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Tunneling and Value Relevance of Financial Reports: Evidence from Hong Kong

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***A*bstract:** Using a sample of Hong Kong listed firms that announced related party transactions, this paper examines the informativeness of financial reports prior to the announcements of related party transactions. We find that the value relevance of financial reports is higher for firms undertaking asset or equity tunneling transactions than for firms undertaking other types of related party transactions in the period prior to the announcement of transactions. Given firms with forthcoming tunneling transactions, financial reports are more value relevant for firms with more conservative accounting than for firms with less conservative accounting. Further, the association between conservatism and entrenchment effect is stronger for firms with forthcoming tunneling transactions. Collectively, the evidence suggests that firms adopt conservative accounting to increase the informativeness of financial reports prior to the tunneling transactions, which assists controlling shareholders in expropriating wealth from the minority shareholders from the tunneling transactions.

Keywords: Financial statement informativeness; Conservatism; Related party transaction; Connected transaction

JEL Classifications: M41, G32, G34

1. Introduction

The divergence of interests leads to the agency problem that the controlling shareholders expropriate the minority shareholders' investments and return on investments (e.g., Claessens *et al*., 1999; La-Porta *et al*., 2000). The transfer of resources out of a company to its controlling shareholder for his own benefit is denoted as "tunneling" by Johnson *et al*. (2000). To justify the transfer of resources and reduce information asymmetry, controlling shareholders have incentives to convince minority shareholders the fairness of transaction price using accounting information. The value relevance of financial statements, i.e., financial statement informativeness (Frankel and Li, 2004), appears to provide such an opportunity to controlling shareholders. As such, the purpose of this paper is to explore the association between firms' forthcoming asset or equity tunneling and the value relevance of financial reports.

This study manually collects data on related party transactions for firms listed in the Stock and Exchange of Hong Kong. Adapting Cheung *et al*. (2006), we identify related party transactions that

are likely to result in expropriation of minority shareholders. As predicted, the major results show that financial statements are more value relevant for firms with forthcoming announcements of asset or equity tunneling transactions than for firms with other types of related party transactions. Additionally, given firms with forthcoming asset or equity tunneling transactions, the value relevance of financial reports varies positively with the degree of accounting conservatism. Moreover, the results show that the association between conservatism and entrenchment effect is positive and stronger for firms with asset or equity tunneling transactions than for firms with other types of related party transactions. Overall, the findings suggest that controlling shareholders with tunneling incentives use conservative accounting to increase the value relevance of financial reports to reduce transaction costs and assist in tunneling.

This study contributes to the literature in the following ways. First, this paper extends research relating to tunneling transactions to the valuation role of accounting information. By examining the role of value relevance of financial reports in tunneling, this study partly answers an unanswered question on how controlling owners successfully expropriate resources from listed firms. The evidence suggests that controlling shareholders strategically increase value relevance of financial statements prior to the announcement of the transactions to convince the public. Second, this paper contributes to literature on the association between conservatism and value relevance. Prior studies examining the association between conservatism and value relevance have yielded mixed results (Lev and Zarowin, 1999; Francis and Schipper, 1999; Balachandran and Mohanram, 2011). This paper identifies a special tunneling context where conservatism is adopted to signal unfavorable information to outsiders, suggesting that the association between conservatism and value relevance is contingent on controlling shareholders' incentives.

The reminder of this paper is organized as follows. Section 2 reviews related studies and develops hypotheses. Section 3 describes empirical design including empirical models, measures of conservatism, and sample description. Section 4 analyzes the empirical results and provides robustness checks. Section 5 concludes.

2. Literature Review and Hypothesis Development

2.1 Background and related literature

Tunneling means "the transfer of assets and profits out of firms for the benefit of those who control them" (p.22, Johnson *et al*., 2000). Due to the difficulty in observing tunneling directly, prior research usually makes use of related party transactions to ferret out possible tunneling (Bae *et al*., 2002; Bertrand *et al*., 2002; Cheung *et al*., 2006). Cheung *et al*. (2006) directly examine and identify related party transactions that are likely to involve expropriation of wealth from the minority shareholders to controlling shareholders. They find substantial discount in firm value for firms with tunneling-like related party transactions, such as acquisition and sale of assets, equity sales, trading relationships, and cash payments to related party parties, which substantiate the occurrence of tunneling.

We adapt Cheung *et al*. (2006) and compile a sample of related party transactions for firms listed in the Stock and Exchange of Hong Kong, which gives us a rich scenario to investigate this issue, for two reasons. First, Hong Kong adopts common law and is expected to have better shareholder protection. However, the high degree of concentrated ownership in Hong Kong market implies agency conflicts between controlling shareholders and minority shareholders. Evidence shows that more than 67% companies listed in Hong Kong market are controlled by family shareholders, using 20% of voting rights as a benchmark (Claessens *et al*., 2000). Cheung *et al*.

(2006) also show evidence that tunneling-like transactions account for 63% of related party transactions during 1998-2000. Second, many firms listed in Hong Kong have either ownership attributable to or close business relationships with firms in mainland China. In August 2014, there are 172 Chinese firms listed in Hong Kong Stock Exchange (H shares). Given the court rulings in Hong Kong not enforceable in the mainland China as a result of their different legal systems, firms operating in Hong Kong may have incentives to shift assets across the border, which leads to expropriation.

