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Value Relevance of Foreign Currency Accounts

A study of US publicly listed firms value relevance with foreign currency transaction and translation factors

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NORWEGIAN SCHOOL OF ECONOMICS

Abstract

Foreign currency risk has become an increasing concern for multinational companies, due to the expansion of business geographical scope and increased volatility of foreign exchange rates. The robustness of firm foreign currency exposure management is receiving more attention from many stakeholders. Companies exposed to foreign currency risk may experience severe profit and loss unpredictability. This can cause challenges to business decision-making and misinterpretation of performance from the firms, the investors, and the market. Therefore, it is crucial to understand the disclosure of foreign currency accounts in firms' financial statements and how they influence the market value of public firms.

In this thesis, I discuss the research question regarding the value relevance of foreign currency transaction gains or losses and translation adjustment using a sample of US publicly listed firms that disclose such information from 2002 to 2020. I find that foreign currency transaction gains or losses and translation adjustment positively relate to firm stock return. I separately test firms reporting foreign currency transaction gains and foreign currency transaction losses, discovering that their association to firm value is positive and negative. I further discover that foreign currency translation adjustment is positively associated with firm stock return in the manufacturing industry. Foreign currency transaction is significantly value relevant for firms in the new economy when the analysis is taken for gains and losses separately. Also, I find foreign currency transaction is more value relevant than earnings, and the relevance is more substantial when it has a higher proportion of earnings. The value relevance of foreign currency transaction gain gets stronger with the time horizon increasing from three months to one year.

Keywords: *value relevance; foreign currency; foreign currency transaction gains or losses; foreign currency translation adjustment; stock return*

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The years I spent at NHH are vivid and meaningful. I am grateful for all the skills and knowledge learned during these years and the chance to get to know how business models might be transformed in the future with a more digitalized and sustainable trend. The analytical and critical way of thinking that I gained and trained from NHH will benefit me throughout my life.

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1. Introduction

"The world´s economies have become increasingly interdependent" (EY, 2019), and companies worldwide have become increasingly global in the last few decades. There has been growing attention from firms and investors to the impact of foreign currency exposure[1] as it has concerned both internal and external users of accounting information. The research question I address in this thesis is how a firm´s foreign currency accounting information in financial statements influences its market value. Foreign exchange rates affect a company majorly in two ways: (1) transactions denominated in a currency different than the entity´s functional currency; and (2) translation of a subsidiary´s accounting amounts to its parent's reporting currency when its functional currency is different (Harris et al., 2018). More specifically, I examine if public listed firms' foreign currency transaction gains or losses and translation adjustment are associated with their stock returns[2]. Prior value relevance research finds conflicting results about foreign currency translation adjustment, and most studies only consider foreign currency translation adjustment as part of other comprehensive income (OCI). Soo and Soo (1994), Bartov (1997), Dhaliwal et al. (1999), Biddle and Choi (2006), and Chambers et al. (2007) find a positive association between translation adjustment and firm market value. Cahan et al. (2000), Sabac et al. (2005), and Kanagaretnam et al. (2009) indicate the value irrelevance of translation adjustment. On the contrary, Louis (2003) finds a negative relationship between foreign currency translation adjustment and stock returns. There are few value relevance studies of foreign currency transaction gains or losses. Louis (2003) uses it as a control variable in the value relevance study of translation adjustment; Soo and Soo (1994) includes both transaction and translation in their information relevance model for three-day abnormal returns. This thesis will examine the value relevance of foreign currency transaction and translation to the annual return. My findings suggest that both items are positively associated with firm market value. I separately test foreign currency transaction´s value relevance when firms report foreign transaction gains and foreign transaction losses. Firms with long-term foreign currency transaction gains imply better control of foreign currency exposure, which will enhance firms´ performance and value. My

[1] In the last few years, financial presses have frequently reported on the impact of foreign exchange on companies' performance. For example, Financial Times reported that Tesla´s unexpected earnings caused by foreign currency transactions in the 3rd quarterly report of 2019 had exceeded Wall Street´s most optimistic expectation. *Tesla's mysterious income*. Retrieved from FINANCIAL TIMES: https://www.ft.com/content/7cffb99d-6bd9-456c-9587-88bce17d8b35

[2] In this thesis I use foreign currency transaction (gains or losses) and foreign currency translation (adjustment) with or without foreign currency interchangeably.

findings indicate that firms reporting transaction gains (losses) have a positive (negative) association with firms' stock returns.

In addition, I replicate the model in Louis (2003) and find a positive association between foreign currency translation and firm value in the manufacturing industry. I perform individual industry analyses and find that foreign currency transaction and translation are, in general, positively associated with stock returns in various models. Foreign currency transaction has significant value relevance when I separately test new economy firms with transaction gains and losses. Foreign currency transaction is more value relevant than earnings. Its value relevance is more significant when the transaction has a high proportion of earnings. Foreign transaction gains shows a significant value relevant from 3 months to 1-year horizon returns in contrast to short-horizon returns of 5 days to 1 month.

Current accounting standards endorsed by the Financial Accounting Standards Board (FASB)[3] require "translation gains or losses to be reported outside net income in other comprehensive income as a cumulative translation adjustment but requires transaction gains or losses to be reported in net income because they are considered real economic gains and losses" (FASB, 2013, p.18). All foreign currency transaction and translation reporting issues are now integrated into topic ASC 830 Foreign Currency Matters except for transaction gains or losses related to derivative instruments.

This thesis focuses on foreign currency transaction gains or losses and translation adjustments. First, foreign currency transactions could occur in several ways; for instance, a company (1) buys or sells goods or services in a foreign currency or (2) pays or receives loans in a foreign currency (EY, 2019). The exchange rate fluctuation directly influences the receivables and payables at the time of transaction payment. Transaction gains or losses is reported in the income statement, which will impact corporate earnings. Harris et al. (2018) argues transaction gains or losses should be classified as finance rather than operations as the management choose to leave payable and receivable susceptible to currency exposure. Also, the authors state that exchange rate risks impact actual revenues and costs. For instance, gains and losses can occur when a US company purchases goods in EUR and has USD as its functional currency. Assuming the goods were ordered on March 1 and received on April 20, the Euro cost may have risen by 5%, and, if unhedged, the company's inventory cost would be higher due to the exchange rate changes. In this situation, the cost of goods includes the

[3] One of the problems FASB is currently facing is setting standards for companies operating in multiple currency environments. There has been in total four accounting standards that were issued relating to foreign currency topic. Starting with SFAS 1, followed by SFAS 8, afterward revised to SFAS 52, which took out the translation gains or losses from net income, and SFAS 95, which covered the cash flow statement.

impact of currency exposure. According to Harris et al. (2018), corporate accounting systems usually cannot break down this impact, leading to misjudgments of future expenses.

Secondly, foreign currency adjustments result from the translation process. When an entity's functional currency differs from the parent's, the entity's financial statements would be translated into the reporting currency to generate the parent's consolidated financial statements. (EY, 2019). Harris et al. (2018) states that firms could have unsustainable growth rates with translated revenue and costs. ASC 830 allows weighted-average exchange rates or other methodologies that offer a reasonable estimate of the recognition date rates for income statement items. (Deloitte, A Roadmap to Foreign Currency Transactions and Translations, 2019). For example, a US firm A which uses USD as reporting currency, has a French subsidiary B. In March, the total sales of B is 1 million EUR, which is translated to 1.2 million USD with an average currency rate of 1 Euro = 1.2 USD. In April, the total sales of B is 1 million EUR, which is translated to 1.15 million USD with an average currency rate of 1 Euro = 1.15 USD. Despite the underlying business staying constant, the sales reported in Euros would reflect flat, but the sales reported in USD would reflect a decline.

These two foreign currency accounting items are highly relevant to firms´ daily operations and reporting processes, which could cause a direct impact on a firm´s earnings[4] and future cash flows. Publicly listed multinational firms are primarily exposed to foreign currency exposure and could experience earnings surprises and consolidating issues in practice. Firms with good risk management would control foreign currency rate volatility with a hedging policy or understanding the economic environment. These two accounting items and their relationship to firm value could reflect the quality of a corporate´s foreign currency risk management. In this study, I examine the impact of foreign currency transaction gains or losses and translation adjustment on a firm´s stock return. To increase comparability with prior studies, I base my analysis on the models developed referring to Louis (2003) and Barth et al. (2022).

Louis (2003) studies the association between foreign currency translation adjustment and stock return in the manufacturing industry using a sample of Compustat firms from 1985 to 2001. He uses foreign currency transaction gains or losses as a control variable in his model. The study shows that foreign currency translation adjustment is negatively associated with firm stock return in the manufacturing sector. Barth et al. (2022) answers how accounting information's value relevance evolved as the new economy developed. Unlike

[4] In this thesis, I use earnings and income interchangeably.

prior studies in the value relevance research area, Barth et al. (2022) collectively analyzes 18 accounting variables. The authors find no decline in the combined value relevance from 1962 to 2018. The authors also examine the value relevance evolution for each variable and discover an increase in value relevance of new economy associated variables, such as intangible assets, growth opportunities, and alternative performance measures.

My thesis differs from Louis (2003) in several ways. First, transaction gains or losses is the primary variable of interest instead of being merely a control variable, and I test the impact of gains and losses separately on firm value. Second, my sample includes recent data from all industries in Compustat. In contrast, Louis (2003) selects only the manufacturing industry. Third, models in this thesis include the OLS model used in Louis (2003) also year, firm, and industry fixed-effect models to control for unobserved heterogeneity. In addition, I refer to Barth et al. (2022) and add 16 additional accounting control variables to test the foreign currency model in the new economic environment. Fourth, I find a positive association between translation adjustment and firm stock return, opposite Louis´s findings. Moreover, I find transaction gains (losses) is positively (negatively) associated with firm market value, while there is no discussion of it in Louis (2003). One explanation for the different results could be that there are more negative observations in Louis´s translation adjustment variable than in this thesis, leading to a negative association result. A second reason is the sample period in this study continues with his sample ending in 2001. Thus, the new data period from 2002 to 2020 could have different economic characteristics. For instance, firms have increased their risk control of foreign currency exposure by using financial hedging tools[5]. Allayannis et al. (2001) finds a positive relation between firm value and the use of foreign currency derivatives. So, the value relevance of foreign currency translation might be affected by the financial decision of using currency derivatives that counter the labor rigidity economic effect.

I test my inference with OLS models on relations between firm annual stock return and foreign currency accounting variables from 2002 to 2020. I choose the beginning year of 2002 because the sample analyzed by Louis (2003) ends in 2001. Following prior research, I select annual stock return as my independent variable, and I adjust this variable for splits and dividends. I use two models to test the association between foreign currency accounts and stock returns. The first model follows Louis (2003) and uses earnings (minus foreign currency

[5] According to the bis (Bank for International Settlements) data, the amount of total foreign exchange derivative contracts increased four times from 2002 to 2020.

transaction), foreign currency transaction gains or losses, translation adjustment, and control variable foreign income tax, which is the proxy of foreign currency exposure. The second model extends the first model by adding 16 additional accounting variables from Barth et al. (2022). With the new test model, all independent variables are classified within six categories: foreign currency accounting variables, earnings and equity book value, intangible assets, growth opportunities, alternative performance measures, and other. The second model enables a comprehensive test for foreign currency transaction and translation in the emerging new economic environment. All the independent variables are from the Compustat North America Fundamental Annual database and are composed of the same or stricter selection and cleaning method from Louis (2003) and Barth et al. (2022). My findings show a significantly positive (negative) association between adjusted stock return over transaction gains (losses) and a positive relationship over translation adjustment.

