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Valuation of firms that disclose related party transactions ☆,☆☆

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ABSTRACT

We examine the stock market's valuation of firms that disclose related party (RP) transactions compared to those that do not. We examine market values just prior to the Sarbanes-Oxley Act (SOX) ban on RP loans to evaluate the market's perception of firms with RP transactions prior to regulatory intervention. We also evaluate subsequent returns to assess the RP firms' overall risk return profile. We use the 2001 S&P 1500 to provide a large yet manageable hand-collected sample that predates SOX. Our market analysis suggests that RP firms have significantly lower valuations and marginally lower subsequent returns than non-RP firms. Market perceptions differ based on partitioning firms by RP transaction type and parties. The results are consistent with the market discounting firms that engage in simple RP transactions.

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1. Introduction

We examine the stock market's valuation of firms that disclose related party (RP) transactions. A number of firms that engaged in recent high profile frauds also disclosed RP transactions in their

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☆☆ Data availability: The data used in this study is available from public sources indicated in the paper, and from the authors by request.

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financial statements. The United States Congress responded to this apparent association by banning RP loans to officers and directors as part of the 2002 Sarbanes-Oxley Act (SOX). Our study examines the market valuations of firms that disclose RP transactions in 2001 prior to the fraud revelations and Congressional ban to obtain an unbiased assessment of RP transactions. We also examine market returns in 2002 to evaluate whether our valuation findings represent an underlying risk and return association.

Our pragmatic motivation to study RP firms stems from the Congressional ban on RP loans to officers and directors in section 402 the 2002 Sarbanes-Oxley Act (SOX).¹ Congress did not appear to rely on any systematic research in deciding to ban RP loans.² The ban's inclusion in SOX suggests it was aimed at the recent frauds that involve RP transactions. For example, both Tyco and WorldCom provided and disclosed loans to executives, and Adelphia disclosed guaranteed related party debt and executive loans. While our research cannot decide whether Congress acted properly in banning these transactions, we can provide systematic evidence on the markets' perception of RP transaction firms prior to the ban.

We add to theory by investigating RP transactions to evaluate whether market valuations are consistent with (1) RP transactions being relatively benign transactions where their disclosure has little or no association with firm valuation or returns, (2) management or insider opportunism that results in lower firm valuations, or (3) the RP transactions being value-enhancing. Our study fits into a broader literature that examines the implications of "self-dealing" on firms and securities markets and the role of disclosure in mitigating the potential negative effects of self-dealing (Djankov et al., 2008). RP transactions have the potential for insiders to extract firm wealth at the expense of other stakeholders. In contrast, RP transactions can be value-enhancing by creating strategic partnerships, enhancing risk sharing, and facilitating contracting.

The disclosure of RP transactions provides the market with the information necessary for investors to discipline opportunistic behavior. However, the ability to discipline behavior is not equivalent to the ability to prevent such behavior. Investors cannot directly prevent RP transactions. Investors are limited to voting with their feet by selling or refusing to buy the stock of RP firms, or ex post litigation against opportunistic insiders. Jensen and Meckling (1976) show an insider who owns less than 100% of the firm does not bear the full cost of his consumption of firm benefits. An insider can therefore engage in RP transactions with the firm that are more beneficial than costly to him, and investors who have taken price protection via lower demand for the stock have little reason to protest the transaction. As a result, equilibrium of RP transaction disclosure and lower firm valuation can exist.³

We review and classify RP disclosures from fiscal 2001 Form 10-Ks (annual reports) and definitive proxy filings for the 1194 firms included in the S&P 1500 that have sufficient data for our tests. We find 63% of the sample firms disclose RP transactions in their footnotes and/or proxy statements.

We find a negative association between RP firms and their valuations. The market values RP firms approximately 8% lower than non RP firms. This result suggests differential valuation of firms disclosing RP transactions that is both statistically and economically significant. We also find that the market values residual income less for RP firms than non-RP firms. The residual income finding suggests investors place less reliance on reported income, and/or discount the return to shareholders from future income. Our analysis of subsequent stock returns documents that RP firms experience marginally lower stock returns in 2002. The returns findings imply that investors are not compensated for the lower RP market valuations with higher subsequent returns.

We next consider whether all types of RP transactions have the same implications for valuation and returns. We classify the RP disclosures based on the nature of the transaction and the related party to the transaction (details of the classifications are provided in the Appendix). We group the detailed classifications into three broad categories – loans, other simple transactions and complex strategic

¹ Section 402 allows loans existing at the date of the act and loans that are essentially in the normal course of business and at normal terms to continue. This allows financial institutions to continue to provide normal consumer related loans at market rates to their officers and directors.

² Post Sarbanes-Oxley, the Securities and Exchange Commission's (SEC) examined enforcement actions from 1997 to 2002 and found that 23 of the 277 enforcement actions were related to the failure to properly disclose related party transactions (SEC, 2003).

³ We acknowledge that if the valuation penalty became large enough other market related mechanisms such as take-overs, and buy-outs could be used to correct the opportunism.

transactions. We also classify the RP to the transaction by whether the transaction is with a director, officer, and shareholders (DOS) or with an unconsolidated investment of the firm.⁴

The market appears to value RP transactions based upon the type of RP transaction and the nature of the related party. Market valuations suggest that market views firms that disclose RP loans and other simple RP transactions with DOS negatively. In contrast, the disclosure of complex RP transactions and RP transactions with firm investments are not associated with valuations or returns.

Overall, the evidence suggests that the market assigns lower values to firms that engage in relatively simple RP transactions including loans. In contrast, complex transactions with investments are not valued negatively.⁵ We are agnostic about whether our results suggest regulators are justified in banning these transactions for public companies. But, our results suggest that those involved in the corporate governance of individual firms consider carefully the potential market costs of entering into RP transactions.

We complement related research by [Gordon et al. \(2004\)](#) and develop a richer understanding the market's perception of RP transactions.⁶ Our research differs from theirs in a few important aspects. First, we include valuations as well as subsequent returns in our analyses. By incorporating valuation into our study, we show the negative returns documented by [Gordon et al.](#) are not the result of a risk and return relationship where high valuations result in low returns. Second, our sample of 1194 firms from the S&P 1500 provides more power and broader coverage.⁷ Finally, this additional data enables us to examine RP types which show that relatively simple transactions with DOS have greater negative valuation impacts than more complex transactions. Our approach provides insight into the market's perception of differing RP transaction types.

In addition, our research adds to [Kahle and Shastri \(2004\)](#) who document loans to executives are made at lower than market rates, and that loans made to managers related to stock and option transactions are relatively inefficient in increasing managers' stock ownership. We also compliment the work of [Cullinan et al. \(2006\)](#) who document a significant association between loans to executives and financial misstatements. We show that on average, the market values firms that disclose loans to executives negatively consistent with an opportunistic interpretation of these loans.

We also contribute to the emerging international literature on "self-dealing" that investigates the consequences of self-dealing on firms and markets. International evidence suggests that expropriation of assets (i.e. tunneling) by controlling parties damages minority shareholders which in turn reduces stock market values and returns for those firms that enter into such transactions ([Johnson et al., 2000](#); [Jiang et al., 2005](#); [Jian and Wong, 2010](#)). The tunneling literature suggests the abuse of minority shareholders by controlling shareholders is commonplace in developing economies like China and is present in more sophisticated forms in developed countries ([Johnson et al., 2000](#)). At the stock market level, research suggests that laws that require disclosure of RP transactions are associated with better developed stock markets ([Djankov et al., 2008](#); [La Porta et al., 2006](#)). We contribute to the self-dealing literature by providing evidence that disclosure enables the market to respond to RP transactions by lowering the values of firms that engage in such transactions. We also contribute to the disclosure

⁴ We include affiliates of the DOS's in the DOS grouping. We analyzed affiliates of DOS's separately but found no meaningful differences from DOS's. Investments include RP transactions with other entities that are not controlled by DOS's, but are related to the firm. In most cases these entities are partially owned by the firm.

⁵ An alternative interpretation is that complex transactions are not well understood by the market as the quality of disclosure varies widely across firms. Our results represent an on average assessment of these transactions. The results at a minimum suggest that the mere presence of a complex transaction does not raise market concern. Future research can attempt to develop a measure of disclosure quality based on the information provided in RP disclosures, and then conduct more refined tests of market perception.

⁶ We started this project without knowledge of the [Gordon et al.](#) study. We think it is noteworthy that two different research teams started working on this project at approximately the same time especially since there are no other large sample studies in the accounting literature. Many of our design choices were made prior to becoming aware of the [Gordon et al.](#) paper. That said, the [Gordon et al.](#) paper influenced our paper, and we want to clearly give credit to them as well as highlight the similarities and differences between the two papers. Ultimately, we view our research as complimentary and not as a challenge to their methods or findings.

⁷ [Gordon et al.](#) pool observations for the 112 firms over two years. This pooling has the potential to overstate results because the disclosure in one year may not be independent from the following year.

literature by documenting the value-relevance of RP disclosures (see Barth et al., 2001; Healy and Palepu, 2001; Holthausen and Watts, 2001, for reviews of this literature).

The paper proceeds as follows. First, we discuss related party transaction disclosure requirements. We then develop our hypothesis based on agency and contracting theories. We describe our sample and present a taxonomy of RP transaction types. Valuation and return effects of RP transactions are then presented and discussed followed by sensitivity analyses. The final section summarizes our findings.

