Possible Bias in Asset Valuations: An Application of the Fraud Risk Triangle to Divorce Cases

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Abstract

Divorce has the ability to split many things: a family, marriage, finances, house, friends, and a lifestyle. With rising divorce-to-marriage rates in the United States, divorce affects a historically larger percentage of couples. Unfortunately, the standard of American marriage structure allows for one spouse (the in-spouse) to take the majority of control over finances developing information asymmetry between the divorcing spouses. When faced with divorce, financial information asymmetry can mean the difference between a fair splitting of marital assets, or a biased one. When personal assets have a large fair value range, a spouse can more easily upwardly or downwardly bias a valuation. This study explores the potential for in-spouses to engage in asset valuation bias. Through the distribution of two surveys, we examine whether divorce provides motivation to mis-value assets due to the fraud risk triangle.

Introduction

In 2013, 4.2 million Americans made a vow to their significant other (CDC, 2013). Many repeated the words spoken by an ordained minister: to have and to hold, from this day forward, for better, for worse, for richer, for poorer, in sickness and in health, until death do us part. In the same year however, 1.7 million other Americans ended marriages that they had previously vowed to uphold. Some of those divorces resulted from infidelity, forsaken trust, arguments, marrying too quickly or at a young age, or due to financial issues; others were a mutual agreement of a love that was lost. Some divorces involve children, family pets, or elderly parents in their care; the divorce process does not affect just the two spouses. Regardless, all 1.7 million of them needed to decide how to handle their finances as a, now single, individual moving forward.

Each divorce has its own unique characteristics. Divorce lawyers are trained to treat their clients on a case by case basis to avoid generalization. This proves essential because on a breakdown of financial issues, no two personal balance sheets are the same. In the divorce process, each spouse is asked to create personal financial statements (i.e. balance sheet, income statement, statement of cash flows) and list their personal assets, income, liabilities and expenses. It is in this process that financial fraud by pen and paper can occur.

The in-spouse may attempt to hide assets to enhance their post-divorce financial position. These hidden assets can come in many forms. We no longer only imagine hiding assets as a spouse hiding cash away under a mattress – though that can still be the case. A modern way of hiding assets manifests itself in fair valuation. Assets with a large fair value range can lead to hidden assets. For example, Level 3 assets (See Literature Review,) which are valued based on unobservable inputs lead to high potential for misstatement (FASB, 820-10-35). If a spouse is required to list personal assets to determine the divorce ratio for marital assets, a lower valuation means lowering a liability to the ex-spouse.

When presented with an opportunity, such as the need to declare assets in a divorce case, will individuals respond to the incentive by attempting to hide assets via downward biases? This question requires a degree of human judgment because it must encompass all three points of the fraud risk triangle: incentive, opportunity, and rationalization (See Literature Review.) The

incentive is important because it provides the need to take action. The incentive also provides the direction of the misstatement: whether an individual will overstate or understate a line item. Opportunity is defined as an ability to make the misstatement. Subjective valuation processes can provide an opportunity to misstate. Rationalization (or sometimes referred to as attitude) is the final piece and is important because it gives the individual the reasoning in their actions to actually make the decision. It justifies the wrongdoing even when unethical factors are considered. While incentive and opportunity are temporary factors, rationalization continues long after the situation is finalized. This capstone contributes to an existing body of knowledge regarding hidden assets in divorces and approaches it from a new angle via incorporation of the fraud risk triangle.

Literature Review

Divorce is a topic that most people hope they will never personally experience. That being said, with a steady rise in divorce-marriage rates in the United States, more and more people find themselves to be one of those unlucky individuals who come to terms with divorce. Additionally, while most hope that the divorce process is smooth and has no lasting ramifications on their personal life, moving forward many are unhappily reminded that divorce is never as simple as signing a document; typically there are obstacles along the process that make divorce more complicated – one of them being hidden assets.

Hidden assets in divorce cases make divorce unfair. Divorce lawyers try to make divorce agreements as fair as possible for both parties, but if the participants hide assets, then there can never be a fair splitting of marital assets when the spouses divorce (Hannon, K., 2006). While assets can be completely hidden by never stating them on a list of valued assets, it is more likely that a spouse will downwardly-bias an asset by reporting a value lower than fair market value (Wang, K., 2010). The decision to downwardly-bias an asset can be viewed as unethical as completely hiding an asset. Unfortunately, it is also more difficult to identify and prove misstated assets (Dnes, A. W., 1998).

A spouse would want to hide assets based on the divorce ratio. Some divorce agreements split assets 50/50 between spouses based on similar income levels, similar lifestyles, and a lack of children (Hannon, K.,2006). Other divorce agreements can be split more towards the 60/40

agreement favoring the spouse with the lower income to offset the lowered standard of happiness and living that the spouse will experience after the divorce. In many circumstances, the ratio will vary from the 50/50 to favor the spouse supporting the children after the divorce takes place or the spouse with the lower income levels (Lamaute, D., 1987). By hiding assets when listing personal assets, individuals would experience an economic benefit. If Spouse X is hiding personal assets, it appears as if they have a weaker financial position than is the true case. As a results, they receive more marital assets and a favorable ratio when splitting assets (Meyer, C., 2012).

Regardless of financial pay-offs that intend to pay damages and costs to compensate for the break-up of a marriage, splitting of assets does not mend all wounds. Emotional damage plays a large role and is an injury that simple cash payments cannot make better (Dnes, A. W., 1998). When spouses believe that money can fill the void of a broken marriage, they push for a larger share of marital assets. Money, however, does not satisfy emotional damage to the degree that divorcees believes; both spouses are hurt from the decision to bias assets.

By taking an accounting, tax, legal, and psychological approach to hidden assets in divorce cases, I am able to access various sources in the existing current body of research and provide a full scope view on what that literature says on the topic.

In 2001, the CDC released a statement that said 43% of all first marriages end in the first 15 years (CDC, 5/24/2001). Since then, they have collected over 10 years of data, and the rates continued to grow. In February of 2015, the CDC released the statistics of marriages and divorces from 2000-2012. In 2012, the ratio of divorce to marriage was reported at 52% (CDC, 2/19/2015). This number signifies that for every 100 marriages, 52 divorces occurred, showing a rise in number of divorces. While divorce rates are still up for debate as a widely popular topic, the main point is that more and more couples are divorcing. This divorce-marriage ratio has almost doubled in the past 50 years due to many different factors. Reasons behind this increase in divorce rates could stem from the idea that couples are less happy, the marriage structure is changing, or that nothing has changed except that it is simply more socially acceptable for couples to divorce. It is no longer considered taboo since the family structure has grown towards step-families, blended families, and single-parent families. Regardless, the stigma for divorce has

died down and has seemingly become the only option for some couples to solve their problems. A divorce-marriage rate of 52% means that there is an extremely large population of people to be affected by hidden assets who deserve to get their fair share in a divorce.

Most marriages, unknowingly, follow the typical structure of the in-spouse/out-spouse relationship (Gadoua, 9/15/2013). American marriages often value efficiency in their family. Typically couple designate a "point person" to be in charge of different tasks around the house. When the couples divide the financial responsibilities, the in-spouse/out-spouse relationship occurs. The terms "in-spouse" and "out-spouse" have been coined by legal professionals for the past few decades regarding the division of financial tasks. The in-spouse represents the spouse who has the knowledge of the couple's financial position including tax forms, income, asset valuation, budgeting, and retirement benefits; this spouse, therefore, has control and power regarding the financial outcome in the divorce. The out-spouse is the spouse who often took the in-spouse's word for granted regarding their financial position, and during the divorce, is unaware of their true financial standing. Most marriages follow this traditional pattern because rather than splitting every task between Spouse A and Spouse B, most couples will delegate different tasks between the individuals. For example, instead of sharing Tasks I and II between Spouse A and Spouse B equally, the couple will choose to delegate Task I to Spouse A and Task II to Spouse B. American marriages often divide household tasks such as cooking, cleaning, yard work, house updates, raising children, teaching religion, and finances between spouses. By doing so, the couple increases their efficiency by appointing a spouse to take the lead role of the designated task since both spouses can contribute equally yet function independently. This is not the only marriage structure by any means, however, it is commonly the case due to the importance of efficient marriages to avoid arguments.

