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THE IMPACT OF QUANTITATIVE MATERIALITY, PERCEIVED
RESPONSIBILITY AND MACHIAVELLIANISM ON TAX PROFESSIONALS'
DECISION MAKING REGARDING FRAUD DETECTION AND REPORTING IN
THE PRC

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2014

THE IMPACT OF QUANTITATIVE MATERIALITY, PERCEIVED
RESPONSIBILITY AND MACHIAVELLIANISM ON TAX PROFESSIONALS'
DECISION MAKING REGARDING FRAUD DETECTION AND REPORTING IN
THE PRC

by
YU QIAN

A thesis
submitted in partial fulfillment
of the requirements for the Degree of
Master of Philosophy in Business
(Accountancy)

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2014

ABSTRACT

The Impact of Quantitative Materiality, Perceived Responsibility and Machiavellianism on Tax Professionals' Decision Making regarding Fraud Detection and Reporting in the PRC

by

YU Qian

Master of Philosophy

Research on fraud detection in accounting has long focused primarily on financial statement fraud and responsibilities of auditors and company management relating to such frauds. While tax fraud is also clearly significant, and tax professionals have responsibilities relating to fraud detection, little prior research has addressed this issue. The current research examines the impact of quantitative materiality, perceived responsibility (based on the triangle model of responsibility) and Machiavellianism on several aspects of tax professionals' decision making regarding fraud detection and reporting.

I surveyed all tax professionals in the People's Republic of China working for one of the Big 4 public accounting firms. The results indicate that, as anticipated, Machiavellianism had significant negative associations with tax professionals' perceived responsibility to detect fraud, and high Machiavellians judged fraudulent actions to be less unethical and socially irresponsible. A composite measure of the triangle model of responsibility was positively associated with participants' perceived professional obligation for fraud detection as well as the estimated likelihood of discovering and reporting fraud. In contrast, quantitative materiality was not associated with perceived responsibility for fraud detection, ethical judgments or the likelihood of detecting or reporting fraud.

DECLARATION

I declare that this is an original work based primarily on my own research, and I warrant that all citations of previous research, published or unpublished, have been duly acknowledged.

(Yu Qian)
September 4, 2014

CERTIFICATE OF APPROVAL OF THESIS

THE IMPACT OF QUANTITATIVE MATERIALITY, PERCEIVED RESPONSIBILITY
AND MACHIAVELLIANISM ON TAX PROFESSIONALS' DECISION MAKING
REGARDING FRAUD DETECTION AND REPORTING IN THE PRC

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The Impact of Quantitative Materiality, Perceived Responsibility and Machiavellianism on Tax Professionals' Decision Making Regarding Fraud Detection and Reporting in the PRC

Chapter 1 Introduction

In prior studies, it has been argued that the public accounting profession has become overly commercialized (e.g., Citron, 2003). This over commercialization arguably leads the accounting profession to be profit-oriented. Fierce competition and self-interested behavior encourages some accounting professionals to meet the demands of clients as much as possible, even some unethical ones. Unfortunately, the accountancy profession often defends the interests of their member, clients, or professional elites, rather than the public interest (Shafer and Gendron, 2005; Canning and O'Dwyer, 2003).

As an important aspect of the accounting profession, tax professionals' ethical behavior has started to draw wide criticism. Concern regarding tax professionals' ethics is growing, partly due to several famous tax avoidance investigations. Large accounting firms have been investigated for facilitating overly aggressive tax planning schemes (Scannell, 2005; Herman, 2004; Johnson, 2004). Different from the audit profession, tax professionals often take advocacy positions for their clients. They may pay attention to the tax liabilities they save for the client, which is the monetary result of their tax services. Stuebs and Wilkison (2010) argue that ethical breakdowns are caused by the pursuit of commercial gain at the expense of the public interest focus of the tax practice, and have resulted in a loss to accounting firms of client, government, employee and public trust. The nature of tax work unavoidably brings several challenges to tax professionals' ethics. First, as mentioned above, most of the time tax

professionals have to satisfy their client's wishes by reducing their tax liabilities. However, on the other hand, they are regulated by certain standards¹ and have to consider the potential impact on their integrity. Thus, dilemmas may occur to challenge tax professionals' judgments. Second, tax advice can depend heavily on individual tax professional judgment. Therefore, because of the subjective nature of many of the issues involved, aggressive tax planning, bordering on tax fraud, can be argued to be reasonable. Third, the information provided by their clients is relied upon by tax professionals unless it appears to be suspicious or questionable. Normally, independent verification or audit is not required. Therefore, whether the information is reliable or not will depend on tax professionals' judgment. Tax professionals may require limited evidence relating to questionable or suspicious transactions, in order to please the clients and make profits.

The motivation for the current research is that tax professionals' ethics should be an important concern to the accounting profession. Although, prior research on fraud detection in accounting has long focused on auditors and company management, recently, DeZoort et al. (2012) argued that tax professionals' perceived responsibility for detecting fraud should also be studied. They found that tax professionals would perceive more responsibility in fraud detection if the tax engagement provided tax compliance services (vs tax planning services) and if the client was audited by the same firm (vs audited by another firm). However, their study did not investigate the effect of quantitative materiality of the fraud on the tax professional's perceived responsibility for fraud detection.

¹ In the PRC, Certified Professional Accountants (CPAs) are subject to the Law of the Peoples' Republic of China on Certified Public Accountants. *Inter alia*, this law requires that a CPA should be independent and objective in a service engagement.

Very little research has been done in the People's Republic of China (PRC)² related to tax professionals' ethical behavior and no prior study has investigated their perceived obligations for detection of client tax fraud. So far, the PRC has no specific regulations and guidelines about tax professionals' responsibility towards client fraud and how should they detect or report fraud. Also, the effect of the quantitative materiality of fraud is an issue that has not been studied on Chinese tax professionals' decision making and ethical judgment. Besides, among the studies in Machiavellianism, only one prior study had addressed its effects on Hong Kong Chinese tax professionals' decision making (Shafer and Simmons, 2008).