2. Related party disclosures

We examine US firms that disclose RP transactions. The US requires public companies to disclose RP transactions, and provides ex post legal remedies for opportunistic transactions (Djankov et al., 2008). Research on international policies toward “self-dealing” suggests the US takes a stronger approach to self-dealing than the world-wide average, but a slightly below average approach in comparison to other English origin countries (Djankov et al., 2008). In particular, Djankov et al. note that unlike many other English origin countries, the US does not require shareholder approval of RP transactions and instead relies on disclosure and ex post litigation to protect minority shareholders. For example, the UK requires firms to get both an independent evaluation of RP transactions and shareholder approval.

FAS 57 and the SEC dictate US RP transaction disclosure requirements. FAS 57 defines related parties and requires disclosure of material RP transactions. The required disclosures include (1) the nature of the relationship, (2) a description of the transaction, (3) the dollar amounts of the transactions for each income statement period presented, (4) and amounts due to or from related parties at the balance sheet date (FASB, 1982, p. 2). Regulation S-X, the SEC’s financial statement reporting requirements, generally follows FAS 57 requirements (SEC, 2004a).

The FASB specifically states that RP transactions cannot be presumed to be equivalent to an arm’s length transaction (FASB, 1982, p. 3). FAS 57 requires that if an entity makes disclosures to the effect that a RP transaction is equivalent to an arm’s length transaction, that the representations must be substantiated. It appears the FASB is very concerned about disclosures that state RP transactions are carried out at market rates. In many cases, such statements cannot be verified because there are no prevailing markets in the RP goods or services (Appendix A to FAS 57). Moreover, RP transactions are not arms-length by their very nature, and to imply they are can mislead users (FASB, 1982). The FASB also appears concerned about both the potential for RP transactions to affect financial statement reliability (FASB, 1982, p. 15), and related parties’ ability to engage in transactions under more favorable terms than those available to third-parties (FASB, 1982, pp. 13–14). The FASB’s concerns regarding related party transactions echo the concerns raised by manager opportunism.

Regulation S-K covers disclosure of non-financial statement information in SEC filings including registration statements, annual reports, and proxy statements. It covers disclosures of “certain relationships and related transactions” in subsection 229.404 (SEC, 2004b).⁸ Subsection 229.404 provides a broad overview of RP transaction disclosure requirements including who constitutes a RP and what kind of transactions are covered. Regulation S-K requires the registrant to describe briefly any RP transaction in which the amount involved exceeds \$60,000 and in which the related persons had a direct or indirect material interest, naming such person and indicating the person’s relationship to the registrant, the nature of such person’s interest in the transaction, the amount of such transaction and, where practicable, the amount of such person’s interest in the transaction (SEC, 2004b, subsection 229.400a).

The SEC rules and FAS 57 are generally consistent with each other with the following notable exception. FAS 57 requires financial statement disclosure of *material* RP transactions; however, the SEC only requires disclosure and does not specify where to disclose. We find that many companies do not report RP transactions in the financial statements, but instead choose to disclose RP transaction

⁸ We cite the 2004 SEC documents. The requirements under regulation S-K and S-X were in effect in 2001. In our review of the SEC disclosure rules implemented between 1994 and 2004, we can find no evidence that the disclosure rules for RP transactions have changed. The only RP related change that occurred is the banning of RP loans as part of the 2002 Sarbanes Oxley Act. In 2006, the SEC modified RP disclosure rules to enhance disclosure including disclosure of the process to review, approve or ratify RP transactions and increase the disclosure threshold to \$120,000 (Gordon et al., 2007).

in their annual proxy statements. Arguably, materiality based on monetary levels can explain these differences in disclosure. FAS 57 only requires disclosure of material items in the financial statements. In 2001, Regulation S-K required disclosure of items over \$60,000 in which the party transacting has a material interest. Conceivably, a transaction can exceed \$60,000 and be material to the RP but not be material to the reporting entity. Such transactions may not require footnote disclosure according to FAS 57, but would require regulatory disclosure according to Regulation S-K.⁹ As a result, it appears many entities report the transaction in the proxy statement rather than the footnotes. We do not find any differences in market reaction based on where the RP transaction is reported, so we do not make any distinction between footnote and proxy disclosure in what follows.

3. Hypothesis development

The FASB's concerns about the non-arms-length nature of RP transactions raise concern about management and insider opportunism. FASB argues that potential wealth transfers can occur between the firm and related parties and RP transactions enable the firm to manipulate its financial statements (FASB, 1982). FASB's concern about RP transactions clearly focuses on the lack of an arms-length transaction which makes RP transactions inherently susceptible to manipulation by management for their own gain. Furthermore, financial statement manipulation can interfere with accounting-based contracting and monitoring. The management opportunism view suggests the market will view RP transactions negatively (i.e. price protect).

Management opportunism was a key driver in the misappropriation of assets and misleading financial reporting in the recent frauds at Enron, Healthsouth and other firms. In many of these frauds, management allegedly used RP transactions both to enrich themselves and to generate misleading financial statements. For example: Enron engaged in a number of large purchases and sales with related entities that created earnings that would otherwise not have been recognized (Swartz and Watkins, 2003). At the same time, the transactions significantly increased the CFO and other officers' wealth. McTague (2004) noted the role loans to related parties played in the demise of the financial sector crisis of the late 1980's and early 1990's and Cullinan et al. (2006) document an association between loans to executives and financial restatements. In related research, Kalyta and Magnan (2008) document that powerful CEOs extract rents using executive pensions where the disclosures are of lower quality. Erickson et al. (2000) also describe in detail how RP transactions enabled Lincoln Savings and Loan to meet important regulatory capital constraints, but later led to its collapse.

While RP transactions can be opportunistic, they can also potentially fulfill the underlying needs of the company. For instance, some companies make strategic investments in joint ventures to obtain and secure access to supplies or markets (e.g. vertical integration) and to manage risk. Transactions between RP and firms also generally involve less information asymmetry between the two parties, than is typically the case when the transaction occurs between the firm and a third-party. Djankov et al. (2008) note that no country completely bans RP transactions, which supports the notion that RP transactions can be value enhancing.

The disclosure of RP transactions and potential for litigation makes it difficult to believe that a firm would engage in value reducing RP transactions. First, international evidence suggests that RP disclosure laws are associated with more developed stock markets which imply disclosure helps mitigate the negative effects of self-dealing (La Porta et al., 2006). Second, Johnson et al. (2000) argue that common law countries are better able to protect investors than civil-law countries from tunneling. Based on Johnson et al.'s conjecture, the legal protections of the US common law should protect investors from related party expropriations. Third, the US RP disclosure requirements inhibit the ability of insiders to secretly remove firm assets. The RP disclosure provides the opportunity for interested parties to either discipline insider behavior or take precautions against it. However, these mechanisms do not eliminate RP transactions.

⁹ The transactions may not be material based upon net income and asset measures, but small dollar RP transactions may still be considered material to potential users as it may alter their decision-making. Staff Accounting Bulletin No. 99, *Materiality*, would therefore require disclosure (SEC, 1999).

Careful inspection of the incentives under US disclosure rules suggests that an equilibrium of negative market valuation can exist even with disclosure. We briefly sketch here an equilibrium where neither the market nor management has a reason to correct the negative transaction implications. First, disclosure itself does not prevent RP transactions. Shareholders do not possess a direct mechanism to stop RP transactions such as that in the UK (Djankov et al., 2008). Second, Jensen and Meckling (1976) show that when a manager owns less than 100% of the firm, he does not bear the full cost of his opportunistic consumption of corporate assets. As a result, the benefit to management and other insiders engaged in RP transactions will typically exceed their cost. Management receives the full benefit of the transaction and only bears a cost equal to his ownership percentage in the firm.

Jensen and Meckling (1976) assume investors anticipate this consumption and price protect against it. Given price protection, investors have little reason to correct management's opportunistic actions. Jensen and Meckling show that under their assumptions of costless contracting, owner-managers will seek to avoid the price protection. That is, in our context, owner-managers would seek to avoid RP transactions or adapt monitoring mechanisms to avoid the negative market implications of RP transactions. However, it seems plausible that in a world with costly contracting, and managers who own less than 100% of the firm, an equilibrium of manager opportunism and investor price protection can exist. Managers benefit from the RP consumption while investors price protect against the consequences of the consumption, and neither has reason to change their actions.¹⁰ Such an equilibrium will generate negative market valuations as evidence of price-protection by investors in RP firms. This negative valuation would likely persist as long as it did not become so severe that other market-based mechanisms such as buy-outs or take-overs result in a change in firm control.

The preceding discussion suggests reasons why the market would value firms that disclose related party transactions differently than firms that do not. The purpose of this study is to determine if the market does value such firms differently. We therefore test the following null hypothesis:

H1: RP transactions are not associated with the market's valuation of firms.