In spite of the prevalence of tunneling, there is a lack of research examining value relevance of financial reports in a tunneling context. Prior literature views the value relevance of financial reports as desirable information quality, reflecting the overall effect of the primary quality of accounting information including relevance and reliability (e.g., Barth *et al*., 2001). However, in a tunneling context, controlling shareholders' incentives to transfer assets or equities for their own benefits affect how they will report accounting information, whereby informativeness of financial reports provides an efficient means to reduce information asymmetry and cost of capital.

Value relevance reflects the informativeness of financial statements (Frankel and Li 2004) and the overall effect of the primary information quality of accounting information, i.e., relevance and reliability (Francis *et al*. 2004). A large body of literature has examined the value relevance of accounting information since 1990 with a focus on two bottom line numbers: earnings and book value of equity. Holthausen and Watts (2001) provide a remarkable review on studies of value relevance. Accounting information is value relevant if it has incremental explanatory power on stock price/return, as characterized by either the regression coefficient or coefficient of determination. Some studies examine the value relevance of earnings and book values and changes in value relevance and document that earnings and book values are value relevant (Brown, Lo and Lys, 1999; Francis and Schipper, 1999). Other studies examining whether conservatism reduces the value relevance have obtained mixed results. For example, Lev and Zarowin (1999) find a negative association between R&D and value relevance, while Francis and Schipper (1999) do not find lower value relevance in high-technology industries. Balachandran and Mohanram (2011) find no evidence that increasing conservatism is associated with a decline in the value relevance. LaFond and Watts (2008) document that information asymmetry between uninformed investors and informed shareholders produce demand for conservatism of financial reports. In contrast, this paper highlights that the association between conservatism and value relevance depends on the context.

2.2 Hypothesis development

Hong Kong stock market is dominated by concentrated ownership, where controlling shareholders take up an active role in management and have an effective control on firms' production of accounting information. Therefore, controlling shareholders' incentives potentially affect firms' financial reporting strategy. Prior research has shown that controlling shareholders tend to conceal information regarding both economic gains and economic losses to avoid competition and engage in rent seeking (Fan and Wong, 2002; Morck and Yeung, 2004). However, the information asymmetry increases cost of capital when companies sell assets and equities to controlling shareholders. If external parties view the transaction as tunneling, they can veto the transaction. Controlling shareholders' reputation will also be damaged, which induces a higher financing cost in the future (Zingales, 1994; Shleifer and Vishny, 1997).

According to the efficient contracting theory, accounting information plays a role in reducing the information asymmetry, thus minimizing cost of capital (Holthausen, 1990; Watts and Zimmerman, 1990). Prior empirical studies have documented the negative relation between financial statement informativeness (i.e., value relevance) and information asymmetry (Frankel and

Li, 2004) [1]. While controlling shareholders can withheld information about the economic value of firms or assets, financial statements are an important information source for external parties to evaluate the assets or equities being sold. Therefore, to reduce information asymmetry and cost of capital, controlling shareholders have incentives to increase the informativeness of financial reports to signal that the value of assets and equities has been recorded properly and justify the fairness of their transaction prices. Consequently, these explanations yield the following hypothesis in alternative form.

H1: The value relevance of financial reports is higher for firms with forthcoming asset or equity tunneling transactions than that for firms with other types of related party transactions.

To further explore how controlling shareholders increase value relevance of financial reports for the firms with forthcoming asset or equity tunneling, we conjecture that these firms adopt conservative accounting to affect the informativeness of financial reports for two reasons. First, as the transaction price varies positively with the book value of assets and equities being transferred, accounting conservatism, by definition, reduces book value of assets and equities (e.g., Beaver and Ryan, 2005), and thus justifies the lower transaction price for asset or equity sales transactions. Cheung *et al*. (2009) find that the selling price is lower for firms selling assets to their controlling shareholders. Xie *et al*. (2012) find that firms tunneling more from asset or equity transactions reported higher accounting conservatism prior to tunneling. These two pieces of evidence suggests that firms adopt conservative accounting prior to tunneling transactions to justify the observed lower selling price for asset or equity sales transactions. Therefore, despite the difficulty in measuring tunneling, conservative accounting appears to be a leading indicator of asset and equity tunneling. Second, according to Bushman and Piotroski (2006) and LaFond and Watts (2008), conservative accounting is a governance mechanism to reduce managers' incentive and ability to manipulate accounting numbers. By enhancing the information contents of financial reports, reporting conservatism mitigates the information asymmetry between uninformed investors and informed shareholders. Therefore, the informational role of conservatism provides information about firm value that can increase the value relevance of financial reports. Consequently, this discussion yields the following hypothesis.

H2: Given firms with forthcoming asset or equity tunneling transactions, the value relevance of financial reports for firms with more conservative accounting is higher than that for firms with less conservative accounting.