Next, I test if Louis (2003) 's conclusion that foreign currency translation adjustment is negatively related to stock return in the manufacturing industry still holds and if labor-intensive firms have stronger negative relationships than others. I replicate his model both with and without control of labor intensity. In contrast to his findings, I find a positive relationship between adjusted and raw returns with translation adjustment. A firm with high labor intensity shows a stronger association with its stock return, yet it is positive and significant rather than negative.

Moreover, I test two basic models, both with full samples and positive transaction sub-samples in different industries. This test provides insight into foreign currency accounting variables' value relevance in each industry. I find that foreign currency transaction is positively associated with firm stock return in the wholesale trade industry. Both transaction gains and translation have positive associations with firm value in the manufacturing, transportation & public utilities industries. Further, I identify new economy firms in the same scope as Barth et al. (2022); either a firm is from a technology industry or has a loss in its initial public offering (IPO) year. Barth et al. (2022) compares the value relevance of accounting variables for the new economy and the old economy, finding the degree of accounting variables' value relevance has changed. In this study, I find foreign currency transaction gains or losses is positively associated with stock return for new economy firms controlling other accounting measures.

In addition, I compare firms' value relevance with earnings and foreign currency transactions. My findings imply that transaction gains or losses outperform earnings in the full sample and the subsample of firms reporting transaction gains. I also perform tests about the

value relevance of transaction gains or losses with different proportions in earnings. I find a significant increase of value relevance with foreign currency transaction gains or losses when it sustains a higher proportion of earnings.

In the end, I change the firm's adjusted stock return horizon from annual to different periods. I use real earnings announcement dates to calculate each specific return. Like Soo and Soo (1994), I study the information relevance of foreign currency transaction gains with five days, ten days, and one-month returns, respectively. My findings provide empirical evidence that there is no information relevance for adjusted stock return with foreign accounting transaction gains. I also test for value relevance with three months, six months, nine months, and one-year returns. My findings show a stronger value relevance with the increase in the time horizon. The 1-year return model has the most substantial relation with transaction gains of all models.

My research contributes to the body of literature in several ways. First, I conduct value relevance studies using both foreign currency transactions and translation as my interest variable. This is different from prior information or value relevant studies (e.g., Soo and Soo 1994, Bartov 1997, Dhaliwal et al. 1999, Biddle and Choi 2006, Chambers et al. 2007, Cahan et al. 2000, Sabac et al. 2005, and Kanagaretnam et al. 2009, Louis 2003). I separately analyze the value relevance of foreign transaction gains and transaction losses, finding positive and negative associations with firm stock returns. Second, by controlling all accounting variables from major relevant studies and referring to Barth et al. (2022), I identify that transaction and translation positively relate to firm value in the current economic environment. I perform the test using new period data with Louis's (2003) research model and find a positive value relevance of translation, opposite his results. Third, earnings is one of the most critical variables in the history of value relevance study. Many studies focus on discussing earnings (e.g., Beaver 1968, Lev 1989, Brown, Lo, and Lys 1999) or use it as a measurement to other variables (e.g., Barth et al. 2022). I compare the value relevance of foreign currency transaction with earnings and find foreign currency transaction outperform earnings as a value relevance indicator. Fourth, I find firms with foreign transaction gains have value relevance from 3 months and after, but not before, which is consistent with a long-term value relevance due to firm risk control.

The remainder of the thesis proceeds as follows. Section 2 views prior studies and develops the hypothesis. Section 3 covers the data source and research design, containing the data, sample selection process, and primary regression models. Section 4 presents results and additional analyses. Section 5 concludes the thesis.

2. Prior Studies and Hypothesis Development

2.1 Value Relevance Evolution

Ball and Brown (1968) is the earliest scientific paper studying the relation between stock price and accounting variables. This paper finds that the earnings of an individual company could reflect over half accessible annual information. In the early stage of the value relevance studies, the only accounting variable that researchers focused on was earnings. Due to the declining earnings explanatory power for stock price, Ohlson (1995) adds equity book value to his analysis. Decades after that, a vast amount of literature in accounting has studied the association between stock price/ return and various other accounting measures.

Several studies have examined trends in the value relevance of accounting variables to assess whether traditional accounting measures or accounting, in general, is becoming less relevant. Brown, Lo, and Lys (1999) finds by controlling the scale effect, there is a weakening in value relevance of earnings and equity book value for four decades from the 1950s. Core et al. (2003) documents a declining relevance of earnings and equity book to firm value in the new economy period using a sample of US firms from 1975 to 1995. Lev and Gu (2016) finds the explanatory power of accounting with a set of variables (earnings, book value of equity, assets, COGS, and SGA etc.) decrease from 90 percent in 1950 to 50 percent in 2013. In a recent paper, Barth et al. (2022) summarizes the evolution of the value relevance literature by aggregating 18 accounting variables to estimate the value relevance development from an industrial economy to a new economy based on services and information technology. They group the accounting variables into five categories using a Classification and Regression Trees (CART) method instead of traditional regression models. They find that increasing accounting measures' combining relevance counteract earnings' relevance decline. This study is one of the most representative recent studies supporting the value relevance improving rather than declining.

2.2 Value Relevance with Foreign Currency Translation Adjustment

Unlike earnings, book values, or other popular accounting variables that have been tested independently and individually in value relevance models, foreign currency accounting variables have not been so regularly discussed with firm value relevance. One reason for that

is, as Harris et al. (2018) illustrates, exchange rate affects company measurements in complex ways that companies, analysts, investors, even empirical researchers may not fully comprehend or understand. Also, academic researchers more often treat foreign currency transaction (e.g., Curtis et al. 2021) and translation (e.g., Chambers et al. 2007) as transitory items. Ohlson (1999) provides a model suggesting three properties of transitory items, one of which is value irrelevance. Therefore, when valuing equity and projecting future earnings, transitory items should be excluded. Prior studies investigate the value relevance of foreign currency translation mainly because it is one component of other comprehensive income (OCI). They find conflicting results with any association between foreign currency translation adjustment and firm market value. However, most of them are positive associations between translation adjustment and firm market value under prior and current accounting standards.

Soo and Soo (1994) evaluate companies affected by SFAS 8 and SFAS 52 and find that foreign currency translation adjustment changes have a positive but weak relationship with stock returns. The impact of this information on stock prices is less than the impact of other earnings. Also, Bartov (1997) investigates the relationship between stock price changes and foreign currency translation adjustments (under SFAS 8 and SFAS 52) and finds that when a firm uses a foreign currency as the functional currency, foreign currency translation adjustments are positively valuation relevant under SFAS 52.

Dhaliwal et al. (1999) runs regressions between return and comprehensive income and components of other comprehensive income. They discover that foreign currency translation adjustment change is positively associated with firm stock return. By comparing adjusted R-square, they find other comprehensive income explains less relevance for stock return than net income with a sample of Compustat firms.

Biddle and Choi (2006) finds comprehensive income defined by FASB Statement 130 outperforms net income in relevance to equity returns, using a sample of Compustat firms from 1994 to 1998. They observe that changes in foreign currency translation adjustments are positively correlated with stock returns. They perform a year-by-year analysis and find that the positive coefficient on the change in translation adjustment is driven by a sharp rise in the U.S. dollar. The positive coefficient in this study may reflect the foreign exchange losses embedded in the stock prices of U.S. firms.

Chambers et al. (2007) proves that OCI is priced on a dollar-for-dollar basis with a sample of US-listed firms, as expected of Ohlson´s theory for transitory income items. They also find that foreign currency translation adjustment and unrealized gains/losses on available-for-sale securities are positively related to firm value as components of OCI.

Some research studies prove value irrelevance for foreign translation adjustment.

Cahan et al. (2000) discovers that independent disclosure of comprehensive income components offers no useful information beyond the aggregated comprehensive income, using data of 48 listed New Zealand firms from 1993 to 1997. The authors find no evidence that foreign currency translation adjustments have a predictive effect on the firm's value.

Sabac et al. (2005) shows that the changes in translation adjustments do not explain stock returns on their own. They examine a sample of Canadian enterprises and discover a negative (positive) relationship between foreign translation adjustment and net foreign producer (sellers) stock returns.

Kanagaretnam et al. (2009) shows that comprehensive income is more relevant to stock price and return than net income with a sample of Canadian firms cross-listed in the US from 1998 to 2003. In their study, foreign currency translation adjustment is not correlated to firm market value as a component of other comprehensive income.

On the contrary, Louis (2003) reveals a negative relationship between foreign currency translation adjustment and return using a sample of Compustat manufacturing firms from 1985 to 2001. Translation adjustment is related to value loss rather than gain for manufacturing businesses, according to this study, due to the "stickiness" of labor pricing compared to output prices. The economic impacts of wage rigidity based on the free-market assumption are consistent with this conclusion.

2.3 Value Relevance with Foreign Currency Transaction Gains or Losses

The foreign currency translation adjustment studies are composed of different voices, both significant and insignificant, to value relevance. Direct prominent scientific studies of the value relevance with foreign currency transaction gains or losses are even fewer.

Louis (2003) uses foreign currency transaction gains or losses as a control variable in multiple regression models when studying the relationship between stock return and foreign currency translation adjustment in a sample of US-listed firms in the manufacturing industry. In his study, the foreign currency transaction gains or losses does not significantly relate to stock returns. Yet, jumping back to an earlier study, Soo and Soo (1994) tests foreign currency transaction gains or losses and translation adjustment with a short window of 3-day stock return. In this study, foreign currency transaction and translation are positively significant at a 5% level. Authors think the market has captured the two foreign currency

accounting variables provided under SFAS 52. However, foreign translation gains or losses reported in stockholders' equity is significantly less value relevant than other earnings.

Redman et al. (2013) notes that changes in a firm's financial position caused by exchange rate variations should be factored into the share price in an efficient market. They analyze the association between share prices and foreign exchange gains and losses reported in the cash flow statement. Their results show that share prices are positively related to the exchange rate effect in the statement of cash flows.

2.4 Hypothesis Development

The prior studies above highlight inconsistent findings regarding the association between the stock price/return and foreign currency translation. Louis (2013) finds that foreign currency translation adjustment has negative value relevance due to labor intensity and wage rigidity economic theory. Considering that Louis focuses only on manufacturing companies while my thesis examines the universe of US multinationals, I state my hypothesis based on prior prevailing research. Foreign currency translation adjustment is positively priced into a firm value with Compustat US-listed firms both as OCI component (Chambers et al. 2007) and as primary interest variable (Soo and Soo 1994). As Harris et al. (2018) explains, translation adjustment volatility could be considered a financial risk and impact executive evaluation. Translation adjustment could be used as an indicator of firm currency exposure management. Its value should be positively correlated to firm performance and market value. Therefore, I state my first hypothesis as below:

Hypothesis 1: Foreign currency translation adjustment is positively associated with firm market valuation (stock returns).