4. Descriptive analysis of related party transactions

We start with firms included in the 2001 S&P 1500. We choose 2001 because it was the last year prior to the enactment of the SOX Section 402 ban on most RP loans. We expect an analysis of 2001 to have the greatest influence on regulators, and is consistent with our motivation to provide empirical evidence related to the market's perception of RP firms prior to Congress' ban on RP loans. Hand collection of the RP data makes it cost prohibitive to select a larger sample of firms or to cover more years, so we choose the S&P 1500 as these firms are arguably some of the most economically important firms, and this group gives us a systematic view of firms across three size categories. We exclude 53 firms for which we could not locate financial statements or proxies to obtain the RP disclosures. We also exclude 101 firms with missing *Compustat*/*CRSP* data and 14 ADR firms. Finally, we eliminate 138 firms that are not included in the Investor Responsibility Research Center report on board practices (Investor Responsibility Research Center 2001) – a source of governance variables used in our sensitivity tests. Our final sample contains 1194 firms (see Table 1).¹¹

In all our subsequent analyses, we use an indicator variable to represent RP firms instead of attempting to investigate the dollar value of the firm's RP transactions. We made this choice for practical reasons. First, Sarbanes-Oxley banned all RP loans, not just loans over a specified dollar amount. This approach suggests that Congress views all RP loans as problematic, not just their monetary im-

¹⁰ An argument can be made that an investor can benefit by taking action to correct over consumption by management. But, such correction does not come without a cost to that investor, and other investors could benefit via free-riding on such an action. In a competitive investor market where investors compete based on net returns (as is the case in the mutual fund industry), an investor may want to avoid incurring costs that create gains for competing investors who do not have to share the costs.

¹¹ Our sample excludes many of the high profile fraud cases that evolved in late 2001 and 2002 including Enron, WorldCom, Adelphia, and Tyco. The first two are excluded because they lack necessary 2001 or 2002 data for our main tests, Adelphia was not in the S&P 1500, and Tyco was a foreign stock (Bermuda). We believe the exclusion of these firms strengthens our overall tests as the tests are not influenced by these extreme cases.

Table 1

Sample determination and related party transaction distribution.

Firms included in the S&P 1500		1500
Eliminations:		
2001 Financial statements could not be located	53	
Firms with ADR shares	14	
Missing financial information on <i>Compustat/CRSP</i>	34	
Missing required lead or lag data	67	
Firms not included in IRRC database	138	306
Final sample ^a		1194

^a Sixty-three percent of the firms (747/1194) disclose RP transactions with an average of 2.6 RP transactions (ranging from 1 to 23) distributed as follows.

1 transaction	304	41%
2 transactions	173	23%
3 transactions	96	13%
4 transactions	78	10%
5 transactions	32	4%
6 transactions	16	2%
7 transactions	14	2%
>7 transactions	34	5%
Total	747	100%

pact. Second, during our initial data collection of 200 firms, it became clear to us that not all RP disclosures provide detailed disclosure about monetary implications of RP transactions. Although amounts are included for almost all loans and guarantees; dollar amounts for other forms of RP transactions are present in less than 50% of the disclosures. Third, even in cases where monetary amounts are disclosed, it is not clear which amounts are most relevant – asset, liability, equity or income aspects of the transactions, and the amounts disclosed across transactions are inconsistent. From a practical standpoint, an indicator variable is a more crude measure of association and as such it biases against us finding an underlying association between RP transactions and market valuations.¹²

Table 2 provides a cross tabulation of RP (DOS versus investment) and RP transaction type (i.e. loans, leases, etc.). The Appendix provides a description of each RP transaction type. RP transactions are more common with DOS than firm investments. Related business activities and loans generate the highest percentage of RP transactions. Financial institutions accounted for 44 of the loans. When we exclude these transactions, loans are still the second most common RP transaction type. Similar to Kahle and Shastri (2004), we observe many employment related loans to officers ranging from housing loans to stock purchase loans. But, we also observe loans to directors, and major shareholders for a variety of other purposes. The cross tabulation shows a much higher number of loans to DOS than to investments. In contrast, borrowings from RP's, guarantees and overhead reimbursement transactions are the least common transaction types. These less frequent transactions are relatively more common with investments than DOS as are related business activities and stock transactions.

A review of disclosures suggests that these ten categories can be grouped into two broad classifications: simple and complex strategic transactions.¹³ Simple transactions are straight-forward transactions that involve relatively few financial statement accounts and related parties; and are typically avoidable in the sense that a third-party could replace the RP with little observable consequence. Simple transactions include loans, guarantees, borrowings, consulting, legal services and leases. Approximately 81% of the RP firms disclose simple transactions. In contrast, complex transactions typically involve a

¹² Gordon et al. (2004) use the number of RP transactions scaled by the number of named executives and board members as their measure of related party transactions. Their measure represents the relative number of RP transactions given an estimate of the number of related parties. Our main interest is whether or not there are RP transactions, not the relative number of transactions. However, since the number of RP transactions does provide evidence of the degree of potential abuse or benefit, we consider the number of transactions in our sensitivity analysis.

¹³ We realize that any attempt to group transactions into categories is somewhat ad hoc. The simple versus complex grouping was suggested to us by a number of readers and is consistent with our own extensive reading of proxy statements and footnotes.

Table 2

Related party and related party transaction type.

Transaction type ^b	Related party type ^{a,b}		
	DOS	Investment	Total transaction type
Loans	459/305	29/23	488/319
Borrowings	44/43	4/4	48/47
Guarantees	24/21	16/12	40/32
Consulting arrangements	154/136	0/0	154/136
Legal and investment services	232/212	2/2	234/213
Leases	239/176	13/13	252/184
Simple RP transactions	1152/596	64/75	1216/606
Related business activities	359/257	111/72	470/307
Unrelated business activities	104/92	7/7	111/97
Overhead reimbursement	51/48	14/13	65/60
Stock transactions	126/110	14/12	140/118
Complex RP transactions	640/409	146/98	786/437
Total related party type	1792/715	210/105	2002/747

^a Related parties are classified as either (1) an officer, director, or major shareholder (>5% ownership), an affiliate of an officer, director, or major shareholder (collectively labeled DOS), or (2) a non-wholly owned investment.

^b The first number listed in each cell is the number of transactions in our sample that fall in the given classification. The second number in each cell represents the number of firms in our sample that fall within the given classification. Note that the total number of firms for each category will not equal the totals reported because some firms have multiple RP transactions. For example, 305 firms report loans with DOS and 23 report loans with investments, but total firms with loans is only 319 as 9 firms report both loans to DOS and investments.

number of financial statement accounts and related parties, often include a number of conditions, and impact the financial statements in less obvious ways. Complex transactions include related business, unrelated business, overhead, and stock transactions. Approximately 59% of the RP firms report complex transactions.

Table 3 compares descriptive statistics for firms with and without RP transactions. RP firms are larger in terms of assets (market capitalizations are similar), report lower profits, are younger, and have greater variation in returns. Consistent with lower profits, RP firms have lower returns. Tobin's Q is not significantly different. Pearson correlation matrix for the valuation and return model variables (Table 4) suggests that we do not have any unreasonably high correlations among the independent variables that might impact our subsequent analysis.

We use valuation and return models to evaluate potential differential valuation effects associated with firms that disclose RP transactions. The valuation analysis provides evidence of a negative market assessment of RP transactions. We report results from two distinct valuation models commonly used in accounting and finance research. Tobin's Q reflects total firm value while the residual income model (RIM) analyzes equity value and draws on accounting information. We investigate subsequent returns, as well. The fundamental risk-return association can mean that a company has a lower valuation than other companies because it is higher risk. The higher risk implies lower valuations and higher returns to compensate for the risk.

5. Tobin's q analyses

We start by documenting the association between RP transactions and the firm's market valuation as measured by Tobin's Q which represents the ratio of the market value of the firm's assets to their replacement cost. We measure Tobin's Q consistent with Gompers et al. (2003)

$$Q_{i,t} = [TA_{i,t} + MVE_{i,t} - CE_{i,t} - DT_{i,t}] / TA_{i,t} \quad (1)$$

where TA is total assets, MVE is the market value of common equity, CE is the book value of common equity, and DT is the book value of deferred taxes reported on the balance sheet.

Table 3

Descriptive statistics partitioned by existence of related party transaction.

Variables ^a (\$ amounts in millions)	Firms with related party transactions (N = 747)					Firms without related party transactions (N = 447)				
	Mean	Standard deviation	25th Percentile	Median	75th Percentile	Mean	Standard Deviation	25th Percentile	Median	75th Percentile
ASSETS	12,439	46,617	609	1782	6999	6858 ^{***}	17,951	571	1503 [*]	4933
ROA	0.019	0.157	0.004	0.030	0.070	0.035 ^{**}	0.111	0.006	0.041 ^{**}	0.076
Q	1.91	1.32	1.09	1.40	2.18	1.99	1.50	1.10	1.42	2.32
LNASSETS	7.70	1.69	6.41	7.48	8.85	7.49 ^{**}	1.55	6.35	7.31	8.50
LNAGE	2.96	0.66	2.39	2.94	3.58	3.21 ^{***}	0.68	2.56	3.46 ^{***}	3.80
DELAWARE	56.3%					55.9%				
SP500	34.6%					33.7%				
MVE	3.696	9.558	1.511	2.423	4.052	3.442	8.500	1.455	2.258	3.868
CE	1.224	2.511	0.975	1.077	1.197	0.988 ^{**}	1.481	0.964	1.058	1.171
RI	−0.023	0.463	−0.107	−0.003	0.074	−0.010	0.804	−0.090	0.008	0.081
RET _{t+1}	−0.201	0.554	−0.434	−0.114	0.115	−0.125 ^{***}	0.444	−0.280	−0.032 ^{**}	0.134
SDRET _{t-1}	0.442	0.280	0.252	0.363	0.541	0.384 ^{***}	0.264	0.220	0.319 ^{***}	0.472
LN MVE _{t-1}	7.54	1.58	6.50	7.40	8.64	7.43	1.56	6.31	7.31	8.44
M2B _{t-1}	3.91	10.28	1.45	2.44	4.35	3.76	9.07	1.41	2.16	4.32

^{*} The mean (median) is significantly different at the 0.10 level using a *t*-test of means (Wilcoxon rank sums test).^{**} The mean (median) is significantly different at the 0.05 level using a *t*-test of means (Wilcoxon rank sums test).^{***} The mean (median) is significantly different at the 0.01 level using a *t*-test of means (Wilcoxon rank sums test).

