

Twisting trust: social networks, due diligence, and loss of capital in a Ponzi scheme

Rebecca Nash¹  · Martin Bouchard² · Aili Malm¹

Published online: 6 September 2017
© Springer Science+Business Media B.V. 2017

Abstract This paper examines a pre-planned fraud which ran undetected for more than five years and deceived 2285 investors for \$240 million. We seek to uncover the effects of trust in social ties and conducting due diligence on 1) an investor's initial amount of investment and 2) their overall loss of capital. Using data from a survey of 559 victims, we conduct two linear regression models to test for effects on investors' amount of initial investments and their total net loss. By using two dependent variables, we examine effects of social ties and performing due diligence at the beginning stage and end stage of a Ponzi scheme. Performing due diligence and relying on information provided by industry professionals increased initial investments, while having performed due diligence also increased investors' loss of capital at the end of the fraud, suggesting both social ties and due diligence contributed to fraud victimization. The findings are interpreted within the context of a particularly sophisticated fraud where document falsification was almost impossible to detect, contributing to a false sense of security among victims.

Many investments take place in an environment of risk and uncertainty; therefore, gathering information about the enterprises and their owners becomes essential when making financial decisions [1–3]. In these situations, people rely on two methods to collect information, social networks and conducting due diligence [1, 4, 5]. Both methods help reduce information asymmetry [1]. Information asymmetry occurs when market information tends to be on the side of the seller and is generally present in most market transactions and investments.

As much as trust facilitates economic transactions in legitimate contexts, white-collar criminals can use it to potentially take advantage of the situation. Granovetter [6]

✉ Rebecca Nash
becky.nash@csulb.edu

¹ California State University, Long Beach, 1250 Bellflower Blvd, Long Beach, CA 90840, USA

² School of Criminology, Simon Fraser University, 8888 University Drive, Burnaby, B.C. V5A 1S6, Canada

states that trust in social relations can produce opportunities for malfeasance by making one vulnerable, thus creating opportunities for exploitation. He also suggests that opportunism through trust is dependent on how social ties are embedded in the structure of the network [6]. Performing due diligence is also a paradox where, on the one hand, potential investors who do not conduct proper due diligence can more easily become involved in a fraud [1, 7]. On the other hand, conducting due diligence can lull investors into a false sense of security due to easily falsified financial information [7, 8] which may have an impact on the amount of money they invest in a venture that may unknowingly be fraudulent.

The impetus for this study is to test whether due diligence can either (1) protect an investor from malfeasance [1, 9] or (2) facilitate victimization [5, 6, 10, 11]. Here, we set out to examine a pre-planned fraud perpetrated by Eron Mortgage Corporation who defrauded over 2000 individuals for an estimated \$240 million in British Columbia, Canada.¹ We aim to uncover the effects of trust in social ties and conducting due diligence on (1) an investor's initial investment and (2) their overall loss of capital. Doing so allows us to examine the effects of both trust in social ties and due diligence on two separate phases of the fraud. Because we analyze a case study where all investors were deceived, our focus is on the association between who the victims reported trusting, what they did in terms of due diligence, and the *amount* of money they decided to invest. Because this study focuses on social networks and their effects on trust, Eron investors who did not use social ties in their investment decisions are outside the purview of this study and thus are not included. In particular, we follow the work of Stolowy et al. [5] and draw from Zucker's [12] typology of trust to examine whether specific sources of influence affect the amount of capital invested: Did victims who were persuaded to invest in this Ponzi scheme by a friend or family member end up losing more capital than those who decided to trust a financial professional? Were those who investigated Eron's credentials via fact checking more or less prudent in their investment?

Conceptual background

Trust and social ties

Many sociologists consider trust an essential building block for cooperation within societies, engendering social relationships and even for governing financial transactions (see [12–19]). Because trust is deeply rooted in social relations and embedded in financial decision-making, the importance of trust to financial transactions also makes it a component of fraudulent transactions. For example, Shapiro [19] suggests that white-collar crime exists because of a violation and manipulation of trust relationships between agents and clients, where the client, in need of information and/or expertise, passes control to the agent, thus creating an asymmetric relationship between the two,

¹ It was legally determined by the British Columbia Supreme Court to be a pre-planned fraud. Evidence of Eron's actions also provide evidence of a pre-planned fraud: 1) Eron did not adequately investigate projects before funding them and, 2) Slobogian and Biller continued to advance funds to projects that they knew were losing money and exceeded their worth during the time Eron was formed. These actions should take place before securing money from investors for any legitimate mortgage brokering business.

with the agent now having the advantage; this is information asymmetry (p. 348–350). Benson and Simpson [14] take this trust relationship one step further by adding the element of deception to information asymmetry, specifically in agent/principal relationships where the principal hires the agent based on professional skills the principal themselves are lacking. Through their professional knowledge and expertise, the agent can easily deceive and abuse the trust of the principal, now exploiting the principal through information asymmetry. Per Benson and Simpson, this asymmetric trust relationship can occur either through a one-on-one type of relationship such as client/stockbroker, or through an agent overseeing many principals (p. 83–84) such as the current case concerning Eron Mortgage. Examining trust relationships with friends and family when making financial decisions, Nash et al. [20] posit that trust relations, particularly trust in family and friends, embedded in one's social networks are the impetus for the diffusion of a fraud through a population of victims. What is true, is that trust creates economic opportunities but also produces a vulnerability that can be exploited against the trustor. Hill and O'Hara [21] define trust as “a state of mind that enables its possessor to be willing to make him/herself vulnerable to another, that is, to rely on another despite a positive risk that the other will act in a way that can harm the trustor”, while Burt [22] posits that “trust is a relationship with someone...in which contractual terms are incompletely specified...the more unspecified the terms, the more that trust is involved”. In other words, the more risk or uncertainty present in a transaction, the more one relies on trust to balance information asymmetry. Whether or not the outcome of a trust relationship is favorable to the trustee is dependent on the other actors involved [2, 6, 10].

Trust theorists agree that trust most often occurs in an environment of risk and/or uncertainty where the trustee is placed in a vulnerable position and trust becomes a necessary ingredient to form relationships and take part in transactions [6, 16, 21, 23, 24]. While trust is implicit in most transactions, it is often taken for granted; it is not until someone violates that trust that its importance is fully realized. While trust can be protective and help balance the information asymmetry present in risky and uncertain financial transactions, trust can also be used opportunistically for fraud – especially if the victim knows the offender [1, 6, 25].

The clearest example comes from Baker and Faulkner's study of Fountain, Oil, and Gas (2003; 2004). Examining the protective versus harmful effects of social networks, Baker and Faulkner [1, 4] argue that fraudsters often take advantage and manipulate the word-of-mouth effect used to diffuse information through social relations within social networks. Within the intermediate fraud (a fraud performed by a business after it has established a solid legitimate foundation for its activities), they found that social ties to company owners and employees protected investors from malfeasance, particularly when investors conducted due diligence. However, they also found that investors who substituted trust in place of due diligence increased their loss of capital by 25% compared to those who both conducted due diligence and trusted in their social ties to make an investment [1].

