

## Chapter 3

# EQUILIBRIUM VOLUNTARY DISCLOSURES WHEN FIRMS POSSESS RANDOM MULTI-DIMENSIONAL PRIVATE INFORMATION

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**Abstract:** This paper presents an equilibrium model of voluntary disclosures for the seller of an asset who receives a random sample of information of random size about the asset's value. Even though (a) antifraud rules prevent the seller from making false statements about the value of the items in his random sample, (b) all potential purchasers of the asset know that the seller's random sample always contains at least one sample element, (c) all potential purchasers of the asset interpret the seller's disclosure or nondisclosure in the same way, and (d) disclosure of any or all of the seller's sample information generates no proprietary costs, we show that in equilibrium there is a positive probability that the seller will make no disclosure at all, and that, when the seller makes no disclosure, the nondisclosed information is not the worst possible sample information the seller could have had about the asset's value. These results are contrasted with the "unravelling" result of Grossman [1980], Grossman and Hart [1980], and Milgrom [1981]. We show that, were potential purchasers of the asset to know the size of the seller's random sample, "unravelling" (i.e., full disclosure) would occur. We conclude that the randomness of the seller's sample size is key to determining the seller's equilibrium voluntary disclosure strategy.

**Keywords:** credible, voluntary, nonproprietary, equilibrium, disclosure policies

## 1. Introduction

As Feltham's survey in this volume demonstrates, Joel Demski has contributed enormously to the study of a large cross section of accounting research problems. Financial accounting theory is one of the areas to which he has made fundamental contributions. Demski [1973], Demski [1974], and Beaver

and Demski [1979] are among the classics in financial accounting theory, and whenever we teach PhD classes in financial accounting and disclosure these articles constitute assigned readings for the first day of class. They collectively demonstrate many of the difficulties that a scientifically-based formulation of accounting standards faces: Demski [1973] notes that selecting among accounting standards is a quintessential example of a collective choice problem, and so Arrow's "impossibility theorem" [1951] suggests that there will be difficulties in selecting standards in a rational, nondictatorial way. Demski [1973] also observed that even if the concerns about the collective nature of the financial reporting choice problem could be ignored, any financial reporting system is fundamentally an information system, and so, according to Blackwell's theorem [1951], the only way one can be assured, in single person settings, that a decision maker will prefer one financial reporting system to another is if the partitions induced by the financial reporting system are ordered by "fineness," i.e., one financial reporting system provides strictly more information than does another financial reporting system. Since many proposed changes in financial reporting systems cannot be ranked by the fineness criterion (even those that are commonly reputed to be improvements in financial reporting – such as accounting for subsidiaries by consolidating them rather than accounting for them under the equity method), there is often no guarantee that a change in a financial reporting system will lead to an increase in a decision maker's welfare without knowing more about the specific problem the decision maker faces. Demski [1974] illustrated another problem with constructing financial reporting standards in multi-person settings: such changes almost invariably lead to wealth redistribution effects, and these wealth redistribution effects further exacerbate the political problem of choosing accounting standards. Finally, Beaver and Demski [1979] make the argument that universally agreed upon procedures for measuring income in perfect and complete markets is uncontroversial and straightforward, whereas constructing universal, agreed upon procedures for measuring income in imperfect and incomplete markets is difficult, if not impossible.

It is a testament to the importance of these articles by Demski that, even thirty years after some of them were written, they remain on PhD reading lists at premier research institutions. Moreover, the problems identified by these papers led to a shift in the direction of financial accounting research: instead of focusing on the construction of accounting standards, researchers began to study firms' voluntary disclosure policies.

But the literature on voluntary disclosure policies has run into stumbling blocks of its own. Simply put, the theory of voluntary disclosures (initially developed by Grossman [1981], Grossman and Hart [1980], and Milgrom [1981] ("GHM")) predicts that much more disclosure will occur than seemingly does occur. As conventionally articulated, that theory is asserted to predict that if (a)