^a Variables are defined as follows: ASSETS are year-end assets, Q is an approximation of Tobin's Q from Eq. (1), LNASSETS is the natural log of the firm's year-end assets, LNAGE is the natural log of the firm's age estimated from Compustat data, DELAWARE is an indicator variable equal to one if the firm incorporated in Delaware and zero otherwise, SP500 is an indicator variable equal to one if the firm is a member of the S&P 500 index and zero otherwise, MVE is year-end market value of common equity, CE is year-end book value of common equity, RI is residual income calculated as income before extraordinary items less preferred stock dividends and the product of a Fama-French risk-adjusted return and beginning of year book value of common equity, ROA is return on assets, RET is the natural log of one plus the annual shareholder return, SDRET is the standard deviation of annual shareholders returns over the previous five years, LN MVE is the natural log of 1 plus the market value of common equity, and M2B is the ratio of market to book value of common equity. MVE, CE, and RI are scaled by beginning of period book value of common equity.

Table 4
Pearson correlation matrix.

$N = 1,194^a$	M2B _{t-1}	LN MVE _{t-1}	SDRET	RET _{t+1}	ROA	RI	CE	MVE	SP500	DELAWARE	LNAGE	LNASSETS	Q	COMPLEX	SIMPLE	RP
RP	0.01	0.03	0.10*	-0.07*	-0.05	-0.01	0.05	0.01	0.01	0.00	-0.18*	0.07*	-0.05*	0.58*	0.78*	1.0
SIMPLE	0.01	0.06*	0.07*	-0.07*	-0.03	0.01	0.05	0.01	0.03	-0.01	-0.014*	0.10*	-0.05*	0.25*	1.0	
COMPLEX	0.03	0.03	0.08*	-0.01	-0.03	0.00	0.05*	0.04	-0.00	0.02	-0.18*	0.01	0.01	1.0		
Q	0.24*	0.30*	0.09*	-0.09*	0.21*	0.08*	0.01	0.23*	0.13*	0.08*	-0.19*	-0.21*	1.0			
LNASSETS	0.05	0.80*	-0.30*	0.04	0.04	0.08*	0.04	0.04	0.65*	-0.02	0.36*	1.0				
LNAGE	0.00	0.23*	-0.41*	0.18*	0.10*	0.08*	0.01	0.01	0.33*	-0.21*	1.0					
DELAWARE	0.05	0.05	0.13*	-0.10*	-0.03	-0.01	0.02	0.04	-0.01	1.0						
SP500	0.15*	0.71*	-0.17*	-0.03	0.02	0.07*	0.03	0.11*	1.0							
MVE	0.96*	0.18*	-0.01	0.00	0.10*	0.67*	0.75*	1.0								
CE	0.70*	0.06*	-0.03	0.01	0.03	0.63*	1.0									
RI	0.62*	0.14*	-0.12*	0.10*	0.26*	1.0										
ROA	0.08*	0.18*	-0.24*	0.34*	1.0											
RET _{t+1}	-0.02	-0.01	-0.21*	1.0												
SDRET	0.01	-0.21*	1.0													
LN MVE _{t-1}	0.19*	1.0														
M2B _{t-1}	1.0															

* Significant at the 0.05 level.

^a Variables are defined as follows: RP is an indicator variable equal to one if the firm discloses a related party transaction in either the footnotes or proxy, SIMPLE is an indicator variable equal to one if the firm discloses a simple RP transaction and zero otherwise, COMPLEX is an indicator variable equal to one if the firm discloses an complex RP transaction and zero otherwise, ASSETS are year-end assets, Q is an approximation of Tobin's Q from Eq. (1), LNASSETS is the natural log of the firm's year-end assets, LNAGE is the natural log of the firm's age estimated from Compustat data, DELAWARE is an indicator variable equal to one if the firm incorporated in Delaware and zero otherwise, SP500 is an indicator variable equal to one if the firm is a member of the S&P 500 index and zero otherwise, MVE is year-end market value of common equity, CE is year-end book value of common equity, RI is residual income calculated as income before extraordinary items less preferred stock dividends and the product of a Fama-French risk-adjusted return and beginning of year book value of common equity, ROA is return on assets, RET is the natural log of one plus the annual shareholder return, SDRET is the standard deviation of annual shareholders returns over the previous five years, LN MVE is the natural log of 1 plus the market value of common equity, and M2B is the ratio of market to book value of common equity. MVE, CE, and RI are scaled by beginning of period book value of common equity.

Gompers et al. (2003) and Brown and Caylor (2006) analyze whether Tobin's Q is associated with governance after controlling for firm characteristics. We follow a similar approach to analyze differences in Tobin's Q that are due to RP transactions. Prior research suggests Tobin's Q varies (predicted association) based on log of assets (–), log of firm age (–), whether the firm is incorporated in Delaware (–/+), S&P 500 membership (+), and industry membership (Gompers et al., 2003). We add a vector describing the RP transaction disclosures for each firm to test our hypothesis.

$$Q_{i,t} = \alpha_0 + \sum(\alpha_{1j}\mathbf{INDUSTRY}_{i,t}) + \alpha_2\mathbf{LNASSETS}_{i,t} + \alpha_3\mathbf{LNAGE}_{i,t} + \alpha_4\mathbf{DELAWARE}_{i,t} + \alpha_5\mathbf{SP500}_{i,t} + \sum(\alpha_{6k}\mathbf{RPTYPE}_{i,t}) + \epsilon_{i,t} \quad (2)$$

where Q is an approximation of Tobin's Q from Eq. (1), **INDUSTRY** is a vector of indicator variables based on the 48 Fama and French industry classifications to capture industry membership, **LNASSETS** is the natural log of the firm's year-end assets, **LNAGE** is the natural log of the firm's age estimated from Compustat data, **DELAWARE** is an indicator variable equal to one if the firm incorporated in Delaware and zero otherwise, **SP500** is an indicator variable equal to one if the firm is a member of the S&P 500 index and zero otherwise, and **RPTYPE** is one of three vectors describing RP transaction disclosures.

We initially consider RP, an indicator variable equal to one if the firm discloses one or more RP transactions in either the financial statements or the proxy statement (base model). Based on our analysis of RP transaction types, we also consider the following two RP classifications rather than a single indicator variable. First, we characterize an RP transaction as either simple or complex where **SIMPLE** is an indicator variable equal to one if the firm discloses a simple RP transaction and zero otherwise and **COMPLEX** is an indicator variable equal to one if the firm discloses an complex RP transaction and zero otherwise (simple v. complex model). Second, we separate loans from other simple RP transactions and consider who the related party is – a director, officer, or major shareholder (DOS) versus an investment. RP transaction types in this specification (detail model) are defined as follows: **SIMPLE1_DOS** (**SIMPLE1_INV**) is an indicator variable equal to one if the firm discloses a non-loan simple RP transaction associated with a DOS (investment), **LOANS_DOS** (**LOANS_INV**) is an indicator variable equal to one if the firm discloses a loan to an DOS and zero otherwise (investment), and **COMPLEX_DOS** (**COMPLEX_INV**) is an indicator variable equal to one if the firm discloses an complex RP transaction associated with an DOS and zero otherwise (investment).

Table 5 documents our Tobin's Q valuation model estimations. Our base model documents a significant, negative coefficient for firms with RP transactions rejecting our null hypothesis of no association. Consistent with our expectations, the coefficients on the control variables **LNASSETS** and **LNAGE** are negative and **SP500** is positive. The results imply the market attaches an economically significant 8% decline in Tobin's Q to firms that disclose RP transactions.¹⁴

We next consider classifications of RP transactions. These classifications enable us to explore differences in market valuation of RP types. The separation into types reduces the power of our tests, so caution should be exercised in interpreting each category as we have limited observations for certain types of RP transactions, and some firms have more than one type of RP transaction resulting in the effects being spread across types. The second column in Table 5 shows simple RP transactions drive the negative valuation effects rather than complex RP transactions. The third column documents a significant negative association between Tobin's Q and loans to DOS. Other simple transactions with both DOS and INV are negative but not significantly associated with Tobin's Q. This evidence suggests that the market is most concerned with simple RP transactions.

6. Residual income model analyses

We also use the residual income model (RIM) to provide a second series of valuation tests. Ohlson (1995) and Feltham and Ohlson (1995, 1996) reintroduced the residual income model that allows for other value-relevant information not captured in either book value of common equity or residual income.