Coupled with what Kramer [17] refers to as confirmation bias (we see what we want to see) and an illusion of personal invulnerability (the belief that nothing bad will happen to us), our human propensity to judge a person's trustworthiness is easily

exploited by financial predators. For example, Comet [11] examined the link between trust and social networks within the Santa investment fraud² and found that the fraudsters garnered trust by presenting themselves to potential investors on behalf of mutual friends who had already invested. Comet [11] posits that the type of social tie (rank in the military) with whom potential investors trusted also mattered in convincing them to invest.

Trust can also have negative consequences, such as overtrust (trusting too much). Overtrust can minimize negotiating and monitoring in the trustee, maximize the occurrence of fraud, and can easily cause harm to the trustor [21]. Castelfranchi and Falcone [23] argue that overtrust causes reduced control in decision-making, inaccurate and careless decision-making, higher risk and greater cost to the individual. For instance, Guiso [16] states that the sudden global economic collapse beginning in 2008 occurred in part due to the opportunistic behaviors of financial intermediaries (brokers, bankers, financial advisors) who manipulated the public's overtrust in financial experts.

Variations in the levels and types of trust that one places in others are important to this study, thus it is important to note that several trust typologies exist [21, 26]; however, for this study we draw from the typology of trust created by Zucker [12] for two main reasons. First, Zucker's [12] trust types are specifically derived from trust in economic/marketplace transactions, reflecting the context in which individuals make decisions when presented with an investment opportunity. Second, Zucker's typology of trust was successfully used to illustrate how the largest Ponzi scheme in history perpetrated by Bernard Madoff flourished for nearly three decades [5]. Zucker's [12] typology of trust distinguishes between 1) *characteristic-based trust*, 2) *process-based trust*, and 3) *institution-based trust*. *Characteristic-based trust* is trust in others with shared traits or qualities – homophily or “birds of a feather flock together”. *Process-based trust* comes from expected exchange through expertise, status, or reputation of the trustor. *Institution-based trust* is trust placed in formal institutions which were created to govern exchange in the market place. Zucker [12] contends that these institutions first served to legitimate transactions, but over time as people came to rely more and more on these institutions, they became a substitution for trust. Trust in institutions is often taken for granted, particularly when formal mechanisms of trust have broken down. While some of these institutions are created solely to offset the breakdown in formal trust mechanisms within the marketplace and to help control fraudulent behavior, Zucker [12] states, “Institutional mechanisms are initially imperfect, cumbersome, and inefficient substitutes for trust” and so we must be vigilant in whom we place trust when making financial decisions. Zucker's typology (1986) is applied to the types of social ties present in our study. Information from trusted social ties can be corroborated or contradicted through the process of due diligence, a method of discovery to help identify unknown risks and opportunities when investing [27]. Like Baker and Faulkner [1], we assess due diligence as individual research and/or consultation through impersonal methods of trust. We further develop the concept of due diligence below.

² The Santa investment fraud was a Ponzi scheme that lasted over ten years and targeted military officers in Greenland from 1986 to 1999.

The due diligence paradox

Because Ponzi schemes generally transpire within private security transactions, the responsibility to safeguard one's investments is placed solely in the hands of the individual investors. In such cases, performing due diligence becomes a cornerstone in which investors can balance the information asymmetry in their favor. In this study we use the general definition of due diligence, where individuals gather information to obtain a level of comfort and reassurance on the accuracy of the information supplied by the seller/transaction partner [28]. Baker and Faulkner [1] found that performing due diligence significantly reduced the loss investors incurred from their involvement in the fraud.

Many financial frauds rely on the fact that not all investors conduct proper due diligence, so falsified information is easily presented as fact [1, 7]. Pressman [7] argues that many of the businesses and non-profit organizations that invested in New Era Philanthropy, a Ponzi scheme that lasted for six years, conducted detailed and careful background checks of financial records before investing and were lulled into a false sense of security. More recently, Van de Bunt [29] argues that because Bernard Madoff Investment Securities (BMIS) was audited by a professional accounting company and because the Securities Exchange Commission had given BMIS a clean bill of health, many investors were able to "manage their ignorance" through their trust in financial institutions.

Due diligence is also believed to interact with trust in social ties. Because social ties play an important role when making risky and uncertain decisions, it may affect one's inclination to perform due diligence – trust in social ties becomes a substitute for conducting due diligence [1, 3, 5]. For example, Baker and Faulkner [1] found that investors who relied on trust in their social ties to make investment decisions were significantly less likely to perform due diligence and those investors who did not perform due diligence had a greater loss of capital. Even if due diligence is actually performed, market ignorance often keeps people from asking the questions needed to uncover fraudulent practices [29].

Strategic case: Eron mortgage corporation

In this case study we examine the pre-planned mortgage fraud perpetrated by Eron Mortgage Corporation in British Columbia, Canada. The fraud ran for five years before it was detected and shut down. Brian Slobogian founded Eron Mortgage with no previous experience in the mortgage brokering business. After learning from an experienced mortgage broker, Slobogian began raising funds for Eron from investors and also began arranging loans to borrowers. Slobogian then met Frank Biller through a venture capital project in which Biller was hired to raise funds. The two consistently worked together as a team in which Slobogian would find and negotiate deals with borrowers and Biller would raise funds from investors [30]. However, Eron did not adequately investigate projects before funding them, and Slobogian and Biller continued to advance funds to losing projects that exceeded their worth – for example, Eron advertised a value of \$15 million for the Emerald Estates mortgage, yet it was appraised at only \$2.5 million [30].

From 1993 to 1996, Eron grew rapidly and at one point had over 40 brokers helping to raise funds primarily from commercial real estate mortgages. Generally, in mortgage brokerage transactions, a mortgage broker will link a borrower with a single investor; at the very most, a small group of investors may join together within one mortgage transaction. However, Eron conducted business differently and raised funds for single mortgages from a large number of investors instead, where each investor secured interest in one mortgage [30, 31]. Eron was successful at procuring a continuous supply of capital from a constant influx of new investors. Also, unusual in securing mortgage investments, is that Slobogian and Biller, constantly moved investors' funds between projects and between the four businesses managed by Eron Mortgage without informing investors and without any regard to the investor's original intentions for their investments [30].

In 1996, the British Columbia Financial Institutions Commission (FICOM), the statutory body responsible for regulating mortgage brokers in British Columbia, began investigations into the various practices of Eron and its principals. Finally, in October of 1997, FICOM suspended Eron's mortgage broker registration, froze all of Eron's accounts and hired PricewaterhouseCoopers Inc. to oversee all of Eron's businesses [30, 32]. After the closure of Eron, both Brian Slobogian and Frank Biller were found guilty of three separate charges including: (1) Trading and distributing securities without being registered and without filing a prospectus on said securities, making misrepresentations contrary to section 50(1) (d) of Securities Act, 1996, (2) Perpetrating a fraud on persons in British Columbia contrary to section 57(b) of the Securities Act, 1996, and (3) Acting contrary to public interest.³ Overall, Eron Mortgage Corporation swindled approximately 2200 individuals out of \$240 million, the largest Ponzi scheme detected in Canadian history [30].

