

# Moral Choice in an Agency Framework: The Search for a Set of Motivational Typologies

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**ABSTRACT.** Moral choice, as a precursor to behaviour, has an important influence on the success or failure of business entities. According to Rest, 1983, *Morality, Moral Behavior and Moral Development* (John Wiley & Sons, New York), moral choice is prompted, amongst other things, by a motivational component. With this in mind, data obtained from a sample of four hundred financial sector operatives, employed in a rapidly developing region of China, was used to construct a relatively stable set of motivational typologies which could be used to predict choice within an agency-based context. A non-egoist version of the agency theory was developed, which permitted the modelling of alternative heuristic patterns. Altruists and persons identified as bordering on the verge of being classified as psychological egoists, refused to reorganize their motives when responding to a problem that included both moral hazard and adverse selection criteria. It was also possible to identify certain personal and contextual issues which discriminated between the typologies.

**KEY WORDS:** non-egoistic representation of agency theory, motivational typologies, ethical intentions, finance sector operatives, People's Republic of China.

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## Introduction

Over the period 2000 and 2001 four hundred financial sector employees from the Shenzhen Special Economic Zone of China participated in a post-test only field experiment aimed at examining conative responses or behavioural inclinations (Ajzen, 1988) connected with a principal–agency based survey.

The recorded inclinations are reported as moral choices, identifiable precursors to moral action or behaviour (Blasi, 1980; Kohlberg, 1969; Rest, 1986) likely to proceed as a consequence of being placed in a hypothetical situation involving a bank officer faced with a decision about whether or not to report the existence of insider trading activities conducted by a group of co-workers.

The research study involved two independent groups of operatives, who were each tested at the workplace and required to listen to versions of a dramatization of a story (lasting 12 or 15 minutes depending on the version). They then completed an accompanying questionnaire, which began with them being asked to identify with the main character in the story (viz., the bank officer) and indicate, using a 10-point Likert scale, the likelihood of their advising management of the existence of the unethical work practices.

The primary hypothesis for this research was based on the classical agency model posited by Ross (1973) and Jensen and Meckling (1976), which identified the existence of different goal perceptions by the parties to a contract, namely the principal and agent. The agency problem that emerges from this relationship can significantly influence the degree to which organizational objectives are likely to be

achieved, unless adequate measures are taken to minimize its impact (e.g., by way of incentives and monitoring) (Eisenhardt, 1989).

The rationalistic approach applied by economists and information researchers, views the agent as a self-serving opportunist who will always place personal interest before those of other stakeholders, a position that has been criticized by ethicists, who like Bowie and Freeman (1992) contend the theory lacks “moral language” (1). DeGeorge (1992) also made the point that “self-interest” takes on a moral persuasion when one considers the effect of such factors as lack of trust, inadequate contractual arrangements, risk aversion and the ulterior motives of the agent (59). In other words, the agency problem is confounded by the behavioural inclinations of the agents as well as their perceived relationship to the circumstances they find themselves. Morality plays a role in the decision process, in that it permits the expression of other forms of ethical predisposition. In this context, self-interest is but one form of psychological motivation, one that DeGeorge (1992) labelled “psychological hedonism” (62).

Researchers (e.g., Chi, 1989; Eisenhardt, 1989) claimed that the agency problem is created for two reasons:

- (a) The agent’s activities are generally unobservable to the principal, inducing the agent to shirk. This is termed a moral hazard.
- (b) The agent has access to private information that affects his or her position and which may not be in the agent’s interest to divulge. This places the parties in a position of information asymmetry.

These components of agency were considered when deriving the research instrument, which was modelled on similar empirical studies completed in the United States by Harrell and Harrison (1994) and Rutledge and Karim (1999). All studies, including the Chinese survey discussed in this paper, involved the establishment of control and treatment group samples. Subjects in both groups were asked to consider similar scenarios where the agent was placed in a position of moral hazard. In the treatment group version, however, additional circumstances provided a significant element of information asymmetry. The principal hypothesis tested both

groups to determine whether the presence of a moral hazard and private information significantly affected the behavioural inclinations of respondents. In both of the American studies, subjects in the treatment group indicated they (as agents) would be significantly less likely to act in the interests of management when faced with both elements of the agency problem compared to their counterparts in the control group.

Identical findings emerged in the study of financial sector operatives employed in the Shenzhen Special Economic Zone of China, details of which have been reported elsewhere (Woodbine, 2004a). In this paper, univariate tests confirmed that employees faced with both moral hazard (i.e., possible loss of employment and promotion opportunities) and adverse selection criteria (i.e., private self-incriminating information becoming public) indicated they would be less likely to advise management of the existence of unethical work practices about which they were personally aware (i.e., insider trading activities of co-workers).

Faced with the apparent universality of this phenomenon, we were encouraged to investigate further the assumption that agency theory makes about the nature of man as an “unconstrained self-interest maximizer” (Chi, 1989). This paper discusses the results of this investigation, using additional information acquired in connection with the original China based research. The objective is to apply judgment theory and social response theory within the context of the agency model and propose a motivational typology explaining other modes of rationality. The outcome would be a non-egoistic agency model, which could be used to identify ethical predispositions. Personal and contextual variables associated with the survey respondents would also be evaluated to determine whether they discriminated between hypothesized classifications.

### Literature review and theory development

Psychologists Fishbein and Ajzen (1975) developed the theory of reasoned action, which links the sequential constructs of belief, attitude and intention as precursors to behaviour. The theory suggests that respondents, like those involved in this survey, react

in a logical and rational manner, relying on these precursors to identify a likely course action (i.e., likelihood of their advising management about the existence of unethical work practices).