¹⁴ The average Q for all firms is approximately 1.94. Given a coefficient on RP of –0.161 from the estimation of Eq. (2), the average impact of the presence of RP means approximately an 8% decline in Q (–0.161/1.94).

Table 5

Tobin's Q and related party firms.

$$Q_{it} = \alpha_0 + \sum(\alpha_{ij}\text{INDUSTRY}_{it}) + \alpha_2\text{LNASSETS}_{it} + \alpha_3\text{LNAGE}_{it} + \alpha_4\text{DELAWARE}_{it} + \alpha_5\text{SP500}_{it} + \sum(\alpha_{6k}\text{RPTYPE}_{it}) + \epsilon_{it}$$

Variable ^a (N = 1, 171)	Prediction	Base model		Simple v. complex		Detail model	
		Estimated coefficient	t-Statistics	Estimated coefficient	t-Statistics	Estimated coefficient	t-Statistics
LNASSETS	—	−0.182***	6.36	−0.182***	6.33	−0.183***	6.30
LNAGE	—	−0.289***	5.71	−0.281***	5.48	−0.289***	5.62
DELAWARE	−/+	0.079	1.33	0.081	1.37	0.080	1.35
SP500	+	0.881***	10.30	0.880***	10.27	0.885***	10.32
RP	?	−0.161***	2.72				
SIMPLE	?			−0.097*	1.66		
COMPLEX	?			−0.022	0.36		
SIMPLE1_DOS	?					−0.052	0.84
LOANS_DOS	?					−0.164**	2.39
COMPLEX_DOS	?					−0.030	0.84
SIMPLE1_INV	?					−0.104	0.52
LOANS_INV	?					0.192	0.89
COMPLEX_INV	?					−0.033	0.28
Adjusted R ²		31.2%		30.9%		31.0%	

* p-Value indicates significance at the 0.10 level using two-tailed significance tests.

** p-Value indicates significance at the 0.05 level using two-tailed significance tests.

*** p-Value indicates significance at the 0.01 level using two-tailed significance tests.

^a Variables are defined as follows: Q is an approximation of Tobin's Q from Eq. (1), **INDUSTRY** is a vector of industry indicator variables based on the 48 Fama and French industry classifications, **LNASSETS** is the natural log of the firm's year-end assets, **LNAGE** is the natural log of the firm's age estimated from Compustat data, **DELAWARE** is an indicator variable equal to one if the firm is incorporated in Delaware and zero otherwise, **SP500** is an indicator variable equal to one if the firm is a member of the S&P 500 index and zero otherwise, and **RPTYPE** is one of the following three vectors describing RP transaction disclosures: (1) **RP** is an indicator variable equal to one if the firm discloses a related party transaction in either the footnotes or proxy, (2) **SIMPLE** is an indicator variable equal to one if the firm discloses a simple RP transaction and zero otherwise, and **COMPLEX** is an indicator variable equal to one if the firm discloses a complex RP transaction and zero otherwise, and (3) **SIMPLE1_DOS** (**SIMPLE_INV**) is an indicator variable equal to one if the firm discloses a non-loan simple RP transaction associated with an officer, director, major shareholder, or affiliate (investment) and zero otherwise, **LOANS_DOS** (**LOANS_INV**) is an indicator variable equal to one if the firm discloses a loan to an officer, director, major shareholder or affiliate and zero otherwise (investment) and zero otherwise, and **COMPLEX_DOS** (**COMPLEX_INV**) is an indicator variable equal to one if the firm discloses a complex RP transaction associated with an officer, director, major shareholder, or affiliate and zero otherwise (investment) and zero otherwise. Twenty-three influential observations with |r-students| > 3.0 are removed (Belsley et al., 1980). Industry variables are not reported for brevity.

RIM starts with the assumption that firm value equals the present value of expected dividends and adds a clean surplus accounting assumption to provide a valuation model based on current book value of equity and expected residual income. A key assumption in implementing RIM in a contemporaneous accounting setting is the linear information dynamics process where residual income is assumed to follow an autoregressive process (Ohlson, 1995; Feltham and Ohlson, 1995). The linear information dynamics assumption concerning the stochastic process of residual income permits one to state firm valuation as a function of its current book value of equity and abnormal earnings.

$$\text{MVE}_{it} = \text{CE}_{it} + \theta \text{RI}_{it} + v_{it} \quad (3)$$

where MVE is the market value of common shareholders' equity, CE is the book value of common shareholders' equity, and RI is residual income calculated as income before extraordinary items less preferred stock dividends and a risk-adjusted return on beginning of year common equity. The v in Eq. (3) represents other value-relevant information. The parameter θ incorporates the persistence of abnormal earnings, time value, and risk properties of the linear information dynamics assumptions.

We form a regression equation based on Eq. (3). Consistent with disclosure literature, we substitute our RP transaction variables for the other value-relevant information. We also consider whether the presence of RP transactions affects the pricing of the recognized components in the RIM. Similar to

our Tobin's Q model, we consider three alternative specifications for our RP transaction variables. Our valuation model is as follows:

$$MVE_{i,t} = \beta_0 + \beta_1 CE_{i,t} + \beta_2 RI_{i,t} + \Sigma RPTYPE_{i,t} [\beta_{3k} + \beta_{4k} CE_{i,t} + \beta_{5k} RI_{i,t}] + \epsilon_{i,t} \quad (4)$$

where variables are as previously defined. MVE, CE, and RI are divided by the book value of beginning of period common equity to address heteroskedasticity in all estimations.

Table 6 shows the RIM results. White's (1980) test indicates that the estimation suffers from heteroskedasticity; we therefore report *t*-statistics based on White's (1980) consistent estimators. In the base model, we find MVE is negatively associated with the disclosure of RP transactions. The results also document a negative weighting on the interaction between RP and residual income suggesting the market values RP firms' income less than non-RP firms. Interestingly, there is a positive weighting on the interaction between book value of common equity and RP suggesting that investors in RP firms value book value of common equity higher than non RP firms. Combined, these results are similar to findings related to the valuation of troubled and/or loss firms and the abandonment theory (Barth et al., 1998). Table 3 shows that RP firms have lower ROA than non-RP firms, and untabled results show more RP firms suffer losses in 2001. To explore the possibility that RP proxies for losses, we incorporate an indicator variable for loss firms interacted with each variable in the base model of Eq. (4). Equity (CE) is valued higher and residual income less for loss firms compared to profitable firms consistent with the abandonment theory. The negative RP effect and the positive valuation of RP firm equity is similar to that reported in Table 6 and does not differ between profitable and loss firms. However, while there is a negative weighting on residual income for RP firms with and without losses, it is substantially more for loss firms with RP transactions.

We next consider the association of our RP transaction classifications on the RIM estimation. First, column 2 of Table 6 shows the documented overall pattern for RP firms is largely attributable to SIMPLE RP transactions. Second and more importantly, column 3 of Table 6 shows loans and other simple transactions with DOS generate the negative RP valuation association. These results are consistent with the Tobin's Q results. Loans with investees also have a similar pattern but are only marginally significant.

The detail model in Table 6 suggests investor price residual income higher for firms with other simple RP transactions with investees. We note that many of these transactions are joint ventures and partnership type arrangements where the company engages in business with the related investment. Many such arrangements are specifically designed to reduce the company's risk and may be value enhancing. However, our other analyses do not find significant associations with complex investment transaction, so we hesitate to interpret these results as market support for these transactions. Nonetheless, it is fair to say the market does not appear to view them negatively.

7. Returns analyses

Our third set of analyses uses returns-based models to provide an alternative view of the market's assessment of RP firms. Based upon our analysis suggesting lower market valuations of RP firms, lower future returns suggest that RP transactions are viewed negatively by the market consistent with management or insider opportunism. In contrast, higher future returns would suggest either that the low valuations reflect risk for which the returns compensate, or that RP transactions benefit the firm. Core et al. (1999) conduct similar returns tests to evaluate whether excess CEO compensation reflects opportunism.

We model raw annual returns as a function of series of independent variables that control for expected return (Core et al., 1999). The control variables (predicted association) include the standard deviation of returns (–), size (–), and market-to-book value of equity (–). We then include three alternative specifications for our RP transaction variables to investigate whether RP transactions are associated with future shareholder returns.

$$RET_{i,t+1} = \delta_0 + \Sigma(\delta_{1j} INDUSTRY_{i,t}) + \delta_2 SDRET_{i,t} + \delta_3 LNMVE_{i,t} + \delta_4 M2B_{i,t} + \delta_{5k} (RPTYPE_{i,t}) + \epsilon_{i,t} \quad (5)$$

Table 6

Residual income model and related party firms.

$$MVE_{i,t} = \beta_0 + \beta_1 CE_{i,t} + \beta_2 RI_{i,t} + \Sigma RPTYPE_{i,t} [\beta_{3k} + \beta_{4k} CE_{i,t} + \beta_{5k} RI_{i,t}] + \epsilon_{i,t}$$