The current study

In the current study we examine the pre-planned fraud perpetrated by Eron Mortgage and seek to uncover the effects of trust in social ties and conducting due diligence on (1) an investor's initial amount of investment and (2) their overall loss of capital. Investors had opportunities to invest multiple times in Eron, and some took advantage of this opportunity more than others. We argue that trust in social ties and due diligence are likely to play a role in both the initial stages of the fraud when making the decision on how much to invest during the initial investment period, as well as the later stages of the fraud, perhaps making the decision to increase initial investments due to a build-up

³ Specific charges include: 1) overstating the value of mortgaged properties, 2) overstating extent to which mortgaged properties had been developed, 3) understated the degree of risk in the mortgages, 4) promised investors unrealistic rates of return (15 to 20%), 5) promised investors repayment in 6 to 12 months which could not be met without raising more funds, 6) did not fulfill guarantees to investors of repayment, 7) put investors into mortgages with lower priority and/or higher principal amounts than which the investors were told, 8) raised funds from investors for mortgages that exceeded the face value of said mortgages, 9) spent investors funds in ways that were different from their intended purpose, without advising the investors, 10) used the funds of subsequent investors to make interest and principal payments to existing investors without their knowledge and, 11) failed to keep proper records of the funds raised from investors [30].

of confidence and trust in positive outcomes which ultimately may affect an investor's total net loss.

Our study contributes to the existing literature by (1) examining a pre-planned fraud established for the purpose of spreading fraud intentionally among its victims [30], compared to Baker and Faulkner's [1, 4] study of Fountain, Oil and Gas, a company that started out as a legitimate business before moving to fraudulent practices and (2) examining the effects of social ties and due diligence at both the beginning and end of the fraud instead of at a single point in time.

Data and methods

The data for the current study are drawn from a victim survey of the investment and securities fraud devised by Eron Mortgage Corporation. The survey questions were designed to obtain a summary of respondents' age, education, gender, income, investing behavior, process of involvement in Eron (including personal and impersonal methods of introduction), extent of loss, perceptions of responsibility for the fraud, personal consequences from the fraud, and possibilities for future prevention of securities fraud. The sampling frame was a list of approximately 2285 unique names obtained from the Eron Lender's Committee and the British Columbia Securities Commission.

The study could not begin until all of the court cases involving Eron Mortgage were concluded, which occurred in the fall of 2004. This unavoidable data limitation was minimized by collecting data in two phases. The first phase, beginning in early fall of 2004, consisted of three focus groups comprised of Eron investors who had substantial knowledge of the fraud and served two purposes: (1) they helped develop the survey questionnaire and, importantly, (2) they allowed us to ascertain how possible memory recall issues could affect the results. Focus group participants made clear that memories regarding the fraud were fresh and recall problems would be minimal since the majority of investors lost a substantial amount of money and had been interviewed a number of times by law enforcement agencies in the seven years since the fraud ended [33].

The second phase of data collection involved administering two waves of surveys. The first wave was a pilot survey mailed to 520 randomly selected Eron investors in December of 2004 (not used in this study). During the second wave of the survey, 1765 revised surveys were mailed between February and March of 2005. Of the 1765 surveys mailed during the second wave, 559 investors responded. The total pool of respondents used in this study is 31.67% ($N = 559$) and come from the second wave of 1765 revised surveys. This response rate is to be expected because victims of Ponzi schemes are less likely than other types of victims to participate in surveys because of the role they play in their own victimization. For example, Deevy and Beals [34] indicate only a 0.3% prevalence rate of victims of Pyramid schemes (a type of Ponzi scheme) within fraud victimization surveys. The lower response rate in the current study may also be impacted by the nature of the crime itself; fraud is severely under reported or not reported at all by victims as it is one of the only crimes in which the victims themselves are complicit in their own victimization [34, 35].

Sample

The focus of the current study is on the 331 respondents who answered the social network question and named at least one person as influential in their decision to invest (59% of the total survey respondents).⁴ Thus, an important issue is whether our network respondents ($n = 331$) who identified at least one individual by name as influential are significantly different from those who did not nominate; our non-network sample ($n = 222$). These individuals cannot be assumed to have used or not used social ties when making investment decisions and are thus excluded from the study. Possible reasons for not answering could be that no one in particular was influential in persuading them to invest, or they may not have felt comfortable naming influential individuals or, as the literature states, may have been too embarrassed themselves to involve others [34, 35]. If those cases are common, our sample would over-emphasize the role of individuals in influencing investment in Eron.

To the extent that the two samples are otherwise equivalent, we believe this situation would not affect our interpretation of the findings. Table 1 introduces comparisons between our network and non-network samples on the variables examined in this study, of which only three were statistically significant. First, investors in our network sample were more likely to: (1) consider lending as the initial purpose of their investments in Eron (39.1% vs. 29.9%); (2) invest in derivatives prior to investing in Eron (6.3% vs. 1.4%); and (3) check with the British Columbia Securities Commission as a type of due diligence (7% vs. 3%) – a rare event for any of the respondents.

Dependent variables

We examine two main dependent variables. The first is the *initial investment ratio*, which captures the amount invested in the beginning of the fraud. In order to account for variations in investment capacity, we used the amount of an investor's initial investment in Eron as a ratio to an investor's household income (both in Canadian dollars). These two variables were measured at the time of initial investment. The second dependent variable is the *net loss ratio* which allows us to measure the overall loss incurred by investors at the end of the fraud. It is also a ratio to an investor's household income allowing us to measure the magnitude of loss incurred by investors compared to their income. Since both variables were positively skewed, log transformations were applied. The distribution of cases within the original dataset for both dependent variables was positively skewed; initial investment had a skew of 4.358 while net loss had a skew of 6.486. Log transformations were successfully applied to both dependent variables to allow for a normal distribution among cases. The geometric mean for initial investment among investors is \$19,400 while the mean percentage of investors' initial investment to their household income is 33%. The geometric mean for net loss among investors is \$24,100 while the mean percentage of investors' net loss to their household income is 40.7%. The average household income among Eron investors is \$57,500.

⁴ Seven respondents from our network sample were removed from the study because they chose themselves as the person who influenced them to invest in Eron.

Table 1 Comparisons of the study ($n = 331$) and non-study ($n = 222$) samples

Variables	Non-Network% ($n = 222$)	Network% ($n = 331$)	Total # Respondents ($N = 553$)
1. Gender			548
Male (0)	62.0	60.9	336
Female (1)	38.0	39.1	212
2. Education			527
Elementary School	5.2	3.8	23
High school	28.9	25.9	143
Some Post-Secondary	33.2	33.2	175
B.A. Graduate	18.0	18.4	96
Post-grad/Professional	14.7	18.7	90
3. Investment Purpose			553
Investing			
Yes (1)	44.4	39.7	222
Lending			
Yes (1)	29.9	39.1	189
Both			
Yes (1)	25.7	21.3	123
4. Prior Investing Experience			
Mutual Funds	77.0	75.2	425
Publicly Traded Companies	44.6	43.8	246
Limited Partnerships	20.3	18.1	107
Privately Held Companies	13.1	16.9	88
Derivatives	1.4	6.3	26
GICs, Treasury Bills, Term Deposits	75.7	72.5	414
Annuities	9.0	5.7	40
Government Bonds	52.7	53.5	298
Corporate Bonds	14.9	15.4	87
Own Home	84.7	86.4	479
Real Estate other than Primary Residence	50.9	54.4	298
Interest-paying Loans	23.4	24.5	134
5. Due Diligence			
Visited Properties	4.5	7.6	35
Confirm Eron as registered	14.9	17.8	92
Check backgrounds of Eron principals	1.4	2.7	12
Checked with B.C. Securities Commission	3.2	6.9	30
Checked with other regulatory agencies	2.7	5.1	23
Visited Eron offices	37.4	39.0	212
Viewed photos of properties/projects	46.8	53.8	282
Reviewed audited property value statements	13.5	12.4	71
Read property/project prospectus	53.2	52.0	290