For foreign currency transaction gains or losses, studies have shown either a statistically insignificant (Louis 2013) or positive relation (Soo and Soo 1994) with a firm´s market value. Most researchers treat foreign currency transaction gains or losses as transitory items in earnings, although it may impact the accounting period´s net income and cash flow. Hence, transaction gains or losses have been valued into the stock return as part of earnings but not separated from earnings to test its value relevance. However, foreign currency transaction gains or losses reflect how a firm manages its foreign currency exposure, an essential component of firm risk management. In a study of enterprise risk management

(ERM), Baxter et al. (2013) proposes that ERM program quality is positively associated with accounting performance and market valuation. Foreign currency transaction gains or losses is one of the accounting performance factors tested in a regression model with ERM and shows a positive relation to ERM. Also, ERM contains a significant positive relation to cumulative three days returns. Therefore, foreign currency transaction gains or losses may partly explain variation in a firm's stock return as I state my second hypothesis below:

Hypothesis 2: Foreign currency transaction gains or losses is positively associated with firm market valuation (stock returns).

Hayn (1995) researches the difference in value relevance for earnings when firms make profits and losses. His study hypothesizes that the information content of losses on the firm's future cash flows is limited due to the liquidation option held by shareholders. When researchers combine gains and loss data in their sample to measure the information content of earnings, the predicted earnings response coefficients and return-earnings correlations are skewed downward (Hayn, 1995). Hayn concludes that with only the profit companies' sample, both the earnings response coefficient and the return-earnings correlation increased significantly. In my study, as foreign currency gains or losses is part of earnings when earnings is not disaggregated, I assume there will be a higher explanatory value relevance power when testing for firms reporting transaction gains only.

This thesis will focus on foreign currency transactions and translation with their value relevance to firm stock return. I will replicate one model from Louis (2013); he also used two foreign currency accounting factors in his regression when studying the relation of translation adjustment to stock return in the manufacturing industry. I will combine this analysis with a recent study by Barth et al. (2022), which includes additional accounting variables to further look at how foreign currency accounting variables perform as value relevance indicators controlling different accounting measures.

3. Data sources and research design

3.1 Data Sources

Stock return and price are both widely used in the value relevance literature. I follow the study of Louis (2013) by using stock return as the dependent variable for two reasons. First, examining stock returns is consistent with prior studies and allows me to investigate whether Louis's findings are robust using a more recent sample of firms. Second, this thesis focuses on how firm value changes over a period by absorbing the foreign currency accounting information rather than what is reflected in the firm value. In fact, according to the constructive explanation offered by Barth, Beaver and Landsman (2001), the study's economic motive should guide the decision between the two primary models in value relevance[6].

The data source for the dependent variable is the Center for Research in Security Prices, LLC (CRSP) from Wharton Research Data Services (WRDS). I use CRSP monthly stock price as the data source for calculating annual stock return with this thesis. I compute annual return using share price three months after fiscal year-end as my P_t, consistent with the Louis and Barth models. With current SEC filing requirements, three months can fully cover different choices of disclosure time for all the firms[7]. Annual stock return is the adjusted return for splits and dividends[8] to accurately reflect firm performance with the historical share price. For comparison with Louis (2013), I also compute raw returns[9] without adjusting splits and dividends.

Similar to Louis (2013) and Barth et al. (2022), the independent variables in this study are from the Compustat North America Fundamentals Annual database. My variables of interest are foreign currency transaction gains or losses (labeled “fca” in Compustat North America) and foreign currency translation adjustment (labeled “cicurr” in Compustat North

[6] Barth advises choosing the study method between price model and return model from the economic motivation even though she has been a supporter of the price model. Barth et al. (2022) uses a CART method with stock price as the dependent variable.

[7] SEC has strict rules for disclosure due dates of annual reports 10-K forms: non-accelerated filers must file no later than 90 days after the fiscal year ends; accelerated filers must file no later than 75 days after the fiscal year ends; big accelerated filers must file no later than 60 days after the fiscal year ends. https://www.sec.gov/corpfin/cf-manual/topic-1.

[8] I have used a calculation formula from CRSP website https://www.crsp.org/products/documentation/crsp-calculations for calculating the adjusted stock return for splits and dividends using the raw value of share price at time t divided by the cumulative adjustment factor at time t.

[9] Louis (2013) uses both raw stock and abnormal stock return in his study. I do not compose abnormal stock return because he admits that using abnormal stock return is for controlling unknown risk. While it is possible to anticipate an unexpected return, there is no practical method for adjusting the translation adjustment for market expectations. Also, Soo and Soo (1994) studies the abnormal return with both transaction and translation adjustments in a different methodology for creating the abnormal return from Louis.

America). All other control variables are from Compustat North America (See Appendix for variable definitions).

For my analysis of stock return changes with different period horizons, I use the earnings announcement date as the beginning date and the daily stock price for return calculation. Referring to Soo and Soo (1994), earnings announcement dates are available in Compustat North America Fundamentals Quarterly. My data source for the share price is CRSP daily stock price which I adjust for splits and dividends. I construct the return variable with CRSP daily stock price for each period return (five days, ten days, one month, three months, six months, nine months, and one year) and merge it with Compustat independent variable data.

3.2 Sample Selection

The sample selection starts with all firms available on Compustat over the years 2002-2020 that contain accounting independent variables. Since part of this thesis aims to extend Louis (2003)'s analysis, which runs from 1985 to 2001, I set the starting year as 2002. I drop all financial institutions and only keep industrial firms (consistent with Fama and French, 1992). My thesis focuses on foreign currency accounting information where foreign currency gains or losses are generated during multinational transactions, and financial firms have different natures and operations with foreign currencies. I merge the data with CRSP calculated adjusted share price and get 116, 945 firm-year observations.

Panel A of Table 1 shows my sample selection procedures after merging. I follow a similar selection and cleaning method as Louis (2003) and Barth et al. (2022) to enhance comparability with those studies. First, I delete any identifier and year duplicates that should be omitted from merging. Second, I require all firms with non-missing foreign currency transaction gains or losses, foreign currency translation adjustment, foreign income tax, adjusted share price, outstanding shares, income before extraordinary items, book value of equity, operating cash flow, cash and short-term investment, revenue, total assets, capital expenditure, cost of goods sold, income tax expenses, employee numbers, and total market value[10]. Third, I set zero to all other missing accounting variables. Fourth, I keep firms with at least three years of data to calculate annual returns in going concern operations. Fifth, to reduce the impact of outliers on estimate results, I winsorize all non-indicator variables at the

[10] I have used stricter cleaning rules for non-missing accounting values than Barth et al. (2022) as they do not delete missing variables with cash and short-term investment, capital expenditure, cost of goods sold, or income tax expenses.

1st and 99th percentiles and substitute extreme values with the 1st and 99th percentile. After the merging and cleaning steps above, it yields 17,450 firm-year observations in total.

Panel B and Panel C of Table 1 present the sample distribution by year and industry, with industries defined by the first two digits of SIC codes. More than half of the thesis sample is clustered in the manufacturing industry, which shows that a significant portion of multinational firms reports foreign currency accounting information concentrated in manufacturing. Service firms account for over 20% of the observations; mining and finance insurance industries follow behind with approximately 6%.

[Insert Table 1 Here]

To analyze the value relevance of new economy firms over foreign currency accounting information, I use the same data selection method as Barth et al. (2022). Companies in the technology industry[11] or having IPO in 1971 or later and reported a loss in the IPO year are tagged as new economy firms by a dummy variable NEWECO. I download the variables IPO date (Compustat label "IPODATE") and earnings (Compustat label "ib") from Compustat North America Fundamentals Annual, ranging from the year 1971 to the year 2020. I create a dummy variable NEWECO and mark it equal to 1 by choosing observations with negative earnings in the IPO year. I merge the new data with the previous sample, and also mark technology industry observations as NEWECO =1 by control three-digit SIC. Thus, all new economy observations are tagged as 1 by the dummy variable NEWECO.

For the return analysis using different time horizons, I use quarterly data from Compustat for real announcement date (Compustat label "RDQ"), which is in line with the sample selection method in Soo and Soo (1994). More specifically, I take the real announcement date values of the last quarter when merging with other variables, since these values represent the date of the annual earnings announcement. Afterwards, I select adjusted share price from the CRSP daily stock price database with time horizons from the real announcement date. For this test, I use the same sample selection criteria as the main test above.

[11] "Technology firms are those in three-digit SIC industries with large unrecognized intangible assets, i.e., industries 283, 357, 360-368, 481, 737, and 873 (Francis and Schipper 1999; Core et al. 2003), which include computer hardware and software, pharmaceuticals, electronic equipment, and telecommunications. Loss firms have negative earnings." (Barth et al., 2022, footnote 20)

3.3 Research Design

I develop my empirical analysis based on Louis (2003) and Barth et al. (2022), among others, to measure foreign currency accounting information´s value relevance to stock return. To test my hypothesis, I first estimate the value relevance of foreign currency transaction gains or losses and translation adjustment, similar to Louis (2003), using the following regression model:

$$ADJRET_{it} = \beta_0 + \beta_1 NI_{it} + \beta_2 FCA_{it} + \beta_3 CICURR_{it} + \beta_4 TXFO_{it} + (\text{Firm Fixed-effect} + \text{Industry Fixed-effect} + \text{Year Fixed-effect}) + \varepsilon_{it} \quad (1)$$

where subscripts i and t represent firm and year, respectively. The dependent variable $ADJRET_{it}$ is annual stock return adjusted for splits and dividends, calculated from 3 months after fiscal year-end at year t. The variable NI is adjusted earnings, calculated as the income before extraordinary items less the foreign currency transaction gains or losses scaled by last period´s adjusted stock price. The variable FCA is foreign currency transaction gains or losses scaled by last period´s adjusted stock price. The variable CICURR is foreign currency translation adjustment scaled by last period´s adjusted stock price. The variable TXFO is foreign income taxes scaled by last period´s adjusted stock price, and it is a control variable as a proxy for foreign exposure which accords with Louis (2003). I test this model using ordinary least squares (OLS) regressions and fixed-effect models with firm-year fixed-effect, industry fixed-effect, and year fixed-effect to control unobserved heterogeneity. I adjust for heteroskedasticity by clustering the standard errors at the firm level. Note that I use two-digit SIC codes for industry fixed-effect, which gives a stricter control than the Fama-French ten industry groups used in Barth et al. (2022).