Variable ^a (N = 1, 178)	Prediction	Base model		Simple v. complex		Detail model	
		Estimated coefficient	t-Statistics ^b	Estimated coefficient	t-Statistics ^b	Estimated coefficient	t-Statistics ^b
CE	+	0.536	0.48	1.314	1.68	1.518**	2.02
RI	+	8.765***	6.05	8.525***	6.59	7.889***	6.65
RP	?	-2.709**	2.17				
RP * CE	?	2.431**	2.16				
RP * RI	?	-5.589***	3.15				
SIMPLE	?			-2.354***	3.47		
SIMPLE * CE	?			1.992***	3.33		
SIMPLE * RI	?			-5.395***	3.20		
SIMPLE1_DOS	?					-1.765***	2.59
SIMPLE1_DOS * CE	?					1.350**	2.24
SIMPLE1_DOS * RI	?					0.324	0.23
LOANS_DOS	?					-1.397**	2.10
LOANS_DOS * CE	?					1.258**	2.12
LOANS_DOS * RI	?					-6.178***	4.30
SIMPLE1_INV	?					2.188	0.60
SIMPLE1_INV * CE	?					-2.121	0.80
SIMPLE1_INV * RI	?					12.636***	3.56
LOANS_INV	?					-1.894	0.72
LOANS_INV * CE	?					1.172	0.42
LOANS_INV * RI	?					-6.289*	1.79
COMPLEX	?			0.646	0.80		
COMPLEX * CE	?			-0.290	0.41		
COMPLEX * RI	?			-0.385	0.21		
COMPLEX_DOS	?					1.072	1.39
COMPLEX_DOS * CE	?					-0.749	1.10
COMPLEX_DOS * RI	?					1.489	0.94
COMPLEX_INV	?					-0.198	0.18
COMPLEX_INV * CE	?					0.411	0.46
COMPLEX_INV * RI	?					-3.424	1.64
Adjusted R ²		86.2%		86.6%		87.7%	

* p-Value indicates significance at the 0.10 level using two-tailed significance tests.

** p-Value indicates significance at the 0.05 level using two-tailed significance tests.

*** p-Value indicates significance at the 0.01 level using two-tailed significance tests.

^a Variables are defined as follows: MVE is year-end market value of common equity, CE is year-end book value of common equity, RI is residual income calculated as income before extraordinary items less preferred stock dividends and the product of a Fama-French risk-adjusted return and beginning of year book value of common equity, and **RPTYPE** is one the following three vectors describing RP transaction disclosures: (1) RP is an indicator variable equal to one if the firm discloses a related party transaction in either the footnotes or proxy, (2) SIMPLE is an indicator variable equal to one if the firm discloses a simple RP transaction and zero otherwise, and COMPLEX is an indicator variable equal to one if the firm discloses a complex RP transaction and zero otherwise, and (3) SIMPLE1_DOS (SIMPLE_INV) is an indicator variable equal to one if the firm discloses a non-loan simple RP transaction associated with an officer, director, major shareholder, or affiliate (investment) and zero otherwise, LOANS_DOS (LOANS_INV) is an indicator variable equal to one if the firm discloses a loan to an officer, director, major shareholder or affiliate and zero otherwise (investment) and zero otherwise, and COMPLEX_DOS (COMPLEX_INV) is an indicator variable equal to one if the firm discloses an complex RP transaction associated with an officer, director, major shareholder, or affiliate and zero otherwise (investment) and zero otherwise. MVE, CE, and RI are scaled by beginning of period book value of common equity. Sixteen influential observations with |r-students| > 3.0 are removed (Belsley et al., 1980).

^b Reported t-statistics are based on White's (1980) consistent estimators to address heteroskedasticity in the sample.

where RET is the natural log of one plus the annual common shareholder return measured over the fiscal year, SDRET is the standard deviation of annual shareholder returns over the previous five years, LNMVE is the natural log of one plus the market value of common equity, M2B is the ratio of market to book value of equity, and other variables are as previously defined.

Table 7 documents the estimation of our return models. Reported significance levels are based on White's (1980) t-statistics to address heteroskedasticity. The control variables have the predicted

Table 7

Return association with related party firms.

Variable ^a (N = 1, 175)	Prediction	Base model		Simple v. complex		Detail model	
		Estimated coefficient	t-Statistics ^b	Estimated coefficient	t-Statistics ^b	Estimated coefficient	t-Statistics ^b
SDRET	–	–0.185***	3.07	–0.193***	3.23	–0.192***	3.18
LNMV	–	–0.025***	2.89	–0.026***	3.10	–0.026***	3.08
M2B	–	–0.001	0.48	–0.001	0.44	–0.001	0.43
RP	?	–0.040	1.58				
SIMPLE	?			–0.051**	1.95		
COMPLEX	?			0.009	0.36		
SIMPLE1_DOS	?					–0.049*	1.83
LOANS_DOS	?					–0.042	1.33
COMPLEX_DOS	?					0.001	0.02
SIMPLE1_INV	?					–0.057	0.70
LOANS_INV	?					0.033	0.38
COMPLEX_INV	?					0.053	0.96
Adjusted R ²		13.6%		14.0%		14.0%	

* p-Value indicates significance at the 0.10 level using two-tailed significance tests.

** p-Value indicates significance at the 0.05 level using two-tailed significance tests.

*** p-Value indicates significance at the 0.01 level using two-tailed significance tests.

^a Variables are defined as follows: RET is the natural log of one plus the annual shareholder return measured over the fiscal year, **INDUSTRY** is a vector of industry indicator variables based on the 48 Fama and French industry classifications, SDRET is the standard deviation of annual shareholders returns over the previous five years, LNMV is the natural log of market value of common equity, M2B is the ratio of market to book value of equity, and **RPTYPE** is one the following three vectors describing RP transaction disclosures: (1) RP is an indicator variable equal to one if the firm discloses a related party transaction in either the footnotes or proxy, (2) SIMPLE is an indicator variable equal to one if the firm discloses a simple RP transaction and zero otherwise, and COMPLEX is an indicator variable equal to one if the firm discloses a complex RP transaction and zero otherwise, and (3) SIMPLE1_DOS (SIMPLE_INV) is an indicator variable equal to one if the firm discloses a non-loan simple RP transaction associated with an officer, director, major shareholder, or affiliate (investment) and zero otherwise, LOANS_DOS (LOANS_INV) is an indicator variable equal to one if the firm discloses a loan to an officer, director, or major shareholder and zero otherwise (investment) and zero otherwise, and COMPLEX_DOS (COMPLEX_INV) is an indicator variable equal to one if the firm discloses an complex RP transaction associated with an officer, director, major shareholder, or affiliate and zero otherwise (investment) and zero otherwise. Nineteen influential observations with $|r\text{-students}| > 3.0$ are removed (Belsley et al., 1980). Industry coefficients are omitted for brevity.

^b Reported *t*-statistics are based on White's (1980) consistent estimators to address heteroskedasticity in the sample.

signs but only the standard deviation of annual shareholder returns and the lagged market value of equity are significant. We find a negative and marginally significant association between the presence of RP transactions and subsequent returns in our base model. The estimated RP coefficient ($\delta_5 = -0.040$, $p\text{-value} = 0.11$) suggests a 4% point difference in subsequent returns for RP firms compared to non RP firms.

Our final two specifications consider RP transaction types. Column 2 documents that simple RP transactions significantly negative when separated from complex RP transactions. Column 3 suggests that firms with other simple RP transactions with DOS are associated with significant negative returns. Loans with DOS have a negative sign suggesting a negative market view; however, the coefficient is not significant at conventional levels. These results are generally consistent with the Tobin's Q and RIM valuation results.

8. Sensitivity analyses

8.1. Returns-based event study

The enactment of SOX was a response to a number of accounting-based frauds, some of which involved RP transactions and lack of transparency. SOX addressed RP transactions and specifically banned loans to related parties. We look at specific event dates to explore whether the subsequent returns we observe reflect a general trend or the effects of a few specific events. We also consider

whether these high profile events impact RP firms more than other firms. However, given the documented lower valuations for RP firms, the market may have already built into its expectations the negative consequences of RP transaction such that there is little reaction to revelations of RP related problems for specific firms.

We identified eight events leading up to the passage of SOX where we believe that investors' expectation regarding regulatory intervention may be revised: disclosure of the SEC investigation of Enron, the introduction of the initial bill in the House, Adelphia fraud announcement, the House's passage of the initial bill, Tyco fraud announcement, WorldCom fraud announcement, addition of the RP loan prohibition to the Senate bill, and Congressional passage of SOX.

First, we report univariate comparisons of cumulative abnormal returns (CAR) for RP firms and non RP firms on the three-day windows surrounding each event in panel A of Table 8.¹⁵ For all but one of the events, we find no difference. RP firms have significantly lower CARs when WorldCom announced its fraud on June 25, 2002. This event is considered the point when SOX passage became likely as opposition in the US Congress disappeared (Li et al., 2008).

Second, we test for a mean stock return reaction to these events using the multivariate approach developed in Schipper and Thompson (1983) and used by Dechow et al. (1996). The following model is estimated for the portfolio of 665 firms that disclose RP transactions for which return data is available over the seven-year estimation period ending on December 31, 2002.

$$R_{j,t} = a_j + b_j R_{M,t} + \sum \gamma_{j,k} \text{EVENT}_{k,t} + \epsilon_{j,t} \quad (6)$$

where R is the return on the RP portfolio j on day t and is weighted by the diagonal elements of the covariance matrix of the residuals to mitigate cross-sectional heteroskedasticity, R_M is the return on the CRSP value-weighted index on day t , and EVENT are dummy variables equal to one for the three-day window centered on each event included in the table. We report our results in panel B of Table 8. We find no evidence of market reactions to these specific dates. Taken together, the results suggest that the events that were related to major fraud announcements or the passage of SOX did not affect RP firms any differently.

