Profits, Layoffs and Priorities

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Abstract

This study examines the deliberations of professional MBA students when presented with a

dilemma that weighs the difference between commitments to profit maximization against concerns

for fired workers who would need to seek a new job during a recession. Using content analysis,

we categorize accounting, economic and ethically-based rationales that differ from the profit-

maximizing recommendation. Results also show that those who make non-profit-maximizing

recommendations consider but ultimately reject the profit-maximizing approach to layoffs.

Keywords: Behavioral Economics, Business Ethics, Content Analysis, Downsizing, Experimental

Economics, Layoffs, Profits, Recession, Self-Interest, Unemployment

The test of a first-rate intelligence is the ability to hold two opposite and opposing ideas in the mind at the same time, and still retain the ability to function. – F. Scott Fitzgerald (1936)

1.   Introduction

The assumption of self-interest is a centerpiece of the economic analysis of behavior. While self-interest has largely been judged in terms of its explanatory power (with increasing latitude for the specification of underlying preferences), there is a growing literature on the self-fulfilling nature of the theory of self-interest. Of particular concern is evidence suggesting that attitudes toward the appropriateness of self-interested behavior may be a byproduct of teaching or indoctrination within the economics curriculum. As Miller (1999) and Ferraro *et al* (2005) emphasize, the issue is not so much that students emerge from economics training with an understanding of how to make self-interested decisions, but rather that self-interest somehow takes priority over alternative (social) considerations. This is especially a concern in firm-employee relations, which are well understood to reflect both market and social factors. Specifically, we investigate the case of using layoffs or downsizing to increase profits. Layoffs do more than decrease costs and increase profits because they harm the newly unemployed. Consequently, a conflict exists between a manager's satisfaction with meeting economic criteria based on self interest (maximizing shareholder value) versus ethical criteria regarding doing no harm to others and/or whether layoffs even maximize total stakeholder welfare in the utilitarian sense. Power and Lundsten (2005) call this an example of a "balanced pair ethical challenge" in that it involves two competing issues that need to be balanced.

[Insert Figure 1 about here]

Rubinstein (2006) examines the prioritizing of self-interest as a social norm, introducing a case study, given in Figure 1, in which (undergraduate and PhD) economics students' solutions to a relatively straightforward profit maximization problem are contrasted with those of law, math and

philosophy undergraduates; MBA students; and readers of an Israeli business daily. Survey respondents were provided with a case in which they are identified as the vice president of a company that employs 196 low-skilled workers with at least three year's tenure with the firm. Under hypothesized recessionary conditions, the company is still operating in the black but the forecast for annual profits calls for a recommendation of the amount of workers to be retained (or laid off). The forecast is presented either as a table relating the number retained/laid off to the firm's profits or a differentiable function relating profits to the number of workers retained. The purpose of the case is to present the respondent with a dilemma that weighs the difference between commitments to profit maximization against concerns for fired workers who would need to seek a new job during a recession. Rubinstein finds that economics students are much more likely to select the "profit maximizing" solution, but do not do so exclusively. He concludes that the study of economics through mathematical exercises conceals the need to balance between conflicting interests.

The choice variable for profit maximization in Rubinstein's case is not output – as is traditionally the case in textbook treatments – but rather layoffs. Furthermore, these layoffs are to take place amongst low-skilled but long-term employees during a recession. Rubinstein is agnostic regarding why the deviations from profit maximization occur; likening the problem to the following question asked of physics students: "A ball falls from a 10 m tower – when will it hit the ground?" He opines that PhD students in physics would have little difficulty in answering this question nor would they disagree about the answer, but economics PhD students at Harvard (and MIT) were in sharp disagreement about how to answer what he regards as a technically equivalent problem of employee retention.[1] Yet it is well-known that during recessions the adjustment of wages and employment/layoffs within firms does not reflect "straightforward" profit maximization (Bewley 1999). Rubinstein (2006: C8) similarly opines that MBA programs appear to be more

successful in producing students with more balanced views, but takes it no further. Indeed, he explicitly avoids trying to interpret the non-profit-maximizing recommendations.