This situation creates a sense of information asymmetry since each spouse has little to no knowledge of the task being performed by the other spouse. Information asymmetry occurs when one party has additional information that is material in the process of decision making (Vakilifard, March 2011). In the case of divorce agreements, information asymmetry occurs since the in-spouse has complete understanding of the combined financial position while the out-spouse does not know specifics on bank accounts, retirement savings, stock investments, house values, and other monetary decision-making factors. This relates back to hidden assets during

divorces because if hidden assets occur, often the in-spouse is the one hiding assets from the out-spouse. The out-spouse would not necessarily be able to identify if any asset is missing or misstated due to their lack of information.

When looking at a list of assets compiled by a spouse, the concrete assets such as cash are not the ones being misstated. Misstating assets with such a specific value is easily detectable. The assets that are easiest for a spouse to misstate on financial statements have large fair value range to avoid detection. All assets are broken down based on these measurements and are divided into three categories based on their valuation. The FASB Codification divides the fair value hierarchy into three categories. Level 1 inputs are valued based on quoted prices which are unadjusted. The quoted price is the most accurate and reliable source of evidence for assets. Essentially, they are assets with fixed prices such as cash or shares of a publicly traded company's stock, which cannot be easily misstated. Misstating Level 1 assets provides no true benefit since it would be easy to catch. Rather than being misstated on a list of asset, the more likely option would be to hide the assets completely. Cash is relatively easy to hide because an individual has options ranging from hiding it under a mattress, burying it, sheltering it, or giving it to a friend or family member. Level 2 inputs, are assets that have a price yet are indirectly observable. They are often valued based on comparing it to similar, but not identical, assets. An example is a bond that can be valued based on market measures such as yield curves. There are fewer assets that fall into this category so typically we don't see many of these in personal accounts for a divorce. The uncertain value ranges given to Level 2 assets don't vary greatly; to combat this, spouses will typically not misstate Level 1 or Level 2 assets, but will more often misstate Level 3 assets. Level 3 assets are valued based on unobservable inputs. Typically, an individual (person or corporation) may use their own data and also take into consideration other market participants who would use other data. Level 3 assets are volatile in their valuation since they are often based on an estimate of future benefit. Valuations of Level 3 assets are easy to manipulate since they are often given a large range in their valuation. As stated before, this is why they are used so often in mis-valuation of assets – because the individual can get the largest benefit from their effort when reaching for an overstated or understated number. The individual's amount for valuation will determine if participants will respond to the incentive of the divorce case and therefore, there is a human element involved in all Level 1, 2 or 3 asset valuations (FASB, 820-10-35).

In addition to asset levels, there are two main forms of asset types: personal/individual assets and shared/marital assets. These are not the only types of property, they are simply two common assets involved in the misstatement process of divorces. Personal and marital assets are defined by a reflection of their name. Personal assets belong to individual people and are not owned by more than one person. Marital assets are owned by a combination of people at any degree whether it be a 50/50 share or a 90/10 share of ownership. Personal assets can be sold and turn into a marital asset and, likewise, a marital asset can be sold and turn into a personal asset. In divorce cases, we look at valuing personal assets. Initially, the in-spouse will value a personal asset. That asset valuation affects the shared assets because if the personal asset is undervalued, then the individual will receive a larger portion of the shared assets per the divorce agreement ratio. In turn, the out-spouse will receive a smaller portion of the shared assets per the divorce agreement due to this misstatement. We see that although the in-spouse does not change financial standing, on paper, they have listed that they own less than they do and therefore demand a higher percentage of the marital assets. The out-spouse suffers because of this act (Dnes, A. W. 1998).

The typical incentive structure for publicly traded companies is to overstate assets to show a more favorable view of the company. This overstatement in assets will improve many ratios that investors use in making decisions including but not limited to: Accounts Payable Turnover Ratio, Asset Turnover, Capacity Utilization Rate, Days Inventory Outstanding (DIO), Days Sales Outstanding (DSO), Fixed Asset Turnover, Inventory Turnover, and Receivable Turnover Ratio. For publicly traded companies, assets are balance sheet items, and therefore they show up in GAAP financial statement documents. Since for these documents, companies want to show a healthy financial position, they will tend to overstate assets or take a slower depreciation method to understate expenses. The SEC covers a case where GLG Partners Inc. and GLG Partners LLP bought an asset for $210 million and just a few months later, valued the asset at $425 million (S.E.C., 12/12/13). A $215 million increase in asset value over a few shorts months is unrealistic yet benefits the company's financial position. This method of asset manipulation shows that there are incentives to show an asset for more than its fair market value, or in this case, double its FMV. Even in taxable transactions, a company will claim that a company's basis in the asset is high or worth more so when the company sells that asset, it recovers a higher basis which results in lower taxable income. Publicly traded companies are more likely to overstate their assets,

especially liquid ones, to avoid scrutiny and prove healthy financial standing. In this incentive structure, individuals are often driven to upwardly bias their Level 3 assets to prove a healthy financial situation.

Another incentive structure occurs when individuals are driven to undervalue assets because of splitting of assets due to a divorce process. In this situation, the individuals will downwardly bias the value of the personal asset so there will be fewer martial assets to give up. The participant will undervalue their personal assets to receive a larger share of the marital assets. This incentive strategy is represented

The term widely known as the fraud risk triangle is a common theme in this body of research. The fraud risk triangle is comprised of three inputs: incentive, opportunity, and attitude (SAS No. 99). Incentive provides a reason to misstate an asset or liability, an opportunity creates an opening to take that action, and the rationalization allows the process to be justified to the individual. In detail, the individual facing fraud needs to have an incentive to commit a fraudulent activity, have the opportunity to commit it, and have the right justification, attitude, or mindset to rationalize the action. In order for a misstatement to occur, all three components of the fraud risk triangle must be present.

Based on the current body of literature surrounding this topic, the experts regarding asset valuation in divorce cases are forensic accountants, divorce lawyers, and divorce accountants. These professionals know the details of different ways assets can be hidden and where they show up in financial statements. My final topic found in the literature is a high-level list of ways to hide assets. This list is meant for spouses to use by checking these areas for hidden assets rather than using the information to create ideas on *how to* hide their assets. Hidden assets can be found in: accounts under another name, overpayment of taxes or credit card bills for future refunds, marital estates, loans, pawn shops, casinos, collections, hidden income, mis-valuation in an owned business, fair values on personal assets, cash withdrawals on debit cards, temporary rejection of a promotion or a raise, retirement accounts, stock options, and fake expenses. I will take the more viable items and explore them in detail for a section in my capstone (See Other Hidden Assets.) For example, if the couple or one of the spouses owns a company, many examples have been found proving that in-spouses often shelter cash income in the company and

do not disclose this income to their out-spouse. Many different ways of hiding money can be found in personal businesses including not reporting income, listing purchases as expenses to reduce income, passing off business expenses to personal accounts to prove a faux weak financial standing, and more.

Furthermore, if assets are hidden, they can been traced to different financial statements such as the balance sheet. A reviewer can analyze the balance sheet to see if assets decrease in value over time or simply disappear – as would be a cause for concern. Once physical evidence is proof that a spouse has been hiding assets, some states will act on it and enforce an unequal split of marital assets and award legal consulting fees to that spouse as well. This proves that hidden assets have enforcement behind them. They are not bad simply because they are unethical – they are illegal and have consequences. If we can better understand how assets are hidden are misstated, then that provides a route to finding those assets and providing both spouses with their fair share.