The theory of reasoned action further suggests that persons faced with a decision to undertake a particular behaviour consider their attitude towards the action as well as certain subjective norms associated with the problem or dilemma they face. These norms consist of the pressures (social and otherwise) which the respondent perceives as important under the circumstances. It was clearly apparent, from the empirical analysis of this agency based experiment that respondent intentions were strongly influenced by the extent of the agency problem (Woodbine, 2004a). Relatively few of the respondents were of a mind to select either of the extreme positions (points 1 or 10) on the decision continuum provided (see Appendix A), suggesting degrees of hesitancy, regardless of the extent of the agency problem described. The moral issue would be considered somewhat complex for respondents in either of the control and treatment groups and any one response could not be used to label a respondent as having egoistic tendencies. It is necessary to inquire further, that is, identify the attitudes fuelling the intention. Furthermore, a respondent's moral response (i.e., scored between 1 – Definitely say nothing to management and 10 – Definitely advise management) is also likely to reflect, to some degree, personal and contextual baggage (i.e., exogenous factors) which influence their conscious or unconscious beliefs about an issue (Ajzen, 1988).

The relationship between the various antecedents to moral choice (intention) can be illustrated in the

decision model provided in Figure 1. Participants listening to the dramatized versions of the bank officer's dilemma, were made aware of the officer's personal circumstances, which varied slightly, depending on the version. The story ended with the officer pondering an appropriate intention (moral choice), which each participant was asked to make on his behalf. When considering whether or not to advise management of the unethical work practices, participants would have been influenced by

- (a) Their interpretation of the circumstances affecting the bank officer.
- (b) Personal views about the nature of the issue (e.g., internal whistle-blowing).
- (c) Personal and contextual factors influencing attitudes.

Ajzen (1988) defined "attitude" as "a disposition to respond favourably or unfavourably to an object, person, institution or event" (4). In this China based research, the bank officer's state of mind was portrayed as one of perplexity, but one involving volitional control, having to weigh the importance of various issues brought to light in the story (Woodbine, 2004a). Both versions of the ethical dilemma touched on the problems associated with whistle-blowing and the clash of loyalties, principally those involving his co-workers, management and his chief mentor and confidante (his father). In the first version, the officer had been open and honest with his employers at the time of his initial employment, informing them of his past misdemeanours (involving a minor criminal offence during his adolescence) and had subsequently gone on to establish a good

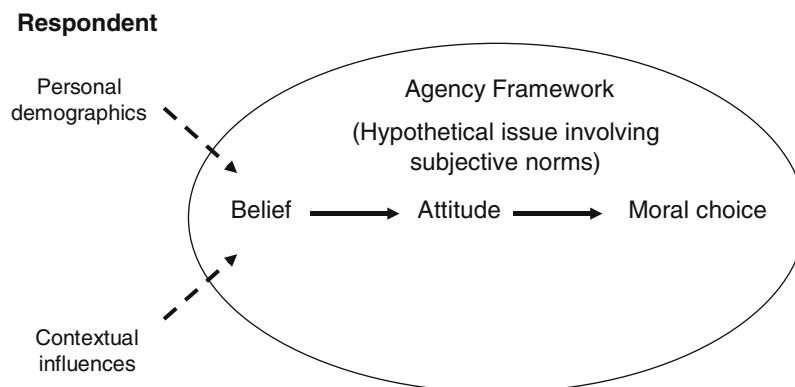


Figure 1. Reasoning process involving agency-based problem.

employment record culminating in a promotion to the elite investment division of the bank. In the second version, details of the misdemeanour were withheld and, although the officer was proving to be a valued employee, his promotion was still in process. He feared a subsequent investigation of the insider-trading scam might expose his past history, and affect his future prospects with the bank. In both versions, he was the only person aware of the scam and had avoided his co-workers' invitation to join their scheme (after all, they claimed they were not using the bank's money, only its confidential information about business clients).

The antecedent to attitude, in this instance is the bank officer's belief system, about which little information is provided. It is at this juncture, that survey respondents were invited to identify with the bank officer and apply their personal cognitive abilities to guide them in determining whether or not to inform management of the unethical work practices.

According to Rest (1983), four "inner processes" work in an interrelated fashion to explain moral behaviour (26). An illustration of the model and its components are provided in Figure 2. Each of the components operates together in the mind of the individual in an interrelated manner, to determine reasoned action, as explained by Fishbein and Ajzen (1975). The process is not speculative and there are several examples of each of the components in the research literature (Rest and Navaez, 1994). According to Rest (1983) each of the four processes is necessary for moral behaviour to ensue, and if

there is a deficiency in any one process, the behavioural response will be affected.

Moral sensitivity (Component 1) refers to a person's ability to recognize that an issue is one with significant moral content. In the dilemma presented in the field experiment described here, the bank officer's discussion with his father indicated that he believed the insider-trading practices were unethical and would have a negative impact on senior management and the owners (in China, this would be the Central Government). Insider trading is also illegal in mainland China.

Moral judgment (Component 2) refers to a cognitive process that facilitates the derivation of morally justifiable judgments about a matter or circumstance. This concept derives directly from cognitive moral development theory proposed by Kohlberg (1980, 1981). No direct reference is made to the bank officer's cognitive abilities within the content of the dramatized story and respondents were expected to apply their own reasoning skills when deriving an intention (and moral choice), which they did, using the 10-point Likert response continuum. Respondents strongly influenced by a desire to protect their own interests and avoid punishment (preconventional reasoning ability) would likely not want to create trouble for themselves and hence be less likely to advise management of the unethical practices, regardless of the extent of the agency problem. Respondents able to apply Conventional judgment abilities with confidence, would probably be inclined to notify management, on the basis that insider-trading is illegal in China and that he or she has an obligation to society (at the macro level) and parents (at the filial or micro level), to do what is right, regardless of the personal consequences. Finally, respondents using justice or rights based (postconventional) reasoning skills are likely to be guided by an independent (or principled) assessment of the circumstances and the roles and responsibilities of affected stakeholders. Moral reasoning ability was reviewed in the context of this China-based study, using Rest's (1990) Defining Issues Test (DIT) instrument and the findings have been reported elsewhere (Woodbine and Yuningsih, 2004).