The primary objective of the current research is to investigate the effects of quantitative materiality towards tax professionals' perceived responsibility for fraud detection, ethical judgment and social responsibility judgment regarding client fraud, and likelihood to discover and report a fraud. Quantitative materiality concept has been argued to be "abused" and utilized to rationalize a misstatement which is qualitatively material in nature. "Abuse" the quantitative materiality concept here means to recognize the qualitative material misstatement (e.g., a fraud) only when it is quantitatively material. In other words, tax professionals are concerned to be responsible for quantitative material misstatement only, even when the misstatement is qualitatively material. I was interested in whether the Chinese tax professional will thus "abuse" the quantitative materiality concept. Besides quantitative materiality, I also investigated whether Machiavellianism and triangle model of responsibility would be associated with the tax professionals' judgment and behavior listed above. Machiavellianism is a personality trait which is characterized by a duplicitous interpersonal style. The triangle model of responsibility is a systematic tool to assess

² In this paper, the PRC does not include the Special Administrative Regions of Hong Kong and Macau.

perceived responsibility which contains three basic elements (i.e., prescription, event, identity) and three components (i.e., task clarity, professional obligation, personal control). Both Machiavellianism and the triangle model of responsibility were expected to have a significant association with the items listed above.

A field survey was adopted as the research method. I surveyed all tax professionals working for one of the Big 4 public accounting firms in the PRC. The results after the data analysis indicated that Machiavellianism has significant negative associations with tax professionals' perceived responsibility to detect fraud. High Machiavellians judged fraudulent actions to be less unethical and socially irresponsible and reported a lower likelihood of reporting tax fraud. A composite measure of the triangle model of responsibility was positively associated with participants' perceived professional obligation for fraud detection as well as the estimated likelihood of discovering and reporting fraud. The triangle model of responsibility was associated with participants' ethical judgments and social responsibility judgments. Quantitative materiality was not associated with perceived responsibility for fraud detection, ethical judgments or the likelihood of detecting or reporting fraud, which revealed that there is no evidence that Chinese tax professionals "abuse" the quantitative materiality concept to rationalize quantitatively non-material but illegal (qualitatively material) acts.

The following section presents a review of the theoretical background regarding materiality, Machiavellianism and the triangle model of responsibility, and of the hypothesis development towards tax professionals' (1) fraud detection responsibility; (2) ethical judgments regarding fraud; (3) social responsibility judgments regarding fraud; (4) the likelihood they will discover a fraud; and (5) the likelihood they will report a fraud. This is followed by a description of the research method and an analysis

of the results. The final two sections are discussions of the conclusions and limitations respectively.

Chapter 2 Theoretical Background and Hypothesis Development

2.1. Materiality

Materiality is defined as the minimum amount that would make a difference in financial statement users' decision processes (Shafer, 2004). It is an expression of relative significance or importance of a particular matter in context to financial statements. Materiality is composed of both quantitative and qualitative aspects. Quantitative materiality is based on the dollar amounts of a misstatement or omission on the financial performance, without consideration of the qualitative aspects. It depends on the dollar size of the item or error judged in the particular circumstances of its omission or misstatement, which has enough impact to affect people's economic decisions once it is material. For instance, if the dollar size of the misstatement is over five percentage of the net income, the misstatement may be considered as quantitatively material.³ The assessment of what is quantitatively material is a matter of professional judgment. Furthermore, size of misstatement may also have impact on professional judgment. Shafer (1999) argued that the size of a misstatement has a significant impact on auditors' willingness to subordinate their judgment. Therefore, the threshold of quantitative materiality can easily become an excuse to ignore financial report misstatements whose amounts are below the threshold. Nondisclosure of events whose immediate financial statement impact falls below conventional quantitative materiality thresholds can easily be rationalized on the grounds that they have no significant economic consequences (Shafer, 2004).

Qualitative materiality, on the other hand, applies to a misstatement or omission of information that is significant to the decision making of users of the financial

³ Common methods to quantify materiality also include percentage of gross profit, percentage of total assets, percentage of total revenue, percentage of equity and so on.

statements due to its nature, rather than its size. It explicitly acknowledges that certain types of errors or omissions may be material regardless of their size, due to qualitative considerations. Illegal acts of any amount are considered as typical qualitatively material, as they provide information regarding management integrity. Therefore, the treatment of a certain item or issue in a way that violates laws or regulations, such as fraud, may be considered as a qualitatively material issue. The effect of qualitative materiality is controversial. Fedders (1998) argued that the view advanced by legal scholars and in court decisions is that investors will reject information relating to quantitatively immaterial illegal acts (even though qualitatively material) as completely irrelevant to financial decisions. Similarly, Miller (2000) argued that illegal acts or other questionable behaviors have no economic significance unless they materially affect the numbers reported in financial statements. However, in Shafer et al.'s (2004) study, investors considered the nondisclosure of quantitatively immaterial illegal acts to be unethical, and rejected suggestions that such information lacks moral intensity. In an experimental setting, investors' decisions were affected by qualitative information relating to illegal acts committed by company management, even if such information had no immediate financial statement impact. This is perhaps unsurprising, as investors would ordinarily take into account information concerning the quality of management in their investment decisions.

However, in the case of professionals such as auditors and tax service providers, who maintain an agency relationship with management, there would also likely be costs to the professionals, not the least in terms of this relationship, of highlighting fraud. Different from investors, auditors and tax professionals have to balance the risk that they will suffer because of non-detection of the client's fraud with the costs derived from the time and labor required to detect the fraud. Shafer (2004) reviewed

several court cases related to illegal misstatement and found that the perceived likelihood of sanctions was significantly lower for misstatements that fell below quantitative materiality thresholds, which suggests that auditors also question the enforceability of prohibitions of quantitatively immaterial misstatement. Even though it can be argued that a qualitative material issue which is quantitatively immaterial should be disclosed (Longstreth, 1983), qualitative materiality alone may not be sufficient to affect the professional's behavior. In the USA, the Securities and Exchange Commission (SEC) has been highly critical of auditors for "abusing" the materiality concept by relying on quantitative materiality only to rationalize small errors or omissions without considering their qualitative aspects (Shafer, 2002; 2004).

Similarly, tax professionals might also be considered to be influenced more by quantitative materiality thresholds. Furthermore, compared to auditors, tax professionals who take more of an advocacy role with respect to taxpayers may be keen to keep favorable relationships with clients. Since qualitative material misstatement (e.g., fraud) may result in less serious consequences (e.g., less economic impact, lighter sentence), in light of the cost and relationship with the client, tax professionals may tend to rationalize the quantitative immaterial misstatement by abusing the quantitative materiality concept. When a misstatement is qualitatively material but not quantitatively material, it gives the professionals an opportunity to dismiss the misstatement in terms of their responsibility. In order to create a balance between service costs and the chance of undesirable consequences, tax professionals may lower their perceived responsibility for fraud detection. If the qualitatively material misstatement is also quantitatively material, tax professionals are likely to worry about their integrity and possible punishment more. For long-term purposes, tax professional may care more about their own responsibility than the benefit of the client.

