The Effect of Matching on Firm Earnings Components

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Abstract

Using a sample of all U.S. firms listed on the U.S. major stock exchanges for the period covering 1988 through 2014, we investigate the relation between firm earnings components and matching. Following the methodology of Hui *et al.* (2016), we decompose earnings into industry-wide and firm-specific earnings. Then, we partition them into cash flows and accruals, four earnings components. As our matching measure, we use the correlation between revenues and expenses over the five-year rolling period. We investigate how matching affects the persistence of each earnings component and our results indicate that matching enhances the persistence of earnings components. Furthermore, our study shows that the effect is more outstanding on firm-specific accruals, which are more prone to the management discretion, than cash flows.

Keywords: firm-specific earnings; industry-wide earnings; matching; persistence; capital markets.

JEL classification: G14; M41.

1. INTRODUCTION

We study the relation between firm earnings components and matching. In this study, we decompose earnings into industry-wide and firm-specific earnings components, cash flows and accruals, and then investigate how matching affects the persistence of industry-wide and firm-specific earnings components. Accrual-based earnings (hereafter, earnings) are used to summarize firm performance during the period. The main reason to adopt accrual-based accounting, not cash-based accounting, is that accrual-based accounting produces a better measurement of firm performance (Dechow, 1994). Accounting earnings consist of two main components, accruals and cash flows. Realized cash flows could be measured objectively. However, cash flows have the potential to be manipulated by management to influence the realization of cash inflows and outflows via the timing of cash receipts and payments. By using accrual component, accounting principles have developed to relieve the timing of cash flow recognition problem and consequently enabled to better measure firms' current period operating results.

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Extant theoretical and empirical studies have demonstrated that through the accruals process, accounting earnings are enhanced as the periodic performance summary measure (e.g., Watts, 1977; Dechow, 1994; Dechow *et al.*, 1998). These studies have shown that accrual component of earnings could mitigate the timing recognition problem in cash flows through the matching and revenue recognition principles. Current accounting rules allow management to recognize accruals discretionally. This discretion could be exercised by management as a means to communicate credible inside information and to mitigate mismatching problems in cash flows. However, opportunistically manipulated accruals through management's reporting choices could distort firms' operating results and mislead the market (e.g., Barth *et al.*, 2008; Lang *et al.*, 2003; Leuz *et al.*, 2003).

Previous studies show that the differential persistence of earnings components. Sloan (1996) finds that the difference in persistence between operating cash flows and accruals and reports that the market fails to recognize this difference. Other studies also corroborate these findings by investigating other accrual components (Barth *et al.*, 1999; Xie, 2001). Ayers and Freeman (1997) disaggregate reported firms' earnings into industry-wide and firm-specific components. Then, they investigate whether there exists any timing difference in impounding these two components by the market. Based on the early and wide availability of aggregate market-wide and industry information than that of firm-specific information, they posit that the market reflects industry-wide earnings earlier than firm-specific earnings. As hypothesized, they find the differential timing in impounding earnings components and report post-earnings-announcement drift is primarily due to firm-specific earnings component than to industry-wide component. Based on economic literature suggesting long-lasting industry fundamentals, Hui *et al.* (2016) investigate the relative persistence of industry-wide and firm-specific earnings components. On the basis of the characteristic of stability and congruity shared among firms in the same industry, the more aggregate industry-wide earnings are conjectured to be more persistent. Contrarily, firm-specific earnings components are expected to be less lasting because they are less timely recognized and more opaque than their counterparts. Among the four firm's earnings components, they report that industry-wide cash flows are the most persistent earnings component and firm-specific accruals are the least persistent.

One of the most complicated accounting decisions many companies are facing is the recognition of revenues and expenses. Accounting principles require that revenues be recognized in a certain period when the performance obligation is fulfilled, such as the completion of the delivery of goods and services to the buyer regardless of when firms actually collect cash. Revenue transactions often impose few problems because they are frequently initiated in one period and completed in a different period. By its nature, the revenue recognition contains the risk of error and potentially purposely misstatement. Therefore, recognized revenues are generally different from the actual cash receipts in the current period and accountants make adjustments using accruals to reflect these timing difference, measuring the better periodic performance measurement. After revenues are recognized, expenses incurred are recognized by the matching principle namely, the "Let the expenses follow the revenues" approach. This principle stipulates that all expenses incurred to generate revenues are recognized in the same reporting period as the corresponding revenues, which is often not the same period in which cash is paid. Like revenues, expenses are adjusted using accruals to reconcile the time difference problem.