Methodology of Study

In order to measure the variable estimates in asset valuation, I created, distributed and analyzed a case study survey approved by the Institutional Review Board (See Appendix A.) The information in these surveys was identical with one exception: it was created with two variations of incentives: Case D (divorce) and Case L (bank loan.) These two case study surveys list an assortment of assets, some being fixed in their market price such as Cash or Investment in XYZ Corporation, while other have a range of fair market valuation such as a House (from parents' estate,) Car, and Foreign Stock Option (See Appendix B and Appendix C.) The participants were placed in the role of financial advisors and told that there are assets with uncertain valuations. They were then asked to choose one price at which to list each asset. The assets, instructions, and value ranges are constant between both cases. The varying factor is the situation or incentive that the participant is given. Case D indicates that the client is facing an outstanding divorce case and is valuing his/her personal assets that he/she will keep in possession after the divorce in order to determine the divorce ratio for splitting of marital assets. The client needs to value the assets in order to split the marital/shared assets with his/her spouse according to the divorce agreement and the participants assist the client as their financial advisor. Case L indicates that the client is applying for a bank loan and the values will be used to determine if the loan is granted and the favorability of the loan conditions. Each participant received only one case (D or L) so that the

results have a high level of accuracy and avoid demand-driven results. My hypothesis states that the participants who receive Case D (Group D) will tend to downward-bias the asset values and the participants who receive Case L (Group L) will tend to upward-bias the asset values. This hypothesis is backed by the idea that the participants are simply responding to the incentive given to them and when they are given the incentive and opportunity, they can manipulate the values if they have the rationalization to do so. Additionally, I hypothesize that Level 1 assets will be downward-biased/upward-biased to only a small degree if any since they require more incentive and rationalization to misstate. I believe that Level 3 assets will show a high degree of downward-bias/upward-bias since the large fair value range allows for a higher degree of misstatement.

In this capstone, participants were judged on their ability to take advantage of an opportunity if given the incentive to do so. Two incentives were given to different participants and the data collected was judged to the degree they took advantage of that opportunity. Participants who received case D were analyzed to see how much they understated their assets and participants who received case L were analyzed to see how much they overstated their assets. Although the cases provided opposite but equal incentives, both groups of participants were given the same opportunity and were judged to see how they each provided a human element to the justification. The fraud risk triangle theory is connected to different themes throughout the capstone, such as information asymmetry and the in-spouse/out-spouse comparison.

Before the cases were distributed to the participants, however, they went through several steps. The case study survey passed through the Institutional Review Board (IRB) in order to ensure participant security (See Appendix A.) In addition to the information stated in the above paragraph, the case also asked for the participant's demographic information to monitor any similarities. The final question of the case acted as a manipulation test to ensure the accuracy and quality of the responses. After answering a distractor: "What was the individual's name in the case?" the participant was given a multiple choice answer asking what situation their client was facing and was given answers such as: divorce, bank loan application, audit, new job opportunity (etc.) The correct choice was "divorce" if given Case D or "bank loan application" if given Case L. If the participant did not answer the manipulation check correctly or left it blank, the results were not included in the final data analysis to ensure data quality. If the participant answered the

manipulation check after the distractor, then they showed that they understood the incentive of the case. The draft of the cases was reviewed by different Bryant University accounting professors and students before distribution. These individuals reviewed the cases and ensured accuracy and voiced any concerns or issues they saw. The cases were reviewed, and after IRB certification, they were distributed to a pilot test of participants of graduate level accounting students. These pilot participants took the case in the same manner that the final participants did, and upon completion of the cases, I conducted an open discussion and debriefed with the assistance of my faculty advisor to hear any struggles that the participants faced or any issues that were not clear to them and made the cases confusing. This debrief helped ensure that the cases were user-friendly to the participants. Material modifications were made to the survey instrument as a result of these procedures. All of these steps were taken to ensure that the best possible case was presented to gather the most accurate data.

The participants surveyed were upper-level accounting and finance students at Bryant University as well as graduate students. The Bryant student sample accurately represents financial statement preparers and financial advisors and is controlled by the consistency of their education from the Bryant accounting (finance) curriculum as well as the number of responses attainable for the data set. In the article "Are MBA Students a Good Proxy for Non-Professional Investors?" Elliott suggests through research that MBA students exemplify non-professional investors and the use of MBA students for representing the adult population is a valid methodological choice (Elliott W. B., et al, 2007). Most of Elliot and colleagues' research uses knowledge of financial accounting as a key indicator for these MBA students, therefore I feel confident that upper-level accounting students have equal knowledge on that issue and can accurately represent the financial advisor. The target population for the survey was the financial advisor or consultant who prepares financial statements and understands the financial position. Since Bryant accounting and finance students have a high level of financial competence and can understand the results that a financial decision can have. I was able to work with the students of several accounting and finance professors who teach upper-level and graduate-level classes.

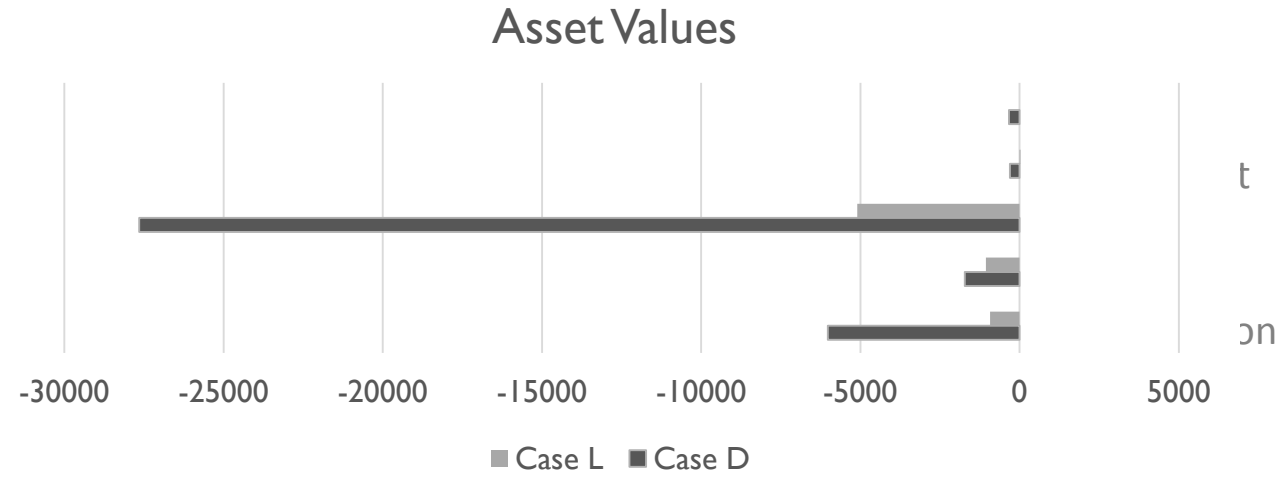
Results

I administered Case L and Case D via paper copies and online via Qualtrics, an online survey database. I distributed over 150 surveys, 116 of which were partially completed, and 105 of

which were fully complete and also answered the control question correctly. The 105 final surveys were divided as followed: 51-Case D, 54-Case L. The table below (See Appendix E) shows the values' "difference from middle value" value grouped by incentive. It was calculated by finding the median range of the asset value range and then comparing it to the participants' actual average value. A difference from middle value of 0 would suggest that there was no incentive felt by the participant to upwardly-bias or downwardly-bias an asset's value. Likewise, a negative difference from median value would represent an incentive that contributes to downward-biasing an asset and a positive difference from median value would represent an incentive that contributes to upward-biasing an asset.

	Case D Average	Diff. from Middle Value	t Value	Pr > t	Case L Average	Diff. from Middle Value	t Value	Pr > t
Participant's Value Cash	$ 14,667	$ (333)	-1.13	0.2654	$ 15,000	$ -	-	-
Participant's Value Investment	$ 9,696	$ (304)	-1.51	0.1378	$ 10,028	$ 28	0.72	0.4720
Participant's Value House	$ 622,353	$ (27,647)	-3.44	0.0012	$ 644,907	$ (5,093)	-0.01	0.3191
Participant's Value Car	$ 35,784	$ (1,716)	-5.72	<.0001	$ 36,440	$ (1,060)	-3.82	0.0003
Participant's Value Stock Option	$ 83,980	$ (6,020)	-3.03	0.0039	$ 89,074	$ (926)	-0.94	0.3495

As indicated above, the Case D values all have a negative difference from median value which represents that the Case D participants were incentivized to downward-bias the assets and therefore provided the rationalization in doing so when presented an opportunity. Case L also shows a negative difference from median value for the Level 3 assets. In all 5 assets, however, Case D assets were downward-biased to a larger extent than Case L assets. For example, the house's value was biased over 5 times more so in Case D than in Case L representing a stronger incentive.