Therefore, when a misstatement is qualitatively material, whether the misstatement is also quantitatively material is proposed to affect the tax professional's perceived responsibility for fraud detection, if the tax professional "abuses" the quantitative materiality concept.

Thus, qualitatively material misstatements under the quantitatively material threshold may be deemed to result in less severe consequences than those over this threshold. Therefore the perceived likelihood of harm resulting from qualitative materiality will be lower than that of the quantitative materiality. According to Jones (1991), people will perceive lower moral imperative when considering less serious consequences. Therefore, tax professionals may judge the quantitatively immaterial fraud which is qualitatively material less harshly with regard to ethics. However, Shafer (2002) found that financial executives view intentional earnings manipulations as highly unethical even when the amounts involved fall below traditional quantitative materiality threshold. Also, the dollar amount of a client's tax law violation cannot be supported to influence a tax practitioner's perceived ethical judgment (Marchall et al., 2006) Therefore, whether quantitative materiality will affect tax professionals' ethical judgment when the misstatement is qualitatively material needs to be further studied.

Compared to ethical judgment, social responsibility judgment has not been addressed in materiality context. However, attitudes toward social responsibility are as important as ethics regarding ethical decision-making processes (Singhapakdi et al., 1996). Fisher (2004) investigated prior research and listed four common views⁴ regarding the relationship between social responsibility and ethics. According to his

⁴ "There are four views concerning the relationship between social responsibility and ethics that can be identified in the literature. First, social responsibility is ethics in an organizational context; second, social responsibility focuses on the impact that business activity has on society while ethics is concerned with the conduct of those within organizations; third, there is no connection between social responsibility and ethics; and, fourth, social responsibility has various dimensions one of which is ethics." Fisher (2004)

study, the most widely supported view is that corporate social responsibility contains four dimensions and ethical dimension is one of them. Since quantitative materiality may have some effect on ethical judgment, it is possible that quantitative materiality will affect social responsibility judgment as well.

The above discussion concerns perceived cognition, which can be the awareness through which one considers one's potential actions. In other words, what people think can lead to what people actually do. Once a tax professional's perceived responsibility for fraud detection is affected by the quantitative materiality condition, for example, he perceives more responsibility if the fraud (qualitatively material) is quantitatively material, he would like to take action to avoid the serious consequences which is the reflection of tax professional's responsibility. Also, maintain the misstatement qualitatively material, once the level of quantitative materiality differs, the different consequences may bring varying degree of impact to tax professionals. They have to consider their own interests if the fraud affects them profoundly. In that case, tax professionals may be likely to choose to discover a fraud and report it in order to protect themselves. Therefore, quantitative materiality is expected to be associated with the likelihood to discover and report a fraud. However, no prior study has addressed this issue in a taxation context. Due to the lack of prior evidence regarding the effects of quantitative vs. qualitative materiality in taxation, the following hypothesis is put forward in null form:

Hypothesis 1: the dollar amounts of a tax fraud have no effect on tax professionals' (a) perceived responsibility for fraud detection, judgments of the (b) ethicality and (c) social responsibility of the fraud, and estimated likelihoods of (d) discovering and (e) reporting the fraud.

2.2. Machiavellianism

I also sought to investigate the influence of Machiavellianism on tax professionals' judgment and behavior in front of the client's fraud scheme. In modern psychology, Machiavellianism is used to describe one of the "dark triad"⁵ personalities, which are characterized by a duplicitous interpersonal style. Machiavellianism construct was intended to capture a manipulative, cold and calculating personality (Christie, 1970a). Machiavellianism is specified embodied in: 1) advocacy of manipulative tactics such as the use of guile or deceit; 2) an unflattering view of humans as being weak, cowardly, and easily manipulated; and 3) a lack of concern with conventional morality (Christie, 1970b; Christie and Lehmann, 1970).

The construct appears to be relevant to many ethical decision-making contexts. It seems that people who are Machiavellians are more manipulative and deceitful with less concern about conventional behavior and public interest. Machiavellians are argued to have less sense of morality and they will intend to take unethical actions. Ross and Robertson (2000) studied salesperson's lying in the person-situation interactionist framework and found that high Machiavellians were more likely to exploit the lack of clear ethical guidelines to mislead others. Similarly, Wirtz and Kum (2004) pointed out that high Machiavellians believe it is more acceptable to violate the intellectual property and privacy rights of others. Seen from prior research, Machiavellians tend to seek their own benefit no matter whether their behavior will result in harm to others. Machiavellians would like to take as little responsibility as possible for others, so that Machiavellian tax professionals are likely to maximize their own interest without considering the public benefit. In terms of fraud detection, since auditors are considered to be responsible for this and the regulation of tax

⁵ This "dark triad" consists of narcissism, Machiavellianism, and psychopathy (Paulhus and Williams, 2002).

professional's responsibility regarding fraud detection is not explicit, tax professionals who are Machiavellians are likely to perceive less responsibility for fraud detection than those who are not Machiavellians.

Machiavellianism seems to affect people's behavior as well as their ethical judgment. Prior research with business setting indicated that high Machiavellians have lower ethical standard, and the possibility of them to conduct the unethical actions is higher. Machiavellianism has been found to influence individuals' perceptions of the importance of ethics and social responsibility in business (Vitell and Paolillo, 2004). With respect to the tax profession, Machiavellianism has a highly significant effect on intentional tax noncompliance (Ghosh and Crain, 1995). Machiavellian tax professionals are more likely to believe less strongly in the importance of corporate ethics and social responsibility and judge aggressive tax avoidance schemes more leniently (Shafer and Simmons, 2008). Therefore, in the current research, Machiavellianism is also proposed to have a negative relationship with a tax professional's ethical judgment and social responsibility judgment.

Den Hartog and Belschak (2012) found that positive consequences of ethical leader behavior were likely to be suppressed when leaders were highly Machiavellian. These consequences include taking responsibility for one's actions. In an accounting context, Dalton and Radtke (2013) argued that high Machiavellians will be less likely to report issues of corporate malfeasance. They also found Machiavellianism is negatively associated with perceived seriousness, benefits, and responsibility in whistle-blowing contexts. Seen from Dalton and Radtke's study, high Machiavellians have personalities characterized by with selfishness and a lack of concern. Tax professionals who are more Machiavellian are hence expected to be more concerned with their own interest and perceive less responsibility for the public benefit. They are also expected to take

less effort to discover and report a fraud. Therefore, Machiavellianism is expected to negatively affect tax professionals' likelihood to discover a fraud and report it. The discussion above indicates the following hypothesis:

Hypothesis 2: Machiavellianism will be associated with (a) lower levels of perceived responsibility for fraud detection, less harsh judgments of the (b) ethicality and (c) social responsibility of the fraud, and lower estimated likelihoods of (d) discovering and (e) reporting the fraud.