Under current accrual-based accounting, earnings are measured as the difference between accrual-based revenues and accrual-based expenses. Earnings require that revenues

and expenses be matched and earmarked in their appropriate accounting periods, which do not always overlap with cash receipts and payments during the period. Therefore, the matching process manifests fundamental features of how to determine accounting earnings. In addition, it provides a glimpse of how earnings components affect future earnings. If revenues and expenses are mismatched or poorly matched, it could impound less relevant information about the future earnings and distort the different implication of earnings components on earnings persistence. Dechow (1994) demonstrates that accruals mitigate timing and matching problems in cash flows and increase the association between earnings and firms' performance. Su (2005) shows that proper matching positively affects earnings smoothness and increases the accuracy of long-run profitability estimation. Dichev and Tang (2008) investigate the effect of matching on earnings properties over the 40 year time-period. In their study, they document that matching has deteriorated substantially and the decline is associated with a substantial increase in earnings volatility and a clear decrease in earning persistence. Dichev and Tang (2009) also study the relation between earnings volatility and earnings predictability. In their study, they find that the matching process reduces earnings volatility and enhances the accuracy of financial analysts' forecasts. Conducting a survey of and in-depth interviews with financial executives regarding earnings quality, Dichev et al. (2013) report that most of respondents (92.2%) consider matching as one of the most likely accounting policies that generate high-quality earnings.

Using all U.S. firms listed on the U.S. major stock exchanges for the period covering 1988 through 2014, we investigate the association between firm earnings components and matching. Following the methodology of Hui et al. (2016), we decompose earnings into industry-wide and firm-specific cash flow and accrual components. As our matching measure, we use the correlation between revenues and expenses over the five-year rolling period. Then, we investigate how matching affects the persistence of each earnings component, using the future earnings and cash flows as our dependent variables. We expect that matching mitigates the timing recognition problem in earnings. Therefore, we posit that if revenues and expenses are highly matched, it conveys more relevant information about the future earnings and as a result, matching enhances the persistence of earnings components. We expect that highly matched earnings are more persistent and the effect is more outstanding on firm-earnings components, especially firm-specific accruals, which are more prone to the management discretion, than cash flows.

Consistent with our expectations, our study shows that matching positively affects earnings components' persistence. Especially, we find that when matching is high (i.e., higher correlation between revenues and expenses), firm-specific accruals exhibit a stronger association with one-year ahead earnings and cash flows. These results verify that the matching process improves more opaque firm-specific earnings' persistence and this positive effect is more prominent on firm-specific accruals, which are considered the least persistent earning component. Our study shows that matching positively affects earnings quality. These results demonstrate the importance of matching in conveying the implication of accounting earnings and shed light on the importance role of matching. These findings provide additional insights that better matching can enhance the persistence of earnings components and bring more relevant information to accounting information users. Our findings have implications for the accounting standard setters' recent emphasis on fair value accounting at the expense of matching.

The rest of our paper is organized as follows. Section 2 explains the sample selection procedure and variable definition. Section 3 presents the empirical analysis results. Lastly, Section 4 provides concluding remarks.

2. SAMPLE AND VARIABLE DEFINITION

2.1 Sample

Our initial sample consists of all U.S. firms listed on the U.S. major stock exchanges for the period covering 1988 through 2014. For our study, we require data on cash flows from the Statement of Cash Flows. The Statement of Cash Flows is effective after fiscal years after July, 1988. So our sample period starts in 1988 and ends in 2014 with one-year ahead earnings data. We obtain the financial information from the COMPUSTAT annual database. Each observation is required to have complete data for revenues, earnings (earnings before extraordinary items), cash flows, and assets. To calculate the matching measure, we require contemporaneous revenue and expense data over the five-year rolling period. To measure industry-wide measures (earnings, accruals, and cash flows), we retain observations with an eight-digit GICS industry code available. We also use the four-digit SIC (Standard Industry Classification) code and the tenor of our results is the same. We require at least three firm-year observations within each GICS classification and eliminate financial firms (two-digit GICS code 40 and 60) because of their difference in the nature of accruals. In order to mitigate the influence of outliers, each year we winsorize all observations (other than decile rank variables) at the 1th and 99th percentiles. As described in Table no. 1, the firm-year observation distribution is stable in our sample period and our final sample consists of 48,656 firm-year observations.