3. Empirical Design

3.1 Model specifications

Following Collins *et al*. (1997), Francis and Schipper (1999), Brown *et al*. (1999), Lo and Lys (2001), and Frankel and Li (2004), we use the standard value relevance equations, which include earnings (*E*) and book value of equity (*B*) as explanatory variables for stock price (*P*) on a per share basis. As prior literature documents that both earnings and book value should be used together to evaluate the value relevance to avoid the omitted variable problems and misspecification of model (Easton and Harris, 1991; Ohlson 1995; Barth, Beaver, and Landsman, 1998; Collins *et al*., 1999), we focus on the explanatory ability of earnings and book value on stock price. Hence, the following standard value relevance equations can be used to analyze the relation between earnings, book value, and value of the firm:

[1] Thus, we use two terms, financial statement informativeness and value relevance, interchangeably.

$$P_{i,t} = \alpha_0 + \alpha_1 E_{i,t} + \alpha_2 B_{i,t} + \varepsilon_{i,t} \quad (1)$$

where *P* is price, *E* is earnings per share, *B* is book value of equity; *t* is the period immediately preceding the announcement of related party transactions by firm *i*. As negative earnings have information content different from positive earnings (Hayn, 1995; Collins *et al*., 1999), we additionally use an indicator variable to distinguish their effects on stock price for both loss firms and profit firms as shown below:

$$P_{i,t} = \alpha_0 + a_0 LOSS_{i,t} + \alpha_1 E_{i,t} + a_1 LOSS * E_{i,t} + \alpha_2 B_{i,t} + a_2 LOSS_{i,t} * B_{i,t} + \varepsilon_{i,t} \quad (2)$$

where $LOSS_{i,t}$ is an indicator variable and equals one for firm *i* with negative earnings in period *t*, and zero otherwise.

Numerous studies of value relevance use the coefficient of determination, adjusted R^2, of regressing stock price or return on earnings and book value of equity to evaluate the degree of value relevance; for example, Collins *et al*. (1997), Barth *et al*. (1998), Brown *et al*. (1999), Francis and Schipper (1999), and Collins *et al*. (1999). Higher coefficient of determination means that those accounting numbers are more value relevant. Thus, we follow this line of research and use the coefficient of determination to proxy for the value relevance of financial reports. Specifically, we divide all observations into two subsamples based on whether firms have forthcoming tunneling transactions or not and compare their adjusted R^2s.

3.2 Measures of conservatism

Khan and Watts (2009) modify Basu (1997)'s model and develop the *A-SCORE* as a comprehensive measure of conservatism, which is made up of three determinants: firm size, market-to-book ratio, and leverage. These three components are widely used as proxies for a firm's investment opportunity set that drives the changes in the demand for contract, litigation, taxation, and regulation. Following Khan and Watts (2009), we estimate the following equation:

$$\begin{aligned} E_i = {} & \beta_0 + \beta_1 DR_i + R_i(\mu_1 + \mu_2 SIZE_i + \mu_3 MB_i + \mu_4 LEV_i) + DR_i \times R_i(\lambda_1 + \lambda_2 SIZE_i + \lambda_3 MB_i + \lambda_4 LEV_i) \\ & + (\delta_1 SIZE_i + \delta_2 MB_i + \delta_3 LEV_i + \delta_4 DR_i \times SIZE_i + \delta_5 DR_i MB_i + d_6 DR_i \times LEV_i) + \zeta_i \end{aligned} \quad (3)$$

where *DR* is a dummy variable equal to one for firms with negative return, and zero otherwise, *R* is stock return, *SIZE* is firm size, market-to-book ratio (*MB*), and leverage (*LEV*) equals long-term liability divided by total assets. All other variables are as specified above. All accounting variables are deflated by lagged market values at the end of the previous fiscal year, by a price multiplied by the number of shares outstanding and share adjustment factor, unless otherwise noted. Second, we substitute the coefficients of μ and λ from the annual regressions of equation (3) into the following models to calculate firm-specific measure of conservatism:

$$\beta_2 = \mu_1 + \mu_2 SIZE_i + \mu_3 MB_i + \mu_4 LEV_i \quad (4)$$

$$\beta_3 = \lambda_1 + \lambda_2 SIZE_i + \lambda_3 MB_i + \lambda_4 LEV_i \quad (5)$$

where *G-SCORE*, β_2 captures the sensitivity of earnings to economic gains, while *C-SCORE*, β_3 captures the incremental response of earnings to economic losses relative to economic gains. Following Wittenberg-Moerman (2008), we calculate the average values of the estimated annual μ and λ over the 3-year period prior to listed firms announcing related party transactions to mitigate biases. The average values of μ and λ are substituted in equations (4) and (5) to estimate *G-SCORE* β_2 and *C-SCORE* β_3. The proxy for conservatism *A-SCORE*, is constructed as $(\beta_2 + \beta_3)/\beta_2$, which captures the relative sensitivity of earnings to economic losses compared to economic gains (Bushman and Piotroski, 2006; Roychowdhury and Watts, 2007; Khan and Watts, 2009).