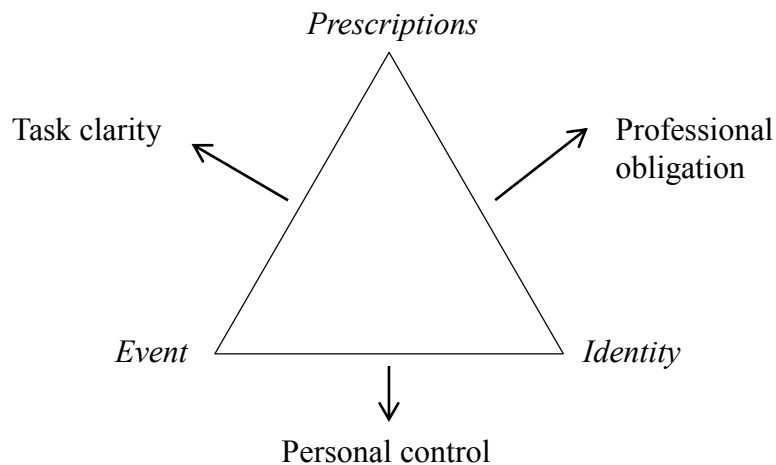
2.3. Triangle Model of Responsibility

Schlenker et al. (1994) first introduced the triangle model of responsibility, a systematic tool to assess perceived responsibility, to study the internal motivation responsibility. The triangle model is shown in Figure 1 below. The model contains three elements: a) the *prescriptions* that should be guiding the actor's conduct on the occasion, b) the *event* that occurred (or is anticipated) that is relevant to the prescriptions, and c) a set of *identity* images that are relevant to the prescriptions and that describe the actor's role, qualities, convictions, and aspirations. These three elements constitute a triangle, which indicates that they interact with each other. Besides, the linkages between each element jointly explain the internal motivation for perceived responsibility. People feel responsible in a situation to the extent that a) a clear, well-defined set of prescriptions is applicable to the event (prescription-event link), b) the actor is perceived to be bound by the prescriptions by virtue of his or her identity (prescription-identity link), and c) the actor seems to be connected to the event, especially by seeming to have (or to have had) personal control over the event, such as by intentionally producing the consequences (identity-event link). The prescription-

event link, prescription-identity link, and identity-event link each refers to task clarity, professional obligation, and personal control. Task clarity relates to authoritative guidance clarity and knowledge of procedures, professional obligation relates to detection relevance and obligation, while personal control relates to ability to control and contribute to detection.

FIGURE 1

Triangle Model of Responsibility



According to the triangle model, if people are seen as responsible for an upcoming event, the event becomes more psychologically significant to them (Schlenker et al., 1994). The triangle model of responsibility has been found to have high correlation with people's judgment about others' responsibility and their own responsibility. Strength of the three triangle model links can be directly related to how people judge others' responsibility (Schlenker et al., 1994). Experimental studies have shown that employees would perceive more responsibility for their employment status under the lead of stronger triangle model links, such as be more responsible for their job

performance (Woul, Pritchard and Kelly, 2002). Also, Christopher and Schlenker (2005) did several experiments to argue that stronger links produce perceptions of greater personal responsibility on task performance (e.g., applying for a job, taking a college course) than weak links. The above discussion suggests that in tax services context, tax professionals who perceive stronger triangle model links are expected to be more responsible for their job performance and service outcome. Fraud is the event which is abnormal and harmful to their profession for which they should be primary responsible. Therefore, they would likely perceive more responsibility for fraud detection.

The model indicates that responsibility is the adhesive that connects an actor to an event and to relevant prescriptions that should govern conduct, and thus it provides a basis for judgment and sanctioning (Schlenker et al., 1994). Schlenker et al. argued in their research that as suggested by the triangle model of responsibility, when the potency of the elements of the triangle and the strength of the linkages increase in magnitude, the intensity of the social judgment of the actor (positively or negatively) and the amount of sanctioning will also increase. They also argued that stronger triangle model links are helpful to increase people's ego involvement with an event and commitment binding a self to something else (e.g., a set of ideas, a goal, an organization, or another person). Tax professionals will tend to develop the same values as the tax profession and agree with their regulations if they perceive strong triangle model links. Therefore, stronger triangle model links can lead to more harsh judgments towards the ethicality and social responsibility of fraud, an unethical action showing no social responsibility.

As mentioned in the last paragraph, responsibility is the adhesive that connects an actor to relevant prescriptions that should govern conduct. Tax professionals who

realize strong professional obligation links will believe they are obligated to detect the fraud and defend their own integrity. Also, strong task clarity link will contribute to the confidence of tax professionals' actions. Once tax professionals consider they have control over the event, as the personal control link suggests, they will be more likely to be motivated to detect a fraud and correct it. Therefore, the triangle model of responsibility links are proposed to have positive effects on tax professionals' estimated likelihoods of discovering and reporting the fraud. Based on the discussion reviewed above, the following hypothesis is proposed:

Hypothesis 3: The strength of the triangle model of responsibility links will be associated with (a) higher levels of perceived responsibility for fraud detection, harsher judgments of the (b) ethicality and (c) social responsibility of the fraud, and higher estimated likelihoods of (d) discovering and (e) reporting the fraud.

Chapter 3 Research Method

3.1. Instrument

A field survey of tax practitioners in the PRC was used to address the research question and hypotheses. A research instrument was prepared of which there were three parts. In the first part, the participants were provided with a case (see Appendix 1) which required them to assume they were providing tax services for a current client. The case was developed in cooperation with a tax partner employed by one of the Big 4 public accounting firms in the PRC.

The case informed participants that the client was committing a fraud (qualitatively material), while quantitative materiality was manipulated on a between-subjects basis (material / immaterial).⁶ The fraud involved the purchasing and selling of goods outside the company's books, the cash flows from these activities being recorded in hidden accounts. The case specified that the client had been issued unqualified audit reports for years by the external auditor (not associated with the participant's firm), and that no one from the client or from the audit team had yet detected the fraud.