In this paper we examine the responses of professional MBA students to the Rubinstein case. Professional MBAs conduct their studies while fully employed. They are highly motivated; generally sacrificing their weekends to attend class. This particular program is operated by Tulane University in Houston (the fourth largest city in the US). Many students are employed by corporations in the Fortune 500. We are able to replicate Rubinstein's results; but more importantly, we contextualize the answers because respondents were asked not only to specify the number of employees they would retain, but to additionally provide a rationale for their answer. *A priori* we posit several potential categories that the answers could fall into, including accounting, economic and ethically-based rationales. The responses were independently coded and subjected to standard measures of inter-coder reliability. We are able to characterize the priorities involved in layoffs. In particular, there are economically and ethically valid rationales for why one would lay off less than the profit-maximizing number of employees, and an accounting rationale for why one might actually lay off more. What we find is consensus on what constitutes profit-maximization, but significant differences in its prioritization; consistent with the epigraph from F. Scott Fitzgerald.

As in Rubinstein (2006), the responses were not incentivized (respondents were not afforded payments in-line with their degree of profit maximization); however, an advantage of our approach is that we generate qualitative data that is not generally produced under conditions of revealed preference. Consequently, in contrast to the vast majority of behavioral/experimental studies, we do not have to hypothesize as to why non-economic (non-profit-maximizing) behavior occurs, as respondents provide us with their rationale(s) and we have highly reliable measures of these rationales. Another novel contribution is that in many cases the respondents identify those rationales that they chose not to follow. Hence, in addition to identifying respondents' choices

among the set of layoffs, we also identify respondents' choice set in terms of *rationales*. In particular, we find that those who make non-profit-maximizing recommendations consider but ultimately reject the profit-maximizing approach to layoffs. By contrast, those who make profit-maximizing recommendations are less likely to consider alternative rationales.

The paper proceeds as follows. In section 2 we present Rubinstein's case and characterize the MBA cohort that is studied. Data were collected from 103 professional MBAs over a period of four years (2006-2009). In section 3 we identify alternative rationales that stem from business ethics and other functional areas of business. In section 4 we specify how these answers were defined as coding categories, the characteristics of our independent coders, and our measures of inter-coder reliability. In section 5 we characterize respondents' answers to the case, in terms of the number of employees retained/laid off, the rationale for their answer, and the prioritization of rationales. The final section consists of brief concluding remarks.

2.   Layoffs during a Recession

The case the students were asked to address is given in Figure 1, which is similar to Rubinstein's (2006) case with the exception that we do not identify the place of employment as an exterminator. To our knowledge, none of the respondents was employed by an exterminator, but many are in the employ of large corporations having low-skilled workers with long histories of employment. By omitting the specific mention of an exterminator our aim is to universalize the example, making it personally relevant to the respondents. Furthermore, many of the respondents make layoff/dismissal decisions within their firm and themselves are employed within a "rank and fire" environment à la CEO Jack Welch's (2005) annual performance reviews at General Electric. For respondents in 2006 and 2007 the question of layoffs during a recession was indeed a hypothetical, as the US economy was robust at the time the question was asked. We are therefore

also able to contrast the answers of these respondents with those who were in the midst of the global financial crisis. One of the latter respondents confided that the case was very close to the decisions he/she was making about subordinates at work that particular week due to the recession.

The students averaged 6-7 years of work experience (with a minimum of two years of managerial experience) and 29 years of age. Over the four years that the data were collected the class was 42% female. Surveys of the economics literature suggest that the choices women make are more socially-oriented and less individually-oriented relative to men (Eckel and Grossman 2008). Women are more concerned with equalizing earnings between the parties involved, while men are more concerned with maximizing economic efficiency (Croson and Gneezy 2009). Consequently, we will test for gender differences in the responses.

The students were presented with the case early on in their MBA program. They had recently completed a pre-curriculum on accounting, quantitative skills and Excel; as well as their first module, consisting of a course on managerial/micro economics and another on leadership. Calculus is not a prerequisite for the program; hence, they were presented with Rubinstein's tabular form of the case.