The third component of moral behaviour, moral motivation, is a process involving the determination of an intention by referring to a set of competing

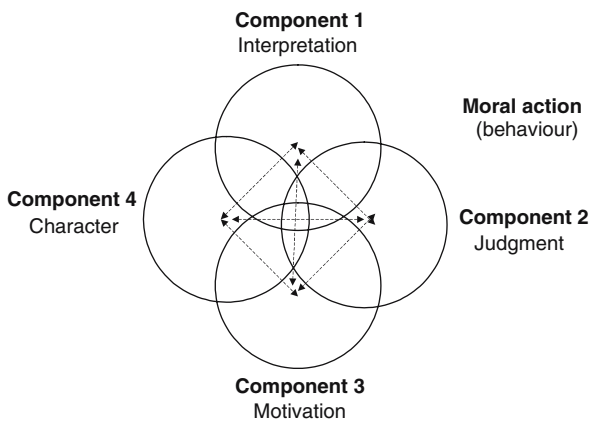


Figure 2. Rest's interactive four-component model of moral behaviour.

values, ethical or otherwise and considering them when determining a decision path (Rest, 1983). For example, a bank officer may appreciate that an ethical problem exists (for example, that insider trading is a questionable practice) and have the capacity to reason through the process using the requisite level of moral development. The choice, however, may hang on his concern about management's finding out about his past misdemeanor. He may feel he is in a no-win situation and therefore refrain from taking action. Saving face is a major issue in traditional Chinese culture, meaning that many people are reticent about reporting wrongdoings for fear of reprisals or of being somehow connected with the issue.

This, of course is a classical illustration of capitulation to the agency problem. Rest et al. (1999) defined moral motivation as the degree of commitment to taking the moral course of action, valuing moral values, and taking personal responsibility for moral outcomes (101). The very nature of the field experiment derived for this study demanded that respondents consider how the agency problem (moderate or severe, depending on whether they were members of the control or treatment groups respectively) is likely to determine choice. This motivating influence therefore deserves further study.

At this point it is worth returning to the theories associated with personality and social psychology, since the business and economics literature appear somewhat lacking in their explanation of matters associated with human judgment theory, information processing and social values. As Mitnick (1992) suggested, "It is time to shake the disciplinary trees to find apples for a common sauce" (90). The theory of agency provides ample opportunity to explore what researchers in other disciplines are able to contribute. For example, Messick and Brewer (1983) discussed the conflicts that arise between individual and collective interests, when people are faced with some kind of social dilemma (e.g., an agency problem). Two forms of rationality are described, actions that benefit the individual and those that serve a common good. Both can appear rational, depending on one's perspective, however, the existence of a dilemma presupposes the insertion of a "conflict of human values" (Edney, 1980) as

well as a "moral perspective" (Van Lange et al., 1992). Cooperative effort therefore appears to be the moral alternative to non-cooperation, where self-interest prevails (Van Lange and Kuhlman, 1994).

Messick and McClintock (1968) identified three dispositional typologies, better described as social value orientations, which explain how people evaluate issues involving themselves and others. These stable individual difference variables (De Cremer and Van Vugt, 1999) are labelled, cooperation, individualism and competition. The first orientation includes prosocial subjects, or people concerned with the maximization of joint outcomes (win-win situations). The last two proself orientations include people who are respectively, concerned only with maximizing their own outcomes and those concerned with their relative advantage compared to others. The latter case allows for a lose-lose outcome, so long as the differences between self and others are maximized.

In their study of undergraduate students enrolled at the Southampton University, De Cremer and Van Vugt (1999), found that goal-transformations occurred when proself orientated students were encouraged to alter their strategies to cooperate other group members, when the outcomes were mutually beneficial. These students identified more closely to the prosocials, whose strategies were unaffected by the changed circumstances. In the context of this agency-based research, does the opportunity exist to determine a similar typology, based on the above psychological paradigm? If one adopts the narrow rationalistic view, then only one type of agent exists – self-interest maximizer.

In this present study, circumstances were different, in that an agency problem was exacerbated by the presence of significant moral hazard and private potentially self-incriminating knowledge. As reported (Woodbine, 2004a), members of the treatment group identified a moral intention suggesting they would, on average, be less likely to consider the interests of management and less favourably disposed towards reporting the unethical workplace activity, than their counterparts in the control group. The question this poses, is do their choices reflect a social value orientation (Messick and McClintock, 1968) or some moral equivalent, which could act as a motivating influence in line

with the third component of moral behaviour (Rest et al., 1999)? In other words, do people display orientations that generally result in their putting self-interest before others and vice versa?

The ethics literature is critical of the standard agency model as one providing sufficient explanation about why people act the way they do when faced with situations involving moral hazard. For example, Bowie and Freeman (1992) stated that “Agency theory should explain relationships and serve as a higher order theory for derived theories” (11). Based on this premise, other response dimensions (or equivalent social value orientations) deserve consideration. Bowie and Freeman (1992) make some useful contributions to the discussion of the limitations associated with the notion of psychological egoism. The belief that people always act in their own best interest may be an acceptable assumption within the framework of the economic model for agency, but it is patently deficient in the real world context. Bowie and Freeman (1992) quote several examples such as the whistleblower that informs the government authorities about his or her employer’s activities because of a concern for the public good. The fact that such action may result in a loss of employment as well as a degree of ostracism rather than fame is one example of an apparently selfless act.

However, some argue that such actions reflect another aspect of a person’s self-interest. These purportedly selfless acts may be undertaken out of a fear that the persons could not forgive themselves if they ignored the events. Their consciences and feelings of guilt would cause considerable personal discomfort. This might be viewed as a simple extension of psychological egoism. This issue of enlightened self-interest can be further extended to the religious person, whose selfless acts are motivated by the rewards God offers in this or the next life. Is there any limit? Do freewill acts of altruism really occur?