Participants provided materiality judgments on a seven-point Likert scale anchored on "immaterial" (1) and "highly material" (7).⁷ The six items that measured the triangle model links (DeZoort et al., 2012) and their measurement scales are illustrated in the Appendix 2. Participants were also asked a series of questions relating to the other dependent variables of interest, including: (1) perceived responsibility for fraud

⁶ In the material version of the case, the fraud was forty percent of taxable income, well in excess of common materiality thresholds. In the immaterial version, the fraud was only one percent of taxable income. "Although the professional literature does not explicitly define a 'normal' materiality limit, many auditors consider it to be 5% of net income" (Weinstein, 2007). Also, according to SEC Staff Accounting Bulletin (SAB) No. 99: "One rule of thumb in particular suggests that the misstatement or omission of an item that falls under a 5% threshold is not material..."

⁷ Unless otherwise noted, all Likert scales included in the instrument were seven-point scales.

detection (the primary dependent measure investigated by DeZoort et al. (2012); (2) ethical judgments regarding the client's fraud; 3) social responsibility judgments regarding the fraud; 4) the estimated likelihood of discovering the fraud; and 5) the likelihood that they would report the fraud (See the Appendix 2 for measurement scales).

In Part Two, participants completed the widely used Mach IV Machiavellianism scale (Christie and Geis, 1970), consisting of twenty items (see Appendix 2). Responses were collected through a seven-point Likert scale anchored on "disagree strongly" (1) and "agree strongly" (7).

Finally, demographic information was collected in Part Three, including participants' gender, age, professional qualification, years of working experience, position, and percentage of their total work hours devoted to taxation.

An online survey system provided by Qualtrics Software Company was adopted to distribute the questionnaire. The link to the questionnaire was sent to participants by email. The instrument was accompanied by a cover letter that informed participants that all responses were anonymous and would be treated as strictly confidential. In order to increase the response rate, reminder emails were sent two weeks and again at four weeks after the website link was initially distributed.

The original English version of the questionnaire was translated into Chinese. The common procedure of back-translation was used to enhance the accuracy of the translation. The English version was translated to the Chinese by a bilingual accounting graduate student. This initial translation was then translated back to English by another accounting graduate student. All differences between the initial and back-translated English versions were resolved to the mutual satisfaction of the translators.

The Chinese version of the instrument was then reviewed by a Chinese accounting professor to provide further assurance of its validity and understandability.

3.2. Participants

The survey was conducted with the cooperation of one of the Big 4 accounting firms in the PRC. I surveyed all tax professionals working for the firm in the PRC. Approximately 1,200 instruments were distributed to employees ranging from entry-level staff to partner. A total of 191 usable responses were received, which represented a response rate of approximately 16 percent. Demographic details of the respondents are shown in Table 1.

The respondents included 73 junior staff, 59 senior staff, 51 managers and 8 partners. The mean age of the respondents was 28.81. The average years of working experience was 5.27 and the average years of experience with the current firm was 4.28. Of the 191 respondents, 132 respondents were female (69.1 percent). There were 60 CPAs or equivalent (e.g., ACCA), 48 Certified Tax Agents (CTA)⁸, 15 qualified lawyers, and 1 Certified Internal Auditor. A total of 79 respondents reported no professional qualifications. Respondents spent almost 90 percent of their total work hours on taxation.

3.3. Non-response bias

In order to detect any non-response bias, ANOVA tests of continuous independent variables (i.e., the composite measure of strength of triangle model of responsible link,

⁸ Certified Tax Agents are professionals who obtain a qualification within the territory of the PRC to provide general tax services and tax certification services. Tax certification services include certain professional assessments and tax return certifications. However, in August 2014 the State Council removed the CTA qualification, as well as other qualifications, from the entrance requirements for qualified tax practitioner in the PRC.

Machiavellianism) and dependent variables (i.e. perceived responsibility for fraud detection, ethical judgment, socially responsible judgment, likelihood of discovering, and likelihood of reporting) were run between early and late responses. Responses were divided into three batches, i.e., responses collected before the first reminder email sent (Batch One), responses collected after first reminder email sent and before the second reminder email sent (Batch Two), and responses collected after the second reminder email sent (Batch Three). None of the independent variables and dependent variables shows significant group differences among three batches, thus showing no evidence of non-response bias.

TABLE 1
Demographic Summary

<i>Sample size by position:</i>	
Junior	73 (38.2%)
Senior	59 (30.9%)
Manager	51 (26.7%)
Partner	8 (4.2%)
Total	191
<i>Mean age</i>	28.81
<i>(Standard deviation)</i>	(4.94)
<i>Mean total experience (years)</i>	5.27
<i>(Standard deviation)</i>	(4.77)
<i>Mean experience in current firm (years)</i>	4.28
<i>(Standard deviation)</i>	(3.54)
<i>Gender:</i>	
Male	59 (30.9%)
Female	132 (69.1%)
<i>Certification:</i>	
CPA or equivalent	60
CTA	48
Others	16
None	79
<i>Percentage of total work spent on taxation (%)</i>	88.63
<i>(Standard deviation)</i>	(17.53)

Chapter 4 Results and Analysis

4.1. Preliminary analysis

As a further test of the validity of the case, participants were asked to rate its understandability and reality. The responses suggest that participants viewed the case as relatively easy to understand (mean=2.30; 1= “very easy to understand”; 7= “very difficult to understand”) and realistic (mean=4.85; 1= “not at all realistic”; 7= “very realistic”).

The means for the five dependent measures by quantitative materiality level are reported in Table 2. The results indicate that although respondents to the high quantitatively material situation perceived more responsibility for fraud detection, judged the client’s action to be less ethical and socially responsible, and reported a higher likelihood of discovering and reporting the fraud, only the difference in social responsibility judgments was statistically significant (p -value=.006). Therefore, Hypothesis 1(a), 1(b), 1(d), and 1(e) were supported, while Hypothesis 1(c) was rejected.

In general, these results provide no evidence that participants “abused” the quantitative materiality concept. That is, I found no clear evidence that participants attempted to minimize the significance of the quantitatively immaterial fraud, or deny responsibility for its detection or reporting.

Exploratory principal components factor analyses with varimax rotation were performed for the triangle model measures. A minimum cutoff for factor loadings was set at .4. The factor loading results for the triangle model are shown in Table 3. As previously discussed, the triangle model has three *a priori* links (task clarity, professional obligation and personal control), each of which is measured by two items.