Table 1 (continued)

	Mean	Mean	
6. Age at Initial Investment	53	51	491
7. Investing Knowledge	2.87	3.07	526
8. Investing Approach	4.43	4.39	543
9. Initial Investment \$	\$17,900	\$19,400	526
10. Net Loss \$	\$21,000	\$24,100	470
11. Household Income \$	\$53,700	\$57,500	456

^a Variables in bold are statistically significant

Independent variables

Trust in social ties

We constructed our main predictor variables from responses to the survey question which asked investors “Who was the most influential person, if any, in convincing you that Eron was a legitimate investment?” Respondents were asked to name up to five individuals and to indicate the relationship to each individual named. This resulted in six different types of relationships: (1) Eron principals, (2) Eron representatives, (3) Family and friends, (4) Fellow investors, (5) Industry regulators, and (6) Professional brokers. Eron principals are the owners of the company. Eron representatives are employees and brokers of Eron. Family and friends is a self-explanatory relationship where either a friend or family member influenced individuals to invest in Eron. Fellow investors are individuals who invested in Eron and then influenced other potential investors such as friends or acquaintances to invest. Industry regulators are employees of institutions such as the British Columbia Securities Commission and British Columbia Registrar of Mortgage Brokers who enforce securities laws and regulations and protect investors from potential fraudulent practices. Finally, professional brokers are the individuals who provided financial counseling and expertise about Eron investments.

To capture the three types of trust distinguished by Zucker [12], we collapsed the relational ties into three categories. The first category is *characteristic-based trust* which includes influence from friends, family, and fellow investors. *Characteristic-based trust* is trust garnered from information that is elicited from generalized shared personal characteristics such as family background, ethnicity, political and religious beliefs, and many other shared traits [5, 12, 36] – generally known as homophily or “birds of a feather stick together”. Research on homophilic traits in social networks reveals that “similarity breeds connection” ([37], 415). These traits include but are not limited to marriage, family, friendship, work, geographic location, organizations, and isomorphic positions as well as other types of relationships through which one can develop social ties [37]. Although we lack data on these individuals outside of the fact that they were considered by

our respondents as friends or family, it is reasonable to expect that the relationship implied here qualifies as characteristic-based trust.

Victims influenced to invest by Eron principals and Eron representative relations were collapsed into *process-based trust*. Zucker [12] refers to *process-based trust* as information that garners trust through expected or past exchanges. This type of trust can also be established through status, reputation, or expertise [5, 12, 36]. Finally, industry regulator and professional broker relations were collapsed into a single category to represent *institution-based trust*. *Institution-based trust* is placing trust in the power of formal institutions that function to govern exchange in market transactions [12]. According to Stolowy et al. [36], these institutions are laws and regulations, certificates, professional, and educational systems. Here we assume that the professional regulators and mortgage brokers working within these institutions are seen by investors as a proxy for the trust they place in the institutions themselves. Dummy variables were constructed for each of these categories of trust (trusted in social tie = 1 if an investor was influenced to invest by a particular type of tie), and *characteristic-based trust* serves as the reference category against which others are compared in the multivariate model.

Overall, the 331 victims in our study identified 162 distinct influential social ties. A total of 46.6% of our sample reported having been influenced by friends/family/fellow investor ties (*characteristic-based trust*) alone when they were contemplating investing in Eron, by far the most prevalent response. A total of 19.4% reported that Eron principals and brokers were the sole source of influence (*process-based trust*), 14.8% reported that industry professionals were influential in their Eron investments (*institution-based trust*) and 19.1% named individuals belonging to more than one of those categories (multiple relations) as influencing them to invest.

Due diligence

To measure *due diligence*, we constructed a scale using the following nine items taken from a survey question which asked investors, “Before putting money into Eron, I took the following steps.” Each of the nine indicators is listed in Table 2 along with the percentage of investors who performed each. The items include: (1) visited properties, (2) visited offices, (3) viewed photographs of property/projects, (4) confirmed Eron as a registered mortgage corporation, (5) reviewed audited statements of property value, (6) checked background of Eron principals, (7) read property prospectus, (8) Checked with British Columbia Securities Commission, and (9) checked with other regulatory agencies. Each item was added to form a scale ($\alpha = .628$) capturing the variety of investigative actions undertaken by respondents. Respondents reported on average 1.97 due diligence actions, with a range of 0–9 due diligence items checked and a maximum number of items being 8 for one respondent in the study sample. It should be noted that several types of due diligence were falsified by Eron, particularly audited statements of property value, background of Eron principals, and property prospectus as charged by the British Columbia Supreme Court [30]. These falsified documents appear to be legitimate to investors and thus may create higher amounts of initial investment and reinvesting by providing a false sense of legitimacy. This needs to be taken into account

Table 2 Frequency of Predictors: Influence and due diligence for Eron investors

	# Investors	% Investors
Type of Influence (Trust)		
Eron (Process-based trust)	64	19.3
Friends/Family (Character-based trust)	154	46.5
Industry Professionals (Institution-based trust)	50	15.1
Multiple relations	63	19.0
Type of Due Diligence		
Confirmed Eron as a registered mortgage corp.	59	17.8%
Checked with B.C. Securities Commission	23	6.9%
Checked with other regulatory agencies	17	5.1%
Viewed photos of property/projects	178	53.8%
Reviewed audited statements of property value	41	12.4%
Read prospectus about property/project	172	52.0%
Visited Eron Offices	129	39.0%
Visited Properties	25	7.6%
Checked background of Eron principals	9	2.7%
Mean: 1.97 of a possible 9 items (range: 0–8)		

in interpreting the findings for due diligence and loss of capital, including the direction of the potential effects.

Control variables

We included a number of control variables in our analyses at the investor level to help predict factors influencing initial investment and net loss (see [25, 38] for effects of demographics and socio-economic characteristics on fraud victimization). *Age* is a continuous variable measured in years (*mean* = 51). Age is especially important here because the majority of Eron victims are middle-aged (45–60) and generally invest more and experience more financial losses than their younger counterparts (see Appendix Table 5). *Education* is an ordinal variable with five categories (1 = elementary school or less, 2 = high school or less, 3 = some college/post-secondary school, 4 = university graduate, 5 = post graduate degree/professional training). Only 30% of the sample reported having no education beyond high school. The average *investment knowledge* of Eron investors in market securities and mortgage investing was 3.07 on a valued Likert scale of 1 to 7, with lower values indicating less knowledge and higher values indicating greater knowledge of investing in market securities and mortgages. *Sex* is dichotomous (Male = 0), with the majority of the sample being male (61%).