Table no. 1 – Number of firms by fiscal year

Year	No. of firms	Percent	Year	No. of firms	Percent
1988	1,307	2.69	2002	2,007	4.12
1989	1,412	2.90	2003	2,021	4.15
1990	1,457	2.99	2004	2,129	4.38
1991	1,605	3.30	2005	2,074	4.26
1992	1,711	3.30	2006	1,980	4.07
1993	1,722	3.54	2007	1,951	4.01
1994	1,719	3.53	2008	1,940	3.99
1995	1,731	3.56	2009	1,940	3.99
1996	1,766	3.63	2010	1,857	3.82
1997	1,765	3.63	2011	1,885	3.87
1998	1,746	3.59	2012	1,825	3.75
1999	1,722	3.54	2013	1,837	3.78
2000	1,779	3.66	2014	1,806	3.71
2001	1,962	4.03	**Total**	**48,656**	**100.00**

2.2 Industry-wide and firm-specific earnings components

Following the methodology of Hui *et al.* (2016), we decompose firms' earnings into industry-wide and firm-specific earnings. Then, we partition each earnings into two components, accruals and cash flows. Therefore, we have four earnings components. We define the industry-wide earnings for industry *i* in year *t* as:

$$EARN\_I_{i,t} = \frac{1}{n}\sum_{i=1}^{n} EARN_{i,j,t} \tag{1}$$

where $EARN_{i,j,t}$ is earnings (earnings before extraordinary item) for firm j in industry i for year t and n denotes the number of firms in industry j. Then, we measure firm-specific earnings as the difference between industry-wide earnings and each firm's earnings in eq. (2).

$$EARN\_F_{j,t} = EARN_{i,j,t} - EARN\_I_{i,t} \qquad (2)$$

Earnings can be partitioned into two components, accruals and cash flows. Accruals are the difference between earnings and cash flows. So, using industry-wide and firm specific earnings from the above equations, we measure industry-wide and firm-specific accruals and cash flows as:

$$EARN\_I_{i,t} = CF\_I_{i,t} + ACC\_I_{i,t} \qquad (3)$$

$$EARN\_F_{j,t} = CF\_F_{j,t} + ACC\_F_{j,t} \qquad (4)$$

where $CF\_I_{i,t}$ is the average of operating cash flows from the Statement of Cash Flows for industry i in year t. Inserting accruals from the Statement of Cash Flow into eq. (1) and (2) in place of earnings, we calculate $CF\_F_{j,t}$, the firm j's firm-specific operating cash flow in year t. In summary, we divide each firm's earnings into two components, industry-wise earnings ($EARN\_I_{i,t}$) and firm-specific earnings ($EARN\_F_{j,t}$). Then, we decompose them into four earnings components, industry-wise accruals ($ACC\_I_{i,t}$) and cash flows ($CF\_I_{i,t}$), and firm-specific accruals ($ACC\_F_{j,t}$) and cash flows ($CF\_F_{j,t}$). All earnings component variables are deflated by average assets.

2.3 Matching

Based on extant studies, we use the correlation between contemporaneous revenues and expenses as our matching measure.

$$MATCHING_{j,t} = Corr\left(REV_{j,t}, EXP_{j,t}\right) \qquad (5)$$

$Rev_{j,t}$ is net revenues for firm j in year t and $EXP_{j,t}$ is the difference between revenues and earnings, both scaled by average assets. To reduce fluctuation over a short one-year period, we calculate the matching measure over the five-year rolling period, from year $t-4$ through year t. For each 5-year rolling period window, we obtain only observations with at least three annual matching measures for each rolling period. In the later analysis, we convert $MATCHING$ into the decile rank variable, D_MAT. When we use the raw values of $MATCHING$, the results are robust.