However, in the current study all six of the items loaded on a single factor. With one exception (clear authoritative guidance), each of the six items had relatively strong factor loadings ranging from .68 to .79. These results indicate that participants did not discriminate clearly among the three conceptual components of the triangle model. Therefore, all of the six items were averaged to construct an overall measure of responsibility. The composite responsibility scores had a relatively strong coefficient alpha of .779.

TABLE 2**Means (Standard Deviations) for Dependent Measures by Quantitative Materiality Level**

Mean (S.D)	Detection Responsibility	Ethical	Socially Responsible	Likelihood of Discovering	Likelihood of Reporting
<i>Quant. Materiality</i>					
Material	5.13 (1.46)	6.31 (1.14)	6.3 (1.07)	4.94 (1.51)	5.31 (1.53)
Immaterial	4.85 (1.40)	6.07 (1.00)	5.86 (1.07)	4.82 (1.54)	5.09 (1.59)
Sig. between groups	.190	.125	.006	.577	.332

Note: All items were measured on 7-point Likert scales.

Legend:

Detection Responsibility: Perceived responsibility for fraud detection, 1="no responsibility"; 7= "full responsibility"

Ethical: Ethical Judgment, 1="ethical"; 7="unethical"

Socially Responsible: 1="socially responsible"; 7="not socially responsible"

Likelihood of discovering: 1="highly unlikely"; 7="highly likely"

Likelihood of reporting: 1="highly unlikely"; 7="highly likely"

TABLE 3
Factor Analysis for Triangle Model

Total Variance Explained							
Component		Initial Eigenvalues			Extraction Sums of Squared Loadings		
		<u>Total</u>	<u>% of Variance</u>	<u>Cumulative %</u>	<u>Total</u>	<u>% of Variance</u>	<u>Cumulative %</u>
Dimension	1	2.931	48.842	48.842	2.931	48.842	48.842
	2	.913	15.213	64.055			
	3	.816	13.607	77.662			
	4	.545	9.077	86.739			
	5	.451	7.522	94.261			
	6	.344	5.739	100.000			

Rotated Component Matrix^a	
RelJob	.679
ClrGuid	.474
Obligat	.733
Contrib	.788
Inform	.744
Control	.731
a. One component extracted	

Legend:

RelJob: Relevance of detection of fraud to the job

ClrGuid: Clarity of professional guidance

Obligat: Professional obligation to detect fraud

Contrib: Contribution that participants could make to detection of the fraud

Inform: How informed participants are regarding effective procedures for fraud detection

Control: Degree of control participants have over the fraud detection

To test the internal reliability of the Machiavellianism items, I computed the coefficient alpha. The computed coefficient of .788 compares favorably with that reported in several previous studies (e.g., Christie and Geis, 1970; Zook and Sipps, 2001). The scores for the twenty Machiavellianism items were averaged to construct the Machiavellianism scores. Some items required reverse scoring (see Appendix 2). Higher averaged scores indicate higher Machiavellianism. The mean Machiavellianism score was 3.32, with a standard deviation of 0.64.

Preliminary tests were run to gauge the potential effects of the demographic variables. Univariate ANOVA models revealed that certifications held and position in the firm did not have a significant impact on any of the dependent measures. Gender was significantly associated with participants' estimated likelihood of reporting the fraud ($p = .018$). In this case, females were significantly more likely to report the fraud (mean=5.39) than males (mean=4.81). Preliminary correlation analyses were run to test for associations between the continuous demographic variables and the dependent measures. These models indicated that age, total years of experience, years of experience with the current firm and the percentage of total work time spent on taxation were significantly and positively associated with ethical judgments regarding the client fraud (greater age and experience levels and higher percentages of time spent working in taxation were all associated with more harsh ethical judgments). The number of years of experience with the current firm was also positively associated with the likelihood of reporting the client fraud. The demographic measures that were significantly associated with the dependent measures were incorporated into the multiple regression models where appropriate⁹.

⁹ When age and experience levels were included in the model for ethical judgments, they created significant multicollinearity problems, and thus were excluded from the multivariate analysis.

4.2. Hypothesis tests

The correlation analysis among the dependent and independent variables is shown in Table 4. All the variables were highly correlated at a significance level of .01. The composite measure of responsibility derived from the triangle model items was positively correlated with perceived responsibility for fraud detection, ethical and social responsibility judgments, and the likelihood of discovering and reporting the fraud. Thus, consistent with Hypothesis 3, respondents who perceived higher levels of professional obligation, task clarity, and personal control over the detection of fraud perceived more responsibility for fraud detection, judged the fraud scheme as less ethical and socially responsible, and reported higher likelihoods of discovering and reporting the fraud.

Consistent with Hypothesis 2, Machiavellianism was significantly and negatively correlated with all the dependent variables. This indicates that high Machiavellians perceived less responsibility for fraud detection, judged the fraud scheme to be less unethical and socially responsible, and reported lower likelihoods of discovering and reporting the fraud.

TABLE 4**Correlation Coefficients**

	DetectResp	Ethical	SResp	LDiscov	LReport	TriResp	Mach
DetectResp		.283**	.315**	.284**	.455**	.619**	-.410**
Ethical			.794**	.256**	.333**	.288**	-.381**
SResp				.238**	.368**	.343**	-.425**
LDiscov					.353**	.337**	-.230**
LReport						.397**	-.403**
TriResp							-.316**
Mach							

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Legend

DetectResp: Perceived responsibility

Ethical: Ethical Judgment

SResp: Social Responsibility

LDiscov: Likelihood to discover

LReport: Likelihood to report

TriResp: Triangle model of responsibility measures

Mach: Machiavellianism measures

Regression analysis was used to simultaneously test the associations between the dependent and independent measures. The models for each of the five dependent measures are reported in Table 5. The demographic variables found to have significant effect based on the univariate analyses were included when appropriate.

To test Hypothesis 1, for part (a), (b), (d), and (e), consistent with the tests of mean differences by quantitative materiality level, the models in Panel A, Panel B, Panel D and Panel E indicated that quantitative materiality did not have significant effects on perceived responsibility for fraud detection, ethical judgments regarding the fraud, or the estimated likelihoods of discovering and reporting the fraud. However, for part (c), as Panel C indicates, quantitative materiality had a significant impact on tax professionals' social responsibility judgments ($p = .034$), which means tax

professionals will judge a quantitatively material fraud to be less socially responsible than a quantitatively immaterial fraud.