In addition, as industry captures growth opportunities, economic rents, and accounting standards, which potentially influences value relevance of financial reports and conservatism (Francis and Schipper, 1999; Ahmed and Duellman, 2007), we subtract industry median value from each variable to control for the industry effects. Following Zhang (2008), we transform proxies for conservatism to cross-sectional decile ranks to improve specifications of the OLS regression.[2] The weakness of this proxy is that the precision of the proxy depends on the validity of the assumption that conservatism is mainly determined by size, leverage, and book-to-market ratio. Therefore, in the sensitivity analysis, we also use other measures of conservatism such as book-to-market ratio (Beaver and Ryan, 2000; Ahmed *et al*., 2002), total accruals (Ahmed *et al*. 2002) and non-operating accruals (Givoly and Hayn, 2000).

3.3 Data and sample description

Since no database provides detailed information concerning related party transactions, we compile our data from Hong Kong listed firms that announced related party transactions during the period from 2002 to 2004. The sample period begins in 2002 to avoid the influences of the 1997 Asian financial crisis on the stock market and the tunneling incentives of the controlling shareholders, and ends at 2004 to exclude the effects of the changes of Hong Kong accounting rules in 2005. The sample firms are selected by searching titles of circulars submitted to the Stock Exchange. Each listed firm in Hong Kong must send a circular including the full detail of related party transactions to the Stock Exchange of Hong Kong, before the related party transactions are approved by shareholders. Every firm included in the sample submitted at least one circular involving a related party transaction during the sample period. Circulars are obtained from the website of the Stock Exchange of Hong Kong. All circulars published during the period from 2002 to 2004 are searched with the keyword "connected transactions"[3] in the title to locate circulars involving related party transactions.

Panel A of Table 1 reports the distribution of related party transactions classified by the types of transactions. We classify 602 related party transactions into 12 types, 10 of which are based on Cheung *et al*. (2006).[4] We identify two additional types of related party transactions, which fall into the control group: trading relationships between joint venture partners and transactions involving selling assets or equities to independent third parties who become major shareholders as a result of the transaction.[5] The firms with subsequent announcement of asset or equity sales to controlling shareholders are included in our sample of tunnel group, in contrast with the control group of other transactions. In the tunnel group, 50 related party transactions involve sales of asset by listed firms to related party parties, while 53 transactions involve sales of equity to related party parties.

[2] We first rank observations each year into ten groups from zero to nine and then scale the ranking by nine. Hence, each rank variable ranges from zero to one.

[3] "Connected transaction" is the term used in Hong Kong to describe related party transactions.

[4] The classification of related party transaction is constructed based on Cheung *et al*. (2006) and available upon request.

[5] This modification does not affect the reliability of classification by Cheung *et al*. (2006), as only 11 related party transactions or 2% of the total sample fall into these two types.

Table 1. Distribution of Related Party Transactions and Selection of Sample

Panel A: *Distribution of Related Party Transactions by types of Transaction*

Transactions	Tunnel Group		Control Group		Pooled	
	Number	Share	Number	Share	Number	Share
Asset Acquisition			133	27%	133	22%
Sell Assets	50	49%			50	8%
Sell Equities	53	51%			53	9%
Trading Relationships			160	32%	160	27%
Cash Payments			19	4%	19	3%
Cash Receipts			9	2%	9	2%
Subsidiary Relationships			31	6%	31	5%
Takeover Offers and Joint Ventures			40	8%	40	7%
Joint Venture State Acquisition			64	13%	64	11%
Joint Venture State Sales			32	6%	32	5%
Joint Venture Relationship			9	2%	9	2%
Major Shareholder Change			2	0%	2	0%
Total Related Party Transactions	103		499		602	
Number of Filling [a]	100		470		568	

[a] There are filings involving more than one kind of related party transaction. Therefore, the total number of related party transactions is larger than the total number of filings.

Panel B: *Sample Selection and Composition*

Sample Selection	Filings	Firm-Years	Firms
Announcing related party transactions from 2002 to 2004	568		
Minus: financial industry	(25)		
Related party transactions	543	446	353
Selling assets or equities		*89*	*77*
Other related party transactions		*357*	*276*
Minus: change the end of fiscal year during last 3 years		(64)	
Minus: without controlling shareholders		(30)	
Final sample		352	259
Selling assets or equities (tunnel group)		*74*	*64*
Other related party transactions (control group)		*278*	*221*

Panel B of Table 1 details the selection and composition of our sample. The final sample consists of 259 firms (352 firm-years), including 64 firms (74 firm-years) for the tunnel group and 221 firms (278 firm-years) for the control group. To focus on controlling shareholders' incentives, this study excludes the following firms from our sample: (i) widely held firms that do not have controlling shareholders,[6] (ii) listed firms selling assets or equities to connected parties other than controlling shareholders. In addition, we exclude firms that change fiscal year-end during the three years prior to the transaction so as to match the financial data.

[6] A controlling shareholder is defined as a shareholder who possesses more than 20 percent of the voting rights of the firm and who is not controlled by any other party (La-Porta *et al*., 1999).