3. EMPIRICAL RESULTS

Table no. 2 provides descriptive statistics of our variables of interest. The mean and median values of $EARN$ are 0.0282 and 0.0452, respectively. Because earnings are scaled by average value of assets, these results indicate that on average our sample firms are profitable and their mean (median) ROA is 2.82 (4.52) percent of average assets. The mean (media) value of cash flows (CF) is 0.0836 (0.0909) and of accruals (ACC) is -0.0553 (-0.0490). Cash flows have a higher mean (median) value than earnings. Consistent with previous studies, accruals are negative. When we compare industry-wide and firm-specific earnings

components, the standard deviations for all firm-specific earnings components are larger than those of industry-wide components. Especially, the standard deviation of firm-specific accruals is almost twice that of industry-wide accruals. These findings are indicative of more volatile firm-specific earnings and their components than those of industry-wide earnings. Unlike the mean (media) value of industry-wide accruals, the mean (median) of firm-specific accruals is positive (0.0026 and 0.0044). The mean and median values of *MATCHING*, the correlation between revenues and expenses, are 0.8766 and 0.9784. While the lower quartile *MATCHING* is 0.9020, the upper quartile is 0.9956.

Table no. 2 – Descriptive statistics (n=48,656)

Variable	Mean	Std. dev	Q1	Q2	Q3
EARN	0.0282	0.1264	0.0092	0.0452	0.0855
CF	0.0836	0.1166	0.0434	0.0909	0.14262
ACC	-0.0553	0.0856	-0.089	-0.0490	-0.0147
EARN_I	0.0058	0.0979	-0.0085	0.0309	0.0545
CF_I	0.0638	0.0845	0.0468	0.0780	0.1051
ACC_I	-0.0581	0.0444	-0.0799	-0.0520	-0.0325
EARN_F	0.0223	0.1242	-0.0226	0.0157	0.0699
CF_F	0.0199	0.1098	-0.0331	0.0139	0.0695
ACC_F	0.0026	0.0821	-0.0320	0.0044	0.0422
MATCHING	0.8766	0.2729	0.9020	0.9784	0.9956

Variable definitions:
- *EARN*: Earnings (earnings before extraordinary item) scaled by average assets.
- *CF*: Operating cash flows from the Statement of Cash Flows scaled by average assets.
- *ACC*: The difference between *EARN* and *CF*.
- *EARN_I:* Industry-wide earnings as $EARN\_I = \frac{1}{n}\sum_{i=1}^{n}EARN$, where *n* denotes the number of firms in the industry.
- *CF_I*: Industry-wide cash flows, the average of operating cash flows from the Statement of Cash Flows for the industry.
- *ACC_I*: Industry-wide accruals.
- *EARN_F:* Firm specific earnings, the difference between industry-wide earnings and each firm's earnings.
- *CF_F*: Firm-specific cash flows.
- *ACC_F*: Firm-specific accruals.
- *MATCHING*: The correlation between contemporaneous *REV* and *EXP,* where *REV* is net revenues and *EXP* is the difference between revenues and earnings, all scaled by average assets.

Table no. 3 reports the Pearson correlation matrix. All variables are significant correlated at the 1% level or below. As we can see from the first row, *F_EARN*, one-year ahead earnings are significantly positively associated with all industry-wide and firm-specific earnings components and the decile rank value of *MATCHING*, *D_MAT*. These results indicate that all earnings components, both industry-wide and firm-specific, are positively associated with the future earnings. The positive correlation between *F_EARN*

and *D_MAT* indicates that matching positively affects one-year ahead earnings. In addition, *D_MAT* is more correlated with industry-wide earnings components than firm-specific components. As reported in previous studies, contemporaneous accruals and cash flows are negatively correlated for *CF* and *ACC* and *CF_F* and *ACC_F*, firm-specific cash flows and accruals. However, industry-wise *CF_I* and *ACC_I* are positively correlated.