3.   Competing Solution Criteria and Coding of Answers

Those familiar with MBA students and their curriculum will recognize that although 96 layoffs leads to the maximum profits in Rubinstein's case, there are legitimate competing criteria for addressing this case that stem from functional business areas, some of which lead to alternative answers. The purpose of this section is to present those criteria that define the categories for coding the respondents' answers. The corresponding calculations are given in Table 1.

[Insert Table 1 about here]

3.1 Ethics/Social responsibility

Ethical considerations are by far the most cited alternative to profit maximization, constituting 44% of the respondents' non-profit-maximizing rationales. Rubinstein (2006, p.C8) recognizes that for some respondents the case is "ethically problematic" because it requires the consideration of layoffs during a recession, when unemployment is high. Moreover, the firm can retain most (if not all) of its employees and make a profit. From an ethical perspective the low-skill employees have been working for the company for at least three years; this is an unusual amount of loyalty for this labor segment. It appears that neither the firm nor the employees think of each other purely in terms of remuneration. Under these circumstances, are these employees workers, or are they assets? Given that the employees were, in part, responsible for the company's success prior to the recession; some respondents may argue that there is a moral responsibility to take care of them during the recession. Layoffs deny both wages and benefits to workers who can otherwise be profitably employed. Moreover, the firm may want to maintain its good reputation as an employer. Conversely, if the company does not maximize profits, it may not survive the recession.

3.2 Alternative economic rationales

Even though the employees were identified as low-skilled, it is conceivable that short-term layoffs can result in a future loss of cost efficiencies because those hired once the recession abates have less experience than current employees. The learning effect is almost universal; indeed, it has been found to be present across diverse manufacturing and service industries (Gottfredson *et al* 2008, *The Economist* 2009). Learning/experience effects are one of the primary strategic reasons for why firms deviate from short-term profit maximization. For example, if learning effects are significant, then a firm that retains more than the profit-maximizing amount of workers may have a cost advantage relative to profit-maximizing competitors once the recession ends. In the meantime, profits remain positive.

A second consideration is that the firm can remain profitable over a range of layoffs, and

the firm's fixed costs are fairly large ($8 million). Hence, it may be paramount to cover these costs and this is accomplished over a range of layoffs (albeit optimally at 96 layoffs). Thirdly, lower-wage employees are often the ones that directly interact with a firm's clientele. This would certainly be the case for Rubinstein's exterminators. A reduction in these experienced employees could easily translate into a detrimental decrease in customer service, thereby adversely affecting the bottom line. Overall, 10% cited alternative economic criteria as their rationale, with 75% of these laying off less than 96 workers.

3.3 Accountancy

Rubinstein (2006, p.C4) notes that 5% of his respondents lay off more than 96 workers. He attributes these to transcription errors (chose 52 retained but intended 144), typos and random choice. He therefore decided to classify these observations as errors and drop them from the analysis. There is; however, an alternative interpretation that is accountancy-based. Accounting variables are generally expressed in per unit terms (averages). Moreover, accountancy is the language of business. Economists generally regard their discipline as the foundation for the functional areas of business, yet marginal/incremental reasoning – a mainstay of economic analysis – is not part of the accountant's lexicon. Indeed, marginal cost is rarely a topic found in accountancy textbooks (Maital 1994). When the Rubinstein case is analyzed in terms of profits per employee, as is the case in the third column of table 1, it is clear that 65 workers (131 workers laid off) maximize the profit per employee. In our study 5% again chose this outcome, with 89% of these citing the profit per employee criterion and performing calculations identical or similar to those in the third column of table 1. Accordingly, we do not drop these observations from our study. The case of respondent error is addressed in subsection 3.5.

3.4 Lower wages

Using survey data, Bewley (1999) finds that employers prefer layoffs to pay cuts and that

the reluctance to reduce wages stems from a desire to encourage worker loyalty, which is measured in terms of worker morale and not quitting when new job opportunities arise. Cutting pay was not given as an option in this survey, but 3% of respondents suggested it. These respondents all recommended less than the 96 layoffs that maximize profit.