Second, I extend model (1) by adding 16 control variables from Barth et al. (2022). This new model tests foreign currency accounting variables´ value relevance in the current comprehensive business environment:

$$ADJRET_{it} = \beta_0 + \beta_1 NI_{it} + \beta_2 FCA_{it} + \beta_3 CICURR_{it} + \beta_4 TXFO_{it} + \sum_{16} CONTROLS + (\text{Firm Fixed-effect} + \text{Industry Fixed-effect} + \text{Year Fixed-effect}) + \varepsilon_{it} \quad (2)$$

where subscripts i and t indicate firm and year, respectively. 16 control variables studied in Barth et al. (2022) are specifically: CEQ, equity book value; XRD, research and

development expense; INTAN, recognized intangible assets, including capitalized software, goodwill, and other purchased intangible assets; XAD, advertising expense; CHE, cash, cash equivalents, and short-term investments; $REVGR$, one-year revenue growth; OANCF, operating cash flow; REVT, revenue; SPI, special items; DVC, declared dividends to common shareholders; $CAPX$, capital expenditure; $COGS$, cost of goods sold; XSGA, selling, general, and administrative expense; TXT, income tax expense; $EARNGR$, one-year earnings growth; and AT, total assets. All the variables in the right part of the model (2) equation are deflated with the last period´s adjusted share price (See Appendix for variable definitions). Barth et al. (2022) has 18 accounting variables in total, the two variables that are not included here are: (a) earnings, which is disaggregated already in models (1) and (2) as NI and FCA, and (b): other comprehensive income, which contains foreign currency translation adjustment. I drop other comprehensive income in order to alleviate collinearity problems.

Besides the full sample analysis above, I test how the value relevance of foreign currency transaction differs when firms report transaction gains and losses. More specifically, I perform different conditional regressions with model (1) and model (2) when FCA is positive and negative, respectively.

Moreover, I compare it with Louis (2003) ´s analysis of translation adjustment and discuss whether a negative association between foreign currency translation and stock return exists in my sample with manufacturing industry. I regress both dependent variables adjusted stock return ADJRET and raw stock return RET on model (1) and model (2) in manufacturing industry firms (SIC code: 2000-3999). I test the value relevance of the foreign translation adjustment with models referring to Louis (2003):

$$\text{ADJERT}_{it} = \beta_0 + \beta_1 \text{IB}_{it} + \beta_2 \text{CICURR}_{it} + \varepsilon_{it} \quad (3)$$

$$\text{RET}_{it} = \beta_0 + \beta_1 \text{IB}_{it} + \beta_2 \text{CICURR}_{it} + \varepsilon_{it} \quad (4)$$

where subscripts i and t indicate firm and year, respectively. Model (4) is identical to the model used in Louis (2003) except with new period data. The variable IB is income before extraordinary items. All the variables in model (3) and model (4) in the right part of the equations are deflated with last period´s adjusted share price, yielding regressions of change in value on earnings and foreign currency translation adjustment.

To test foreign currency translation adjustment´s value relevance in different labor intensity, I replicate another model in Louis (2003) by dividing sample firms with low labor intensity and high labor intensity with the following regression models:

$$\text{ADJRET}_{it} = \sum_{LABOR-0}^{1} \begin{pmatrix} \beta 0 + \beta 1\, NIit + \beta 2\, FCAit + \beta 3\, CICURRit \\ + \beta 4\, TXFOit \end{pmatrix} + \varepsilon_{it.} \qquad (5)$$

$$\text{RET}_{it} = \sum_{LABOR-0}^{1} \begin{pmatrix} \beta 0 + \beta 1\, NIit + \beta 2\, FCAit + \beta 3\, CICURRit \\ + \beta 4\, TXFOit \end{pmatrix} + \varepsilon_{it} \qquad (6)$$

where subscripts i and t indicate firm and year, respectively. The variable LABOR is a dummy variable where 1 stands for high labor intensity and 0 stands for low labor intensity. Labor intensity is constructed in the same manner as the two methods[12] used in Louis (2003). I classify a firm as high(low) labor intensity if its corresponding LABOR variable is above(below) median according to Louis (2003). Since the two methods lead to different subsamples which are not comparable in the same regression, I will test them individually in model (5) and model (6), using the previous year´s labor intensity value. Louis states that labor costs would be affected by exchange rates and the effect of their fluctuation, he used year t for all regression variables and year t-1 for high and low labor intensity partition; here I followed the same routine.

[12] The first method of Louis (2003) is: labor costs (Compustat xlr) divided by total expenses before tax [net sales (Compustat sale) minus net income (Compustat ib) and income tax (Compustat txt)], I get in total 1839 observations with variable LABOR1. If missing, use a second surrogate method as Louis (2003) with employee numbers (Compustat emp) divided by firm size which is proxied by total market value (Compustat mkvalt), the total market value is available on Compustat North America, if missing, use fiscal year-end share price times outstanding shares and then drop every missing value after this. At the end, I get 15611 observations as variable LABOR2.

4. Results

4.1 Descriptive Statistics

Table 2, Panel A, shows distributional statistics for all the non-indicator variables. The total observation numbers are 17450, with 2180 firms. Table 2 reveals the mean of raw return, RET is 12.5 percent, which is lower than the 15.7 percent in Louis (2013). The mean value for earnings excluding foreign currency transaction gains or losses (FCA) is 6.484 and the mean value for foreign income tax is 1.811, which are higher than Louis´s 0.033 and 0.013 respectively. In contrast, foreign currency transaction gains or losses and translation adjustment have negative means of - 0.102 and - 0.280, which is lower than – 0.001 and – 0.0007 in Louis´s paper of 2003. These differences from prior research reflect a decrease (increase) in return (earnings) since 2002, which is in line with recent value relevance studies showing that earnings have a weaker value relevance nowadays. Comparing Louis (2003) to my study, the mean of earnings excluding transaction gains or losses has increased 196 times from 2002; the absolute mean value of foreign currency transaction has increased 102 times compared to the mean value from 2002, which indicates firms report fewer transaction losses while earnings has been growing in the last two decades. This is in line with firms' improved risk management of foreign currency exposure in the last twenty years. According to the bis (Bank for International Settlements) data, the amount of total foreign exchange contracts increased 432% in the period between 2002 to 2020, reaching a value of 97549 USD billion[13]. This proves that firms have increased using of financial derivatives for currency exposure management. Besides that, observations with positive foreign currency transaction gains or losses are 5812, less than observations with negative foreign currency transaction gains or losses, 9104, which support the findings from Hayn (1995) that there is a dramatic increase in the frequency of loss over time.

Panel B presents Pearson correlations to facilitate comparison to Barth et al. (2022). However, because they use a non-parametric estimation method CART rather than linear regression models, no accounting variable is excluded from the correlation analysis. For the sake of comparison, I keep all the 16 accounting variables in Barth et al. ´s model[14]. Panel B reveals that operating cash flow has the largest correlation with earnings excluding transaction

[13] BIS data is with reference https://stats.bis.org/statx/srs/table/d6?p=20202&c=

[14] I have also performed tests excluding total assets, total revenue, operating cash flow which gives the highest correlation to one or another accounting variables, and my research findings still hold by excluding these variables.

gains or losses, followed closely by income tax and dividends, 0.700, 0.685, and 0.675. Of note is that there is no high correlation between foreign currency transaction gains or losses and translation adjustment with other accounting variables.

[Insert Table 2 Here]

4.2 Main Results

Table 3 reports the results of the regressions of Model (1) with adjusted stock return on foreign currency transaction gains or losses and translation adjustment. Panel A is the full sample analysis, Panel B and Panel C are conditional regressions for firms with foreign currency transaction gains and losses respectively.

In the full sample analysis of Panel A in Table 3, Column (1) shows results from adjusted stock return on earnings and foreign currency accounting information using an ordinary least squares (OLS) regression. Column (2) shows results with firm and year fixed-effect. Column (3) shows regression results with industry and year fixed-effect and Column (4) shows the year fixed-effect. Earnings excluding transaction gains or losses have a positive significant relation to adjusted stock return with all the models at 1% level. For example, in Column (2), firm and year fixed-effect regression gives the highest beta value (coef. = 0.0016; t-stat. = 4.967). Foreign currency transaction gains or losses FCA does not show any significant relation to return in any of the models with full sample analysis. On the contrary, foreign currency translation adjustment CICURR has a significant positive relation with adjusted stock return in all models (e.g., Column 2: coef. = 0.0051; t-stat. = 4.967), which is in accordance with my hypothesis.

Panel B presents the results of regressions with adjusted stock return on foreign currency accounting values with positive FCA values. Columns (1) - (4) present results from the OLS model, firm and year fixed-effect model, industry and year fixed-effect model, and year fixed-effect model, separately. I find the significance level of earnings excluding transactions gains or losses is less with smaller t-stat. value compared to the full sample. They are significant at 5% level instead of 1% level except for Column (4). Foreign currency transaction gains is positively and significantly associated with the firm stock return at 1% level in all models. Foreign currency translation adjustment is positively significant at 1% level except for Column (2). For instance, firm and year fixed-effect model in Panel B Column (2) presents a positive and significant result with FCA (coef. = 0.1237; t-stat. = 6.139) and CICURR (coef. = 0.0043; t-stat. = 2.489).

Panel C shows the results of regressions with adjusted stock return on foreign currency accounting values with negative FCA values. I find a negative relationship between transaction loss and stock return in all the models with negative coefficients. NI and CICURR are positively significant at 1% level of all models. Foreign currency transaction loss is significant in firm and year fixed-effect model (coef. =- 0.0541; t-stat. = -4.711).

Above all, foreign currency translation adjustment has a positive significant relation to adjusted stock return in both the full sample and sub-sample with positive and negative FCA, and my first hypothesis holds in model (1) since translation adjustment is positively associated with stock return. Foreign currency transaction gains or losses are not significant in full sample models. When I perform the same tests with a positive FCA sub-sample, firms reporting transaction gains show a positive and significant association with firm value. In the negative FCA sub-sample test, transaction gains or losses is negatively significant with the firm and year fixed-effect model. Thus, my hypothesis 2 holds, as when a firm reports a foreign currency transaction gain it has a positive association with the firm stock return, and vice versa when a firm reports a foreign currency transaction loss, then it will have a negative association with firm stock return.

[Insert Table 3 Here]

Table 4 reports the results of regressions of Model (2) with adjusted stock return on foreign currency transaction gains or losses and translation adjustment with 16 other accounting control variables from Barth et al. (2022). Panel A is the full sample analysis whilst Panel B and Panel C are conditional regressions for firms with foreign currency transaction gains and losses respectively. They present results with the same structure in table 3: Column (1) shows results using an ordinary least squares (OLS) regression. Column (2) shows results with firm and year fixed-effect. Column (3) shows regression results with industry and year fixed-effect and Column (4) shows results with year fixed-effect.

Panel A reveals the results of full sample regressions with adjusted stock return on 20 accounting variables. Earnings excluding foreign currency transaction gains or losses is only significant with Column (2) at 10% level (coef. = 0.0008; t-stat. = 1.861). Foreign currency transaction gains or losses are positively significant with all models at 5% level. The most significant result with highest t- stat. value is in Column (3), which shows a positive and significant association to stock return with industry and year fixed-effect model (coef. = 0.0104; t-stat. = 2.641). Foreign currency translation adjustment is positively significant at 1% level for all models, and has the highest t- stats. value with Column (3) (coef. = 0.005; t-stat. = 7.452). For other accounting variables performance, variables at 5% significance level in

industry and year fixed-effect are CHE, cash, cash equivalents, and short-term investments (coef. = 0.0003; t-stat. = 2.085); OANCF, operating cash flow (coef. = 0.001; t-stat. = 2.965); DVC, declared dividends to common shareholders (coef. = -0.004; t-stat. = -6.338); XSGA, selling, general, and administrative expense (coef. = 0.0009; t-stat. = 3.204); $EARNGR$, one-year earnings growth (coef. = 0.003; t-stat. = 7.976).