Table no. 3 – Correlation of firm earnings components (n=48,656)

	EARN	CF	ACC	EARN_I	CF_I	ACC_I	EARN_F	CF_F	ACC_F	D_MAT
F_EARN	0.6981	0.6311	0.1654	0.3646	0.3336	0.1702	0.4409	0.4257	0.0850	0.2288
EARN		0.7355	0.4362	0.4110	0.3603	0.2210	0.7106	0.5161	0.3432	0.2816
CF			-0.2629	0.3557	0.4278	-0.0242	0.4872	0.7422	-0.2565	0.2030
ACC				0.1163	-0.0541	0.3539	0.3595	-0.2380	0.8540	0.1265
EARN_I					0.8852	0.5102	-0.3250	-0.2571	-0.1526	0.2962
CF_I						0.0621	-0.2861	-0.2670	-0.0840	0.2477
ACC_I							-0.1672	-0.0623	-0.1702	0.1818
EARN_F								0.7383	0.4768	0.0564
CF_F									-0.2134	0.0305
ACC_F										0.0378

Notes: *F_EARN*: one-year ahead earnings. All other variables are defined in Table no. 2. All variables are statistical significant at the 1% level.

To investigate the relation between the persistence of firm earnings components and matching, we utilize the following OLS regressions that model one-year ahead earnings (cash flows) as a function of industry-wide and firm-specific earnings components. Following Gow *et al.* (2010), we use the two-way clustered standard errors (by firm and year) to report the p-values, controlling for heteroscedasticity and correlation among our firm-year observations.

$$F\_EARN(F\_CF) = \beta_0 + \beta_1 D_{MAT} + \beta_2 Industy - wide\ earnings\ (components) + \\ + \beta_3 Firm - specific\ earnings\ (components) + \beta_4 Interation + \varepsilon \quad (6)$$

In our study, we adopt two dependent variables, *F_EARN*, one-year ahead earnings and *F_CF*, one-year ahead cash flows. We decompose earnings into industry-wide and firm-specific components, cash flows and accruals, and then investigate the relation between matching and the persistence of these earnings components. As our main independent variable, we use the interaction of matching and earnings (and components). We posit that if revenues and expenses are highly matched, it conveys more relevant information about the future earnings and matching enhances the persistence of earnings components. We expect that highly matched earnings are more persistent and the effect is more outstanding on firm-earnings components, especially firm-specific accruals, which are more prone to the management discretion, than cash flows. Therefore, we anticipate a stronger positive association between matching and firm-specific accrual component.

Table no. 4, Panel A presents the results for the baseline model of *F_EARN*. First, we test the effect of matching on the persistence of earnings. The coefficient on present earnings (*EARN*) is 0.7015 and highly statistically significant. This implies that about 70% of current earnings is recurring in the following year. It is consistent with a large portion of current earnings is associated with the future earnings. Then, we add *EARN*D_MAT*, the interaction term of present earnings and matching measure, into our

baseline model to investigate the effect of matching on earnings without any decompositions. The coefficient on the interaction term is positive (0.0725) and marginally significant at the 10 percent level. This indicates that matching is positively associated with earnings persistence and its effect is limited. Next, we decompose earnings into two main earnings components, overall accruals and cash flows. As reported in the previous studies, two components show different persistent with cash flow component being more persistent. In the last column, we add two interaction terms, each for cash flows and accruals to test the effect of matching on earnings components. Only the interaction between matching and accruals is statistically significant (0.3327, at the 1 percent level) and this result corroborates that matching is more positively influential on accrual component that cash flow component.