Machiavellianism had highly significant ($p = .000$) negative associations with four of the five dependent measures (see Panels A, B, C and E in Table 5). Thus, consistent with Hypothesis 2, tax professionals who were more Machiavellian perceived less responsibility for fraud detection, judged the fraud to be less unethical and socially irresponsible, and reported a lower likelihood of reporting the fraud. However, the association between Machiavellianism and the likelihood of discovering the fraud was only marginally significant ($p = .057$). One possible explanation for this finding might be that Machiavellianism is a psychological construct, while the likelihood of discovering a fraud relies more on technical competence. The conclusions based on the regression analyses were generally consistent with those based on the correlation analysis. Therefore, Hypotheses 2(a), 2(b), 2(c), and 2(e) were supported.

As indicated in all Panels of Table 5, the composite measure of the triangle model of responsibility links had significant associations with all the dependent variables. The higher the composite measure of triangle model links, the more responsibility respondents perceived for fraud detection. Stronger links also were associated with judgments that the fraud was less ethical and socially responsible, and with higher estimated probabilities that the fraud would be both detected and reported. These results were consistent with the observed correlations among these variables, and provide strong support for each component of Hypothesis 3.

TABLE 5

Regressions using Composite Triangle Measure

n=191

Panel A: Effects on perceived fraud detection responsibility

Independent variables:	Std. β	<i>t</i> -statistic	<i>p</i> -value
Quantitative Materiality	-.023	-.416	.678
Composite measure of triangle model links	.548	9.314	.000
Machiavellianism	-.238	-4.112	.000
Model F-value	47.976		
Model significance	.000		
Model adjusted R ²	.435		

Panel B: Effects on ethical judgments

Independent variables:	Std. β	<i>t</i> -statistic	<i>p</i> -value
Quantitative Materiality	.058	.869	.386
Composite measure of triangle model links	.176	2.501	.013
Machiavellianism	-.307	-4.394	.000
Percentage of total work spent on taxation	.120	1.813	.071
Model F-value	11.179		
Model significance	.000		
Model adjusted R ²	.176		

Panel C: Effects on social responsibility judgments

Independent variables:	Std. β	<i>t</i> -statistic	<i>p</i> -value
Quantitative Materiality	.138	2.142	.034
Composite measure of triangle model links	.207	3.041	.003
Machiavellianism	-.350	-5.241	.000
Model F-value	20.487		
Model significance	.000		
Model adjusted R ²	.235		

Panel D: Effects on likelihood of discovery

Independent variables:	Std. β	<i>t</i>-statistic	<i>p</i>-value
Quantitative Materiality	-.024	-.352	.725
Composite measure of triangle model links	.298	4.087	.000
Machiavellianism	-.138	-1.914	.057
Model F-value	9.415		
Model significance	.000		
Model adjusted R ²	.117		

Panel E: Effects on likelihood of reporting

Independent variables:	Std. β	<i>t</i>-statistic	<i>p</i>-value
Quantitative Materiality	-.015	-.229	.819
Composite measure of triangle model links	.298	4.403	.000
Machiavellianism	-.283	-4.188	.000
Gender	-.100	-1.556	.121
Experience with current firm	.086	1.325	.187
Model F-value	13.154		
Model significance	.000		
Model adjusted R ²	.242		

Chapter 5 Conclusions and Discussion

The current study further investigates the responsibility of tax professionals in the context of tax fraud. It contributes to the understanding of tax professionals' awareness of their responsibility for fraud detection in the PRC. In the analysis of how quantitative materiality affects the perception of tax professionals towards clients' fraud schemes, no evidence was found that quantitative materiality had an association with tax professionals' judgments regarding the perceived responsibility for fraud detection, judgments of ethicality, and the estimated likelihoods of discovering and reporting the fraud. Thus these findings provide no evidence to suggest tax professionals in the PRC "abuse" the quantitative materiality concept to rationalize intentional quantitative material misstatement. In general, tax professionals in this research appear to recognize that even quantitatively immaterial frauds may be qualitatively material. However, quantitative materiality was found to be negatively associated with tax professionals' judgments of the social responsibility of the fraud. Tax professionals consider quantitatively material fraud to be less social responsible than the quantitatively immaterial fraud. Even though fraud is judged to be unethical no matter of the quantitative materiality, quantitatively immaterial fraud seems to result in less serious consequences, for example, less economic impact. When people are judging the social responsibility of a client, they may also think about other dimensions, such as economy, legal, and philanthropy (Fisher, 2004).

The results of Hypothesis 2 testing firstly indicate that Machiavellianism has significant negative associations with tax professionals' perceived responsibility to detect fraud. This finding suggests that this personality trait has a significant effect on tax professional's behavior. It might be argued that education may be necessary to

counter high levels of Machiavellianism. According to Simmons et al. (2013), undergraduate students' levels of Machiavellianism may be decreased by ethics education, although there is no evidence to suggest such education works on post graduates and professionals. On the other hand, specific regulation and accountability with clear guidelines may be also required to force Machiavellian tax professionals to be more aware of their own risk and possible punishment when considering their personal benefit. Second, Machiavellian tax professionals were found to judge the ethicality and social responsibility of client's fraud scheme less harshly. Machiavellians themselves have lower ethical standards, and they also believe less in the importance of social responsibility. By contrast, due to selfishness, Machiavellians will likely primarily consider their personal interest. Therefore, they may subjectively lower the ethical standard to rationalize the wrong doing in order to benefit from providing the tax services. Third, tax professionals who were Machiavellian were found to estimate a lower likelihood of reporting the fraud. This may have resulted from their low ethical standard and cold personality. They did not believe the scheme was unethical so that they were not obligated to be responsible for it. Among the results, Machiavellianism was found to have no significant association with tax professionals' estimation of likelihood to discover a fraud. Machiavellianism is a kind of "dark" personality characteristic, while likelihood to discover a fraud is partially about one's capability. Whether a fraud can be discovered may depend on whether the tax professionals are knowledgeable and skillful, not only on whether they are powerful enough to have control over the event.