Bowie and Freeman (1992) attempted to counter these assertions by indicating that the term “self-interest” is being applied in an ambiguous fashion. The traditional notion of “self-interest” is acting exclusively in one’s own interest, however these other interpretations extend the meaning of self-interest to apply to any interest one has (13). Further arguments against the extended meaning are provided from both secular and religious sources. Firstly, the social psychologist, Myers (1993)

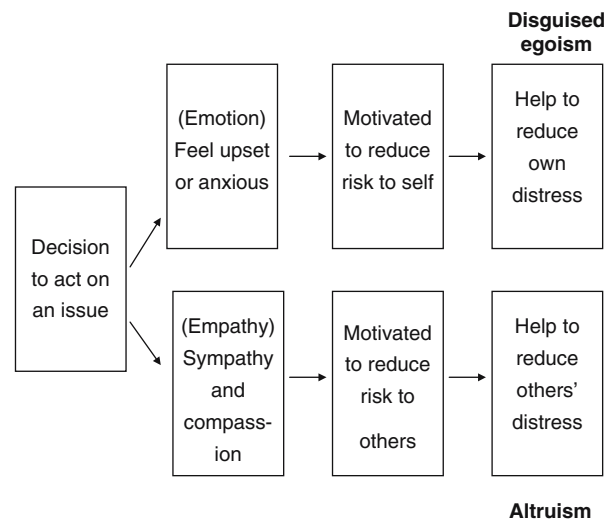


Figure 3. Distinction between empathy and disguised egoism.

identified “disguised self-interest” as the situation when one acts in a particular manner in order to attract praise or some form of material reward (506). However, genuine altruism can be expressed through an empathetic reaction, as Figure 3 suggests and can be separately identified from disguised (enlightened) self-interest.

In the context of agency theory the agent might ignore any apparent hazard and wish to support the principal because he or she appreciates the corporate motives, which might be other than purely pecuniary. Of course, altruism does not necessarily imply the agent will act in accordance with the principal’s objectives as the case of the external whistleblower suggests. However, it does identify a critical limitation in the traditional agency model. Altruism is a motive that primarily exists to meet the needs of others. In Christian ethics, Clark and Rakestraw (1994) stress that one ought not to act (i.e., choose to do good) solely out of fear from the wrath of God (identifying the traditional deontological perspective). Instead, a believer’s motivation for action should originate from an imbued sense of genuine compassion for others which an omniscient God cares for (43).

Applying these issues to the agency-based experiment provided in this study, involving a principal (defined as management) and an agent (a bank officer), the latter may be described as facing the following  $2 \times 2$  conflict matrix:

Concern for self × Lack of concern for management	= Psychological egoist
Concern for self × Concern for management	= Disguised self interest
Lack of concern for self × Concern for management	= Altruist
Lack of concern for self × Lack of concern for management	= Indeterminate motivation

Following a systemic analysis of agency theory, Duska (1992) coined the notion of the “loyal agent”, one who has an enlightened view in relation to his or her responsibilities, not only to the principal, but also to the betterment of society. Duska saw this as being particularly relevant to professionals, and would include the finance sector operatives used in this study. In the context of the above matrix, “loyal agents” would likely be included within the disguised self-interest or altruist motivational types.

In this agency-based study of the moral choices of finance sector operatives, it has been assumed that all respondents made rational choices, at least within the limits of their cognitive and affective capacity. To this extent it is necessary to preface this assumption with Simon’s (1992) contention that human reasoning is a product of “bounded rationality” that depends on the application of certain heuristics or rules of thumb. Bounded rationality is therefore an appropriate alternative to that assumed in the classical agency model in that it provides greater predictive capacity for explaining the choices people make. It recognizes that decision-making is inevitably biased and suffers from cognitive limitations. These “apparent deficiencies” in perceptions and assessments provide sustenance to values investigators like Nisbett and Ross (1980) and Kahneman et al. (1982) who adopted an integrative view of individual action.

In the context of the aforementioned typology, therefore, bounded rationality theory allows for the “Indeterminate motivation” grouping, respondents

whose moral choice may have been subject to different heuristics. For example, in the context of the story and setting (China), some operatives may place filial piety before anything else and choose to advise management of the existence of unethical practices because of a concern to please the bank officer’s father. Alternatively, the desire to comply with the demands of one’s co-workers (collective spirit) may have prompted respondents to avoid informing management.

To this point, the discussion presents a case for the existence of four typologies, including one that includes alternative bases of motivation, but bases that are credible within the definition of bounded rationality (Boudon, 1992; Simon, 1992). The initial postulate that needs to be addressed in the context of this study is one that tests the veracity of these assumptions as they apply to the area of concern, that is financial sector operatives within the Shenzhen Special Economic Zone. The first hypothesis can be stated in the alternative format as follows.

H1: A set of mutually exclusive motivational typologies exists that categorizes the disposition of financial sector operatives when applying their reasoning processes to make a moral choice in situations involving an agency problem.

Both versions of the agency-based story used in this study evoked a degree of moral hazard in the minds of respondents, since the choice involved internal whistle-blowing. Concern about the potential repercussions tended to create a degree of reticence within both independent samples (Woodbine, 2004a). The sample means for moral choice response scores for the control and treatment Groups (maximum score 10) were 7.4 (std dev. 2.47, 198) and 6.6 (std dev. 2.79, 182) respectively, disclosing an underlying hesitancy about informing management of the existence of the insider-trading activity. In addition, a leptokurtic distribution was noted in the Treatment Group, which showed a proportionately higher number of persons opting to demonstrate a less definitive response. In this situation, risk aversion (Eisenhardt, 1989) was supplemented by loss aversion (Kahneman and Tversky, 2000), where the fear of making a wrong decision, predisposed respondents to equivocation.

Assuming distinct motivational typologies can be identified, it would be interesting to apply deductive reasoning, to foretell the likely leaning of a moral choice response, based on a foreknowledge of that subject's motivational typology. One would expect altruists to place management interests before their own, regardless of the extent of the agency problem. Psychological egoists, on the other hand would likely score fairly low, desiring to avoid personal repercussions of some kind. Respondents displaying disguised self-interest would probably score highly, assuming the agency problem was not significant, although they may be less management orientated if the problem worsens. On this premise a further hypothesis is proposed:

H2: The membership of a motivational typology group by a financial sector operative has a significant effect on that agent's moral choice.