In Panel B we further decompose firms' earnings into industry-wide and firm-specific earnings and partition each earnings into two components, accruals and cash flows. We investigate the effect of matching on the persistence of four earnings components. The first column shows that industry-wide earnings are more persistent than firm-specific earnings, indicating that more stable and congruous industry-wide earnings are more persistent. When we add the interaction term, the coefficient on the interaction term of firm-specific earnings and matching measure is significantly positive (0.1744, at the 1 percent level), indicative of the positive effect of matching on firm-specific earnings' persistence. Then, we decompose firm-specific earnings into cash flow and accrual components. All four earnings components are positive and significant at the 1 percent level. As seen in our correlation analysis, one-year ahead earnings are significantly positively associated with all industry-wide and firm-specific earnings components. Among four earnings components, industry-wide cash flow component is the most persistent and firm-specific accrual component is the least. In the last column, both interaction terms with firm-specific earnings components are positive. However, only the interaction term of firm-specific accruals and matching measure is statistically significant (0.3540, at the 1 percent level). These results indicate that matching improves more opaque and less timely recognized firm-specific earnings' persistence and this effect is magnified on firm-specific accrual component, which is considered the least persistent earning component.

Next, in Panel C and Panel D we test the effect of matching on *F_CF*, one-year ahead cash flows, as our dependent variable. Cash flows are considered less subject to managerial discretion and subjectivity than accounting earnings. The overall results are very similar. As reported in Panel C, matching enhances earnings persistence but, insignificantly (The coefficient on *EARN*D_MAT* is 0.0241). In the last column, it also shows that matching is effective in increasing persistence only on accruals. The coefficient on *ACC*D_MAT* is 0.2070 (at the 1 percent level). Regarding cash flows, the coefficient on *CF*D_MAT* is negative. However, when we combine *CF*D_MAT* and *CF*, it is positive and still statistically significant at the 1 percent level. Panel D also reports that firm-specific accruals' persistence is increasing as matching improves. *EARN_F*D_MAT*'s coefficient is 0.2158 and significant at the 1 percent level. In the last column, *CF_F*D_MAT* is positive but insignificant. However, *ACC_F*D_MAT*, the incremental effect of matching on firm-specific accruals, is positive and statistically significant (0.2665, at the 1 percent level).

Table no. 4 – Regression analysis (n=48,656)

Panel A: Baseline model (dependent variable: *F_EARN*)

	Coefficient	Coefficient	Coefficient	Coefficient
Intercept	0.0076	0.0029	-0.0094	-0.0265
	(2.67***)	(0.76)	(-3.16***)	(-6.54***)
D_MAT		0.0072		0.0357
		(1.95*)		(8.35***)
EARN	0.7015	0.6780		
	(26.46***)	(23.14***)		
EARN*D_MAT		0.0725		
		(1.87*)		
CF			0.7892	0.8141
			(41.44***)	(36.30***)
CF* D_MAT				-0.0537
				(-1.39)
ACC			0.5285	0.3943
			(16.63***)	(12.55***)
ACC* D_MAT				0.3327
				(10.83***)
Adj.R²	*0.4873*	*0.4883*	*0.5162*	*0.5234*

Panel B: Industry-wide and firm-specific earnings component model (dependent variable: *F_EARN*)

	Coefficient	Coefficient	Coefficient	Coefficient
Intercept	0.0088	0.0057	0.0001	-0.0054
	(3.19***)	(1.48)	(0.04)	(-1.70*)
D_MAT		0.0040		0.0100
		(1.33)		(3.63***)
EARN_I	0.7366	0.7371		
	(32.73***)	(34.93***)		
EARN_F	0.6396	0.5877		
	(25.55***)	(21.52***)		
EARN_F*D_MAT		0.1744		
		(6.41***)		
CF_I			0.7763	0.7676
			(42.49***)	(42.58***)
CF_F			0.7439	0.7514
			(36.95***)	(29.92***)
CF_F*D_MAT				0.0179
				(0.53)
ACC_I			0.6581	0.6586
			(16.25***)	(17.51***)
ACC_F			0.4714	0.3434
			(14.98***)	(11.69***)
ACC_F*D_MAT				0.3540
				(13.46***)
Adj.R²	*0.4829*	*0.4856*	*0.5111*	*0.5168*

Panel C: Baseline model (dependent variable: *F_CF*)