The above bar graph (See Appendix F) represents this incentive and displays the extent to which the difference from the median values contrast. Although all asset values are pulled down from the median value as a result of downward-biases, Case D is understated to a much larger extent than Case L.

	Cash	Investment	House	Car	Stock Option
Intercept	13316.00	10549	648398	38850.00	96718
	(8.42***)	(26.01***)	(19.89***)	(26.61***)	(15.7***)
Divorce/Loan	-304.87	-324.88	-23284	-687.86	-5037.43
	(-1.18)	(-1.72*)	(-2.52**)	(-1.77*)	(-2.44**)
GPA	96.46	-194.81	2553	-20.53	-3058.68
	(0.65)	(-0.94)	(0.37)	(-0.05)	(-1.49)
Year	424.15	-38.46	-4392	-827.67	234.05
	(0.99)	(-0.2)	(-0.41)	(-1.49)	(0.1)
Gender	-238.63	223.55	-9805	546.13	2508.29
	(-0.89)	(0.79)	(-1.06)	(1.43)	(0.90)
Familiarity with FRT	115.35	-22.45	1044	-156.68	-440
	(1.25)	(-0.33)	(0.43)	(-1.65)	(-0.65)
Model F	2.040	1.090	1.370	3.010	2.000
Pr > F	0.079	0.370	0.244	0.014	0.086
R^2	0.048	0.052	0.065	0.132	0.092

Coefficient t-statistics are shown in parenthesis. *, **, * indicates significance at 1%, 5%, and 10% level respectively.**

The multivariate results for asset values (See Appendix G,) show the strength of the difference between Case D and Case L values and to what any difference is attributable. While one of the Level 1 assets (cash) was not statistically significant in a difference, the other (investment) was. For cash, Case D, on average, was $300 lower than Case L with a t-value of -1.72 and a significance level of 10%. For the investment, Case D, on average, was $23,000 lower than Case L with a t-value of -2.52 and a significance level of 5%. For the house, Case D, on average, was $700 lower than Case L with a t-value of -1.77 and a significance level of 10%. For the stock option, Case D, on average, was $5000 lower than Case L with a t-value of -2.44 and a significance level of 5%. Each of these assets and significance levels relates to which survey incentive the participant received.

	Case D	Case L
Asset 1 Confidence	7.84	8.48
Asset 2 Confidence	7.1	7.87
Asset 3 Confidence	5.2	5.59
Asset 4 Confidence	5.41	5.78
Asset 5 Confidence	4.53	5.2
Average Confidence	**6.02**	**6.59**

In Addition to asking the participants which asset value they would list, the survey also asked how confident they were in each asset's chosen value. The values ranged from 1-9; 1 represented that the participant was very uncertain and 9 represented that the participant was very certain. The average confidence for Case D was lower than Case L. Each asset reflected this same confidence asymmetry. Further, Level 1 assets also achieved a higher confidence level than Level 3 assets in Case D and Case L. The average confidence levels below (See Appendix H) display the difference in confidence between the two cases and also between the different asset levels.

	Cash	Investment	House	Car	Stock Option
Intercept	7.08	7.99	6.55	6.49	6
	(8.94***)	(8.88***)	(7.61***)	(6.94***)	(4.51***)
Divorce/Loan	-0.58	-0.76	-0.38	-0.35	-0.66
	(-2.26**)	(-2.29**)	(-1.29)	(-1.15)	(-1.80*)
GPA	0.15	-0.03	-0.64	-0.47	-0.52
	(0.76)	(-0.13)	(-2.83*)	(-1.89*)	(-1.79*)
Year	0.21	0.05	0.25	0.14	0.10
	(0.98)	(0.18)	(0.72)	(0.39)	(0.21)
Gender	0.50	0.27	0.32	0.30	0.25
	(1.89*)	(0.84)	(1.00)	(0.91)	(0.63)
Familiarity with FRT	0.04	-0.05	-0.04	-0.02	0.02
	(0.81)	(-0.86)	(-0.48)	(-0.26)	(0.22)
Model F	2.100	1.200	1.860	1.100	1.370
Pr > F	0.072	0.313	0.108	0.368	0.242
R^2	0.096	0.054	0.086	0.005	0.065

Coefficient t-statistics are shown in parenthesis. *, **, * indicates significance at 1%, 5%, and 10% level respectively.**

The multivariate results for confidence show the strength of the difference and also the variable to which the difference is related. For Level 1 assets, both confidence levels were related to which case the participant received. For cash, Case D, on average, was .58 lower than Case L with a t-value of –2.26 and a significance level of 5%. For the investment, Case D, on average, was .76 lower than Case L with a t-value of –2.29 and a significance level of 5%. For Level 3 assets, all confidence levels were related to the GPA level of the participant. For the house, Case D, on average, was .64 lower than Case L with a t-value of –2.83 and a significance level of 10%. For the car, Case D, on average, was .47 lower than Case L with a t-value of –1.89 and a significance level of 10%. For the stock option, Case D, on average, was .52 lower than Case L with a t-value of –1.79 and a significance level of 10%. The significant of which variable (Case D or L versus GPA level) tells us why that number follows a certain trend and emphasized how different levels of assets are treated in such cases.

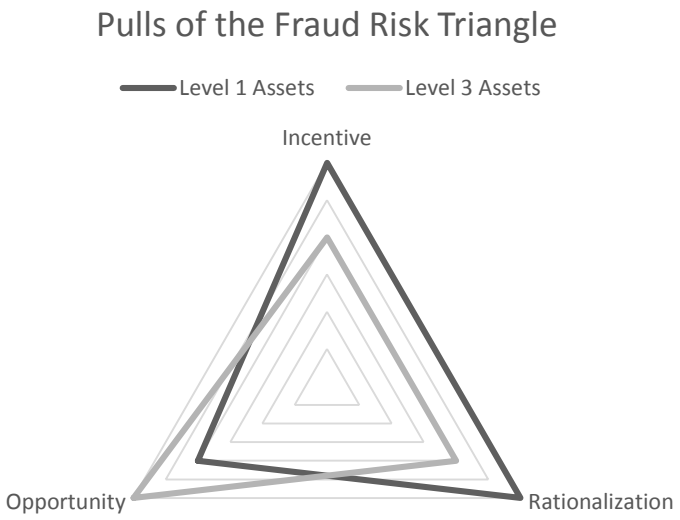
The survey also asked participants to list the value that they think their peers might list. Certain research suggests that in ethical circumstances, the peers' value may be a better indicator of the participants' true intentions because the participant would inflate ethical standards in their own response but not portray that in their peers' response. In this capstone, there was no statistical significance in any difference between the participants' own response and the peer's response, (See Appendix E) therefore, only the participants' responses were analyzed.

Additionally, there was no statistical significance between the MBA students and the undergraduate students (Elliott W. B., et al, 2007). Therefore, the results in this capstone are assumed to be generalizable to the broader population of financial advisors.

Analysis

The results of the surveys support many of the original hypotheses. The hypothesis stated that Level 1 assets would show less upward/downward-biases than the Level 3 assets. Based on the average values for assets, it is clear than Level 1 assets are less likely to be misstated. This is because the reason that there is no fair value range in a Level 1 asset, only a stated value. It would take a larger incentive and deeper rationalization to misstate a Level 1 asset. The opportunity for Level 1 asset misstatement is smaller, therefore misstatement occurs fewer times, as shown in the results. Following this hypothesis, Level 3 assets showed the greatest amount of

upward/downward-biases due to the larger opportunity. The different pulls of the fraud risk triangle for each level asset is shown below (See Appendix J.)