4. Empirical Analysis

4.1 Descriptive statistics

Table 2 reports the descriptive statistics of variables used in this paper. All variables are not significantly different between two subsamples except for book value of equity and *ROA*. Table 3 shows that all the proxies for conservatism are positively correlated with each other using Spearman correlation at the significance level of 10 percent and Pearson correlation at the significance level of 5 percent. *TUN* (tunnel) is marginally correlated with *A-SCORE*. Additionally, stock price is positively correlated with earnings and book value of equity and negatively correlated with loss using either Spearman correlation or Pearson correlation at the significance level of 10 percent. Moreover, stock price is negatively correlated with tunnel, using Pearson correlation at the significance level of 10 percent.

Table 2. T-Test of Means

Subsample	**Tunnel**		**Control**		**Difference of Means**	**t Stat.**	**Pr > |t|**
Variable	N	Mean	N	Mean			
A-SCORE	57	-0.03	219	-0.04	-0.009	-1.52	0.131
P	58	1.50	233	2.53	1.029	1.59	0.114
E	67	0.07	249	0.18	0.106	1.62	0.105
B	66	2.25	250	3.43	1.173	2.53	0.012 **
LOSS	68	0.46	259	0.37	-0.081	-1.22	0.2224
DIV	67	0.106	255	0.106	0.000	-1.16	0.246
CFR	66	43.55	256	46.24	2.687	1.29	0.197
ROA	68	-0.09	253	-0.04	0.042	1.86	0.063 **
SIZE	66	20.33	255	20.73	0.405	1.44	0.152
LEV	68	0.12	255	0.12	-0.001	0.97	0.331
GW	63	-0.08	249	-0.06	0.012	-0.06	0.952

Variable definitions:

Tunnel subsample denotes firms with forthcoming asset or equity tunneling transactions;

Control denotes firms with other types of tunneling transactions.

A-SCORE is based on Khan and Watts (2009);

TUN is an indicator variable and equals one for firms with forthcoming tunneling transactions in the next year, and zero otherwise;

P is stock price in the beginning of the year;

E is earnings per share, *B* is book value of equity per share;

DIV equals one minus the ratio of controlling shareholders' cash flow rights to voting rights;

CFR is cash flow rights of listed firm held by the purchaser who purchases assets or equities from listed firm in related party transactions, multiplied by -1;

ROA equals net income divided by total assets;

LEV equals long-term liability divided by total assets;

SIZE is natural logarithm of the market value of equity;

GW equals changes in sales divided by total sales;

IND is industry indicator variables. All variables are adjusted by deducting the industry median values to control for industry effects. The results are robust to industry adjustments.

Table 3. Pearson(Spearman) Correlation

	A-SCORE	*TUN*	*P*	*E*	*B*	*LOSS*	*DIV*	*CFR*	*ROA*	*SIZE*	*LEV*	*GW*
A-SCORE	1	0.021	**-0.122**	-0.033	-0.093	-0.033	0.009	0.035	0.036	-0.041	0.073	0.033
		0.732	0.054	0.585	0.126	0.583	0.877	0.561	0.554	0.507	0.229	0.590
TUN	0.091	1	**-0.101**	-0.092	-0.099	0.068	0.001	-0.063	-0.070	-0.090	0.004	-0.007
	0.131		0.086	0.103	0.078	0.222	0.988	0.261	0.213	0.106	0.941	0.897
P	**-0.246**	-0.093	1	**0.659**	**0.516**	**-0.337**	-0.060	**0.171**	**0.223**	**0.613**	**0.149**	0.096
	<.0001	0.113		<.0001	<.0001	<.0001	0.309	0.004	0.000	<.0001	0.012	0.109
E	**-0.144**	-0.091	**0.718**	1	**0.683**	**-0.506**	**-0.150**	**0.179**	**0.329**	**0.499**	**0.096**	**0.171**
	0.017	0.105	<.0001		<.0001	<.0001	0.008	0.002	<.0001	<.0001	0.090	0.003
B	**-0.189**	**-0.142**	**0.761**	**0.619**	1	**-0.296**	**-0.103**	0.084	**0.108**	**0.419**	**0.224**	**0.151**
	0.002	0.012	<.0001	<.0001		<.0001	0.070	0.138	0.057	<.0001	<.0001	0.009
LOSS	0.086	0.068	**-0.597**	**-0.846**	**-0.461**	1	**0.220**	**-0.239**	**-0.549**	**-0.482**	-0.020	**-0.299**
	0.154	0.222	<.0001	<.0001	<.0001		<.0001	<.0001	<.0001	<.0001	0.722	<.0001
DIV	0.011	0.025	**-0.290**	**-0.273**	**-0.196**	**0.253**	1	**-0.670**	**-0.122**	**-0.136**	0.000	-0.061
	0.855	0.659	<.0001	<.0001	0.001	<.0001		<.0001	0.030	0.016	0.997	0.284
CFR	-0.020	-0.072	**0.298**	**0.251**	**0.209**	**-0.243**	**-0.570**	1	**0.150**	**0.199**	**0.115**	0.032
	0.746	0.198	<.0001	<.0001	0.000	<.0001	<.0001		0.008	0.000	0.040	0.573
ROA	**-0.145**	**-0.104**	**0.574**	**0.793**	**0.413**	**-0.840**	**-0.183**	**0.201**	1	**0.354**	0.070	**0.364**
	0.017	0.063	<.0001	<.0001	<.0001	<.0001	0.001	0.000		<.0001	0.215	<.0001
SIZE	**-0.177**	-0.080	**0.734**	**0.576**	**0.491**	**-0.479**	**-0.205**	**0.192**	**0.504**	1	**0.233**	**0.218**
	0.004	0.152	<.0001	<.0001	<.0001	<.0001	0.000	0.001	<.0001		<.0001	0.000
LEV	0.052	-0.059	**0.134**	**0.113**	**0.264**	-0.053	-0.071	**0.120**	0.002	**0.233**	1	-0.067
	0.392	0.290	0.023	0.045	<.0001	0.342	0.207	0.032	0.968	<.0001		0.242
GW	-0.043	0.003	**0.309**	**0.322**	**0.206**	**-0.308**	**-0.097**	**0.103**	**0.336**	**0.304**	-0.035	1
	0.479	0.952	<.0001	<.0001	0.000	<.0001	0.089	0.071	<.0001	<.0001	0.537	