Risk-taking behavior variables are added to the analyses to control for their effects on initial investment and net loss. For instance, Holtfreter et al. [39] found that vulnerability to fraud is compounded with routine financial risk behaviors; if an individual is wealthy, they may routinely invest more in financial ventures, or be more willing to take risks with their money, thus investing more and risking substantially greater loss (see also [40]). Risk variables include investment approach, perception of

the risk of investing in Eron and prior investing experience. *Investment approach* is a Likert-scale variable measuring prior investing behavior of Eron victims. Investors were asked to choose the appropriate number that best described their approach to investing *prior* to their involvement in Eron (scored 1–10 with 1 being extremely conservative and 10 being extremely aggressive). The mean score is 4.39, close to the middle of the scale. For *Prior investing experience* we created a scale including the following twelve items taken from the survey question asking investors, “Prior to your involvement with Eron, did you ever buy, sell or hold any of the following types of security or investment?” The twelve items that make up *prior investing experience* include: (1) mutual funds, (2) publicly traded companies, (3) limited partnerships, (4) privately held companies, (5) derivatives, (6) GICs, treasury bills or term deposits, (7) annuities, (8) government bonds, (9) Corporate bonds or debentures, (10) own home, (11) real estate investments other than primary residence, and (12) interest-paying loans or mortgages. Each item was added to form a scale ($\alpha = .723$) capturing the variety of respondents’ securities and investments undertaken prior to their investments in Eron. Respondents reported on average 4.73 different investments prior to investing with Eron, with a range of 0–12 different investment options. Thirty-six respondents had no investing experience prior to investing with Eron (the minimum score) and six respondents in our study sample had the maximum number of investing options prior to investing in Eron.

We also included financial variables representing initial involvement and post-initial involvement in the Eron fraud, including the purpose of an investor’s initial investment, and the amount of their initial investment. Prior research has shown these types of variables to be significant in predicting investing behavior and fraud victimization [41]. *Investment purpose* is measured by two dichotomous variables “investing” (1 = yes) and “lending” (1 = yes) measuring an investor’s purpose for their initial investment in Eron. The reference category for this variable is “both” (1 = yes). Generally, investing in real-estate mortgages is more risky than lending. *Initial investment* is a continuous variable measuring the total amount of an investor’s first investment in Eron in Canadian dollars. When considering the type of investment - there were two avenues of endowing monetary funds to Eron, investing and/or lending - approximately 39% of investors were lending, 40% were investing and 21% were both lending and investing in Eron Mortgage Co. Lending consisted of borrowers who took out loans from Eron and paid interest and fees to Eron, while those who invested were providing capital directly to Eron without paying interest and fees – Eron used the capital from investors to provide money for their loan services, one of the four companies run by Eron Mortgage Corporation. [30]. The average amount of an Eron investor’s initial investment for our network group is \$19,400.⁵

⁵ A control variable for how respondents first heard about Eron was created. Respondents were asked “How did you first hear about Eron?” Respondents could select all that applied to their situation from eleven different options including: 1. Eron employee, 2. Financial broker, 3. Family or friend, 4. Business associate, 5. Hockey connection, 6. Eron seminar, 7. Newspaper advertisement, 8. Newspaper article or column, 9. Mail solicitation, 10. Television advertisement and 11. Other. These 11 options were indexed into two distinct variables, *first heard about Eron through Personal sources*, coded as an index of respondents who selected options 1–5, ($M = .9733$, range = 0–4) and *first heard about Eron through impersonal sources*, coded as an index of respondents who selected choices 6–10 ($M = .6089$, range = 0–4). Both variables were not significant in either model. Initial Investment model ($R^2 = .198$; $F = 3.835$; $p < .001$); personal sources: $B = .119$, $p = .206$; impersonal sources: $B = .011$, $p = .894$. Net Loss model ($R^2 = .447$; $F = 16.469$; $p < .001$); personal sources: $B = .036$, $p = .702$; impersonal sources: $B = .037$, $p = .667$.

Modeling strategy

Drawing from Baker and Faulkner [1], we employ a linear regression model to test for effects of influence through social ties (trust) and due diligence on an investor's initial investment. However, we also use a second linear regression model to test for the effects of an investor's net loss. By using these two dependent variables, we are able to examine the effects of social ties and performing due diligence at the beginning stage of the fraud, during investors' initial investments in Eron Mortgage Corporation, and at the end stage of the fraud, after investors had found out they were defrauded by Eron. Analyzing these two dependent variables thus allows us to examine two phases of a Ponzi scheme, unlike the Fountain, Oil, and Gas study by Baker and Faulkner [1] which only examined social ties and due diligence at the end of the fraud. We use two different models to test our dependent variables because the dynamics involved when deciding on the amount to invest for an initial investment are different than the dynamics involved in an investor's net loss. As such, we do not include exactly the same set of predictors for each model. The initial investment model controls for the initial purpose of the investment, whereas the net loss model controls for the size of the initial investment in the first place. While Eron principals have the ultimate decision to use their investors' money fraudulently, in this study, net loss is considered a product of the actions of investors which we believe have greater control over the amount of money they invested in Eron, thus impacting the amount they lost (e.g. How much they invested, their risk index, etc.). These factors are considered in our net loss model but not in our initial investment model.

To account for missing responses present in our income data and often present in survey questions related to income in the literature, we use multiple imputation (MI) methods with 5 imputations to account for the amount of missing data present in our variables. MI was used in the dependent, control and predictor variables in both models to maintain the power of a larger sample size and to minimize bias resulting from complete case analysis, casewise and pairwise deletion and mean substitution methods. These latter methods are not sufficient for missing data analysis [42–45]. The proportion of missing data for the dependent variables is: 1) initial investment = 3.59%, 2) net loss = 11.98% and 3) household income = 13.17%.

Results

We started the analysis of initial investment by examining the bivariate associations with our predictors. First, we found that only one type of trust is significantly associated with initial investment, *institution-based trust*; $r = .129$, $p < .05$. This suggests larger investments when influence comes from industry professionals, but not necessarily when it comes from Eron representatives (*process-based trust*, $r = .021$) and friends and family (*characteristic-based trust*, $r = -.104$). As for *due diligence*, it was significantly associated with both dependent variables: the more due diligence performed, the larger the

initial investment ratio and the larger the net loss ratio ($p < .05$). These bivariate results suggest that both trust in social ties and performing due diligence may have a role to play in potentially increasing the amount of capital initially invested in by our respondents. Should it be confirmed after controlling for other predictors, the positive result for due diligence in the context where all respondents were victims implies that the extra work performed by some victims may have led them to lose more money.