3.5 Other rationales

For many MBA students, including those in this study, the micro/managerial economics course is their one and only exposure to techniques of economic decision making at the firm level. It is not surprising, then, that some respondents' reasoning reflects incorrect economic analysis. Indeed, even professional economists are known to have difficulty applying basic economic concepts such as opportunity cost (Ferraro and Taylor 2005).

One of the basic tenets of microeconomics is that decisions are made at the margin. Hence, just as an accountant may transpose the data in Table 1 into a more familiar per-unit measure, those who are newly exposed to marginal reasoning may make the commensurate marginal calculations. These marginal calculations are given in columns 4 and 5 of table 1. Marginal profit per worker (column 4) is calculated by increasing the number of workers from the top of the table to the bottom of the table. Marginal profit per layoff (column 5) is calculated by increasing the number of layoffs from the bottom of the table to the top. In both cases profit is maximized when the marginal profit is positive and closest to zero, corresponding to 100 retained (96 laid off). Yet if the marginal criterion is incorrectly implemented and a respondent instead maximizes the marginal value, then either 50 workers are employed or 26-52 workers are laid off. We found evidence of both errors. A total of 3% of the answers fell into the "Other" category, meaning they could not be classified as belonging to one of the other categories in this section.

4.   Coding of Answers

The coding procedure consisted of a training session and a coding session. Two coders, one male and one female, aged between 21 and 25, were recruited from the first year PhD students at the authors' institution. Both coders are native English speakers. The coders had extensive prior knowledge of accounting, business and economic terms including profits, profit maximization, ethical concerns, marginal analysis and average profits. They were told that the hours they spent were counted as part of their research assistant assignment. The instructions for the training and coding sessions are available from the authors.

We went over the case described in Figure 1 with the coders step by step. They were told that their assignment was to categorize the rationales for the retention strategy suggested in each answer. The training session was intended to explain the coding criteria and methodology. The coders were neither expected nor required to give the same coding. They should provide independent and objective coding using their own best judgment based on the coding criteria. For each respondent, coders were asked to categorize the rationale among the following categories.

1. *Profit/Shareholder value maximization.* This criterion is met if the profit-maximizing number of layoffs (96) or workers retained (100) is suggested, and profit maximization is explicitly used to justify the suggestion.[2]

2. *Ethical/Social responsibility*. This criterion is met if less than 96 layoffs were suggested based on concerns over the firm's social responsibility or reputation; avoidance of layoffs during a recession because of the potential effects on employees or employee/community morale; or social welfare maximization.

3. *Alternative economic rationale.* This criterion is met if less than 96 layoffs were suggested based on considerations expressed in terms of the learning or experience curve/effect, faster recovery of business once the recession is over, or continuation of production so long as the firm was covering (average) variable costs with suboptimal layoffs.

4. *Accounting-based rationales.* Answers in this category usually involve an average-based calculation such as profit per employee or profit per layoff. For example, the number of workers retained (layoffs) that maximize the average profit per employee is 65 (131).

5. *Lower wages.* Answer suggests pay cuts rather than layoffs.

6. *Other.* Answers in this category may suggest a number of layoffs different from 96 based on maximization of some marginal profit measures. This category also includes other outlier answers that are not covered by the first five categories. Coders were asked to briefly specify the rationale in the "notes" column if this category was chosen.

4.1 Training session

In the training session coders were provided with a worksheet in which total expected profit, profit per worker, marginal profit per worker, and marginal profit per layoff were presented (as in Table 1). The worksheet was designed to illustrate the retention strategy based on various considerations, such as profit maximization, average profit maximization (accounting rationale), and marginal profit maximization (considered as erroneous reasoning), to familiarize the coders with the rationales referred to by respondents.

Coders were given 11 cases for practice. These sample cases, written by one of the authors who taught the MBA course, were designed to be representative of the rationales that were to be coded, and encompassed all the categories listed above. For the readers' convenience, the text corresponding to the sample cases is given in the appendix, with the suggested rationales included in *italics* in brackets. We discussed each practice case in turn. It was reemphasized that the discussion was not to establish consensus on ratings but to make clarifications on the coding criteria and methodology. The training session lasted about 40 minutes.