Panel B shows the results of regressions with adjusted stock return on foreign currency accounting values and other accounting variables with conditions of positive FCA. Earnings excluding foreign currency transaction gains or losses is not significant with all models. Foreign currency transaction gains or losses is significant at 5% level in all models and at 1% level in the firm and year fixed-effect model (coef. = 0.063; t-stat. = 3.38). Foreign currency translation adjustment is positively and significantly associated with stock return in the models except that it is not significant in the firm and year fixed-effect model.

Panel C presents the results of regressions with adjusted stock return on foreign currency accounting values and other accounting variables with a condition of negative FCA. Earnings excluding foreign currency transaction gains or losses is only significant with Column (2) at 5% level. Foreign currency transaction gains or losses is only significant with the OLS model at 10% level. Foreign currency translation adjustment is positively significant in all models at 1% level.

To sum up the results of table 4, the findings are consistent with my hypothesis that both foreign currency transaction gains or losses and foreign currency translation adjustment are positively associated with firm stock return. Especially, when firms report transaction gains instead of losses, the significance level of transaction gains has increased from 5% to 1% level in the firm and year fixed-effect model. Extending the analysis from model (1) to model (2) by adding 16 other accounting variables from Barth et al. (2022) helps to identify that foreign currency transaction and translation have significant associations with a firm stock return by controlling different aspects of accounting variables.

[Insert Table 4 Here]

4.3 Additional Analysis

4.3.1 Stock Return and Foreign Currency Translation Adjustment

My findings for both model (1) and model (2) align with studies of Soo and Soo, Biddle and Choi, and Chambers that foreign currency translation adjustment has a positive

association with firm market value. Model (1) is developed based on a model from Louis (2003), but Louis finds a negative relationship between foreign translation adjustment and stock return specifically in the manufacturing industry. I would like to replicate the model from his study with model (4) and change the dependent variable to adjusted stock return with model (3). Additionally, I add labor intensity as he does by splitting the full sample with two different methods of composing labor intensity variables and test with model (5) and model (6). Table 5 reports the results of regressions with adjusted stock return on foreign currency translation adjustment for models (3)-(6) with Panel A to D, accordingly.

Panel A shows the results of regressions with adjusted stock return on foreign currency translation adjustment with other control variables in the manufacturing industry. Column (1) shows the regression results for model (3) which uses the earnings variable IB instead of disaggregated earnings variable NI. The remaining value of IB excluding foreign currency transaction gains or losses equals the variable NI. Columns (2) and (3) present the results of OLS and year fixed-effect regressions of model (1) with manufacturing industry firms. Columns (4) and (5) presents the results of OLS and year fixed-effect regressions with model (2) by controlling 16 other accounting variables with the sample in the manufacturing industry. In all models, foreign currency translation adjustment has a positive association with the adjusted stock return at 1% level.

I further take stricter replicating procedures by using raw stock return instead of adjusted stock return for splits and dividends to match the same model used in Louis (2003). I change the deflator of all the independent variables from the adjusted last period´s share price to the original last period´s share price to comply with Louis´s variable construction. Hence, Panel B shows results of regressions with raw stock return on foreign currency translation adjustment with other control variables in the manufacturing industry. Column (1) is the result of regression for model (4) replicating the model used in Louis (2003). Columns (2) to (3) are results for OLS model and year fixed-effect model of model (1) by using raw stock return. Columns (4) to (5) are results for OLS model and year fixed-effect model of model (2) by using raw stock return. Foreign currency translation adjustment has again shown a positively significant association with raw stock return for all models at 1% level.

Louis (2003) uses the economic theory of labor intensity and wage rigidity for explaining the negative association of foreign currency translation adjustment to firm market value. He adds labor intensity as a dummy variable into his model since the premise of his hypothesis is that input prices, especially labor costs, are stickier than output prices, thus change in value should be strongest (most negative) for high labor intensity firms. I test this

finding by adding labor intensity as an indicator variable into model (1). Labor intensity is created using the same two methods in Louis´s paper and therefore splits the full sample into two subsamples with LABOR1 and LABOR2. As the two subsamples could not be compared by construction with different methods of labor intensity, I tested separately with high labor intensity, low labor intensity, and full sample firms with two subsamples for LABOR1 and LABOR2, accordingly.

Panel C and D reveal the regression results of model (5) with adjusted stock return on foreign currency translation adjustment controlling labor intensity with indicator variable LABOR1 and LABOR2 separately in the manufacturing industry. Panel C shows the results with indicator variable LABOR1, which is created as Louis´s method by capturing labor costs with expenses. Foreign currency translation adjustment is neither negative nor significant regarding both high labor intensity and low labor intensity firms. Panel D presents results with LABOR2 as the indicator variable for labor intensity, which is created according to Louis´s method using scaled employee numbers as a surrogate. It shows a positive significant association with foreign currency translation adjustment to adjusted stock returns for high labor intensity firms, low labor intensity firms, and full sample firms.

Panel E and F present the regression results of model (6) with raw stock return on foreign currency translation adjustment controlling labor intensity with indicator variable LABOR1 and LABOR2 separately in the manufacturing industry. Panel E shows results of regression with indicator variable LABOR1, Columns (1) to (3) present the results of high labor intensity, low labor intensity, and full sample separately. Foreign currency translation adjustment is positively associated with high labor intensity firms value yet negative with low labor intensity firms and full sample firms value. The regression results of translation are not significant in all the models. Panel F uses LABOR2 as an indicator variable, it shows a positive significant association with foreign currency translation adjustment to raw stock returns for high labor intensity firms, low labor intensity firms, and full sample firms.

To add together, by replicating Louis´s model with model (4) and considering labor intensity variable, in the manufacturing industry, there is no negative significant result for association of foreign currency translation adjustment with stock return.

[Insert Table 5 Here]

4.3.2 Stock Return and Foreign Currency Accounting Factors´ Industry and New Economy Analysis

Louis (2003) focuses on how foreign currency translation adjustment affects market value in the manufacturing industry. I am also curious about how both foreign currency transaction and translation perform as value relevance indicators in various industries. I use two-digit SIC codes for industry classification, which generates 10 different industry groups as Table 1 Panel C shows. I use three-digit SIC codes to identify the technology industry I would like to test how foreign currency accounting factors perform in new economy firms, of which the majority are from the technology industry. Table 6 shows the results of regressions for adjusted stock return on foreign currency accounting variables over different industry and new economy firms with year fixed-effect models. Panel A and Panel B display regression results for models (1) and (2) with different SIC industry groups. Panel C and Panel D show results of the same tests in Panel A and B with the condition of firms reporting foreign currency transaction gains only. Panel E presents the results of regressions for models (1) and (2) with conditions of new economy firms.

Panel A provides insights into regression results for adjusted stock return on foreign currency accounting variables in different SIC industries. Foreign currency transaction gains or losses is significantly and positively associated with stock return in the wholesale trade industry (coef. = 0.1034; t-stat. = 2.911) at 1% level, while insignificant for the rest of the industry groups. Foreign currency translation adjustment is positively related to stock return at 10% level in transportation & public utilities (coef. = 0.0039; t-stat. = 1.750), and 1% level in the manufacturing industry (coef. = 0.0066; t-stat. = 4.455). In the mining industry, translation adjustment is negatively related to stock return (coef. = -0.0039; t-stat. = -1.920) at 10% level.

Panel B presents the results of regressions with adjusted stock return on foreign currency accounting variables and 16 other accounting variables in different SIC industry groups. Foreign currency transaction gains or losses is positively related to stock return for transportation & public utilities and wholesale trade industry at 10% level and 5% level respectively. Foreign currency translation adjustment is positively related to stock return at 1% level in the manufacturing industry and transportation & public utilities.

Panel C reveals the results of regressions the same as test models for Panel A with condition of positive FCA. Foreign currency transaction is positively significant with stock return in the manufacturing industry (coef. = 0.0600; t-stat. = 3.076) and the transportation &

public utilities industry (coef. = 0.0883; t-stat. = 2.058). Foreign currency translation adjustment is also positively related to stock return with the manufacturing industry (coef. = 0.0063; t-stat. = 2.831) and transportation & public utilities industry (coef. = 0.0067; t-stat. = 1.726), while insignificant for the other industries.

Panel D shows the results of regressions same as the test model for Panel B with the condition of positive FCA. Foreign currency transaction gains or losses is positively associated with the stock return at 5% level in the manufacturing industry (coef. = 0.0447; t-stat. = 2.160), while insignificant for other industries. Foreign currency translation adjustment is negatively significant with stock return in mining (coef. = -0.009; t-stat. = -2.163) and insignificant for the rest of the industry groups.

To conclude, foreign currency transaction gains or losses and translation adjustment are significant value relevance indicators in the manufacturing, transportation & public utilities industry; they both have a positive association with stock return in different tested models. Transaction gains or losses is also a positive indicator for stock return in the wholesale trade industry in full sample models, while translation adjustment indicates a negative association in the mining industry in Table 6 Panel A and Panel D.

Prior studies found earnings had declined in value relevance, and one reason for that is the rise of new economy firms. Barth et al. (2022) finds a clear difference in accounting variables that are value relevant between the new economy and the old economy. For new economy firms, it is less value relevant with earnings and more significant with accounting variables related to intangible assets, growth opportunities, and alternative performance measures. Therefore, I am interested in whether foreign currency accounting variables, especially transaction gains or losses as part of earnings, would perform well as indicators for value relevance in new economy firms. Panel E displays the results of regressions for both model (1) and model (2) in year fixed-effect when NEWECO =1 controlling for both full sample and foreign currency transaction gains(losses). Columns (1) to (3) are regressions for model (1) and present a full sample, positive FCA and negative FCA respectively. The results show a positive significant association of foreign currency transaction and adjusted stock return with transaction gains (coef. = 0.045; t-stat. = 1.924) and vice versa with transaction losses (coef. = -0.041; t-stat. = -2.545). Columns (4) to (6) are regressions for model (2) and display the full sample, positive FCA, and negative FCA accordingly. The findings are like model (1), its explanatory power of positive significance when firms report transaction gains is slightly stronger (coef. = 0.054; t-stat. = 2.000), and weaker when firms report transaction

losses (coef. = -0.027; t-stat. = -1.856). However, foreign currency translation adjustment is insignificant with all models.

[Insert Table 6 Here]

4.3.3 Performance of Foreign Currency Transaction Gains or Losses as Indicator of Value Relevance

Earnings is the most classic and noted value relevance indicator traced back to the history of value relevance studies. When it became less relevant with firm market value, other accounting variables were added to value relevant analysis from Ohlson (1995), along with diverse studies from researchers for decades. I would like to measure the performance of value relevance with foreign currency transaction gains or losses by comparing it with earnings as a value relevant indicator. Also, I would test if it could be more value relevant when firms have a higher proportion of foreign transactions in their earnings. In the end, I am interested in whether foreign currency transaction gains´ value relevance differs with high and low change ratios. Table 7 shows the results of regressions for these three tests.