Initial investment

Table 3 presents the regression coefficients for the effects of trust in social ties and due diligence on an investor's initial investment and net loss. Examining the initial investment model (left side of Table 3); our set of predictors provides a reasonably good model, with an R^2 of .19. The important effects uncovered in this model are *institution-based trust* compared to the reference category,

Table 3 Initial investment and net loss regressed on social ties and due diligence

Dependent ($n = 331$)	Initial Investment		Net Loss	
	<i>B</i>	S.E.	<i>B</i>	S.E.
Independent Variables				
Constant	-2.046	.490	-8.847	.660
Controls				
Sex	-.164	.144	.106	.130
Age	.032***	.006	.016*	.006
Education	-.212**	.065	-.138*	.062
Investing Knowledge	.041	.048	.023	.042
Investing Approach (risk)	-.029	.041	.003	.043
Prior Investing Experience	-.034	.036	-.045	.033
Investing	-.180	.183	–	–
Lending	-.032	.183	–	–
Initial Investment	–	–	.751***	.060
Main predictors				
(Ref = Characteristic-based Trust)				
Process-based (Eron)	.169	.185	.250	.166
Institutional-based	.417*	.191	-.143	.185
Multiple Relations	.211	.175	-.209	.186
Due diligence	.101*	.044	.131**	.043

^a Note: omitted category for social ties is influence by friends and family

^b * $p < 0.05$

^c ** $p < 0.01$

^d *** $p < 0.001$

^e Initial investment $R^2 = .192$; $F = 4.355$, $p < .001$

^f Net loss $R^2 = .482$; $F = 18.408$, $p < .001$

characteristic-based trust and *due diligence*. Controlling for gender, age, education, investing knowledge and investing approach, and prior investing experience, we found that being influenced by industry professionals was associated with larger initial investments. As much as victims often trusted the advice of their friends and family when they made the decision to invest with Eron, it is the advice of industry professionals that appeared to have the most impact on the size of their investments. We also found that the more fact-checking due diligence investors engaged in, the more they increased their investments in the initial stages of the fraud.

Other factors appeared to play a role on the initial investments made by Eron victims. The investment ratio was shown to increase with age which could have been expected since older investors generally have greater amounts of “disposable” income and are better able to replenish loss of income. Initial investments also decreased with the level of education of our respondents. Finally, because some prior literature identified the possibility of an interaction between performing due diligence and trust in social ties, we sought to test all of the possible interaction effects between our predictors. We found that none of the interactions were associated with our dependent variables.⁶

Loss of capital

The right side of Table 3 presents the regression coefficients for the effects of trust in social ties and due diligence on an investor’s total net loss due to their involvement in the Eron fraud. Overall, our set of predictors provides a strong model of net loss, with an R^2 of .482. In order to fully control for the decisions that occurred in the initial stage of the fraud, one new variable was added *initial investment*. As such, we also removed the initial purpose for investment predictor (though it made no difference in the outcome, as it was not associated with any of the investment of net loss variables). *Initial investment*, the new predictor added to this model, proved to be a significant, positive predictor of net loss. In addition, as was found in the initial investment model, both age and education were significant predictors of net loss with age having a positive relationship and education having a negative relationship.

As for our main predictors, the results for net loss reveal a different picture than that of the initial investment model. Here we find that net loss ratios increase for respondents who reported having conducted more fact-checking due diligence. This result is intriguing as trusted social ties no longer play a role in how much money investors lost. Our findings also have an opposite effect as to what might otherwise be expected when conducting due diligence; respondents who declared conducting more types of fact-checking due diligence lost more money at the end of the fraud. Perhaps conducting due diligence produced an increased sense of security in Eron as a legitimate venture.

⁶ We ran the same model ($R^2 = .162$, $F = 2.273$, $p < .05$) on our non-network sample ($n = 222$) with the exception of including the social tie indicators and found no significant effects on initial investment from due diligence, $B =$

-.002, $p = .734$; Personal sources, $B = -.019$, $p = .081$; Impersonal sources, $B = -.004$, $p = .699$.

Table 4 Due Diligence regressed on various types of trust

Dependent ($n = 331$)	<i>B</i>	S.E.
Independent Variables		
Constant	1.752	.546
Controls		
Sex	.075	.183
Age	-.014	.007
Education	.091	.082
Investing Knowledge	.189**	.056
Investing Approach (risk)	-.122*	.050
Investment Purpose		
Investing	-.188	.227
Lending	.214	.225
Prior Investing Experience	.188***	.041
Main predictors		
(Ref = multiple relations)		
Process-based trust (Eron)	-.090	.270
Characteristic-based trust (Friends/Family/Investors)	-.454*	.230
Institutional-based trust (Industry professionals)	-.587*	.290

^a Note: Omitted category for social ties is influenced by multiple trusted relations

^b * $p < 0.05$

^c ** $p < 0.01$

^d *** $p < 0.001$

^e Due Diligence $R^2 = .210$; model fit: $F = 6.317$, $p < .01$

Conducting *due diligence* emerged as a significant predictor in both of our multivariate analyses however, to the opposite effect one might expect. Given its importance as a predictor in prior research, we investigated this further. Because trust in social ties has been shown to be a substitute for conducting due diligence when making financial decisions [1, 3, 5], a final model on the effects of trust on due diligence was analyzed (see Table 4). Table 4 suggests that *institution-based trust* and *characteristic-based trust* (compared to *multiple relations*) acted as substitutes for performing due diligence when investing in Eron. Consulting with industry professionals and friends and family may be the only sources of information that many investors feel they need, especially if they have little experience or knowledge in the investment arena and thus rely on trusted social ties. Table 4 also reveals that respondents who reported having more investment knowledge and investing experience and who were less risky with their investing approach were all more likely to conduct due diligence.⁷

⁷ We ran the same model ($R^2 = .454$, $F = 10.569$, $p < .001$) on our non-network sample ($n = 222$) with the exception of including the social tie indicators and found no significant effects on net loss from due diligence, $B =$

.008, $p = .104$; Personal sources, $B = .002$, $p = .837$; Impersonal sources, $B = .003$, $p = .814$.

Discussion and conclusion

The central goal of this study is to determine outcome effects of different types of trust and due diligence on an investor's initial investment at the beginning of a fraud, as well as their total net loss throughout the fraud. The theoretical and empirical background on trust and due diligence did not help us establish hypotheses with a clear direction. Instead, we found two opposing views. On the one hand, trust and due diligence can protect from malfeasance as was seen in the case of Baker and Faulkner's [1] study of the Fountain, Oil, and Gas fraud. On the other hand, trust and due diligence, if done in such a way as not to give rise to any suspicions, may act to give a certain "peace of mind" to potential investors, who may feel safer than others and as such, be ready to invest more than their counterparts.

Interestingly, we found that investors who were influenced by *institution-based trust* and who performed due diligence in their initial investment experienced a different effect from that most often found within the literature; Baker and Faulkner [1] found that a lack of both conducting due diligence and relying on pre-existing social ties was cause for malfeasance within the Fountain, Oil, and Gas fraud. Our results show that the more investors were influenced by professionals and industry regulators (institution-based trust), the more they increased their initial investments in Eron. It is highly probable that Eron investors saw industry regulators as experts in the mortgage brokering and securities trading business and trusted their perceived expertise. According to Stolowy et al. [5], people rely on *institution-based trust* for perceived comfort, reducing the need to further perform due diligence or monitor pre-existing investments (p. 18). Our results confirm that investors influenced by industry professionals and regulators in the beginning of the fraud were willing to devote larger initial investments. However, investors did not substitute trust for due diligence and instead relied on both trust and due diligence to confirm that Eron was legitimate. Herein lays the paradox of trust and due diligence in market transactions: For Eron investors who sought more information through trusted social ties and fact-based due diligence, the more money they invested in Eron and the more losses they suffered. To Eron investors, *institution-based trust* may have been nothing more than an added comfort that their initial investment in the beginning was warranted and that the information they received from Eron as a source of due diligence was sound. However, the documentation investors may have assumed was legitimate when conducting due diligence was actually falsified by Eron. Eron falsified their corporate profile in multiple ways, drastically understating the potential investment risk, overstating the value of properties and the extent of their development, lying about the use of investors' money - to develop and enhance properties, and overstated their expertise in the mortgage business. Eron also falsified their property prospectuses to investors which were not registered, by law, with the B.C. Securities Commission [30]. According to Stolowy et al. [5], falsifying documentation, in particular, creating

professional-looking accounting statements that were nothing more than made-up information was one way Bernard Madoff was able to carry out his 30+ year Ponzi scheme.