Stepping away from the actual experiment, one is also curious to know how personal and contextual factors connected with each respondent are likely to impact the moral response scores reported in connection with the field experiment. These independent exogenous variables are summarized in Figure 4 and are interesting in the sense that they represent latent causations influencing choice (and subsequent behaviour).

Personal variables included in this survey: Five Chinese Values Survey (CVS) indices (i.e., Integration, Confucian Work Dynamism (past and future), Human-heartedness and Moral discipline) (The Culture Connection, 1987), Moral reasoning ability (DIT *p*-score) (Rest, 1990), religious commitment and three demographics (namely age, education and employment status).

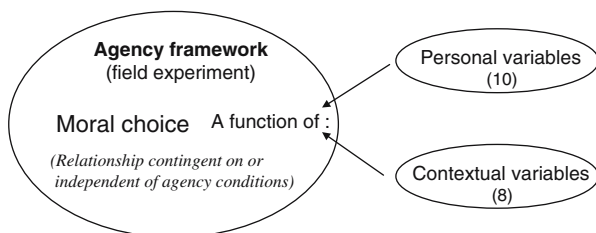


Figure 4. Conceptual schema for predictors of moral choice.

Contextual variables included in this survey: Five extrinsic job satisfaction indices (pay and conditions, promotion opportunities, co-workers, supervisors and work itself) (Celluci and DeVries, 1978) and three ethical climate constructs (derived from a factor reduction of six latent variables) (Victor and Cullen, 1988, 1990).

It is not our intention to provide details of the univariate and multivariate analyses associated with the conceptual model described in Figure 4. These are in the process of being published in other journals (Woodbine, 2004b, c). However, a step-wise regression analysis of personal and contextual variables against moral choice response indicated some significant relationships, depending on the extent of the agency problem. It was found that the cultural value orientation integration (i.e., collectivist orientations) was a significant predictor of moral choice (positive contribution) response if moral hazard was limited. Alternatively, instrumentalism (ethical climate type that encourages employees to protect their own interests) and employment status emerged when the agency problem was extended to include information asymmetry. Instrumentalism provided a strong negative contribution, while employment status worked to offset this negative impact to a lesser degree.

In this paper attention is directed to the motivational typology and its relationship to the personal and contextual variables mentioned above. Can membership of a particular motivational typology be in any way connected with one or more of the variables? Or more precisely, can the experimental design for this agency-based study be applied to test whether these variables act as significant discriminators of the motivational typologies described? It is anticipated that this exploratory research question can be addressed using both sample groupings.

## Research methodology and findings

This study examined the data provided by four hundred financial sector employees from ten mainly state-owned financial institutions, including three state banks, three regional commercial banks, two securities companies and two insurance companies. Although not randomly selected, the sample was estimated to represent approximately 1.6% of the



population of financial sector employees in the Shenzhen Special Economic Zone. The representation was also roughly proportional to the total number of employees in each sub-sector.

The ratio of males to females in the sample was 44:56. The average age of all respondents was 29.8 years, including an average business experience of 9 years. Fifty-two percent of respondents had earned a university degree or better, while 31% held supervisory positions of some kind. All 10 of the sampled institutions included in the survey had central offices in other cities (e.g., Beijing or Shanghai), but operated large branch offices and numerous sub-branch offices in Shenzhen.

As mentioned in the introduction to this paper, respondents were surveyed at their place of work, and asked to listen to one of two versions of the audio-taped drama. The accompanying questionnaire took another 30–45 minutes to complete and included provision for each to record a moral choice response, using a 10-point Likert scale continuum (refer to Appendix A). Upon recording an appropriate intention (i.e., the likelihood of their advising management of the unethical practices), they were required to answer two related questions, aimed at determining the extent to which their choices were influenced by a concern for self and concern for others (i.e., management), using two 6-point Likert scale response continua.

The hypothesis  $H_1$  was constructed to test whether motivational types exist, having regard to a respondent's concern for self compared with concern for management (i.e., the institution) in relation to a stated moral intention, involving an agency based dilemma. Using the Likert scales provided (see Appendix A), respondents provided ratings varying from 1 "No effect on decision" through to 6 "Very strong effect on decision". The scores would be used to construct a set of motivational typologies however it was first necessary to transform the data in order to satisfy multivariate normality requirements. This was achieved to a satisfactory degree using an arcsin transformation. Normal probability and detrended data plots provided good evidence that normality requirements were being met. Multicollinearity concerns relating to the two input variables were also tested for both the control and treatment Group samples using Pearson bivariate correlation proce-

dures. The correlations noted were insubstantial for both group samples.

In order to test the hypothesis  $H_1$  that mutually exclusive motivational typologies exist, it was necessary to conduct a hierarchical cluster analysis. This operates as a form of classification analysis, bringing together groupings of data that exhibit a degree of similarity based on the variables applied (Hair et al., 1995). The completion of two tests with similar or identical outcomes would provide additional assurance about the existence of such typologies. Ward's method was selected as the clustering algorithm as it minimizes the within-cluster differences and avoids problems with "chaining" of the observations found in linkage methods (Hair et al., 1995, 446). The interval was calculated using the squared Euclidean distance.

The agglomeration listings for each of the control and treatment Group samples identified significant changes in recorded coefficients, suggesting that at least three and as many as five typologies exist, evidence that supports the hypothesis  $H_1$ . In order to map the hierarchical cluster groups for four typologies the analysis for both the control and treatment groups was repeated. Cluster membership was identified for each participant and type centroids determined by taking the mean value position for each of the two transformed variables (concern for management versus concern for self). These were plotted on a two-dimensional plane using axial parameters for each of the two transformed variables. Location and membership size are depicted for both the control and treatment groups in Figures 5 and 6 respectively.

The four cluster points represent centroids for each typology of respondents. Their locations can be interpreted in terms of two focal points. The first central cross-line allows one to identify differences between the two sets of clusters. The second, partly completed cross-line drawn within the bottom left quadrant indicates the approximate mid-point within the arcsine transformation that was applied to both the control and treatment group data. The latter can be used to illustrate cut-off points for the motivational typologies.