4.2 Coding session

The coding session followed immediately after the training session. Coders were provided

with hardcopies of 103 responses, and were asked to code these responses independently at their own pace. They were asked to record their coding on separate laptop computers. No respondent identification information, such as names, was available to the coders. Questions about coding were handled in public so both coders were informed about the questions and answers. For each response, coders were told to record the number of workers retained and the number of workers to be laid off, and put a check mark under the suggested rationale in an Excel spreadsheet on the computer. They were asked to identify and record only the rationale(s) that were used to justify the suggestion. If multiple suggestions were made they were asked to record each suggestion on a separate line with the corresponding rationale. Hence, we have more observations (108) than respondents (103) because some respondents gave more than one answer. The coding session lasted about 2 hours and 15 minutes.

4.3 Inter-coder reliability

Our data source is text. In order to be confident that the rationales discovered are, indeed, those found in the surveys a measure of inter-coder reliability is required. An example of coding economic text is Arce's (2004) analysis of ethical content in managerial economics textbooks, which uses percent agreement and Krippendorff's (2004, 2007) alpha (α) as measures of inter-coder reliability. No measure of inter-coder reliability is reported in Bewley's (1999) survey of executives' decisions regarding wages and layoffs during recessions. In coding part-time MBA students' responses to the question, "What ethical challenges are you aware of in your business?" Power and Lundsten (2005) resolved differences among coders via discussion until a consensus in coding in each instance of disagreement was reached.

Percent agreement is a common measure of inter-coder reliability. It should be regarded as an upwardly-biased measure because it does not account for agreement that would take place due to random chance. By contrast, Krippendorff's (2004, 2007) alpha accounts for random chance

and can be interpreted as the percent of inter-coder agreement above what can be expected by chance. In order to calculate alpha one begins by constructing a coincidence table (not to be confused with a contingency table). Table 2 is the coincidence table for the coding of the recommended number of employees retained. Each combination of coder entries for a given respondent is counted as a pair of observations; hence, if for a given respondent both coders record a recommendation of 100, then the (100, 100) cell in table 2 is increased by two. If the coders' pairing for a particular respondent is (144, 170), then the (144, 170) and (170, 144) entries in table 2 are both increased by 1 because the source of disagreement is irrelevant.

[Insert Table 2 about here]

The observation o_{ij} corresponds to the value of the ith row and j^{th} column in the coincidence table. The term n_c (n_r) denotes the total number of observations in the cth column (r^{th} row). Alpha accounts for the difference between the observed disagreement and the disagreement that can be expected by chance. We use Krippendorff's (2007) formula for alpha for the case of nominal (qualitative) data, two coders and no missing data:

(1) $$\alpha = \frac{(n-1)\Sigma_c o_{cc} - \Sigma_c n_c (n_c - 1)}{n(n-1) - \Sigma_c n_c (n_c - 1)}.$$

In contrast to statistical significance, there is no generally accepted cutoff value for alpha. From a substantive viewpoint, values in the range of 0.67 to 0.80 are considered to be a grey area, with the understanding that alpha is a conservative estimate of inter-coder reliability, and is regarded as biased-downward. This bias is decreasing in the number of categories; hence, it is possible that minimal disagreement in a category with binary responses can lead to a value of 0.67, as will be discussed below.

The percentage agreement and measure of inter-coder reliability for our study are given in Table 3. For example, in coding the number of workers retained, the coders agreed 99.1% of the

time. The alpha for this category is 0.984, meaning that the observed agreement is 98.4% above chance. If percentage agreement is taken as an upper bound measure of inter-coder reliability and alpha is taken to be the lower bound, then the coding can be regarded as valid. Note that $\alpha = 0.67$ for 100 workers retained is due to one observed disagreement between the coders about the expressed rationale for 100 retained. Had the coders agreed on this respondent's rationale, then the percent agreement would have been 100% with $\alpha = 1$. This is why alpha is regarded as a downward-biased measure of inter-coder reliability. Given the values for inter-coder reliability, we can be confident of our categorizations of respondents' rationales.