The hypothesis stated that Case D would show a downward-bias of asset values (falling below the median value.) All 5 assets showed this reaction and mirrored the hypothesis' expectations. In theory, the participants are simply responding to the incentive so it is expected that the Case D participants would show this reaction. The hypothesis also stated, however, that Case L would show an upward-bias of asset values (falling above the median value.) Looking at the results, there is no indication that participants tend to upward-bias their assets at all; in fact, participants show that they tend to downward-bias their assets when presented with a bank loan application. This result was not expected since the participants would originally be incentivized to list the assets at a higher value to receive better loan conditions and/or have the loan approved.

The reasoning behind this could be explained by the fact that mainly accounting students comprised the participant sample demographic. Accounting students are regularly taught the principle of conservatism; this is defined as using modest decision-making techniques often imposing strict revenue-recognition standards. The position allows companies to report a confident number to investors without making bold, and often unattainable, estimates. By learning this principle in accounting courses and having the sample demographic primarily made

up of accounting students, the results are more likely to be downward-biased overall to reflect conservatism. Case D favors a conservative asset value since the client receives a benefit from reporting a lower value and Case L participants would not see this benefit.

This conservatism in valuation methods also suggests that the participants favor the existence assertion more so than the completeness assertion. The 5 main accounting assertions are: existence and occurrence, completeness, valuation & allocation, rights &obligations, and presentation and disclosure. In this conservatism method of valuation, participants chose to value assets at a number far below the median value. In doing so, the participants violated the completeness assertion by valuing the asset (repeatedly) at a lower fair value. This suggests that participants favor the existence assertion over the completeness assertion and do not desire to list an asset too far above what it is valued.

While this explains the Case L downward-biases, this reaction alone would cause both incentive structures to downward-bias assets to an equal degree; the results would be the same if this were the case. However, Case D was understated to a much greater degree than Case L values. Regardless of the direction of the bias, Case D still showed a greater reaction to the incentive and reflected that in much lower biased asset values. Four out of 5 assets showed a statistically significant difference in asset values, favoring a lower value in Case D. Because of this difference, a conclusion can be made by comparing the differences in Case D and Case L. Based on the results between the two sets of participants, it is evident that divorce is a stronger incentive for misstatement than a bank loan.

Confidence levels were also results that varied by incentive and asset level. Confidence for Case D was lower in every asset category than Case L. Additionally, confidence dropped from a higher confidence in Level 1 assets to lower confidence in Level 3 assets. Those results, however, were clustered. While the results for asset values were concentrated in Level 3 inputs, confidence levels were spread over two variables: incentive structure and GPA level. The difference in confidence levels for Level 1 inputs was statistically significant in regards to incentive structure (whether the participant received Case D or Case L.) The participant was, overall, less confident in receiving Case D and showed that in the confidence level. However, when the participant moved on to Level 3 assets, the difference in confidence levels was

statistically significant in regards to the participant's GPA level. The higher the GPA level for Level 3 assets, the lower the confidence. Possibly, this is because smarter students simply acknowledge when they do not know something such as Level 3 assets and reflect that in their confidence. Based on incentive structure, while results for values were clustered in Level 3 assets, results in confidence were clustered in Level 1 assets. Additionally, higher GPA levels reduced confidence in Level 3 assets.

Emotional Components

Part of the reason as to why divorce is a stronger incentive for misstatement than a bank loan is because the two incentives are not comparable in all aspects. While both Case D and Case L contain an economic factor (loss of marital assets/loss of money due to higher interest rates,) only one incentive suffers an emotional aspect. While we don't often view asset valuation as an emotional process, if it occurs due to the end of a marriage, emotions almost always affect the value of assets.

	Case D	Case L
Economic Factor	X	X
Emotional Factor	X	

Jones 1991 Model of Moral Intensity for Ethical Issues lists six different factors that can intensify an individual's reaction to a situation with emotional components. The factors Jones lists are: magnitude of consequences, social consensus, probability of effect, temporal immediacy, proximity, and concentration of effect (Jones, 1991). The model suggests that for emotional and ethical issues, such as applying for a divorce from a spouse, the reactions are more likely to be intensified. We viewed an example of this model in two aspects. In values, we viewed that a bias is stronger for divorce than a loan. This is due to magnitude of consequences by considering the harms done to the out-spouse and the benefit to be derived for the in-spouse. In confidence, however, we viewed that divorce participants are less confident of their decisions. This is due to social consensus since hiding assets has a higher social agreement that the act, in itself, is more evil than good regardless of the divorce situation (Jones, 1991). This model, as

well as many more, further explain the results of the divorce to bank loan comparison. Due to emotional factors, divorce is a stronger incentive for misstatement than a loan, yet delivers weaker confidence.

Other Ways to Hide Assets

Bias in asset valuation is only one method of hiding assets in a divorce. There are also many other ways to hide assets. A spouse could easily take extra cash on hand and hide it under a mattress, in a floor board, or in any secret spot. This "mattress stuffing method" causes information asymmetry between spouses since the cash does not exist on paper to the out-spouse when reporting personal and marital assets. This method is easily done in a closely held business where there is a high amount of cash handled. After cash is acquired, another method could be hiding cash in a hidden bank account. While this method is more easily detectable, it can result in high rewards as long as it is successful. Another option is to give cash to a relative or friend. This way the in-spouse receives the full benefit of that cash simply at a later date which avoids the out-spouse's detection.

Aside from hiding physical assets, a spouse can also postpone a promotion. If an individual is up for a raise and in the midst of a divorce, they will benefit from postponing that benefit. This would reduce personal assets listed and raise marital assets received. A spouse can also simply overpay their taxes to the IRS. By doing this, they incur many expenses through marital assets initially but then receive them at a later date through their personal assets. Not only does this hide assets, but it transfers an asset from a marital asset to a personal asset.

While hiding assets is popular in many forms, one of the best ways to avoid detection is to forget to list assets. Since the out-spouse doesn't have much financial knowledge due to the information asymmetry, the likelihood that they would detect missing minor assets is minute. Additionally, if caught, there is no proof that the in-spouse intentionally misled the out-spouse and therefore results in a small, if any, repercussion.

By looking at different situations that divorcing spouses may be in, there is a specific marriage structure that is applicable for this capstone besides the typical in-spouse/out-spouse relationship. This marriage structure is that when one spouse is wealthier than the other spouse. This occurs when spouses come from different family backgrounds and a spouse inherits more from their

family. Even if both have expert lawyers and accountants hired and both spouses have complete knowledge of financial standing unlike typical in-spouse/out-spouses, the wealthier spouse has more room to misstate assets as stated in the table below.

Asset	Spouse A	Spouse B
Asset Value Range	$800,000 - $900,000	$200,000 - $225,000
Asset Value Listed	$800,000	$200,000
Benefit (difference from median value)	$50,000	$12,500

The table above outlines a situation where spouse A has a house from his/her parents' estate worth 800,000-$900,000 and spouse B has a house from his/her parents' estate worth $200,000-$225,000. For each asset, the value range is comparable and represents a 12.5% asset value range (calculated as 100,000/800,000 and/or 25,000/200,000.) These assets are both personal assets, separate from marital assets, meaning each spouse will own their respective assets and benefits after the divorce. From calculations, spouse A has a range of $100,000 while spouse B only has a range of $25,000. Based on the incentive structure that divorce favors, they are more likely to choose the lowest value to show fewer personal assets to claim more marital assets through the divorce ratio. Even if they both choose the lowest acceptable downward-biased number to represent their asset (Spouse A: $800,000; Spouse B: $200,000,) spouse A has come down $50,000 (850,000-800,000) from the median value of his or her asset while spouse B has come down only $12,500 (212,500-200,000) from the median value of his or her asset. If we translate this to savings, then spouse A saves 4 times (12,500/50,000) more than what spouse B saves. While both spouses have lowered their values to offset the other spouse doing so, spouse A has lowered his/hers to a far greater extent than that of spouse B. This would translate into a shift in the divorce ratio split of assets in favor of spouse A.

This situation suggests that financial standing (independent from the other spouse) plays a large role in asset valuation. Financially secure spouses have a greater advantage and more to gain by understating assets on a complete listing per a divorce agreement. One divorce lawyer stated that "the more assets a marriage has, the more likely they are for asset misstatements in divorce cases." This factor affects the spouse's incentive to misstate assets and results in the divorce agreement never being completely fair for both parties.