The top right quadrant (scoring high with respect to concern for both self and management) includes respondents who identify with the typology – disguised egoism. Respondents falling within the top left-hand quadrant rate themselves as high in relation

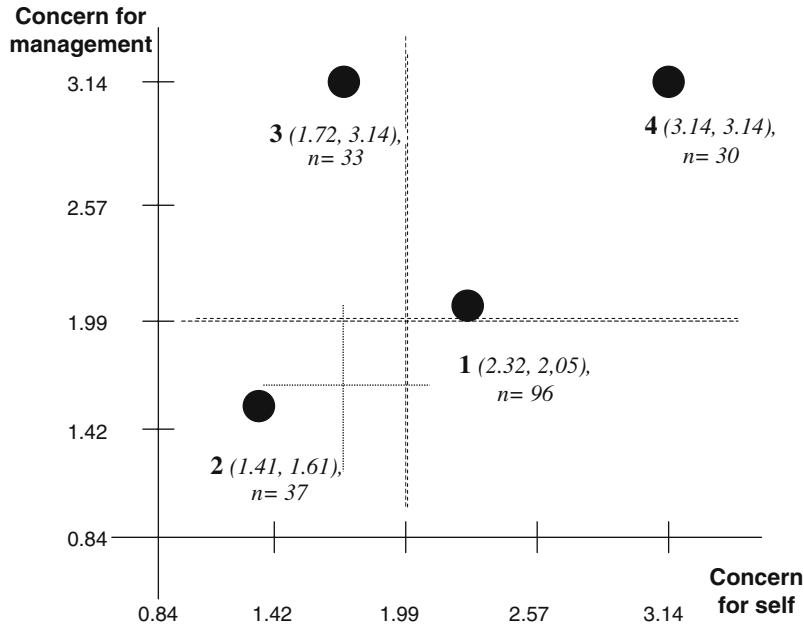


Figure 5. Motivational typologies within control group (transformed cluster locations).

to concern for management and low for self. This type represents those displaying the motivational typology – altruism. Thirdly, respondents placing self-interest above concern for management might be located close to or within the bottom right-hand quadrant and are thereby classified as psychological egoists. Finally, those falling within the lower left-hand quadrant indicate an interest in preserving neither their own interests nor the interests of management. As discussed earlier, these opinions may reflect heuristics defined within “bounded rationality”, but which are indeterminate in the sense that their primary motivation was not identified.

The typological profiles illustrated in Figures 5 and 6 are somewhat similar, both in terms of cluster membership and visual arrangement. The issue that separates them within the experimental design is the variation in the extent of the agency problem. A visual inspection of the two illustrations establishes that all clusters, except Type 3 (altruists) appear to have slipped downwards once the agency problem was extended to include adverse selection criteria. The slippage for Type 4 (disguised self-interest) is particularly strong, suggesting that the serious nature of issues threatening reputation and employment prospects are motivating respondents to forego some of their concern for management.

A major consideration in this research, relating to the development of motivational typologies, is the application of these typologies as possible predictors of moral choice ( $H_2$ ). With respect to the experimental design it could be anticipated that financial sector operatives, motivated to support management interests, would make decisions reflecting this predisposition (i.e., report insider-trading activities). However, when these desires conflict with self-interest the outcomes are less predictable. In this study, the fact that cluster membership does not alter significantly when the agency problem is extended provides some support for the subsequent hypothesis  $H_2$  that motivational typology significantly influences moral choice, and that this applies regardless of the agency conditions. In short, an operative’s typological preference influences moral choice.

Hypothesis  $H_2$  was tested using one-way analysis of variance (ANOVA) with subsequent Bonferroni tests. In this instance, typology membership was employed as the categorical criterion variable in relation the dependent variable, moral choice response score. The conditions associated with the experimental design allowed us to examine both within and between group differences. Test results are summarized in Table I.

The ANOVA test results were significant in both instances (i.e., for control group –  $F = 12.619$ ,

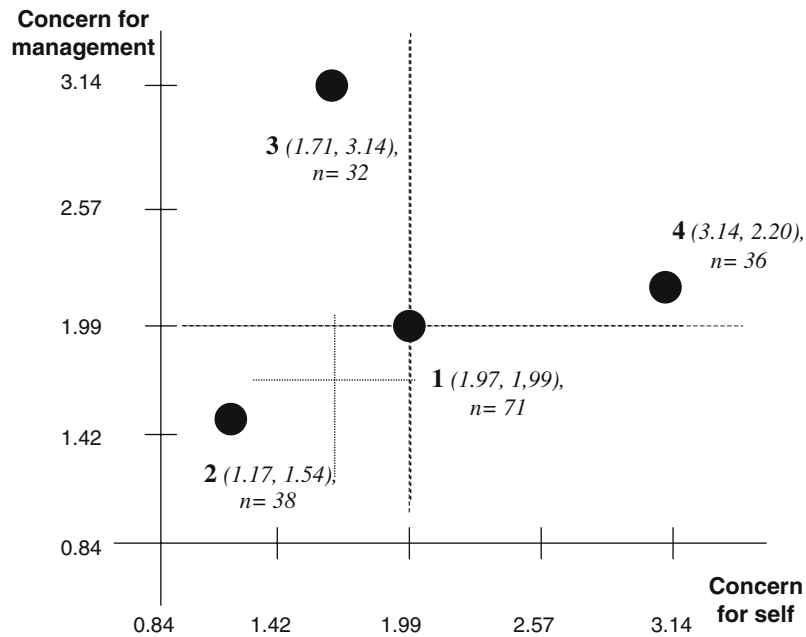


Figure 6. Motivational typologies within treatment group (transformed cluster locations).

sign. = 0.000; for treatment group –  $F = 5.472$ , sign. = 0.001). Before discussing the significant outcomes it is necessary to explain the descriptions applied to the four identifiable typologies. These titles emerge after examining the cluster locations within Figures 5 and 6.