Panel A shows results of regressions with adjusted stock return on transaction gains or losses compared to earnings. Column (1) and Column (2) are regression results for adjusted stock return on transaction gains or losses and earnings when firms only have foreign currency transaction gains (positive FCA). The model in Column (2) excludes variable foreign currency transaction and replaces earning variable NI with full earnings IB. IB equal to variable NI plus variable FCA. Earnings IB in Column (2) is positively significant at 10% level (coef. = 0.0010; t-stat. = 1.845). Foreign currency transaction gains or losses in Column (1) is positively significant at 1% level (coef. = 0.1237; t-stat. = 6.139). By comparing the results of Column (1) and Column (2), the value relevance has increased by disaggregating earnings IB with NI and foreign currency transaction as adjusted R-squared has increased from Column (2) 0.2382 to Column (1) 0.2503. Column (3) and (4) has extended the model for Column (1) and (2) by adding 16 other accounting measures as control variables and using the full sample instead of transaction gains. It shows that earnings in (4) is significant at 10% level to stock return (coef. = 0.0009; t-stat. = 1.958), while foreign currency transaction is significant at 5% level (coef. = 0.0086; t-stat. = 2.115). Adjusted R-squared increased from Column (3) to Column (2). Columns (5) and (6) are the same models as Columns (3) and (4) by using industry and year fixed-effect instead of firm and year fixed-effect. Earnings are both

insignificant in the two Columns, while transaction gains or losses remain with high explanatory powers (coef. = 0.01; t-stat. = 2.641).

Panel B presents results of regressions with adjusted stock return on transaction gains or losses with condition that firm foreign currency transaction is in high proportion of earnings. I determine that a firm has a high proportion of transaction gains or losses in earnings when the ratio of transaction gains or losses divided by earnings (FCANI) is above its mean value. Column (1) shows the results of model (1) when FCANI above mean with firm and year fixed-effect. Column (2) does a similar regression by changing to industry and year fixed-effect. Column (3) extends the analysis of Column (1) by adding 16 other accounting variables.

The results show that by choosing firms with a high proportion of transaction gains or losses in earnings, the value relevance of FCA has been improved significantly; Column (1) FCA has a significant result (coef. = 0.025; t-stat. = 2.776) compared to the same model tested in Table 3 Panel A Column (2) where FCA is insignificant (coef. = 0.006; t-stat. = 1.28). Column (2) shows similar results as it used industry and year fixed-effect instead of firm and year fixed-effect compared to Column (1). Foreign currency transaction is positively significantly associated with adjusted stock return (coef. = 0.0242; t-stat. = 3.444), in contrast it is not significant in table 3´s full sample model Column (2) (coef. = 0.0076; t-stat. = 1.581). Transaction gains or losses in Column (3) has also significant value relevance at 1% level (coef. = 0.037; t-stat. = 4.044).

Panel C reveals the results of regressions with model (1) and model (2) which firms have high/low change ratios of foreign currency transaction gains. The high and low change ratio is measured for firms reporting transaction gains with an annual change ratio above and below its mean respectively. Columns (1) and (2) are the results for model (1) regressions with firm and year fixed-effect. Column (1) presents that when FCA is positive and the change ratio is above its mean, then foreign currency transaction is positively significant with adjusted stock return (coef. = 0.621; t-stat. = 4.432). Column (2) presents that when FCA is positive and the change ratio is below its mean, foreign currency transaction is positively significant with adjusted stock return with a smaller coefficient (coef. = 0.077; t-stat. = 3.378). Columns (3) and (4) are results for model (2) with firm and year fixed-effect conditioning positive FCA and its change ratio above and below its mean. Foreign currency transaction is positively significant with adjusted stock return (coef. = 0.392; t-stat. = 2.858) in Column (3), and insignificant in Column (4) (coef. = 0.037; t-stat. = 1.617).

[Insert Table 7 Here]

4.3.4 Performance of Foreign Currency Transaction Gains or Losses with Value Relevance Over Time

Table 8 shows the results of value relevant performance over time for foreign currency transaction gains. I use one day before the real earnings announcement date as the starting date to calculate the adjusted stock returns for different horizons. The real earnings announcement date is available in Compustat North America Fundamental Quarterly data, which is the same data source used in Soo and Soo (1994). The new sample is composed of data from Compustat quarterly, Compustat annual, and CRSP stock price daily with the same data selection procedure as the main analysis. As Louis (2003) comments on Soo and Soo (1994) using the earnings announcement date: there is no reason to expect an association between foreign translation adjustment to market value "since the foreign translation adjustment is not known at the earnings announcement date (cf. Soo and Soo 1994, footnote 5)" (Louis, 2003, p.18). Therefore, even though I use model (1) for comparison by including foreign currency translation adjustment into the model, it is not my interest variable in this analysis.

Columns (1)-(3) give insights of the results for adjusted stock return on foreign currency accounting information with five days horizon, ten days horizon, and one-month horizon, respectively. However, none of the three horizons show any significant relation with foreign currency transaction gains. Columns (4) – (7) present results for adjusted stock return on foreign currency accounting information with three months horizon, six months horizon, nine months horizon, and one-year horizon, respectively. All the models show positive significant associations between adjusted stock return and foreign currency transaction gains. Its relevance gets stronger with the increase of the time horizon. One-year horizon has the strongest relation with the highest R-square in all the models (coef. = 0.085; t-stat. = 4.011).

[Insert Table 8 Here]

5. Conclusion

My research question is how foreign currency accounting variables, namely foreign currency transaction gains or losses and translation adjustment, are relevant to a firm´s market value. Prior value relevance literature mainly studies translation adjustment as a component of other comprehensive income, and there are very few studies focusing on both two foreign currency accounting factors (Soo and Soo, 1994; Louis, 2003). Foreign currency transaction gains or losses has been taken as a transitory item or is used as a control variable for foreign currency translation adjustment. However, misses a detailed discussion of its value relevance. I select these foreign currency accounting measures as my variables of interest using a sample of US-listed multinationals from Compustat and extend Louis´s sample period until 2020. By combining Barth et al.´s latest value relevance research, I build my regression model with comprehensive control of different accounting factors in a new economic environment. Unlike Louis (2003), which focuses on foreign currency translation adjustment, and Soo and Soo (1994), which includes transaction gains or losses for the information relevance test, I emphasize the value relevance of foreign currency transaction and perform additional analyses with this item.

Consistent with prior studies, I find that foreign currency transaction gains or losses positively and significantly affect firm market value when controlling all other accounting variables. I conditionally test for firms with transaction gains and losses, and it differs in its positive and negative association with value relevance. Foreign currency transaction gains or losses positively indicate the stock return in the manufacturing, transportation & public utilities industry and wholesale trade industries. Besides, it is significantly and positively (negatively) relevant to stock returns with new economy firms when the firm reports foreign currency transaction gains (losses). Most notably, foreign transaction gains or losses outperform earnings as an indicator of value relevance with stock returns, especially when it is transaction gains. I find its explanatory power also increases when a higher proportion of transaction gains or losses in earnings. Firms with high change ratios of transaction gains show significant positive value relevance to stock return. On the contrary, there is insignificant value relevance when firms' transaction gains change ratios are low.

On the other hand, foreign currency translation adjustment is more constant in different test models for a significant positive relationship to firm stock return, consistent with prior studies. I replicate the model tested by Louis in his paper of 2003 and limit my sample to the manufacturing industry. In contrast to his finding, I find a positive association between

translation with firm stock return with or without control labor intensity. A firm with high labor intensity strongly affects its stock return, yet it is positive and significant rather than negative. One reason for the different results could be distinctions between the samples. The thesis sample is from 2002 to 2020, which extends from the period in Louis´s paper, 1985 to 2001. There are more negative observations in Louis´s translation adjustment variable (mean = -0.0007, median = -0.0006) than this study (mean = - 0.28, median = 0). Another explanation for the results difference between my thesis and Louis´s study could be that firms have increased their control of foreign currency exposure. The volume of total foreign currency contracts increased 432 percent between 2002 and 2020, according to statistics from the bis (Bank for International Settlements). In the last two decades, multinationals have enhanced their use of financial derivatives for managing currency risk. Allayannis et al. (2001) finds a positive relation between firm value and the use of foreign currency derivatives. The value relevance of foreign currency translation might be more affected by the financial decision of risk management which counter the labor rigidity and economic effect in this thesis. Foreign currency translation adjustment´s performance as an indicator for value relevance is relatively constant in different models.

Taken together, I find both foreign currency transaction gains or losses and translation adjustment are positively associated with firm market value. Foreign currency transaction gains has a positive value relevance, and transaction losses negatively affect the firm stock return. Firms in the manufacturing industry also have positive value relevance with foreign currency translation adjustment, opposite Louis´s finding. Foreign currency transaction as the composition in earnings proves to be more value relevant than earnings. With an additional test, I find foreign transaction gains is value relevant from three months to one-year horizon return, while it is not for short-horizon returns.

Future studies may investigate if firms using financial derivatives as a risk management strategy would affect the foreign transaction and translation value relevance. It could also be interesting to test whether value relevance yields similar or different results when examining quarterly rather than annual information. Further, researchers could perform unexpected return analysis taking the foreign currency transaction as unexpected earnings.

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Appendices

Variable Definitions

Variable	*Definition (Source)*
Dependent variable	
PRC	Share price three months after fiscal year-end. Bid/ask average is used instead of price if the closing price is not available on any given trading day (CRSP monthly PRC).
ADJPRC	Share price three months after fiscal year-end (CRSP monthly PRC/CFACPR)
ADJRET	Adjusted annual return for splits and dividends three months after fiscal year-end ((ADJPRC - ADJPRC[_n-1])/ADJPRC[_n-1])
RET	Raw annual return three months after fiscal year-end ((PRC - PRC[_n-1])/PRC[_n-1])
Independent variable	
IB	Income before extraordinary items divided by last period adjusted stock price. (Compustat ib/ ADJPRC[_n-1])
NI	Earnings excluding transaction gain or loss divided by last period adjusted stock price. (Compustat (ib-fca)/ ADJPRC[_n-1])
FCA	Foreign exchange transaction gain or loss divided by last period adjusted stock price. (Compustat fca/ ADJPRC[_n-1])
CICURR	Foreign exchange translation adjustment divided by last period adjusted stock price. (Compustat cicurr/ ADJPRC[_n-1])
TXFO	Foreign income taxes divided by last period adjusted stock price. (Compustat txfo/ ADJPRC[_n-1])
LABOR1	Dummy variable for labor intensity: high intensity =1, low intensity = 0. Constructed as a method ofrom Louis´s paper, labor costs (Compustat xlr) divided total expenses before tax [net sales (Compustat sale) minus net income (Compustat ib) minus income tax (Compustat txt)]. If missing, use a second surrogate to compose LABOR2.
LABOR2	Dummy variable for labor intensity: high intensity =1, low intensity = 0. Constructed as a method ofrom Louis´s paper, employee numbers (Compustat emp) are divided by firm size which is proxied by total market value (Compustat mkvalt). Total market value, if missing, use fiscal year-end share price (Compustat prccf) * outstanding shares (Compustat csho) and if still missing, drop the missing values.
CEQ	Book value of equity by the end of fiscal year divided by last period adjusted stock price. (Compustat ceq/ ADJPRC[_n-1])
XRD	Research and development expense divided by last period adjusted stock price. (Compustat xrd/ ADJPRC[_n-1])