8.2. Factors associated with RP transactions

The negative associations we document between RP transactions and market valuations could be a symptom rather than a cause. Whether or not a company engages in a RP transaction is a choice that may be correlated with other factors that lead to lower returns or valuations (endogeneity bias).¹⁶ Omitted variables are the likely source of this bias in our setting rather than reverse causality.

First, RP disclosure could be correlated with a number of factors that prior studies show to be associated with valuations and returns. Growth often impacts valuation. We therefore re-estimate our valuation models after controlling for potential growth (as captured by the ratio of the market to book value of equity) in the Tobin's Q model and past sales growth in all three models. While the growth variables are significant in explaining firm value, our RP results are consistent with those previously discussed.

Second, given the motivations behind SFAS 57, we consider conditions that increase the likelihood that insiders are able to act opportunistically and related monitoring mechanisms that constrain opportunism and may therefore be association with firm valuation. Opportunistic behavior is more likely when insiders have incentives to engage in the behavior, and the ability to behave opportunistically.

¹⁵ Cumulative abnormal returns are measured as the difference between the firm return over the three-day period centered on the event date and market model expectation based on the CRSP value-weighted returns and a one-year estimation period ending 46 days prior to the event.

¹⁶ We also observe RP disclosures only if the firm chose to enter into a RP transaction and disclose it. This choice represents a potential source of self-selection bias. We attempt to correct for self-section bias by including the inverse Mills ratio (Heckman, 1979). However, the reliability of this approach depends on the fit of the first stage model. In our case, we built a related party prediction model based on the variables discussed in this section that explains less than 15% of the related party disclosures. The low explanatory power suggests to us that self-selection bias is not a significant problem in our sample.

Table 8

Event study.

Event	Cumulative abnormal Returns ^a		
	RP firms	Non-RP firms	Difference
<i>Panel A: univariate analysis</i>			
N	747	447	
November 8, 2001 – Disclosure of SEC investigation of Enron	–0.001	–0.001	0.000
February 14, 2002 – Introduction of original bill in the House	0.002	0.006	–0.004
March 28, 2002 – Adelphia fraud announcement	0.002	0.001	0.001
April 24, 2002 – House passes initial bill	0.006	0.008	–0.002
June 4, 2002 – Tyco fraud announcement	–0.009	–0.008	–0.001
June 25, 2002 – WorldCom fraud announced	–0.006	0.001	–0.007**
July 12, 2002 – Addition of RP loan prohibition	–0.008	–0.010	0.002
July 25, 2002 – House and Senate pass SOX conference report and President indicates that he will sign the measure	–0.011	–0.009	0.002
	Mean value (γ)	t-Statistic	
<i>Panel B: multivariate analysis (665 RP firms only)^b</i>			
November 8, 2001 – Disclosure of SEC investigation of Enron	0.0003	0.36	
February 14, 2002 – Introduction of original bill in the House	0.0001	0.06	
March 28, 2002 – Adelphia fraud announcement	0.0014	1.26	
April 24, 2002 – House passes initial bill	–0.0008	0.87	
June 4, 2002 – Tyco fraud announcement	–0.0005	0.61	
June 25, 2002 – WorldCom fraud announced	0.0012	1.27	
July 12, 2002 – Addition of RP loan prohibition	0.0004	0.41	
July 25, 2002 – House and Senate pass SOX conference report and President indicates that he will sign the measure	–0.0006	0.71	

** The mean is significantly different at the 0.05 level using a *t*-test of means.

^a Cumulative abnormal returns are measured as the difference between the firm return over the three-day period centered on the event date and market model expectation based on the CRSP value-weighted returns and a one-year estimation period ending 46 days prior to the event.

^b The mean stock returns for the events are from estimating Eq. (6). Variables in Eq. (6) are defined as follows: *R* is the return on the RP portfolio *j* on day *t* and is weighted by the diagonal elements of the covariance matrix of the residuals to mitigate cross-sectional heteroskedasticity, *R_M* is the return on the CRSP value-weighted index on day *t*, and *EVENT* are a dummy variables equal to one for the three-day window beginning on the day before each event included in the table. The equation is estimated over the seven-year period ending December 31, 2002 for the 665 RP firms that return data is available for each day.

tically. The latter conditions are fostered by weak or nonexistent monitoring mechanisms to reduce the probability of such behavior.

Management ownership creates incentives and opportunities to enter into RP transactions. As ownership increases, manager wealth is more dependent on share appreciation, resulting in managers avoiding RP transactions that damage firm value. Managers with relatively high ownership bear higher costs of opportunistic RP transactions. However, greater ownership increases the ability of insiders to enter into RP transactions with less oversight.¹⁷ For example, Kahle and Shastri (2004) document high ownership managers are more likely to get option exercise loans while at the same time earning higher cash compensation. A manager with a high ownership percentage has more control over the firm's monitoring, such that they have more power to override the monitoring function. We include the ratio of the number of shares and exercisable options owned by the CEO to the total shares outstanding (CEO_OWNERSHIP) to capture the influence of manager ownership.

RP transactions can also be part of the CEO's compensation scheme. For example a CEO might accept lower pay in exchange for the firm leasing his personal airplane. RP transactions also can be used to manipulate financial reporting; thereby, creating the potential to impact compensation through

¹⁷ For example, members of the Rigas family were the major shareholders and executives of Adelphia. The Rigas family members have been alleged to use Adelphia as their own personal bank obtaining loans at will and have Adelphia pay personnel expenses.

Table 9

Base model estimations controlling for potential omitted variables.

Variable ^a	Mean	Pearson correlation coef. with RP	Tobin's Q		Residual income		Returns	
			Estimated coefficient	t-Statistics	Estimated coefficient	t-Statistics	Estimated coefficient	t-Statistics
N	1194	1194	1172		1177		1173	
RP	62.5%	1.00	−0.157***	2.68	−3.422***	5.61	−0.038	1.50
RP * CE					2.934***	5.41		
RP * RI					−5.5007***	7.43		
CEO_OWNERSHIP	4.33	0.060**	−0.004	1.28	−0.014	1.35	0.004**	2.29
CEO_COMP	5.55	0.083***	0.020***	5.81	0.048***	5.49	−0.002	1.61
BLOCK	0.43	−0.068**	−0.188***	3.19	−0.633***	3.93	0.042	1.64
INST	61.56	−0.040	0.007***	4.93	0.017***	4.22	0.001	0.32
LEV	0.19	−0.012	−1.241***	6.48	−2.573***	5.29	−0.301***	3.68
BDSIZE	9.45	0.044	0.015	1.25	−0.059**	2.15	0.005	0.97
BDIND	64.94	−0.259***	−0.002	1.57	−0.007	1.62	−0.001	0.71
DUALITY	0.73	−0.043	0.008	0.13	0.011	0.06	−0.078***	2.82
Adjusted R ²			37.3%		87.8%		17.1%	

** p-Value indicates significance at the 0.05 level using two-tailed significance tests.

*** p-Value indicates significance at the 0.01 level using two-tailed significance tests.

^a We ran each base model with the industry and other control variables included in previous tables, but only report the test variables and potential omitted variables here to conserve space. The control variables are generally consistent with our earlier reported results. Variables are defined as follows: RP is an indicator variable equal to one if the firm discloses a related party transaction in either the footnotes or proxy, CEO_OWNERSHIP is the ratio of the number of shares and exercisable options owned by the CEO to the total shares outstanding, CEO_COMP is total compensation including option grants winsorized at the 1st and 99th percentile, BLOCK is an indicator variable equal to one if the firm has one or more outside block holders who own more than 5% of outstanding equity and zero otherwise, INST is the percentage of common shares outstanding held by institutions as of each quarter's most recently reported institutional holdings, LEV is the ratio of year-end long-term debt to total assets, BDSIZE is the number of directors on the board of directors, BDIND is the percentage of board members that are independent, and DUALITY is an indicator variable equal to 1 if the CEO is the Chairman of the Board and zero otherwise. Observations with |*t*-students| > 3.0 are also removed (Belsley et al., 1980).

either bonus contracts or stock based compensation. To control for this possibility, we include total CEO compensation including option grants (CEO_COMP).¹⁸

Given the inherent potential for conflict with RP transactions, monitoring mechanisms can play a role in disciplining RP transactions (Jensen and Meckling, 1976). Firms that anticipate potential problems can implement internal monitoring mechanisms to both reduce the risk of incurring high agency costs, and to signal to stakeholders the effective monitoring of RP transactions. Major external stakeholders can also engage in monitoring. Both internal and external stakeholders have incentives to monitor whether RP transactions occur and if so, how the transactions are disclosed in the financial statements. We include a number of variables that measure the potential monitoring of RP transactions.