This reliance on falsified information from trusted social ties and conducting due diligence influences investors' decision-making by creating what Stolowy et al. [5] refer to as the "illusion of credibility". Roberts [46] and Stolowy et al. [5] argue that information collected must be credible through the process of intelligent accountability – collecting valid and reliable information that keeps transaction partners accountable through transparency and that information should not be blindly trusted; they posit that in many cases, more information may actually increase the likelihood of falling prey to fraud as seems to be the case for Eron investors who relied on both trusted social ties and performing due diligence.

Our results also show that when examining net loss and the later stages of the fraud, it is performing due diligence that matters. None of the types of trust were shown to matter. In the case of Eron, we found that investors who conducted more due diligence had significantly higher losses compared to respondents who conducted less due diligence or were influenced by trusted social ties.

One of the most intriguing findings of this research is that performing due diligence in the beginning of the fraud increased an investor's initial investments and also subjected them to greater losses. This is not necessarily a given and may very well be context dependent and vary on specific case characteristics,⁸ as other case studies found the opposite (e.g. [1]). Conceivably, our research shows that conducting due diligence is harmful in both stages of the Eron fraud however, because we do not know about Eron investors who performed due diligence and decided not to invest, since our sample consists of only investors, we cannot conclude that due diligence is risky *in general*. For instance, in Baker and Faulkner's [1] study of the Fountain, Oil, and Gas fraud, they found that conducting due diligence had a protective nature; investors who conducted due diligence with and without relying on social ties fared better in terms of net loss than investors who did not conduct due diligence with and without relying on social ties. This may suggest that potential Eron investors who conducted due diligence, with or without relying on social ties, uncovered red flags that made it too risky for them to invest in Eron in the first place. Future research that includes a wider

⁸ An important distinction must be made between our study and that of Baker and Faulkner's [1]. The Fountain, Oil and Gas fraud examined by Baker and Faulkner is an intermediate fraud – a fraud that started off as a legitimate business but turned to fraudulent activity to sustain itself. Our study examines a pre-planned fraud which starts on the premise of fraudulent activity from the beginning of its existence. In the pre-planned fraud conducted by Eron, two factors may automatically be working against investors: (1) falsified documentation provided by Eron, contributing to the malfasant effect of conducting due diligence, and (2) an overreliance on industry professionals, contributing to the negative effects of trust in making financial decisions.

sample of both victims and the pool of potential victims who successfully avoided being recruited is needed to disentangle the various ways in which due diligence influences investment decisions.

Limitations

In addition to the data limits previously mentioned, there are three main limitations in this study. First, we are unable to identify potential investors who decided not to invest in Eron and the reasoning behind their actions. Had their reasons for not investing related to uncovering information that led them to believe Eron was not a legitimate investment remains to be seen. This limitation is not unexpected in any survey of victims. Second, in the absence of a possibility for systematic comparisons, it remains unknown whether the study participants had the same profile as those who did not return their questionnaires. These individuals may also shed more light on the possible effects of due diligence and social ties over the entire course of the fraud. However, efforts to compare the profiles of the sample to the population of investors led the research team to conclude that the sample was most likely representative of all investors (with a stable cross-section of characteristics such as gender, age, time of investment and amount of income), with a slight tendency for those who returned their questionnaires to have invested in the early years of the scheme (1992–95). The third limitation addresses that lack of data concerning Eron investors' investment portfolios prior to investing in Eron. Had this data been available, our measure of risk would be more objective in the sense that we would know how risky investors acted with their Eron investments compared to other types of investments they may have made prior to Eron.

Conclusion

When making investment decisions in risky and uncertain situations, trust and due diligence play dual roles, either protecting investors from fraud or being a cause for fraud victimization. Our case provides evidence for the latter, where trust and due diligence contributed to both increased initial investments and increased net loss. Here lies the apparent success of Eron: the investors who relied on *institution-based trust* and the documentation provided by Eron before investing were satisfied enough with the decisions of their brokers and regulators and their own due diligence that they went ahead to invest larger sums of money thus making them susceptible to greater loss. It is crucial that future studies on large-scale investment frauds find a way to reach those individuals who may have considered investing, but decided to pass on the opportunity. We believe that an opportunity for finding answers to difficult questions in the white-collar crime literature lies in widening sampling frames to include not only the victims of fraud, but also those individuals who were exposed to it, and made a conscious decision to look the other way.

Appendix
Table 5 Correlation Matrix

	Age	Education	Investing Knowledge	Investing Approach	Purpose is Investing	Purpose is Lending	Net Loss	Prior Investing Experience
Sex	-.054	-.033	-.034	-.196**	-.033	-.056	-.037	-.172**
Age		-.132*	.087	-.069	.188**	-.048	.270**	.171**
Education			.244**	.275**	-.143*	.185**	-.172**	.271**
Investing Knowledge				.351**	-.139*	.081	.102	.307**
Investing Approach					-.180**	.149**	-.033	.356**
Purpose is Investing						-.615**	-.	-.210**
								.233**
Sex	-.055	-.006	-.018	-.039	.002	.066	.633**	.157**
Age	.331**	-.060	.075	-.055	.066	-.066	.205**	.322**
Education	-.220**	.182**	.012	-.040	-.041	.076	.113*	.094**
Investing Knowledge	.057	.261**	.111*	-.145**	.007	.066	-.071	-.148**
Investing Approach	-.094	.074	.072	-.055	-.057	.049	-.006	.007
Purpose is Investing	.007	-.201**	-.009	.061	-.021	-.050	-.018	.087**
Purpose is Lending	-.008	.177**	-.018	-.077	.054	-.067	-.	.201**
Initial Investment		.170**	.021	-.104	.129*	-.007		
Due Diligence			.104	-.136**	-.043	.107		
Process Trust				-.457**	-.207**	-.237**		
Characteristic Trust					-.393**	-.452**		
Institution Trust						-.205**		
Multiple Trust Types								
Net Loss								

^a * $p < 0.05$, ** $p < 0.01$

^b Pearson's correlation coefficient was used for continuous variables; Spearman's correlation coefficient was used for non-continuous variables