Notes: See Table 2 for variable definitions. For each variable, the extreme 1% of the observations on each side is excluded. Pearson (Spearman) correlations are above (below) the diagonal; Correlations in bold represent significance at the 10% level or higher, using a two-tailed test.

4.2 Major results

The regressions are estimated after removing outliers with the absolute studentized residuals exceeding two. The t-values are computed using robust standard errors adjusted for heteroscedasticity of error using heteroscedasticity-consistent standard errors to avoid biases in the significance test. As explained above, we divide all observations into two subsamples and compare their adjusted R^2. Table 4, panel A, shows the results of equation (1) for regressing stock price on earnings and book value for firms with forthcoming tunneling transactions (tunnel group) and firms with other forthcoming related party transactions (control group). The F values for both subsamples are significant at the significant level of 1%, indicating that the model significantly explains changes in the stock price. As predicted, the earnings and book value of equity for firms with forthcoming asset or equity tunneling in total explain 50.4 percent of variations in stock price in the period right before the announcement of the transactions, which is greater than that of firms with other types of related party transactions, 32.2 percent.

Additionally, as negative earnings may have information content different from positive earnings (Barth *et al*., 1998; Collins *et al*., 1999), we incorporate this effect into equation (2) by using an indicator variable and interactive terms for firms with negative earnings. The results shown in panel B of Table 4 indicate that loss-related variables are not significant for tunnel group, and for control group when using decile rank variables. The findings of higher explanatory power of

earnings and book value for tunnel group than for control group still hold for both original and decile rank variables. Overall, these findings are consistent with hypothesis H1 and suggest that the financial reports are more value relevant for firms with forthcoming asset or equity tunneling in the period right before the announcement of transactions, relative to firms with other types of related party transactions.

Table 4. Regressions of Stock Price on Earnings and Equity

Panel A: *Results for Equation (1)*

Subgroup	Tunnel (N=57)		Control (N=230)	
Variable	Coeff.	t-Statistic	Coeff.	t-Statistic
Intercept	-0.897	-3.04	-2.198	-5.17
E	1.012	1.20	4.847	5.81
B	3.938	4.29	3.815	5.66
Adj. R^2	**0.504**		**0.322**	
F value	29.405		55.280	
P value	0.000		0.000	

Panel B: *Results for Equation (2)*

Subgroup	Tunnel (N=57)		Control (N=230)	
Variable	Coeff.	t-Statistic	Coeff.	t-Statistic
Intercept	-1.627	-1.92	-5.527	-4.28
E	1.574	1.07	9.724	4.95
B	4.389	4.72	3.185	4.34
LOSS	0.764	0.80	4.713	3.90
*LOSS*E*	0.877	0.45	-7.436	-4.39
*LOSS*BV*	-1.277	-1.25	-0.858	-0.87
Adj. R^2	**0.498**		**0.351**	
F value	12.115		25.740	
P value	0.000		0.000	

Notes: See Table 2 for variable definitions. The sample size is 57 and 230 for tunnel group and control group, respectively. The regressions are estimated after removing outliers with the absolute studentized residuals exceeding two. The t-values are computed using robust standard errors adjusted for heteroscedasticity of error using heteroscedasticity-consistent standard errors to avoid biases in the significance test.

Given firms with forthcoming asset or equity tunneling transactions, we compare the value relevance of firms with different levels of conservatism in the period preceding the announcement. The results are shown in Table 5. All models have significant explanatory power for two subsamples. The explanatory power of earnings and book value of equity on stock price is higher for firms adopting more conservative accounting than for firms adopting less conservative accounting (82.9% > 46.7%). Similarly, when loss-related variables are incorporated into the models, the results on positive relation between R^2 and conservatism still hold. Overall, the above findings are supportive of hypothesis H2 and suggest that, given firms with forthcoming asset or equity tunneling transactions, the value relevance of financial reports is greater for firms adopting more conservative accounting than that for firms adopting less conservative accounting in the period right before the announcement of transactions.

