penman, S. H., "Disclosure Rules, Information-Production, and Capital Market Equilibrium: The Case of Forecast Disclosure Rules," *Journal of Accounting Research* (Spring 1976): 89-137.
16. Green, J. R. and Laffont, J. J., *Incentives in Public Decision-Making*, North-Holland, Amsterdam, 1979.
17. Griffin, P. A., "Sensitive Foreign Payment Disclosures: The Securities Market Impact," (in) *Report of the Advisory Committee . . .* [1977]: 694-743.
18. Grossman, S. J. and Stiglitz, J. E., "Information and Competitive Price Systems," *American Economic Review* (May 1976): 246-253.
19. Groves, T., "Information, Incentives, and the Internalization of Production Externalities," in Lin [1976]: 65-83.
20. Holmstrom, B., "Moral Hazard and Observability," *The Bell Journal of Economics* (Spring 1979): 74-91.
21. Ijiri, Y. and Itami, H., "Quadratic Cost-Volume Relationship and Timing of Demand Information," *The Accounting Review* (October 1973): 724-737.
22. Lev, B., "On the Adequacy of Publicly Available Financial Information for Security Analysis," in A. R. Abdel-Khalik and T. F. Keller (eds.), *Financial Information Requirements for Security Analysis* (Graduate School of Business Administration, Duke University, 1976): 123-143.
23. Lin, S. A. Y., *Theory and Measurement of Economic Externalities*, Academic Press, New York, 1976.
24. Lin, S. A. Y. and Whitcomb, D. K., "Externality Taxes and Subsidies," in Lin [1976]: 45-60.
25. Mautz, R. K. and May, W. G., *Financial Disclosure in a Competitive Economy*, Financial Executives Research Foundation, New York, 1978.
26. Meade, J. E., "External Economies and Diseconomies in a Competitive Situation," *Economic Journal* (March 1952): 54-67.
27. Mishan, E. J., "The Postwar Literature on Externalities: An Interpretative Essay," *Journal of Economic Literature* (March 1971): 1-28.
28. Palmon, D. and Seidler, L. J., "Current Value Reporting of Real Estate Companies and a Possible Example of Market Inefficiency," *The Accounting Review* (July 1978): 776-790.
29. Polinsky, A. M., "Controlling Externalities and Protecting Entitlements: Property Right, Liability Rule, and Tax-Subsidy Approaches," *The Journal of Legal Studies* (January 1979): 1-48.
30. Posner, R. A., "Theories of Economic Regulation," *The Bell Journal of Economics and Management Science* (Autumn 1974): 335-385.
31. *Report of the Advisory Committee on Corporate Disclosure to the Securities and Exchange Commission*, U.S. Government Printing Office, Washington, 1977.
32. Ross, S. A., "Disclosure Regulation in Financial Markets: Implications of Modern Finance Theory and Signaling Theory," in F. R. Edwards (ed.), *Issues in Financial Regulation* (McGraw-Hill, New York, 1979): 177-202.
33. Watts, R. L., "Corporate Financial Statements, A Product of the Market and Political Processes," *Australian Journal of Management* (April 1977): 55-75.
34. Whitcomb, D. K., *Externalities and Welfare*, Columbia University Press, New York, 1972.
35. Williams, H. R. and Meyers, C. J., *Oil and Gas Law*, Matthew Bender, New York, 1977.