Ethical Components

Because divorce is a highly emotional event, it is important to consider the ethical issues. If hidden assets occur in a divorce, then an unethical issue has already occurred. To avoid this, I suggest three recommendation in setting an ethical divorce process. This is not a comprehensive list and should in no way be relied on, but rather these are merely suggestions that have come forward based on the nature of this research.

First, I recommend that both spouses agree to a set standard in valuing their assets together. When using a valuation expert, they should consider using one professional rather than two or multiple. Not only does this save on expenses paid, but can result in a smoother process and similar valuation methods. When receiving that value range, spouses should also set a standard in selecting the one value: either the mid-value, lowest value, or highest value. The average value may be considered the most accurate value, but regardless of the number chosen, it is essential that a standard be used in all Level 2 and 3 assets. It may be beneficial to consider a mediator rather than a divorce lawyer since these trained professionals have guided many difficult divorces, eased tension in emotions and finances, and have considered the ramifications on any children involved in the divorce.

Another suggestion would be to consider the legal implications of hidden assets. Although some methods are simply unethical, others are illegal. Hiding assets that belong equally to both parties is considered misappropriation. Hiding income from a closely held business and not recognizing the revenue can lead to tax evasion. While all hidden assets are unethical, it is important to note than others can lead to court rulings.

The final suggestion is to remember the emotional value of an asset. If an item has been held in a family for a long time, its emotional value can be far greater than its economic value. The splitting of this asset does not equate to its value and if the asset will only be held by one spouse, the emotional loss can be great for the other spouse. All assets in a divorced family have an emotional aspect; this value is intensified during the divorce process.

Lastly, I would like to emphasize the point that hiding assets does not compensate for a damaged relationship. While the initial benefit of a hidden asset soothes the short-term pain, it does not

heal the long-term damages of a failed relationship. Money does not equate to happiness and the unethical misappropriation of assets leads to a damaged relationship even beyond the divorce.

Moving Forward

In my next steps for further research and to complete my works as a whole, I would like to accomplish three tasks. First, I intend to survey finance students. Finance students have not been drilled with conservatism to the degree than accounting students have and therefore may show different results for Case L. During this time, I would also like to talk with more divorcees, divorce lawyers, and mediators to determine personal stories of how hidden assets have affected their own lives or professions. From there, I will look into sharing the responsibility of presenting these works to the Forensic Accounting Section of the American Accounting Association with my faculty advisor. Lastly, after many edits and additions to the research, I would like to move forward and publish my works in the Journal of Forensic Accounting: Auditing, Fraud, & Risk. This goal ensures that I will need to follow through with next steps to provide new knowledge to the body of literature at large.

Summary

In summary, there are many different methods to steal, hide, or misappropriate assets during a divorce. Bias in asset valuation is simply one method of many. Based on the results from the two case study surveys, it is evident that divorce is a stronger incentive for misstatement than a bank loan. This strength is supported by the Jones 1991 Model of Moral Intensity for Ethical Issues and supports why divorce respondents listed lower valued assets and at a lower confidence level. Hidden assets is more likely to occur in any marriage structure with high information asymmetry (in-spouse/out-spouse) or any marriage structure where one spouse is significantly wealthier than the other. Overall, hidden assets are part of a topic that is filled with unethical issues and whenever hidden assets are suspected, bias in asset valuations should be investigated in order to remove unfairness and to avoid further damage in the divorce process.

Appendices

Appendix A – IRB Approval

November, 2014

Jennifer Tomasetti

RE: IRB Proposal #2014-1110:
TITLE: Possible Bias in Asset Valuations: An Application of the Fraud Risk Triangle to Divorce Cases

Dear Jennifer:

Your proposal, entitled "Possible Bias in Asset Valuations: An Application of the Fraud Risk Triangle to Divorce Cases" was considered under IRB Guidelines for expedited review. The IRB Committee of Bryant University approved the proposal November 10, 2014.

Bryant University is strongly committed to adhering to the basic ethical principles related to the conduct of research involving human subjects as set forth in *The Belmont Report: Ethical Principles and Guidelines for the Protection of Human Subjects of Research*. The submission of your proposal to the IRB Committee supports the goals of Bryant University and the IRB Committee and ensures that research involving any members of the Bryant community is in strict accordance with these ethical principles and guidelines.

Thank you for your submission, and good luck with your research.

Very truly yours,

Sukki Yoon
Chair, IRB Committee

Appendix B – Survey D (Divorce)

Bryant University
Honor's Capstone Survey

Capstone Survey

Survey Administrator: Jennifer Tomasetti
Faculty Advisor: Charles Cullinan
Editorial Reviewer: Kwadwo Asare
Spring 2015

(**NOTE:** Please review the Consent Form before completing this survey. Complete the survey given the instructors requests. One you turn the page to demographic questions, please do not go back and check the statement information. If you have questions after participating, you may contact Jennifer Tomasetti at jtomasetti@bryant.edu or Charles Cullman at cullman@bryant.edu.)

Research Consent Form:

1. Statement of purpose
You are invited to participate in a study of asset valuation. We hope to learn how to value assets that are given a large value range. You were selected as a possible participant in this study because you are either an upper-level accounting or finance student or you are in a graduate level class at Bryant University.

2. Description, Including Risks and Benefits
If you decide to participate, we will conduct an experiment involving the following procedures: You will be given a small statement to read and will act as the character's financial advisor. After the statement, you will be asked to value the character's personal assets to prepare them for next steps. The survey will take approximately 5-10 minutes; additional time will be given to those who request it.

3. Alternative Procedures
If you prefer the case be read to you due to any academic/physical disabilities, please let the administrator know and other testing options will be given to you at that time.

4. Confidentiality
Any information obtained in connection with this study will remain confidential and will not be disclosed to the general public in a way that can be traced to you. In any written reports or publications, no participant other than the researchers will be identified, and only anonymous data will be presented. Only general data such as demographics will be released if there is a correlation of data under those categories; demographic studies will only be conducted given a large number of responses to keep your identity secure.

5. Information Security
This consent form, with your signature, will be stored separately and independently from the data collected so that your responses will not be identifiable.

6. Statement that Participation Is Voluntary
Your participation is completely voluntary, and your decision whether or not to participate will not affect your future relations with Bryant University or its employees in any way. If you decide to participate, you are also free to discontinue participation at any time without affecting such relationships. However, it is requested that you notify the investigator of this.

7. Persons to Contact
If you have any questions, please contact Jennifer Tomasetti (jtomasetti@bryant.edu) at 774-217-3877. If you have any additional questions later, we will be happy to answer them and you can have a copy of this form to keep.

8. Signature Indicating Informed Consent
Please sign below if you have decided to participate. Your signature indicates only that you are at least 18 years of age and have read the information provided above. Your signature does not obligate you to participate, and you may withdraw from the study at any time without consequences.

Signature of Participant:_____ **Signature of Principle Investigator:**_____

Date:_____ **Date:**_____

Situation:

David and his partner are getting divorced, and they have agreed to split their assets evenly. As part of the asset division process, his spouse has agreed to let David keep certain assets if he pays her one half of their current value.

For example: If David owns an asset which is valued at $100,000. David's soon-to-be ex-wife will be satisfied with a cash payment of $50,000 and will let David keep the physical asset.

Below is a list of assets that David's ex-spouse is willing to let him keep if he pays her half of their value. Because some of the assets are not very liquid, the exact value of these assets is uncertain, so David has developed ranges of value for the illiquid assets.

Your response:
You are David's financial advisor. Enter what **you** consider to be the most appropriate asset value to be reported to David's ex-spouse and how certain you are that this is the most appropriate valuation.