Table 5. Regressions of Stock Price on Earnings and Equity for Tunnel Group

	Equation (1)				Equation (2)			
Conservatism	High (N=22)		Low (N=28)		High (N=22)		Low (N=95)	
Variable	Coeff.	t-Stat.	Coeff.	t-Stat.	Coeff.	t-Stat.	Coeff.	t-Stat.
Intercept	-0.350	-3.63	-1.196	-2.10	-0.516	-2.02	-2.808	-2.18
E	-0.041	-0.11	1.298	1.06	0.039	0.06	3.919	1.74
B	3.147	6.09	4.229	3.46	3.339	5.51	3.660	2.76
LOSS					0.444	1.69	0.243	0.17
*LOSS*E*					-0.358	-0.58	4.374	1.46
*LOSS*B*					-1.361	-3.97	1.532	0.66
Adj. R^2	**0.829**		**0.467**		**0.831**		**0.469**	
F value	51.969		12.830		21.726		5.768	
p value	0.000		0.000		0.000		0.002	

Notes: See Table 2 for variable definitions. The regressions are estimated after removing outliers with the absolute studentized residuals exceeding two. The t-values are computed using robust standard errors adjusted for heteroscedasticity of error using heteroscedasticity-consistent standard errors to avoid biases in the significance test.

4.3 Entrenchment effect of tunneling and conservatism

To gain more understanding on firms' incentives to undertake tunneling transactions, we examine whether firms with forthcoming tunneling transactions have stronger association between conservatism and entrenchment effect. If controlling shareholders adopt more conservative accounting for their private gains, this positive association should be more pronounced for tunneling firms. Following prior literature,[7] we measure the entrenchment effect as the divergence between voting rights and cash flow rights, and control for potential factors influencing conservatism including firm size, leverage, profitability, and sales growth as follows:

$$CON_{i,t} = \gamma_0 + \gamma_1 DIV_{i,t+1} + \gamma_2 TUN_{i,t+1} + \gamma_3 DIV_{i,t+1} * TUN_{i,t+1} + \gamma_4 LEV_{i,t} + \gamma_5 ROA_{i,t} + \gamma_6 SIZE_{i,t} + \gamma_7 GW_{i,t} + \gamma_8 IND_{i,t} + \xi_{1,i,t}$$

where *CON* is a proxy for conservatism, as measured by *A-SCORE*; *DIV* is divergence between cash flow rights and voting rights, which is increasing in the degree of divergence between voting rights (controlling rights) and cash flow rights; *TUN* is an indicator variable taking one for firms with tunneling transactions in the period immediately preceding the announcement, and zero otherwise; *ROA* is return on assets; *GW* is firms' growth opportunity; *IND* is an indicator variable to control for industry effects. All other variables are specified as above.

The results are presented in Table 6. The coefficient of tunneling is significantly and positively related to *CON* (0.078, p<0.064). Given firms with forthcoming tunnel transactions, the coefficient of divergence between cash flow rights and control rights is significantly and positively related to *CON* (1.035, p<0.039), which does not hold for firms with other types of related party transactions. In addition, the positive association between *CON* and divergence is stronger for firms with forthcoming tunneling transactions (0.309, p<0.035).[8] The degree of conservatism associated with

[7] See, for example, Claessens *et al*. (1999), Claessens *et al*. (2000), La-Porta *et al*. (2000), Claessens *et al*. (2002), Ahmed *et al*. (2002), Lafond and Watts (2008), and Xie *et al*. (2012).

[8] The untabluated results show that these results hold for other measures of conservatism such as total accruals and non-operating accruals as well.

the entrenchment effect of the controlling shareholders is more pronounced for firms with forthcoming tunneling transactions relative to firms with other types of related party transactions. The results confirm Xie *et al*. (2012) that conservatism is used by controlling shareholders opportunistically to conceal tunneling behavior and provide further evidence that controlling shareholders' tunneling incentives will affect the reporting of accounting information.

Table 6. Regressions of Conservatism (A-Score) on Tunnel and Divergence

Model	**A** (N=57)		**B** (N=278)		**C** (N=246)	
Variable	Coefficient	t-Statistic	Coefficient	t-Statistic	Coefficient	t-Statistic
Intercept	0.044	0.11	0.399	3.56***	0.308	2.53**
DIV	1.035	3.02**			-0.043	-0.56
TUN			0.078	1.90*	0.039	0.97
DIV*TUN					**0.309**	**2.55****
ROA	0.018	0.11	-0.061	-0.84	-0.054	-0.82
LEV	-0.231	-1.75*	0.152	2.27**	0.238	3.90***
SIZE	-0.125	-0.92	-0.165	-2.61**	-0.280	-4.88***
GW	-0.255	-2.40*	-0.011	-0.17	0.010	0.17
IND	0.005	0.10	0.030	1.53	0.055	3.22***
Adj-R^2	0.100		0.052		0.184	
F value	2.04		3.52		7.89	
p value	0.078		0.002		<0.0001	

Notes: See Table 2 for variable definitions. *, **, and *** indicate significance for two-tailed at the 10%, 5%, and 1% levels, respectively. The sample size for model A, B, and C is 57, 278, and 246, respectively. The regressions are estimated after removing outliers with the absolute studentized residuals exceeding two. The t-values are computed using robust standard errors adjusted for heteroscedasticity of error using heteroscedasticity-consistent standard errors to avoid biases in the significance test.