[Insert Table 3 about here]

5.   Findings

Our findings are summarized in Table 4, where the percentages are calculated for the rationales over which inter-coder agreement exists for the corresponding respondent. The data reveal very little disagreement about what constitutes profit-maximizing behavior but significant disagreement about whether profit-maximizing behavior is the appropriate criterion for deciding the number of layoffs during a recession. When the profit-maximizing number of employees retained is recommended (100), 98.5% of the respondents invoke the profit-maximization rationale. Hence, just as physics students are likely to agree on how gravity acts on a ball when it is dropped, when respondents view the case through the lens of profit-maximization, they find the profit maximizing solution. The issue is whether profit-maximization is prioritized as the proper rationale for employee retention during a recession. Consequently, in addition to the data presented in Table 4, we re-examined individual responses to determine whether any alternative was considered (à la Fitzgerald's epigraph). The percentages of those within a category/rationale of Table 4 who considered an alternative criterion in their deliberations are given below.

[Insert Table 4 about here]

For example, among those 17% who refer to ethical criteria as their primary rationale, further examination of these responses reveals that 67% explicitly acknowledge that they are not profit maximizing. Similarly, of those 10% who cited alternative economic criteria, 58% of this subset of respondents explicitly recognized that they were not profit maximizing. As the respondents were not prompted for a response other than the rationale for their decision, it is likely that the percentage of both types of respondents who considered but ultimately rejected the profit maximization rationale is higher.

Are profit maximizers all that different? Of those who laid off 96 workers – the economic rational – Rubinstein speculates that the desensitization of economic reasoning is due to its mathematization. Similarly, Miller (1999) argues that the easiest way to avoid the tradeoffs associated with non-self-interested behavior is to leave them unarticulated. We found that only 26% of the profit-maximizers articulated that they are facing an ethical dilemma. Again, this figure is downward-biased because respondents were only required to state the rationale they chose for the number of workers retained.

[Insert Table 5 about here]

In Table 5 we use a linear regression model to investigate the determinants of the suggested number of layoffs.[3] The independent variables include the rationales (with the profit-maximizing rationale as the omitted category), and the gender and cohort variables. The *cohort* variable is coded as 0, 1, 2, and 3 for the MBA cohorts 2006–2009, respectively. It is used to capture the time trend of responses as the economy has further slipped into recession. Results show that this empirical model explains a substantial fraction of variation in the suggested layoffs (adjusted $R^2 = 0.76$). Compared to the profit-maximizing rationale (i.e., the omitted category), each of the ethical/social, alternative economic, and lower wages rationales is associated with significant reduction in the suggested layoffs ($p < 0.01$). The suggested layoffs do not differ significantly

between the accounting or other rationales and the profit-maximizing rationale ($p > 0.10$). We also find that both the gender (female) and cohort variables enter with negative signs. Although statistically insignificant ($p > 0.10$), these effects indicate that fewer layoffs were suggested by women compared to by men, and as the economy further slipped into recession. The gender effect is directionally consistent with findings in the literature (Eckel and Grossman, 2008; Croson and Gneezy, 2009).[4]

6.   Conclusion

Rubinstein (2006) compares the responses of economics students to those of non-economics students and business professionals to a case in which respondents are asked to recommend the number of layoffs within a firm during a recession and finds that the non-economists are much less likely to recommend the profit-maximizing number of layoffs. As such, he suggests that the economics profession needs to re-evaluate the use of mathematical exercises which lead students to focus on the task of maximization rather than on real economic problems. The MBA case method is posited as a means for creating non-mathematical awareness within the economics curriculum.

To this we add that in addition to the difference in the mathematical requirements for graduate training in economics versus an MBA, it is also true that PhD economists specialize within their discipline whereas the MBA is, in large part, a broadening of perspective. Whereas economics students are generally not exposed to alternatives to self-interest, the purpose of the MBA degree is to familiarize students with a broad range of disciplinary approaches to analysis and decision making. Indeed, the Association for the Advancement of Colleges and Schools of Business (AACSB – International) mandates ethical training for MBA graduates of its accredited programs.[5] Such training is meant to reintroduce nonmonetary tradeoffs into MBAs' decision-

making processes.