Information about the assets and their possible values:		Your recommendation	How confident are you that your recommended value represents the most appropriate response?								
Asset	Value Range	Value to report	Very Uncertain								Very Certain
Savings Account	$15,000		①	②	③	④	⑤	⑥	⑦	⑧	⑨
Investment in XYZ Corporation	$10,000		①	②	③	④	⑤	⑥	⑦	⑧	⑨
House (from parents' estate)	$600,000 - $700,000		①	②	③	④	⑤	⑥	⑦	⑧	⑨
Car	$35,000 - $40,000		①	②	③	④	⑤	⑥	⑦	⑧	⑨
Foreign Stock Option	$80,000 - $100,000		①	②	③	④	⑤	⑥	⑦	⑧	⑨

Your expectation of your peers' responses:

Regardless of your answers given above, what do you think **other financial advisors (i.e., your peers)** would recommend for David to report as the assets' values?

Personal Asset	Value Range	Value that other financial advisors (i.e., your peers) would recommend
Savings Account	$15,000	
Investment in XYZ Corporation	$10,000	
House (from parents' estate)	$600,000 - $700,000	
Car	$35,000 - $40,000	
Foreign Stock Option	$80,000 - $100,000	

1. Gender: □ Male □ Female □ Prefer not to Answer **2. I am currently a:** □ Freshman □ Sophomore □ Junior □ Senior □ Graduate Student **3. I am studying Accounting/Finance as my:** □ Major □ Minor □ Concentration □ I am not studying Accounting/Finance	**4. My current GPA range is:** □ Below 2.0 □ 2.0 – 2.49 □ 2.5 – 2.99 □3.0 – 3.49 □3.5 – 4.0 **5. In this situation, your client's name is:** □ Roger □ David □ Fred □ Collin **6. Your client was facing what situation?** □ Loss of Job □ Applying for a Bank Loan □ Tax Audit by IRS □ Filing for Divorce

7. How familiar are you with the fraud risk triangle?								
Completely unfamiliar								**Very Familiar**
①	②	③	④	⑤	⑥	⑦	⑧	⑨

Appendix C – Survey L (Bank Loan)

Bryant University
Honor's Capstone Survey

Capstone Survey

Survey Administrator: Jennifer Tomasetti
Faculty Advisor: Charles Cullinan
Editorial Reviewer: Kwadwo Asare
Spring 2015

(**NOTE:** Please review the Consent Form before completing this survey. Complete the survey given the instructors requests. One you turn the page to demographic questions, please do not go back and check the statement information. If you have questions after participating, you may contact Jennifer Tomasetti at jtomasetti@bryant.edu or Charles Cullinan at cullinan@bryant.edu.)

Research Consent Form:

1. Statement of purpose
You are invited to participate in a study of asset valuation. We hope to learn how to value assets that are given a large value range. You were selected as a possible participant in this study because you are either an upper-level accounting or finance student or you are in a graduate level class at Bryant University.

2. Description, Including Risks and Benefits
If you decide to participate, we will conduct an experiment involving the following procedures: You will be given a small statement to read and will act as the character's financial advisor. After the statement, you will be asked to value the character's personal assets to prepare them for next steps. The survey will take approximately 5-10 minutes; additional time will be given to those who request it.

3. Alternative Procedures
If you prefer the case be read to you due to any academic/physical disabilities, please let the administrator know and other testing options will be given to you at that time.

4. Confidentiality
Any information obtained in connection with this study will remain confidential and will not be disclosed to the general public in a way that can be traced to you. In any written reports or publications, no participant other than the researchers will be identified, and only anonymous data will be presented. Only general data such as demographics will be released if there is a correlation of data under those categories; demographic studies will only be conducted given a large number of responses to keep your identity secure.

5. Information Security
This consent form, with your signature, will be stored separately and independently from the data collected so that your responses will not be identifiable.

6. Statement that Participation Is Voluntary
Your participation is completely voluntary, and your decision whether or not to participate will not affect your future relations with Bryant University or its employees in any way. If you decide to participate, you are also free to discontinue participation at any time without affecting such relationships. However, it is requested that you notify the investigator of this.

7. Persons to Contact
If you have any questions, please contact Jennifer Tomasetti (jtomasetti@bryant.edu) at 774-217-3877. If you have any additional questions later, we will be happy to answer them and you can have a copy of this form to keep.

8. Signature Indicating Informed Consent
Please sign below if you have decided to participate. Your signature indicates only that you are at least 18 years of age and have read the information provided above. Your signature does not obligate you to participate, and you may withdraw from the study at any time without consequences.

Signature of Participant:_____ **Signature of Principle Investigator:**_____

Date:_____ **Date:**_____

Situation:

David is applying for a loan at his local bank to start his own business. Per the request of the bank's loan officer, David is preparing a listing of his personal financial assets. This list will be used by the bank to help assess David's ability to make the necessary loan payments. To mitigate risk, a higher value of listed assets will yield a lower interest rate on his payments should the loan be approved.

For example: If David shows that an asset is listed at a higher range (i.e. $2,000 rather than $1,500) he will pay a lower interest rate on his loan payment.

Below is a list of assets that the bank has asked to see. Because some of the assets are not very liquid, the exact value of these assets is uncertain, so David has developed ranges of value for the illiquid assets.

Task:
You are David's financial advisor. Enter what **you** consider to be the most appropriate asset value to be reported to the bank and how certain you are that this is the most appropriate valuation.

Information about the assets and their possible values:		**Your recommendation**	**How confident are you that your recommended value represents the most appropriate response?**
Asset	**Value Range**	**Value to report**	**Very Uncertain** ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ **Very Certain**
Savings Account	$15,000		① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
Investment in XYZ Corporation	$10,000		① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
House (from parents' estate)	$600,000 - $700,000		① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
Car	$35,000 - $40,000		① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨
Foreign Stock Option	$80,000 - $100,000		① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

Your expectation of your peers' responses:

Regardless of your answers given above, what do you think **other financial advisors (i.e., your peers)** would recommend for David to report as the assets' values?

Personal Asset	Value Range	Value that other financial advisors (i.e., your peers) would recommend
Savings Account	$15,000	
Investment in XYZ Corporation	$10,000	
House (from parents' estate)	$600,000 - $700,000	
Car	$35,000 - $40,000	
Foreign Stock Option	$80,000 - $100,000	

1. Gender:
□ Male
□ Female
□ Prefer not to Answer

2. I am currently a:
□ Freshman
□ Sophomore
□ Junior
□ Senior
□ Graduate Student

3. I am studying Accounting/Finance as my:
□ Major
□ Minor
□ Concentration
□ I am not studying Accounting/Finance

4. My current GPA range is:
□ Below 2.0
□ 2.0 – 2.49
□ 2.5 – 2.99
□3.0 – 3.49
□3.5 – 4.0

5. In this situation, your client's name is:
□ Roger
□ David
□ Fred
□ Collin

6. Your client was facing what situation?
□ Loss of Job
□ Applying for a Bank Loan
□ Tax Audit by IRS
□ Filing for Divorce

7. How familiar are you with the fraud risk triangle?

Completely unfamiliar								Very Familiar
①	②	③	④	⑤	⑥	⑦	⑧	⑨

Appendix D – Divorce Statistics

Marriage Rates	Marriages	Population
2012	2,131,000	313,914,040
2011	2,118,000	311,591,917
2010	2,096,000	308,745,538
2009	2,080,000	306,771,529
2008	2,157,000	304,093,966
2007	2,197,000	301,231,207
2006	2,193,000	294,077,247
2005	2,249,000	295,516,599
2004	2,279,000	292,805,298
2003	2,245,000	290,107,933
2002	2,290,000	287,625,193
2001	2,326,000	284,968,955
2000	2,315,000	281,421,906

*

Divorce Rates	Divorces	Population
2012	851,000	248,041,986
2011	877,000	246,273,366
2010	872,000	244,122,529
2009	840,000	242,610,561
2008	844,000	240,545,163
2007	856,000	238,352,850
2006	872,000	236,094,277
2005	847,000	233,495,163
2004	879,000	236,402,656
2003	927,000	243,902,090
2002	955,000	243,108,303
2001	940,000	236,416,762
2000	944,000	233,550,143

**

	Divorce-Marriage Rate
2012	50.54%
2011	52.39%
2010	52.62%
2009	51.06%
2008	49.47%
2007	49.24%
2006	49.53%
2005	47.66%
2004	47.77%
2003	49.11%
2002	49.34%
2001	48.71%
2000	49.14%
……	
1967	27.14%
1966	26.87%
1965	26.61%
1964	26.09%
1963	25.88%
1962	26.19%
1961	26.74%
1960	25.80%
1959	26.44%
1958	25.36%