	Coefficient	Coefficient	Coefficient	Coefficient
Intercept	0.0676	0.0720	0.0354	0.0286
	(26.61***)	(24.81***)	(19.92***)	(12.13***)
D_MAT		-0.0101		0.0161
		(-2.59***)		(3.97***)
EARN	0.5736	0.57368	-	
	(21.98***)	(20.56***)	-	
EARN*D_MAT		0.0241		
		(0.71)		
CF			0.7333	0.7683
			(44.08***)	(40.19***)
CF*D_MAT				-0.0806
				(-2.70***)
ACC			0.2349	0.1542
			(12.22***)	(8.96***)
ACC*D_MAT				0.2070
				(8.15***)
Adj.R²	*0.3959*	*0.3965*	*0.5131*	*0.5169*

Panel D: Industry-wide and firm-specific earnings component model (dependent variable: *F_CF*)

	Coefficient	Coefficient	Coefficient	Coefficient
Intercept	0.0686	0.0756	0.0354	0.0280
	(27.07***)	(25.41***)	(19.92***)	(11.16***)
D_MAT		-0.01751		-0.0038
		(-5.65***)		(-1.39)
EARN_I	0.6151	0.6384	-	
	(27.25***)	(29.31***)	-	
EARN_F	0.5189	0.4634	-	
	(22.33***)	(17.90***)	-	
EARN_F*D_MAT		0.2158		
		(8.34***)		
CF_I	-		0.7844	0.7878
	-		(54.50***)	(55.97***)
CF_F	-		0.6766	0.6808
	-		(40.71***)	(30.91***)
CF_F*D_MAT				0.0276
				(0.87)
ACC_I	-		0.1142	0.1316
	-		(5.61***)	(6.38***)
ACC_F	-		0.2406	0.1518
	-		(12.62***)	(8.05***)
ACC_F*D_MAT				0.2665
				(10.90***)
Adj.R²	*0.3960*	*0.4014*	*0.5129*	*0.5162*

Combined, our study shows that matching positively affect earnings components' persistence. Specifically, as the correlation between revenues and expenses increases, firm-specific accruals exhibit a stronger association with one-year ahead earnings and cash flows. Earnings are measured as the difference between accrual-based revenues and accrual-based

expenses. Therefore, if revenues and expenses are poorly matched, it could impound less relevant information about the future earnings and misstate the different implication of each earnings component on earnings persistence. Our study demonstrates that the matching process improves more the persistence of relatively volatile and opaque firm-specific earnings than that of stable and congruous industry-wide earnings. In addition, this positive effect is more prominent on firm-specific accruals, the least persistent earning component. These findings indicate the importance of matching in conveying the implication of accounting earnings and demonstrate the matching's positive effect on earnings quality.

4. CONCLUSION

We analyze the relation between firm earnings components and matching. Earnings consist of two main components, accruals and cash flows. Realized cash flows could be measured more objectively than accruals. However, cash inflows and outflows are subject to the manipulation by management to influence their realization. Under current accrual-based accounting, using accrual components, accounting principles have developed to relieve the timing of cash flow recognition problem and consequently enabled to better measure firms' current period operating results. Such accruals could be exercised by management as a means to communicate credible inside information and to mitigate mismatching problems in cash flows. However, opportunistically manipulated accruals through management's reporting choices could distort firms' operating results and mislead the market. Earnings require that revenues and expenses be matched and earmarked in their appropriate accounting periods. If revenues and are expenses are mismatched or poorly matched, it could impound less relevant information about the future earnings and misstate the different implication of earnings components on earnings' persistence.

We posit that if revenues and expenses are highly matched, it conveys more relevant information about the future earnings and matching enhances the persistence of earnings and their components. Using all U.S. firms listed on the U.S. major stock exchanges for the period covering 1988 through 2014, we decompose accounting earnings into four earnings components, industry-wide and firm-specific cash flow and accrual components. As our matching measure, we use the correlation between revenues and expenses over the five-year rolling period. Consistent with our hypotheses, our study shows that matching positively affect earnings components' persistence. Our findings support that matching improves more opaque firm-specific earnings' persistence and this positive effect is more outstanding on firm-earnings components, especially firm-specific accruals, which are more prone to the management discretion and the least persistent. Our study demonstrates that the importance of matching in conveying the implication of accounting earnings to accounting information users and verifies that matching critically affects earnings quality. Additionally, our findings raise questions about the accounting standard setters' recent emphasis on fair value accounting at the expense of matching.

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