Once the issue of profit maximization moves beyond the selection of output to that of layoffs it appears that the quote by F. Scott Fitzgerald that opened this paper applies. In particular, weighing layoffs versus profits involves tradeoffs that require decision makers to address multiple criteria: profits, ethics, employee welfare, and learning economies. A novel contribution of this paper is not only do we identify the choice that respondents make regarding layoffs and the rationale for this choice, but also the alternative rationales that respondents ultimately chose not to endorse. Clearly, such data are informative. The need to recognize the complexities involved, rather than reducing the problem to one of simply maximizing profit, is conspicuously absent in the traditional economic theory of the firm.

This suggests several avenues for future research on disciplinary differences in prioritizing rationales for determining the extent of layoffs within a firm during a recession. For example, a behavioral/experimental approach that incentivizes profits and layoffs in the case under study has the potential to reveal whether or not incentives create a cross-disciplinary convergence across layoff recommendations and rationales. A second issue is how awareness of the non-economic issues involved in decision making can be primed within economists. For example, would economists' responses and rationales differ if they were first presented with the defining issues test or implicit association test? Finally, economists are well-versed in evaluating tradeoffs in economic terms and so perhaps what is missing is the opportunity to practice articulating non-economic criteria à la Gentile's (2010) *Giving Voice to Values*. Articulating the rationales identified in the present study helps to create awareness as to when a theory of self-interest is not in the decision maker's self-interest.

Appendix: Text from sample cases

1. The firm maximizes profits with 100 workers retained. [*Profit maximization*]

2. Milton Friedman says that the social responsibility of the firm is to maximize profits. The profit maximizing number of layoffs is 96. In times of recession; however, it would be difficult for laid off workers to find a job. I would lay off less than the profit maximizing about, say, 52. [*Socially responsible; states an understanding of profit maximization but recommendation is based on social responsibility rationale.*]

3. The firm maximizes profits with 96 workers laid off. All of these employees have been with the firm for at least 3 years. If they are laid off then the firm will lose their experience and will not be able to take advantage of its learning curve. I would therefore retain all workers (zero layoffs) and be in perfect position to steal market share with my efficient workers when the economy recovers. [*Alternative economic*]

4. The profit maximizing number of layoffs is 131; this is where the firm has the greatest amount of profit per worker. [*Accounting*]

5. This is an ethical dilemma in that raising profits requires increasing layoffs. I would retain all the workers. This is the socially responsible thing to do. [*Ethical*]

6. 52 laid off is the highest profit per employee. [*Accounting*]

7. Firms profit maximize when marginal revenue equals marginal cost. This corresponds to the profit maximizing level of output. If we look at the diagram profit is maximized at 96 workers laid off. [*Profit maximization*]

8. The firm is profit maximizing and economic decisions are made at the margin. The firm profit maximizes with 52 workers laid off. [*Other*]

9. Firms can produce so long as price exceeds average variable cost. This allows them to cover fixed costs. The firm is making profits without layoffs, so it is covering its fixed costs, and

does not need to lay anyone off. [*Alternative economic*]

10. The firm can earn profits without any layoffs. Thinking about its reputation is the ethical thing to do. No layoffs. [*Ethical*]

11. There are two ways to approach this problem. If the firm is thinking purely about profit maximization then it should lay off 96 workers. If the manager is thinking in terms of ethics, then it should lay off fewer workers, probably 52. [*Two rationales: profit maximization and ethical*]

Endnotes

[1] So were the MBA students at Tel Aviv University in Rubinstein's study.

[2] A few answers equate social responsibility with maximizing profits, and others equate it with less-than-profit-maximizing layoffs. Coders were asked to categorize the former as "profit maximization" and the latter as "ethical." Authors' note: equating profit maximization with social responsibility is consistent with Friedman (1970).

[3] There are 104 observations after the answers that coders disagreed on are dropped from the analysis. These observations come from 100 MBA students. Three students offered multiple answers.