References

1. Baker, W. E., & Faulkner, R. R. (2004). Social networks and loss of capital. *Social Networks*, 26, 91–111.
2. Buskens, V. (2002). *Social networks and trust*. Boston: Kluwer Academic Publishers.
3. DiMaggio, P., & Louch, H. (1998). Socially embedded consumer transactions: for what kinds of purchases do people most often use networks? *American Sociological Review*, 63, 619–637.
4. Baker, W. E., & Faulkner, R. R. (2003). Diffusion of fraud: intermediate economic crime and investor dynamics. *Criminology*, 41, 1601–1634.
5. Stolowy, H., Baker, R., Jeanjean, T., & Messner, M. (2011). Information and trust in financial decision making: insights from the Madoff case. Séminaire de recherche, Université de Manchester.
6. Granovetter, M. (1985). Economic action and social structure: the problem of embeddedness. *American Journal of Sociology*, 91, 481–510.
7. Pressman, S. (1998). On financial frauds and their causes: investor overconfidence. *American Journal of Economics and Sociology*, 57(4), 405–421.
8. Rosen, A., & Rosen, M. (2010). *Swindlers: cons and cheats and how to protect your investments from them*. Toronto: Madison Press Books.
9. Pack, H. (2002). Due diligence. In G. Picot (Ed.), *Handbook of international mergers and acquisitions*. New York: Pallgrave MacMillan.
10. Burt, R. S., & Knez, M. (1995). Kinds of third-party effects on trust. *Rationality and Society*, 7, 255–292.
11. Comet, C. (2011). Anatomy of a fraud: trust and social networks. *Bulletin of Methodological Sociology*, 110, 45–57.
12. Zucker, L. G. (1986). Production of trust: institutional sources of economic structure, 1840 – 1920. *Research in Organizational Behavior*, 8, 53–111.
13. Arrow, K. (1970). Political and economic evaluation of social effects and externalities. In J. Margolis (Ed.), *The analysis of public output* (pp. 1–30). New York: Columbia University Press.
14. Benson, M. L., & Simpson, S. S. (2009). *White collar crime: an opportunity perspective*. NY: Routledge.
15. Blau, P. (1964). *Exchange and power in social life*. New York: Wiley.
16. Guiso, L. (2009). A trust-driven financial crisis. Implications for the future of financial markets. European University Institute: EIEF & CEPR. Retrieved from <http://www.eief.it/files/2012/09/wp-06-a-trust-driven-financial-crisis-implications-for-the-future-of-financial-markets.pdf>.
17. Kramer, R. M. (2009). Rethinking trust. Harvard Business Review. Retrieved from <http://web.ebscohost.com/ehost/pdfviewer/pdfviewer?sid=ae800865-56d1-485b-b2c7-8f8950bb15f5%40sessionmgr14&vid=2&hid=14>.
18. Parsons, T. (1951). *The social system*. Glencoe: Free Press.
19. Shapiro, S. P. (1990). Collaring the crime, not the criminal: reconsidering the concept of white-collar crime. *American Sociological Review*, 55(3), 346–365.
20. Nash, R., Bouchard, M., & Malm, M. (2013). Investing in people: the role of social networks in the diffusion of a large-scale fraud. *Social Networks*, 35(4), 686–698.
21. Hill, C. A., & O'Hara, E. A. (2006). A cognitive theory of trust. *Washington University Law Review*, 84, 1717–1796.
22. Burt, R. S. (2005). *Brokerage and closure: an introduction to social capital*. UK: Oxford University Press.
23. Castelfranchi, C., & Falcone, R. (2001). Socio-cognitive theory of trust. National Research Council. Retrieved from <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.199.259&rep=rep1&type=pdf>.
24. Coleman, J. (1990). *The foundations of social theory*. Cambridge: Harvard University Press.
25. Titus, R. M., Heinzelman, F., & Boyle, J. M. (1995). Victimization of persons by fraud. *Crime and Delinquency*, 41(1), 54–72.
26. Couch, L., Adams, J., & Jones, W. (1996). The assessment of trust orientation. *Journal of Personality Assessment*, 67(2), 305–323.
27. Grebey, J. (2012). *Operations due diligence: an M&a guide for investors and business*. New York: McGraw-Hill Professional.
28. Baranick, D., & Quraishi, S. (1999). Performing financial due diligence associated with commercial mortgage securitizations. In F. Fabozzi & D. Jacob (Eds.), *Commercial mortgage-backed securities* (pp. 397–415). New Hope: Wiley Publication.
29. Van de Bunt, H. (2010). Walls of secrecy and silence: the Madoff case and cartel in the construction industry. *Criminology and Public Policy*, 9(3), 435–450.
30. Eron Mortgage Corporation et al. (1999). (Re). LNBCSC 91. Retrieved from http://www.bpsc.bc.ca/Enforcement/Decisions/ERON_MORTGAGE_CORPORATION_et_al__Decision_/. Accessed 2 Sept 2017.

31. CBC News. (2005). Eron mortgage VP pleads guilty to fraud, theft charges. Retrieved from <http://www.cbc.ca/news/business/story/2005/04/05/eron-050405.html>.
32. Eron Mortgage Corporation et al. (1997) (Re). SCBC A972569. Retrieved from http://www.besc.bc.ca/Enforcement/Decisions/ERON_MORTGAGE_CORPORATION_et_al_Decision_2/. Accessed 2 Sept 2017.
33. Boyd, N., Joy, N., Malm, A., Kinney, B., & McAllister Opinion Research. (2005). *Eron mortgage study*. Vancouver: British Columbia Security Commission Retrieved from http://www.investright.org/uploadedFiles/resources/studies_about_investors/Eron_Research_Study_with_content_page_links.pdf.
34. Deevy, M., & Beals, M. (2013). The scope of the problem: an overview of fraud prevalence measurement. Financial fraud research center. Retrieved from <http://longevity3.stanford.edu/wp-content/uploads/2013/12/Scope-of-the-Problem-FINAL.pdf>.
35. Deevy, M., Lucich, S., & Beals, M. (2012). Scams, schemes & swindles: a review of consumer financial fraud Research Retrieved from http://fraudresearchcenter.org/wp-content/uploads/2012/11/Scams-Schemes-Swindles-FINAL_11.20.121.pdf.
36. Stolowy, H., Messner, M., Jeanjean, T., & Baker, R. (2014). Construction of a trustworthy investment opportunity: insights from the Madoff fraud. *Contemporary Accounting Research*, 31(2), 354–397.
37. McPherson, M., Smith-Lovin, L., & Cook, J. (2001). Birds of a feather: homophily in social networks. *Annual Review of Sociology*, 27, 415–444.
38. Schoepfer, A., & Piquero, N. (2009). Studying correlates of fraud victimization and reporting. *Journal of Criminal Justice*, 37(2), 209–215.
39. Holtfreter, K., Reising, M., & Pratt, T. (2008). Low self-control, routine activities, and fraud victimization. *Criminology*, 189–220.
40. Van Wyk, J., & Benson, M. (1997). Fraud victimization: risky business or just bad luck. *American Journal of Criminal Justice*, 21, 163–179.
41. Dulebohn, J. (2002). An investigation of the determinants of investment risk behavior in employer-sponsored retirement plans. *Journal of Management*, 28(1), 3–26.
42. Graham, J. W. (2012). Missing data: analysis and design. *Statistics for Social and Behavioral Sciences*. https://doi.org/10.1007/978-1-4614-4018-5_2.
43. Langkamp, D. L., Lehman, A., & Lemeshow, S. (2010). Techniques for handling missing data in secondary analyses of large surveys. *Academic Pediatrics*, 10, 205–210.
44. Pigott, T. D. (2001). A review of methods for missing data. *Educational Research and Evaluation*, 7(4), 353–383.
45. Scheffer, J. (2002). Dealing with missing data. *Research Letters in the Information and Mathematical Sciences*, 3, 153–160.
46. Roberts, J. (2009). No one is perfect: the limits of transparency and an ethic for ‘intelligent’ accountability. *Accounting, Organizations and Society*, 34(8), 957–970.