INTAN	Intangible assets divided by last period adjusted stock price. (Compustat intan/ ADJPRC[_n-1])
XAD	Advertising expense divided by last period adjusted stock price. (Compustat xad/ ADJPRC[_n-1])
CHE	Cash and short-term investments divided by last period adjusted stock price. (Compustat che/ ADJPRC[_n-1])
REVT	Revenue divided by last period adjusted stock price. (Compustat revt/ ADJPRC[_n-1])
REVGR	Revenue growth divided by last period adjusted stock price. (Compustat change in revt/ ADJPRC[_n-1])
OANCF	Operating cash flow divided by last period adjusted stock price. (Compustat oancf/ ADJPRC[_n-1])
SPI	Special items divided by last period adjusted stock price. (Compustat spi/ ADJPRC[_n-1])
DVC	Dividends divided by last period adjusted stock price. (Compustat dvc/ ADJPRC[_n-1])
CAPX	Capital expenditure divided by last period adjusted stock price. (Compustat capx/ ADJPRC[_n-1])
COGS	Cost of goods sold divided by last period adjusted stock price. (Compustat cogs/ ADJPRC[_n-1])
XSGA	Selling, general, and administrative expenses divided by last period adjusted stock price. (Compustat xsga/ ADJPRC[_n-1])
TXT	Income tax expense divided by last period adjusted stock price. (Compustat txt/ ADJPRC[_n-1])
EARNGR	Earnings growth divided by last period adjusted stock price. (Compustat change in ib/ ADJPRC[_n-1])
AT	Assets divided by last period adjusted stock price. (Compustat at/ ADJPRC[_n-1])
FCANI	The proportion ratio of foreign currency transaction gains or losses in earnings. (Compustat fca/ib)
FCACHANGE	The change ratio of foreign currency transaction gains or losses over a period. (Change in FCA/Last period FCA)
NEWECO	Dummy variable for new economy: new economy = 1, old economy = 0. I set a firm as a new economy firm as Barth et al. (2022) as if it is in a technology industry or had its IPO in 1971 or later and reported a loss in the year of its IPO. Technology firms are those in the three-digit SIC sectors 283, 357, 360-368, 481, 737, and 873 (Francis and Schipper 1999; Core et al. 2003), which relating to computer hardware and software, medicines, electronic equipment, and telecommunications. Loss firms have negative earnings. I set the rest of the sample as old economy.

Tables

Table 1 Sample Selection and Distribution

This table presents sample selection (Panel A) and distribution by year (Panel B) and industry (Panel C) for a sample of U.S. public listed industrial firms from 2002-2020. Industries are defined using Standard Industry Classification (SIC) code. The sample is a merging sample from WRSD Compustat North America Fundamental Annual 2002-2020 and CRSP Monthly stock price from January 2002 to December 2020. The Appendix provides variable definitions.

Panel A. Sample Selection

Data Cleaning & Mapping	**N**
All Compustat firm-years from 2002 to 2020 after merging with CRSP stock price	116, 945
(Duplicates identifier-year)	(3)
(Missing fca)	(81,200)
(Missing cicurr)	(4,893)
(Missing txfo)	(11,421)
(Missing adjprc)	(317)
(Missing csho)	(14)
(Missing ceq)	(18)
(Missing oancf)	(11)
(Missing capx)	(15)
(Missing emp)	(268)
(Missing mkvalt)	(104)
(Keep firms with at least three years of data)	(1,226)
Final sample	17450

Also, I replace missing values as 0 for variables: xrd, intan, xad, spi, dvc, xsga.

Panel B. Distribution by Year

Data Year - Fiscal	N	Percent	Cum.
2002	2	0.01	0.01
2003	10	0.06	0.07
2004	555	3.18	3.25
2005	808	4.63	7.88
2006	919	5.27	13.15
2007	1017	5.83	18.97
2008	1095	6.28	25.25
2009	1112	6.37	31.62
2010	1157	6.63	38.25
2011	1161	6.65	44.91
2012	1163	6.66	51.57
2013	1204	6.90	58.47
2014	1245	7.13	65.60
2015	1249	7.16	72.76
2016	1207	6.92	79.68
2017	1208	6.92	86.60
2018	1150	6.59	93.19
2019	1052	6.03	99.22
2020	136	0.78	100.00
Total	17450	100.00	

Panel C. Distribution by Industry

2-digit SIC code Industry	**N**	**Percent**	**Cum.**
01- 09 Agriculture, Forestry, & Fishing	19	0.11	0.11
10 -14 Mining	1143	6.56	6.66
15 -17 Construction	79	0.45	7.11
20 - 39 Manufacturing	9874	56.59	63.70
40 - 49 Transportation & Public Utilities	786	4.50	68.20
50 - 51 Wholesale Trade	465	2.67	70.87
52 - 59 Retail Trade	310	1.78	72.64
60 – 67 Finance, Insurance, Real Estate	1112	6.37	79.01
70 – 89 Services	3600	20.63	99.64
91 – 99 Public Administration	62	0.36	100.00
Total	17450	100.00	

This table is classified with reference to the SIC code list https://siccode.com/sic-code-lookup-directory.

Table 2 Descriptive Statistics and Correlations

This table shows descriptive statistics and Pearson correlations with a sample of U.S. public listed industrial firms from 2002-2020. Panel A shows descriptive statistics on non- indicator regression variables for Compustat annual data merging with CRSP three months after fiscal year-end stock price data. Panel B shows Pearson correlations on regression variables for Compustat annual data merging with CRSP three months after fiscal year-end stock price data. Appendix 2 provides variable definitions. * Indicate statistical insignificance which is that p value above 10%.

Panel A. Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
ADJRET	15270	.099	.559	-.840	2.607
RET	15270	.125	.645	-.820	3.436
NI	15270	6.484	32.376	-87.169	210.724
IB	15270	6.295	31.834	-87.169	204.437
FCA	15270	-.102	1.066	-6.704	4.366
FCA>0	5812	.368	.865	0	4.366
FCA<0	9104	-.406	1.093	-6.704	0
CICURR	15270	-.280	4.587	-26.780	21.973
TXFO	15270	1.811	5.828	-.338	42.999
CEQ	15270	83.659	202.864	-33.246	1427.237
XRD	15270	5.143	16.124	0	121.021
INTAN	15270	39.325	103.375	0	713.406
XAD	15270	1.544	6.485	0	49.661
CHE	15270	29.269	70.800	.042	503.288
REVT	15270	154.857	370.444	0	2650.401
REVGR	15270	3.009	41.729	-205.886	212.154
OANCF	15270	19.400	53.611	-20.032	364.990
SPI	15270	-2.294	8.395	-61.019	10.739
DVC	15270	3.395	12.463	0	93.514
CAPX	15270	10.271	31.361	0	229.678
COGS	15270	102.259	268.810	0	1966.473
XSGA	15270	26.313	59.250	0	409.209
TXT	15270	3.190	10.830	-15.119	76.950
EARNGR	15270	1.293	23.167	-102.248	137.635
AT	15270	240.018	591.913	.476	4072.474

Panel B. Correlations

Variables	(ADJRET)	(RET)	(NI)	(IB)	(FCA)	(CICURR)	(TXFO)	(CEQ)	(XRD)	(INTAN)	(XAD)	(CHE)
ADJRET	1.000*											
RET	0.857	1.000*										
NI	0.053	0.014	1.000*									
IB	0.055	0.015	0.995	1.000*								
FCA	0.009*	0.005*	-0.095	-0.044	1.000*							
CICURR	0.070	0.069	-0.124	-0.121	0.022	1.000*						
TXFO	0.025	0.004*	0.616	0.611	-0.139	-0.097	1.000*					
CEQ	0.047	0.024	0.604	0.602	-0.106	-0.071	0.692	1.000*				
XRD	0.050	0.038	0.368	0.368	-0.126	-0.091	0.435	0.508	1.000*			
INTAN	0.043	0.022	0.391	0.385	-0.156	-0.062	0.517	0.556	0.467	1.000*		
XAD	0.035	0.020	0.323	0.317	-0.114	-0.073	0.394	0.375	0.386	0.380	1.000*	
CHE	0.084	0.061	0.540	0.536	-0.139	-0.075	0.601	0.776	0.601	0.489	0.434	1.000*
REVT	0.076	0.055	0.552	0.545	-0.134	-0.082	0.685	0.789	0.481	0.528	0.474	0.732
REVGR	-0.034	-0.053	0.299	0.303	0.017	-0.069	0.119	0.112	0.061	0.090	0.069	0.050
OANCF	0.062	0.036	0.700	0.696	-0.142	-0.067	0.760	0.844	0.521	0.584	0.410	0.762
SPI	0.014	0.000*	0.095	0.100	0.110	0.038	-0.255	-0.271	-0.307	-0.408	-0.224	-0.279
DVC	-0.014	-0.034	0.675	0.672	-0.096	-0.109	0.704	0.677	0.435	0.521	0.363	0.555
CAPX	0.022	0.007*	0.437	0.431	-0.115	-0.070	0.628	0.743	0.375	0.371	0.338	0.595
COGS	0.070	0.053	0.452	0.446	-0.110	-0.068	0.593	0.711	0.372	0.401	0.390	0.652
XSGA	0.084	0.062	0.457	0.450	-0.160	-0.082	0.582	0.618	0.707	0.652	0.601	0.636
TXT	0.026	0.000*	0.685	0.681	-0.088	-0.063	0.757	0.668	0.377	0.432	0.385	0.601
EARNGR	0.179	0.169	0.330	0.332	-0.005*	-0.034	0.120	0.121	0.064	0.091	0.058	0.135
AT	0.052	0.034	0.539	0.533	-0.143	-0.084	0.696	0.876	0.474	0.603	0.415	0.810

Variables	(REVT)	(REVGR)	(OANCF)	(SPI)	(DVC)	(CAPX)	(COGS)	(XSGA)	(TXT)	(EARNGR)	(AT)
ADJRET											
RET											
NI											
IB											
FCA											
CICURR											
TXFO											
CEQ											
XRD											
INTAN											
XAD											
CHE											
REVT	1.000*										
REVGR	0.112	1.000*									
OANCF	0.824	0.155	1.000*								
SPI	-0.310	0.118	-0.269	1.000*							
DVC	0.608	0.105	0.736	-0.232	1.000*						
CAPX	0.759	0.088	0.790	-0.225	0.532	1.000*					
COGS	0.970	0.090	0.721	-0.262	0.498	0.717	1.000*				
XSGA	0.689	0.066	0.659	-0.360	0.563	0.489	0.542	1.000*			
TXT	0.652	0.184	0.733	-0.104	0.665	0.547	0.560	0.519	1.000*		
EARNGR	0.140	0.209	0.155	0.213	0.051	0.082	0.117	0.107	0.107	1.000*	
AT	0.856	0.056	0.854	-0.319	0.637	0.778	0.793	0.609	0.635	0.123	1.000*

Table 3 Stock Return and Foreign Currency Accounting Factors

This table shows regression results for the relation between stock return and foreign currency transaction gains and losses and translation adjustments with a sample of U.S. public listed industrial firms from 2002 to 2020. Panel A shows the regression models between adjusted stock return and foreign currency accounting variables with control of foreign income taxes, both the OLS and fixed-effect models. Panel B shows regression models based on Panel A with conditions of positive or negative transaction gains or losses. The appendix provides variable definitions. In parentheses presents the robust t-statistics. ***, **, and * indicate statistical significance at 1%, 5%, and 10%, respectively.