No cluster centroid falls within the lower right-hand quadrant, although cluster Type 1 comes close, suggesting that a thin veneer of interest in management affairs exists within the operatives’ heuristic framework. Hence, the title for what is the largest sample representation for both the control and treatment sub-samples. Type 4 is strongly motivated by self-interest although members express a measure

of concern for management. They may use the aforementioned heuristic to side with management when agency conditions are less demanding. The other two typologies are more easily identified.

It is evident from the results in Table I that  $H_2$  is supported with respect to at least three of the typological groupings. Members of Types 1, 2 and 3 continue to make similar moral choices regardless of the agency conditions. It is interesting, but not unexpected to note that altruists display a preference to remain strongly loyal to management, regardless of the agency conditions. Of further interest is the significant change in average moral choice scores for Type 4 members. Concern for management appears

TABLE I  
Effect of motivational typology on moral choice within an agency framework

Motivational typology	Control group moral choice (mean score)	Treatment group moral choice (mean score)
Type 1 (Thinly disguised self-interest)	6.79** (3, 4)	6.54* (3)
Type 2 (Indeterminate motivational strategies)	6.61** (3, 4)	6.22** (3)
Type 3 (Altruists)	8.74** (1, 2)	8.32** (1, 2, 4)
Type 4 (Strongly disguised self-interest)	9.00** (1, 2)	5.83** (3)

\*\*Significant for  $p < 0.01$ , \*significant for  $p < 0.05$ , ( ) significant within group differences.

to decline, both visibly (as viewed in Figures 5 and 6) and statistically as agency conditions significantly influence moral choice.

The research question raised earlier examines the discriminatory impact that 10 personal and 8 contextual variables, associated with each survey respondent, make in relation to the four motivational typologies. In this instance, multivariate discriminant analysis (MDA) was used as a type of "profile analysis" (Hair et al., 1995, 192). The dependent (categorical) variable, namely, the set of motivational typologies, is examined to determine which personal and contextual variables act to discriminate between them.

Tests were conducted for each of the control and treatment group samples and personal and contextual variables analysed separately. Tests for multicollinearity and unequal covariance matrices were conducted and deemed not to influence the classification process. SPSS discriminant analysis was used applying specifications recommended by Hair et al. (1995) for step-wise procedures. Each of the four sets

of processes began with the identification of potential discriminators (via tests of equality of group means). Three canonical discriminant functions were then calculated, identifying which variables connected with each of the four typologies. These were then subjected to a Varimax rotation, producing readily identifiable loadings on three discriminant functions. For each independent variable included in the analysis a potency index was calculated, providing a measure of strength, equal to the product of the squared loading on the discriminant function and the respective eigenvalues for the three functions.

A summary of discriminant scores for variables included in the analysis is provided in Table II. Discriminant scores for the control group analysis are weakly significant (as expressed by the potency index), whereas for the Treatment Group certain variables are strong discriminators between the four motivational typologies. An inspection of relevant data (including plots of group centroids in reduced discriminant space) allowed us to conjecture about the differential impact of these discriminators.

TABLE II  
Summary of interpretative measures for the four-type discriminant analysis<sup>a</sup>

Input variable	Control group		Treatment group	
	Univariate <i>F</i> -value	Potency index	Univariate <i>F</i> -value	Potency index
<i>Personal variables</i>				
Value-orientations				
Integration	2.29	0.109	2.54	0.252
Human-heartedness	2.86	0.134	3.49	0.346
Moral discipline	1.03	0.058		
Other variables				
Religious commitment	1.21	0.056		
<i>p</i> -score	2.08	0.097		
Age	2.11	0.100	1.83	0.189
Employment status			1.38	0.137
<i>Contextual variables</i>				
Ethical workplace climates				
Mutual efficacy & efficiency	0.88	0.111	2.37	0.308
Compliance & control	1.10	0.139	0.62	0.081
Job satisfaction constructs				
Pay & conditions	2.62	0.331		
Co-workers	0.59	0.075		
Work itself			3.81	0.496

<sup>a</sup>Variables entered in the step-wise selection algorithm

For example, respondents from both Groups, who identify with motivational typologies 3 and 4 (strongly pro-management) are inclined to express collectivist value orientations. Human-heartedness was also seen to be demonstrated by respondents identifying with these typologies.

Logical associations between contextual discriminants and the four typologies are also discernable from available data. Respondents who indicated they worked in areas that projected positive ethical work climates (*viz.*, efficiency, independence and caring elements), were more likely to demonstrate a strongly disguised self-interest typology (*i.e.*, Type 4), compared to those projecting the thinly disguised alternative. Job satisfaction variables provided more insightful representations, for example, altruists (within the control group) demonstrated significantly greater satisfaction with their actual pay and conditions and co-worker relations than any of members of the other three typologies. Also, those indicating a high self-interest motivation (*i.e.*, Types 1 and 4) expressed significantly higher levels of satisfaction with the nature of the work they performed as financial sector operatives, compared to those professing a high interest in the needs of management.

## **Discussion and conclusions**

This paper represents an extension of work completed by Woodbine (2004a, b) which describes how financial sector operatives employed within the Shenzhen Special Economic Zone responded to a post-test only field experiment based on principal–agency theory. An empirical analysis of data was applied to establish the validity of the classical agency problem, which demonstrated the significant impact that risk adversity had on reported intentions. In addition, the influences of various personal and contextual factors on moral choice responses were examined within a mainland Chinese setting.

The decision to search for the existence of a set of motivational typologies arose out of concern about the underlying premise associated with agency theory, that the agent is primarily motivated by self-interest (Bowie and Freeman, 1992). Ethicists like Duska (1992) argue that a non-egoistic theory of business is necessary to explain how other related

motives influence moral behaviour. Psychologists have long established the notion that social identification processes cause individuals to apply fairly stable pro-self or pro-social value orientations in everyday situations (Messick and McClintock, 1968). This social response theory posits the existence of a set of related types, which has been tested and subsequently proven in the context of agency theory.