4.4 Sensitivity checks

In the robustness checks, we examine whether the results hold for different model specifications and measurements of conservatism as follows. We also control for the effect of corporate financing activities on value relevance. We use two alternative models to measure the value relevance based on Brown *et al*. (1999), where all variables are scaled by stock price. We find the results that R^2 for tunnel group is higher than for control group still hold. Moreover, given forthcoming tunneling transactions, firms with a high degree of conservatism have higher R^2 than firms with a low degree of conservatism. As a result, these findings are consistent with our two hypotheses. Additionally, we also use three other measures of conservatism: book-to-market ratio (Beaver and Ryan, 2000; Ahmed *et al*., 2002), total accruals (Ahmed *et al*., 2002) and non-operating accruals (Givoly and Hayn, 2000). First, the book-to-market ratio reflects a persistent difference between market value and book value and captures the effect of cumulative accounting conservatism (Beaver and Ryan, 2000). As book-to-market ratios indicate low accounting conservatism, following Beaver and Ryan (2000) and Ahmed *et al*. (2002), we measure conservatism using the book-to-market ratio, *BM*, which equals book value of equity divided by market value of equity multiplied by minus one so that higher values of *BM* represent higher

conservatism. As this proxy is influenced by firms' growth opportunities and economic rents, we adjust these variables to industrial medians to control for growth opportunities and economic rents.[9] The results of book-to-market proxy for conservatism, using both original data and decile rank variables, still hold.

Second, conservatism leads to persistent negative accruals over time as a result of understatement of net income and book value of net assets. Therefore, the average accruals of a firm over a reasonably long period provide an accounting-based and firm-specific proxy for conservatism (Ahmed *et al*., 2002). The proxy based on total accruals, TACR, equals net income before extraordinary items plus depreciation expense minus cash flows from operations, scaled by total assets, and averaged over the three years prior to the year that the related party transactions are announced, and multiplied by minus one to ensure higher values denote greater conservatism. Since this proxy is influenced by earnings manipulation that could affect total accruals and decrease the accuracy of this proxy, we use the average values of total accruals over three years to mitigate the temporary reversal of accruals stemming from earnings management. With this proxy for conservatism, we obtain qualitatively same results as those shown above. Third, non-operating accruals capture the effects of assets impairment and so are used as a proxy for conservatism (Givoly and Hayn, 2000; Qiang, 2007), which is measured as the difference between total accruals and operating accruals, scaled by total assets, where operating accruals are defined as changes in accounts receivable, accounts payable, inventory, prepaid expense, and taxes payable. The main results still hold.

Finally, we control for the influence of external financing activities on value relevance. Adapting Bradshaw, Richardson, and Sloan (2006)[10] and considering that net proceeds from major financing activities are recorded as a major part of financing cash flows, we measure external financing activities as cash from financing activities, scaled by total assets. As predicted, the earnings and book value of equity for firms with forthcoming asset or equity tunneling in total explain 49.4 percent of variations in stock price in the period right before the announcement of the transactions, which is greater than that of firms with other types of related party transactions, 31.8 percent. This result still holds for control of loss as shown in Equation (2). Thus, our results on the first hypothesis H1 is robust to corporate financing activities.

5. Conclusions

This paper examines whether the value relevance of financial statements is greater for firms with forthcoming asset or equity tunneling transactions. We further examine whether financial reports are more value relevant as a result of conservative accounting to understate assets and equities. This paper highlights that the role of value relevance of financial reports depends on the context.

[9] The proxy based on non-operating accruals, NACR, is calculated as the non-operating accruals scaled by total assets. The accruals are averaged over three years to mitigate the temporary reversal of accruals from earnings manipulation. The average non-operating accruals are multiplied by negative one so that higher NACR represents more conservatism.

[10] Following Bradshaw, Richardson, and Sloan (2006), We intend to define external financing activities as sum of net cash received from equity (including sale and/or purchase of common and preferred stock less cash dividends paid), and net cash received from debt issuance (including issuance and/or reduction of debt), scaled by total assets, but fail to do so, due to data unavailability.

Using a sample of related party transactions for firms listed in the Hong Kong Stock Exchange, we predict and find evidence that the value relevance of financial reports is greater for firms with asset or equity tunneling transactions than for firms with other types of related party transactions. The value relevance of tunneling firms is positively related to accounting conservatism. Moreover, the relation between conservatism and entrenchment effect is stronger for firms with forthcoming tunneling transactions. Taken as a whole, the evidence suggests that conservative accounting is adopted to increase value relevance so as to signal the controlling shareholders' unfavorable private information to investors, which, in essence, aids controlling shareholders to expropriate wealth from minority shareholders.

The above evidence is subjected to two limitations. First, the high level of difficulty in collecting the data on the tunneling transactions may constrain the generalizability of our conclusion. Second, by definition, tunneling is illegal and unethical by nature. Our classification of related party transactions extends Cheung *et al*. (2006) and requires judgment on whether a transaction is likely to result in expropriation of minority shareholders, be beneficial for minority shareholders, or have strategic consideration with no expropriation and thus may have measurement errors. Refinement of these treatments awaits future research.

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