External monitor variables include outside block holders, level of institutional ownership, and long-term debt leverage ratio. Outside block holders often use their voting power to influence management and board decisions. Incentives therefore exist for management to align with outside block holder interests. However, block holders can also use their position to extract benefits from the firm. We use an indicator variable equal to one (BLOCK) when at least one non-employee/non-directors' owns more than 5% of the equity based on data from Dlugosz et al. (2006). Prior research shows that in some cases institutional investors act as monitors by discouraging value reducing behavior (Bushee, 1998). The percentage of common shares outstanding held by institutions (INST) proxy for monitors on behalf of shareholders (Schliefer and Vishny, 1986). Debt holders are one of the few external monitors that have the ability to specifically ban or influence RP transactions through debt-covenants. The

¹⁸ We also consider a measure of excess CEO compensation similar to Gompers et al. (2003). Results are similar to those reported.

long-term debt leverage ratio (LEV) provides a measure for creditor monitors (Watts and Zimmerman, 1986).

Our proxies for internal monitors focus on board of directors' characteristics (Beasley, 1996; Bhagat and Black, 2002; Eng and Mak, 2003; Klein, 1998, 2002a; Klein, 2002b). In many cases, the board of directors must approve any RP transactions entered into by a firm. We include three measurements of governance to proxy for internal monitoring: firms that have a CEO who is also chairman of the board (DUALITY), number of board members (BDSIZE), and percentage of outside directors (BD_IND).

We re-estimate a variant of the base models that include these factors as main effects and report the results in Table 9. Continuous variables are winsorized at the 1st and 99th percentile to reduce the effect of the outliers. Many of the additional variables are significant in each model supporting our need to control for their effects prior to considering the impact of RP. After controlling for these alternative explanations, we continue to find results consistent with our earlier findings.¹⁹ RP continues to be valued negatively in the Q and RIM estimations even after controlling for these potential other explanations. The marginal result for returns remains negative but is not significant at conventional levels (p -value = 0.13). The specification reported in Table 9 only includes main effects of these additional factors. An alternative specification includes the main effects and an interaction of RP with each factor. We find similar results.

We also use a composite metric, G-score, from Gompers et al. (2003) to provide an overall proxy for the governance environment instead of the three individual characteristics. Gompers et al. describe the G-score as a measure of the shareholders control of the corporation with small scores considered more democratic shareholder control versus high scores representing dictatorship by management. They document a negative association between G-score and valuation suggesting dictatorship results in lower valuations. Greater management control could also predict RP transactions and suggests more opportunity to engage in RP transactions without shareholder intervention. The inclusion of the G-score in our models controls for this alternative explanation for our RP findings. When added to Eq. (2), G-score is significantly negative consistent with the finding in Gompers et al. (2003). The inclusion of G-score in all our base models does not change our inferences with respect to the RP variable.

8.3. Variable measurement

Tobin's Q measures the ratio of the firm's market value to that firm's asset replacement costs. Because it is difficult to measure both the fair value of the assets or their replacement cost, prior literature has developed a number of estimates. We consider one such alternative measure from Chung and Pruitt (1994). Chung and Pruitt measure Q as the ratio of the sum of the market value of common equity and book value of preferred stock and long-term debt less working capital to total assets. They conclude that their approximation can be safely used instead of more complex and theoretically correct measures such as Lindenberg and Ross (1981). Using this approximation, our inferences do not change.

In the returns analysis, we substitute risk-adjusted dependent variables defined as the natural log of one plus the cumulative annual return based on (1) size-matched portfolios or (2) Fama and French industry membership. Inferences based on the CAR estimations are virtually identical to those reported.

Our initial investigation documents the association of RP transactions with one-year ahead returns (fiscal year 2002 returns). The enactment of SOX during this time period could represent a correlated omitted variable. To investigate this possibility, we separate the one-year ahead returns into pre-SOX (through July 2002) and post-SOX (after July 2002) and repeat the all the returns analyses for both return periods. We find RP results for both periods similar to those reported for the full year.

¹⁹ In untabled analyses, we also consider directors' ownership, directors' fees, and other CEO compensation metrics with similar results.

We initially classify RP transactions as either simple or complex. An alternative approach considers the nature of the RP: DOS vs. investment. As expected given our results for the detail models, the DOS RP transactions drive our results. In another specification, we replace the dichotomous RP variable with the number of disclosed RP transactions scaled by the natural log of total assets to capture differential involvement in RP transactions. Again, results are similar to those reported using the dichotomous RP variable.

8.4. Sample composition

Our sample includes 148 financial institutions whose primary RP transactions are loans. For financial institutions, loans to related parties are common in the course of ordinary business and SOX does not ban these loans. The market may view these transactions differently than for non-financial institutions. To consider this possibility, we exclude the financial institutions from our sample and repeat our tests. Financial institutions do not impact our reported inferences. In addition, 298 firms in our sample have both Simple and Complex RP transactions. The results do not change when we drop these firms from the sample or consider firms with Simple RP transactions only.

9. Conclusion

Overall, our results suggest that the market assigns lower values to firms that engage in certain types of RP transactions. We document both lower valuations and subsequent returns for RP firms. Further analyses exploring differences in transaction types suggest firms with simple transactions with DOS drive the negative valuation and returns findings. The RP loans banned by SOX appear to have particularly strong negative valuation implications, and marginal negative returns. However, the market generally does not appear to value more complex RP transactions or those involving a firm's investments such as partnerships and joint ventures negatively. While proving that there is not some unidentified variable driving the association is not possible, our analysis suggests that no obvious underlying factor is driving the documented associations.

Our sample imposes some limitations on our findings. First, we identify all the firms that disclose RP transactions. However, there may be firms that enter into but do not disclose RP transactions. In light of this limitation, our results are best interpreted as documenting a negative market valuation associated with the *disclosure* of RP transactions. Second, our findings with respect to complex RP transaction firms do not constitute clear evidence that the market values such transactions differently from simple transactions. The complex RP transaction disclosures range from very detailed revenue and expense disclosures to very high level summary discussions that exclude dollar amounts. It is possible that the wide range of disclosure quality leads to the minimal lack of association. Third, we examine the S&P 1500 which while important, represent only part of the market and as a result, caution should be taken not to over-generalize our findings. Finally, 2002 was a year in which RP transactions were in the press on a regular basis with respect to a number of high-profile frauds. This extensive media focus may have increased the market's sensitivity to RP transactions. This risk is limited to the returns analysis as we examine 2001 valuations prior to the majority of the fraud announcements.

Our findings raise some questions about both practice and theory. First, the market seems to treat firms with other simple RP transactions in a manner that is very similar to RP loans which leads us to question separate regulatory treatment for RP loans. But, our findings in general support separate consideration for different types of RP transactions especially for the types of transactions with investments and complex transactions. Regardless of the regulatory implications, our results suggest that those involved in corporate governance (i.e. board members) should carefully consider the potential market costs and the differential impact across RP transaction classifications when deciding whether or not to approve RP transactions.

Second, the negative association between RP firms and both valuation and returns suggests that the market price protects against firms that engage in RP transactions, especially simple transactions. This result is somewhat surprising because the transactions are publicly disclosed and international re-

search suggests that the US approach to self-dealing is stronger than most countries (Djankov et al., 2008). We believe our findings can be reconciled with the international research and expectations about disclosure. First, disclosure provides the necessary information for the market to value RP transactions. Without disclosure, the market would not be able to separate RP firms from other firms. Second, we document a significant but modest decline in RP firm value. This modest level of price protection suggests that RP transactions are value relevant. Further, the modesty of the decline is consistent with the argument that disclosure on average inhibits insiders from more damaging transactions that would lower firm valuations even more. Third, it may be that contracting alone cannot entirely overcome the threat of management opportunism. Corporate insiders have considerable power with respect to RP transactions, including what types of contracts the firm enters into and the monitoring mechanisms that are in place.

As Jensen and Meckling so eloquently point out, once a manager owns less than the full firm, he has strong incentives to consume firm resources, because he does not bear the full cost of the consumption. Our paper suggests there is a market-based cost to this consumption. However, it may be that from the related parties' perspective, the market cost does not offset the personal gain to the RP transaction. Furthermore, the market may not have any reason to discipline the behavior after it has taken price protection in the form of lower valuations and returns. The resulting equilibrium suggests a moderate dead-weight loss to the market as whole that neither stockholders nor management are motivated to fix.

Appendix Definitions. of related party variables

See Table A1.

Table A1

<i>Types of related parties</i>	
Directors, officers, shareholders or their affiliates	Related party is a director, an officer of the company, a major shareholder of the company (>5% ownership) or an affiliate of a director, officer, or major shareholder of the company
Investment	Related party is identified as a joint venture or other operation in which the company has a less than 100% investment that is not consolidated
<i>Types of related party transactions</i>	
<i>Simple RP transactions</i>	
Loans to related party	The company made loans to related parties. Employee loan programs are considered one related party transaction
Borrowings	A related party has either loaned amounts or guaranteed debt of the company
Guarantees	The company guaranteed debt of a related party
Consulting arrangements	The company and the related party have entered into an agreement where the related party provides consulting services to the company
Legal or investment services	The company obtains either legal or investment services from the related party
Leases	The company has entered into an agreement with the related party to lease space or aircraft
<i>Complex RP transactions</i>	
Related business activities	The company and the related party are involved in business activities, including research and development activities, that are related to the company's main operations. The activities typically result in sales, cost of sales, R&D expense, receivables, and payables
Unrelated business activities	The related party provides the company services that are incidental to the company's main operations
Overhead reimbursement	The company and the related party have entered into an agreement for one party to provide administration services to the other for a fee
Stock transactions	The company and the related party have entered into transactions involving transfers of assets, business, and / or ownership interests

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