[4] A different test also shows that compared to men, women are less likely to select the profit-maximizing rationale ($p > 0.10$, one-side test of proportions) and more likely to select ethical/social responsible rationale ($p < 0.10$, one-side test of proportions).

[5] Some of the largest gains in ethical development have come from moral education programs in professional schools involving participants in their 20's and 30's, showing more gains than participants of school age (Rest 1988).

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Figure 1: The Case

Suppose that you run a company that, until recently, was extremely profitable. As a result of an existing recession, however, there has been a significant drop in profits, although your company is still making profits. Your 196 non-permanent employees are low-skilled, but all of them have been with you for at least 3 years. Your lowest-paid worker earns at least double the minimum wage and your company provides all its employees the benefits required by law.

You will soon be attending a meeting of the management to decide how many employees to retain. What is your recommendation? Justify your answer.

Table 1: Profits, Employees & Layoffs

Number of your 196 employees who will continue to be employed.	Expected Annual Profit ($millions)
0 (all workers laid off)	**-8**
50 (146 workers laid off)	**1**
65 (131 workers laid off)	**1.5**
100 (96 workers laid off)	**2**
144 (52 workers laid off)	**1.6**
170 (26 workers laid off)	**1**
196 (no layoffs)	**0.4**

Source: Rubinstein (2006).

Table 1: Average and Marginal Analyses of the Case

(1) Number of your 196 employees who will <u>continue</u> to be employed.	(2) Expected Annual <u>Profit</u> ($millions)	(3) Profit Per Employee	(4) Marginal Profit per Worker	(5) Marginal Profit per Layoff
0 (all workers laid off)	-8	-∞	----	-9
50 (146 workers laid off)	1	0.020	0.180	-0.033
65 (131 workers laid off)	1.5	0.023	0.033	-0.014
100 (96 workers laid off)	2	0.020	0.014	0.009
144 (52 workers laid off)	1.6	0.011	-0.009	0.023
170 (26 workers laid off)	1	0.005	-0.023	0.023
196 (no layoffs)	0.4	0.002	-0.230	----

Table 2: Coincidence Table for Coding of Number of Workers Retained

Coder 1	Coder 2						
	100	196	144	170	50	65	n_r
100	146						146
196		36					36
144			28	1			29
170			1	6			7
50					2		2
65						10	10
n_c	146	36	29	7	2	10	230

Table 3: Inter-Coder Reliability

	Coding Category				
	Number Retained	**Respondent's Rationale When # Retained is:**			
		100 **(62%)**	**More than 100**[a] **(33%)**	**65** **(5%)**	**50** **(< 1%)**
Percent of Inter-Coder Agreement	99.1	98.5	98.3	100	100
Alpha (α) × 100 (Percent of agreement that is above chance)	98.4	66.7	91.5	100	100

[a] The values for each individual category within this range are available from the authors.

Table 4: Priorities

Employees Retained	Rationale for Number of Employees Retained						Total
	Profit Maximization	*Ethical/Socially Responsible*	*Alternative Economics*	*Accounting*	*Lower Wages*	*Other*	
100 (62%)	98.5%	0	1.5%	0	0	0	100%
More than 100 (33%)	0	52%	27%	6%	6%	9%	100%
65 (5%)	0	0	0	89%	11%	0	100%
50 (< 1%)	0	0	0	0	0	100%	100%
Total	61%	17%	10%	6%	3%	3%	100%

Table 5: Determinants of Suggested Layoffs (OLS)

Independent variables	Coefficients (Standard errors)
ethical/social	-77.59***
	(5.593)
alternative economic	-67.78***
	(7.039)
accounting	8.560
	(8.194)
lower wages	-95.85***
	(11.41)
other rationale	-9.152
	(8.995)
female	-1.510
	(3.921)
cohort	-0.305
	(1.925)
Constant	96.97***
	(3.679)
Observations	104
Adjusted R^2	0.76

The dependent variable is the suggested number of layoffs.

*   - significant at the 10% level

** - significant at the 5% level

*** - significant at the 1% level