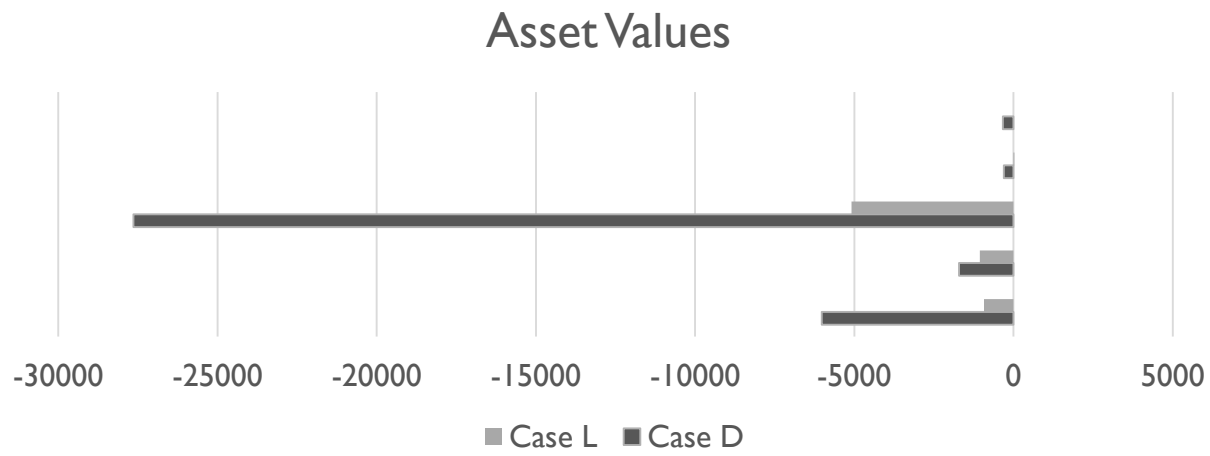
Example: $\frac{313,914,040}{248,041,986} * \frac{851,000}{2,131,000} = 0.51$

Source: *http://www.cdc.gov/nchs/nvss/marriage_divorce_tables.htm
**http://www.cdc.gov/nchs/data/series/sr_21/sr21_024.pdf

Appendix E – Value Results

	Case D Average	Diff. from Middle Value	t Value	Pr > t	Case L Average	Diff. from Middle Value	t Value	Pr > t
Participant's Value Cash	$ 14,667	$ (333)	-1.13	0.2654	$ 15,000	$ -	-	-
Participant's Value Investment	$ 9,696	$ (304)	-1.51	0.1378	$ 10,028	$ 28	0.72	0.4720
Participant's Value House	$ 622,353	$ (27,647)	-3.44	0.0012	$ 644,907	$ (5,093)	-0.01	0.3191
Participant's Value Car	$ 35,784	$ (1,716)	-5.72	<.0001	$ 36,440	$ (1,060)	-3.82	0.0003
Participant's Value Stock Option	$ 83,980	$ (6,020)	-3.03	0.0039	$ 89,074	$ (926)	-0.94	0.3495
Peer's Value Asset Cash	$ 14,941	$ (59)			$ 15,000	$ -		
Peer's Value Asset Investment	$ 9,627	$ (373)			$ 9,944	$ (56)		
Peer's Value Asset House	$ 615,098	$ (34,902)			$ 660,556	$ 10,556		
Peer's Value Asset Car	$ 36,382	$ (1,118)			$ 37,731	$ 231		
Peer's Value Asset Stock Option	$ 85,882	$ (4,118)			$ 92,037	$ 2,037		

Appendix F – Bar Chart for Average Asset Values



Appendix G – Value Multivariate Results

	Cash	Investment	House	Car	Stock Option
Intercept	13316.00	10549	648398	38850.00	96718
	(8.42***)	(26.01***)	(19.89***)	(26.61***)	(15.7***)
Divorce/Loan	-304.87	-324.88	-23284	-687.86	-5037.43
	(-1.18)	(-1.72*)	(-2.52**)	(-1.77*)	(-2.44**)
GPA	96.46	-194.81	2553	-20.53	-3058.68
	(0.65)	(-0.94)	(0.37)	(-0.05)	(-1.49)
Year	424.15	-38.46	-4392	-827.67	234.05
	(0.99)	(-0.2)	(-0.41)	(-1.49)	(0.1)
Gender	-238.63	223.55	-9805	546.13	2508.29
	(-0.89)	(0.79)	(-1.06)	(1.43)	(0.90)
Familiarity with FRT	115.35	-22.45	1044	-156.68	-440
	(1.25)	(-0.33)	(0.43)	(-1.65)	(-0.65)
Model F	2.040	1.090	1.370	3.010	2.000
Pr > F	0.079	0.370	0.244	0.014	0.086
R^2	0.048	0.052	0.065	0.132	0.092

Coefficient t-statistics are shown in parenthesis. *, **, * indicates significance at 1%, 5%, and 10% level respectively.**

Appendix H – Confidence Average Results

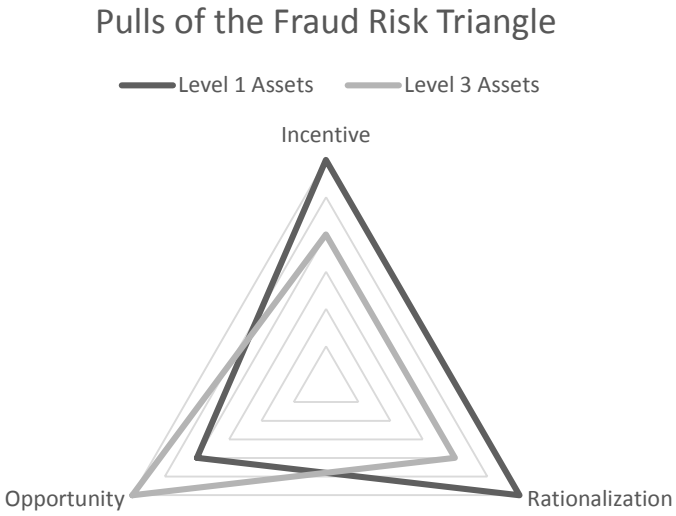
	Case D	**Case L**
Asset 1 Confidence	7.84	8.48
Asset 2 Confidence	7.1	7.87
Asset 3 Confidence	5.2	5.59
Asset 4 Confidence	5.41	5.78
Asset 5 Confidence	4.53	5.2
Average Confidence	**6.02**	**6.59**

Appendix I – Confidence Multivariate Results

	Cash	**Investment**	**House**	**Car**	**Stock Option**
Intercept	7.08	7.99	6.55	6.49	6
	(8.94***)	(8.88***)	(7.61***)	(6.94***)	(4.51***)
Divorce/Loan	-0.58	-0.76	-0.38	-0.35	-0.66
	(-2.26**)	(-2.29**)	(-1.29)	(-1.15)	(-1.80*)
GPA	0.15	-0.03	-0.64	-0.47	-0.52
	(0.76)	(-0.13)	(-2.83*)	(-1.89*)	(-1.79*)
Year	0.21	0.05	0.25	0.14	0.10
	(0.98)	(0.18)	(0.72)	(0.39)	(0.21)
Gender	0.50	0.27	0.32	0.30	0.25
	(1.89*)	(0.84)	(1.00)	(0.91)	(0.63)
Familiarity with FRT	0.04	-0.05	-0.04	-0.02	0.02
	(0.81)	(-0.86)	(-0.48)	(-0.26)	(0.22)
Model F	2.100	1.200	1.860	1.100	1.370
Pr > F	0.072	0.313	0.108	0.368	0.242
R^2	0.096	0.054	0.086	0.005	0.065

Coefficient t-statistics are shown in parenthesis. *, **, * indicates significance at 1%, 5%, and 10% level respectively.**

Appendix J – Pulls of the Fraud Risk Triangle



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