For Hypothesis 3 a composite measure of the triangle model of responsibility links was found to be associated with higher levels of perceived responsibility for fraud detection, harsher judgments of the ethicality and social responsibility of the fraud, and

higher estimated likelihoods of discovering and reporting the fraud. This finding has practical implications. The professional obligation link suggests that tax professionals who had a sense of duty and obligation in the face of fraud were more responsible for fraud detection and more ethical. Tax profession institutions and tax service firms might consider strengthening tax professionals' sense of professional obligation by education or training. In the preliminary tests, qualification was found to have no effect on tax professionals' behavior regarding fraud detection, suggesting that, compared to specific regulation, qualification is less important. The task clarity link suggests clear authoritative guidance could be very helpful in improving the ethical environment. The PRC nowadays does not have national legislation specifically related to tax professionals' responsibility for fraud detection, as well as the procedure tax professionals can take when fraud is discovered. Therefore, the PRC authorities may consider clarifying and strengthening the responsibility of tax professionals through establish relevant legislation and procedures. Finally, as the personal control link suggested, tax professionals who had more control and possible contribution over fraud detection were likely to have more responsibility, higher ethical standard and moral actions. However, due to firm structure and seniority arrangements, not everyone can exercise control. Nonetheless, individual firms might consider establishing rules and regulations for reporting, including those protecting the whistle blower.

Chapter 6 Limitations

The current study extends research into tax professionals' responsibility towards fraud detection. Some limitations should however be mentioned. The first important limitation is lack of task realism. The survey is based on hypothetical manipulated scenarios. In order to maintain controllability, realism may be sacrificed. Also, although the research instrument designed for this particular study had been thoroughly reviewed by independent experts, it had not been validated by earlier studies.

In all such studies, the possibility of demand effect exists, i.e., the subjects may provide the answers they believe the researchers want, not responses based on their true beliefs. This limitation may affect the results to a certain extent and lower the reliability of the findings. However, the questions in the questionnaire were placed randomly to prevent hypothesis guessing by the respondents. The researcher gave clear instructions and ensured protection for subjects' privacy to increase the reliability of the data.

The next limitation is that the research does not include the effect of possible economic dependence on tax agents' behavior. Tax agents may be inclined to advocate their client's position and perceive less responsibility for detecting clients' fraud if they are overly dependent on the tax fee. If the services provided are for audit as well as tax services, this economic dependence may be even stronger. Investigation into these effects will be left for future research.

All the participants are from the same firm, and the research fails to take certain characteristics of the respondent's firm into account. These characteristics may restrict the generalizability of the results. For example, the behavior of tax professionals may be affected by the content of their employment contract, code of ethics set by the firm, the

ethical culture in the firm, as well as the management ethics. Also the limitation of sample selection may also cause bias and lower the reliability of the results. As one of the Big 4 firms, the professionals in which may be better trained than other professionals in local firms. However, in the real world, it is hard to assume that the entire professional is well trained.

Last but not least, in current research, data can be correlational in nature without providing a basis for establishing causality. The measures of triangle model links, perceived responsibility, ethical judgment and actions taken were all based on individual's cognition towards a certain event, so that they might well be highly correlated. However, it is unknown whether the judgment on one item was caused by the judgment on another item. The current research did not study the internal causality between each item. This limitation can be further studied in later research.

Appendix 1: Experimental Cases

Case (quantitatively material fraud)

Your team is providing tax compliance services for a client, a company with sales of RMB1,000 million and total assets of RMB500 million. This client is audited by another firm which is not associated to your firm, and has been consistently issued a “clean” audit report for many years.

However, the company is in fact operating a tax fraud in an area where you are conducting your tax work. The fraud involves both the purchasing and selling of goods outside the company’s books, the cash flows from these activities being recorded in hidden accounts. As a result of this fraud, the company’s taxable income, at RMB100 million, is understated by RMB40 million and thus tax expense, at RMB25 million, is understated by RMB10 million. Accounting income after tax, at RMB150 million, is understated by a net amount of RMB30 million.

No one from the client or from the audit team has yet detected the fraud.

Case (quantitatively immaterial fraud)

Your team is providing tax compliance services for a client, a company with sales of RMB1,000 million and total assets of RMB500 million. This client is audited by another firm which is not associated to your firm, and has been consistently issued a “clean” audit report for many years.

However, the company is in fact operating a tax fraud in an area where you are conducting your tax work. The fraud involves both the purchasing and selling of goods outside the company’s books, the cash flows from these activities being recorded in hidden accounts. As a result of this fraud, the company’s taxable income, at RMB100 million, is understated by RMB1 million and thus tax expense, at RMB25 million, is understated by RMB0.25 million. Accounting income after tax, at RMB150 million, is understated by a net amount of RMB0.75 million.

No one from the client or from the audit team has yet detected the fraud.

Appendix 2: Measurement Scales

Triangle Model of Responsibility Measures:

Professional Obligation:

How relevant is detecting this fraud to your job?

Not relevant at all Very relevant

How obligated are you to detect this fraud?

Not obligated at all Very obligated

Task Clarity:

How clear is your authoritative guidance for detecting this fraud?

Not clear at all Very clear

How informed are you about the procedures you should follow to detect this fraud?

Not informed at all Fully informed

Personal Control Link Questions:

How much control do you have as a tax professional over your ability to detect this fraud?

No control Full control

How much of a contribution to you believe you can make to detecting this?

No contribution Full contribution

Dependent Variables Measures:

How much responsibility do you have to detect this fraud?

No responsibility Full responsibility

Please rate your client's behaviour on the following scales:

Ethical Unethical

Socially responsible Not socially responsible

How likely is it that you would discover this fraud?

Highly unlikely Highly likely

If you discover the fraud, how likely is it that you will report it?

Highly unlikely Highly likely

MACH IV Machiavellianism Scale

1. Never tell anyone the real reason you did something unless it is useful to do so.
2. The best way to handle people is to tell them what they want to hear.
3. One should take action only when sure it is morally right.*
4. Most people are basically good and kind.*
5. It is safest to assume that all people have a vicious streak and it will come out when they are given a chance.
6. Honesty is the best policy in all cases.*
7. There is no excuse for lying to someone else.*
8. Generally speaking people won't work hard unless they're forced to do so.
9. All in all, it is better to be humble and honest than to be important and dishonest.*
10. When you ask someone to do something for you, it is best to give the real reasons for wanting it rather than giving reasons which carry more weight.*
11. Most people who get ahead in the world lead clean, moral lives.*
12. Anyone who completely trusts anyone else is asking for trouble.
13. The biggest difference between most criminals and other people is that the criminals are stupid enough to get caught.
14. Most people are brave.*
15. It is wise to flatter important people.
16. It is possible to be good in all respects.*
17. The man who said "There's a sucker born every minute" was wrong.*
18. It is hard to get ahead without cutting corners here and there.
19. People suffering from incurable diseases should have the choice of being put painlessly to death.
20. Most people forget more easily the death of a parent than the loss of their property.

* = *Reverse scored.*

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