This present study provides evidence for the existence of clearly defined motivational types, namely disguised egoists (thin and strongly veiled), altruists and indeterminate (but possibly rational) types. Each type is identifiable within the two variants of the agency experiment, as agency conditions altered. The stability of some types (*viz.*, strongly disguised self-interest) was suspect, in that the stated level of interest in management concerns waned as the level of moral hazard increased to include the presence of self-incriminating privately held information. This finding is, however, consistent with that of De Cremer and Van Vugt (1999), who identified goal-transformation processes amongst individuals facing social dilemmas.

This study also revealed a striking consistency between moral choice response scores and three of the four motivational types, regardless of the extent of the agency problem. This suggests a degree of persistency or doggedness in the minds of individuals associated with these types, which has good and bad consequences in the business environment.

The limitations associated with this research paradigm need to be noted, although it is felt that they do not significantly limit the validity of the findings. Every effort was taken to organize separate demographically equivalent test samples, although it was impossible to obtain a truly random sample of financial sector operatives. Whereas, the validity of agency theory was shown to have universal application, the use of a Chinese sample raises the possibility that the inferences reported in this paper are somewhat tainted by various cultural or socio-economic issues, which would suggest the investigation be replicated in another location (*e.g.*, Australia).

The non-egoist agency model developed in this paper also assumes that people are consistent in the way they view ethical issues over time. Koford and Penno (1992), for example, present two countervailing arguments, namely that some agents are

ethical while others are not, and that any agent is likely to be ethical in some situations and unethical in other situations. It is preferable, however, to surmise that, in the context of a structured experiment aimed at reviewing one of Rest's (1983) four components of moral behaviour (namely motivation), respondents are likely to be guided by certain rules of thumb when determining a moral intention, and that this could only be affected by their misunderstanding or misinterpreting the various cues associated with the ethical dilemma built into the two versions of the dramatized story. Given the nature of the empirical findings it is likely that the error rate would be fairly minimal in this instance.

The relatively large size of the thinly disguised typology located in the centre of each graph (see Figures 5 and 6), points to the possibility that the two questions aimed at identifying self versus management interest, were limited and deserved further elaboration. Other questions could have been included to test the influence of other stakeholders in the decision process (e.g., co-workers, immediate supervisors, family members, etc.). Perhaps the attempt to derive a comprehensive set of motivational typologies might have been better managed through the application of an agency model that applied stakeholder theory, such as that envisaged by Shankman (1999).

A further limitation of this research concerned the use of one type of unethical practice, namely insider trading. Although the financial sector operatives involved in the survey understood this type of issue, it may have been preferable to derive a collection of questionable activities addressing issues pertinent to the culture and varying in the degree of moral intensity. A set of moral choice responses could have been examined and evaluated and possibly categorized within an agency framework. Jones (1991) reported that ethicality judgments (e.g., decision to

whistle-blow) were contingent upon the perceived intensity of the moral issue. Research completed by Singer et al. (1998), involving the examination of intentions to report unethical practices, reported that the respondents' degree of empathy towards a person's predicament, was affected by that person's proximity to the malpractice (very close, in this study). Both sets of factors described in the last two studies could act to impact the strength of the response, but neither is likely to affect the direction.

Finally, the multivariate discriminant analysis of a number of independent personal and contextual variables against the four categorical typologies identified in this study produced some interesting, but somewhat logical outcomes. Two Chinese Value Survey (CVS) orientations, namely integration (collectivism) and human-heartedness were reported as being identified with respondents classified as pro-management types (altruists and strongly disguised self-interest). Altruists and egoists appeared less concerned with the nature of the ethical work climate, compared to those classified as falling within the strongly disguised self-interest type. The extrinsic job satisfaction ratings of respondents (*viz.*, pay and conditions, co-workers and work itself) discriminated differentially, depending on the extent of the agency problem, which may be a reflection of the transformation of motives (*i.e.*, from pro-management to pro-self).

In summary, this research provides useful insights to how moral agents allow social value orientations to influence their inclination towards the way they deal with ethical issues (*viz.*, reporting of unethical work practices). The principal–agency model also provided a useful mechanism for testing for the existence of motivational typologies and how membership to specific types affects the likelihood that respondents would report the existence of unethical work practices to management.

## Appendix A

### Workplace dilemma

The following space is to be used to record your response to a short audio tape recording illustrating your thoughts about a workplace dilemma. You are required to put yourself in the position of the principal character, namely Mr. Gong and indicate how you might have responded to the question raised at the end of the story.

#### **Problems in the Securities Department – Should management be informed?**

If you were Mr. Gong would you advise management about your work mates unethical activities?

**(Please circles one of the numbers on the scale below)**

Definitely say nothing	Probably say nothing	Possibly say nothing	Uncertain	Possibly advise management	Probably advise management	Definitely advise management			
1	2	3	4	5	6	7	8	9	10

#### *Version 1 (additional story related questions) [control group]*

As Mr. Gong, answer the following questions by placing a circle around one of the numbers provided.

1. Indicate the extent to which your decision was influenced by your concern about protecting your bank from the growth of unethical work practices amongst its employees.

**No effect on my decision**    1    2    3    4    5    6    **Very strong effect on my decision**

2. Indicate the extent to which your decision was influenced by the fact that you would not have your personal reputation and future employment prospects negatively affected.

**No effect on my decision**    1    2    3    4    5    6    **Very strong effect on my decision**

#### *Version 2 (additional story related questions) [Treatment group]*

As Mr. Gong, answer the following questions by placing a circle around one of the numbers provided.

1. Indicate the extent to which your decision was influenced by your concern about protecting your bank from the growth of unethical work practices amongst its employees.

**No effect on my decision**    1    2    3    4    5    6    **Very strong effect on my decision**

2. Indicate the extent that your decision was influenced by your concern that the bank would find out about your past police record if an investigation was conducted into your work mates activities, thereby affecting your reputation and future employment prospects with the bank.

**No effect on my decision**    1    2    3    4    5    6    **Very strong effect on my decision**

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