Panel A. Adjusted Stock Return (ADJRET) OLS and Fixed-effect Models

VARIABLES	(1) OLS	(2) Fixed-effect	(3) Fixed-effect	(4) Fixed-effect
NI	0.0012***	0.0016***	0.0011***	0.0011***
	(5.136)	(4.967)	(3.416)	(5.449)
FCA	0.0068	0.0063	0.0076	0.0072
	(1.230)	(1.280)	(1.581)	(1.580)
CICURR	0.0095***	0.0051***	0.0057***	0.0054***
	(7.350)	(4.967)	(4.925)	(5.159)
TXFO	-0.0008	0.0187***	-0.0002	-0.0018**
	(-0.744)	(6.154)	(-0.252)	(-2.009)
Constant	0.0959***	0.6219***	0.7045***	0.7670***
	(22.018)	(5.228)	(15.594)	(14.016)
Observations	15,270	15,270	15,270	15,270
Adjusted R-squared	0.0088	0.2205	0.1960	0.1922
Number of id		2,180		
Firm FE		YES		
Year FE		YES	YES	YES
Industry FE			YES	

Panel B. Adjusted Stock Return (ADJRET) OLS and Fixed-effect Models with Condition of Foreign Currency Transaction Gains (FCA>0).

VARIABLES	(1) OLS	(2) Fixed-effect	(3) Fixed-effect	(4) Fixed-effect
NI	0.0009**	0.0013**	0.0008**	0.0009***
	(2.413)	(2.497)	(2.409)	(2.911)
FCA	0.0552***	0.1237***	0.0470***	0.0415***
	(3.945)	(6.139)	(3.900)	(3.535)
CICURR	0.0094***	0.0043**	0.0059***	0.0056***
	(5.269)	(2.489)	(4.834)	(3.684)
TXFO	-0.0050***	0.0125***	-0.0031**	-0.0048***
	(-2.639)	(3.054)	(-2.052)	(-3.168)
Constant	0.0877***	-0.3632***	-0.2350	-0.0444
	(11.015)	(-2.695)	(-1.125)	(-0.270)
Observations	5,812	5,812	5,812	5,812
Adjusted R-squared	0.0118	0.2503	0.2084	0.2022
Number of id		1,841		
Firm FE		YES		
Year FE		YES	YES	YES
Industry FE			YES	

Panel C. Adjusted Stock Return (ADJRET) OLS and Fixed-effect Models with Condition of Foreign Currency Transaction Losses (FCA<0).

VARIABLES	(1) OLS	(2) Fixed-effect	(3) Fixed-effect	(4) Fixed-effect
NI	0.0014***	0.0020***	0.0012***	0.0012***
	(4.871)	(5.385)	(3.555)	(4.913)
FCA	-0.0060	-0.0541***	-0.0066	-0.0019
	(-0.758)	(-4.711)	(-0.561)	(-0.288)
CICURR	0.0097***	0.0052***	0.0057***	0.0054***
	(5.805)	(3.427)	(3.810)	(3.875)
TXFO	-0.0017	0.0172***	-0.0012	-0.0023*
	(-1.167)	(4.445)	(-0.818)	(-1.761)
Constant	0.0900***	0.4326*	0.7374***	0.7407***
	(15.871)	(1.880)	(9.735)	(10.121)
Observations	9,104	9,104	9,104	9,104
Adjusted R-squared	0.0096	0.2230	0.1909	0.1887
Number of id		2,041		
Firm FE		YES		
Year FE		YES	YES	YES
Industry FE			YES	

Table 4 Stock Return, Foreign Currency Accounting Factors, and 16 other Accounting Factors

This table shows regression results of the association between stock return and foreign currency transaction and translation with more accounting values from Barth´s model using a sample of U.S. listed industrial firms from 2002 to 2020. Panel A shows the regression models between adjusted stock return and foreign currency accounting variables with control of foreign income taxes, extending to 16 other accounting variables with the OLS and fixed-effect models. Panel B shows regression models based on Panel A with the condition of positive or negative transaction gains or losses, and control variables are hidden from results for display purposes. The appendix provides variable definitions. In parentheses presents the robust t-statistics. ***, **, and * indicate statistical significance at 1%, 5%, and 10%, respectively.

Panel A. Adjusted Stock Return (ADJRET) OLS and Fixed-effect Models

VARIABLES	(1) OLS	(2) Fixed-effect	(3) Fixed-effect	(4) Fixed-effect
NI	-0.0000	0.0008*	0.0001	0.0001
	(-0.014)	(1.861)	(0.126)	(0.404)
FCA	0.0123**	0.0086**	0.0104**	0.0112**
	(2.356)	(2.115)	(2.641)	(2.505)
CICURR	0.0084***	0.0040***	0.0051***	0.0050***
	(6.981)	(3.981)	(7.425)	(5.042)
TXFO	-0.0013	-0.0011	-0.0018	-0.0013
	(-0.765)	(-0.434)	(-0.985)	(-0.955)
CEQ	-0.0000	0.0000	-0.0001	-0.0001*
	(-0.169)	(0.178)	(-0.944)	(-1.741)
XRD	-0.0008	0.0010	-0.0009	-0.0003
	(-1.425)	(0.498)	(-1.613)	(-0.784)
INTAN	0.0000	-0.0001	-0.0001	-0.0000
	(0.002)	(-0.478)	(-0.648)	(-0.103)
XAD	-0.0014	-0.0005	-0.0013	-0.0010
	(-1.284)	(-0.145)	(-1.212)	(-1.119)
CHE	0.0005***	0.0010***	0.0003**	0.0004***
	(3.296)	(3.700)	(2.085)	(2.683)
REVT	0.0001	-0.0005**	-0.0001	-0.0000
	(0.448)	(-2.449)	(-0.522)	(-0.249)
REVGR	-0.0010***	-0.0002	-0.0003*	-0.0003**
	(-6.579)	(-1.536)	(-1.688)	(-2.384)
OANCF	0.0012***	0.0006	0.0010***	0.0010***
	(3.109)	(1.598)	(2.965)	(3.189)
SPI	0.0006	0.0003	-0.0001	-0.0000
	(0.629)	(0.321)	(-0.166)	(-0.023)
DVC	-0.0047***	-0.0021*	-0.0040***	-0.0039***
	(-6.011)	(-1.810)	(-6.338)	(-6.069)
CAPX	-0.0013***	-0.0004	-0.0007	-0.0010***
	(-3.336)	(-0.721)	(-1.441)	(-3.050)
COGS	0.0001	0.0008***	0.0002	0.0001
	(0.368)	(3.643)	(1.137)	(0.913)
XSGA	0.0009***	0.0035***	0.0009***	0.0007***
	(3.354)	(6.069)	(3.204)	(3.523)
TXT	-0.0009	0.0007	0.0000	-0.0001
	(-0.961)	(0.836)	(0.002)	(-0.180)
EARNGR	0.0042***	0.0025***	0.0034***	0.0034***
	(11.386)	(8.276)	(7.976)	(10.735)
AT	-0.0001**	0.0000	-0.0000	-0.0000
	(-2.266)	(0.341)	(-0.658)	(-1.147)
Constant	0.0775***	0.5538***	0.6862***	0.7409***
	(15.285)	(6.334)	(13.091)	(10.773)
Observations	15,270	15,270	15,270	15,270
Adjusted R-squared	0.0579	0.2691	0.2233	0.2203
Number of id		2,180		
Firm FE		YES		
Year FE		YES	YES	YES
Industry FE			YES	

Panel B. Adjusted Stock Return (ADJRET) OLS and Fixed-effect Models with Condition of Foreign Currency Transaction Gains (FCA>0).

VARIABLES	(1) OLS	(2) Fixed-effect	(3) Fixed-effect	(4) Fixed-effect
NI	-0.0001	0.0005	-0.0002	-0.0001
	(-0.158)	(0.561)	(-0.342)	(-0.150)
FCA	0.0281**	0.0632***	0.0290**	0.0297**
	(1.979)	(3.380)	(2.449)	(2.428)
CICURR	0.0068***	0.0024	0.0039***	0.0036**
	(3.778)	(1.370)	(3.086)	(2.467)
TXFO	-0.0035	0.0017	-0.0017	-0.0022
	(-1.438)	(0.493)	(-0.555)	(-1.105)
Constant	0.0723***	-0.4609***	-0.2157	-0.0500
	(8.625)	(-2.919)	(-1.112)	(-0.292)
Control Variable	YES	YES	YES	YES
Observations	5,812	5,812	5,812	5,812
Adjusted R-squared	0.0624	0.2931	0.2336	0.2316
Number of id		1,841		
Firm FE		YES		
Year FE		YES	YES	YES
Industry FE			YES	

Panel C. Adjusted Stock Return (ADJRET) OLS and Fixed-effect Models with Condition of Foreign Currency Transaction Losses (FCA<0).

VARIABLES	(1) OLS	(2) Fixed-effect	(3) Fixed-effect	(4) Fixed-effect
NI	0.0001	0.0013**	0.0002	0.0002
	(0.134)	(2.479)	(0.469)	(0.645)
FCA	0.0123*	-0.0111	0.0072	0.0095
	(1.699)	(-1.150)	(0.743)	(1.473)
CICURR	0.0096***	0.0043***	0.0061***	0.0059***
	(5.937)	(2.722)	(6.053)	(4.284)
TXFO	0.0006	-0.0038	-0.0012	-0.0005
	(0.295)	(-0.982)	(-0.602)	(-0.262)
Constant	0.0786***	0.4985***	0.7494***	0.7364***
	(12.439)	(3.930)	(11.123)	(10.102)
Control Variable	YES	YES	YES	YES
Observations	9,104	9,104	9,104	9,104
Adjusted R-squared	0.0562	0.2648	0.2174	0.2153
Number of id		2,041		
Firm FE		YES		
Year FE		YES	YES	YES
Industry FE			YES	

Table 5 Stock Return and Foreign Currency Translation Adjustment

This table shows regression results of the relation between stock return and foreign currency translation adjustment within the manufacturing industry (Panel A and Panel B) and with different labor intensities (Panel C and D) in the manufacturing industry with a sample of U.S. listed industrial firms from 2002 to 2020. Panel A shows the regression models between adjusted stock return and foreign currency translation adjustment using manufacturing industry firms. Panel B shows the regression models between raw stock return and foreign currency translation adjustment using manufacturing industry firms. Panel C shows regression models based on Panel A with high and low labor intensity control by dummy variable LABOR1. Panel D shows regression models based on Panel A with high and low labor intensity control by dummy variable LABOR2. Panel E shows regression models based on Panel B with high and low labor intensity control by dummy variable LABOR1. Panel F shows regression models based on Panel B with high and low labor intensity control by dummy variable LABOR2. The appendix provides variable definitions. In parentheses presents the robust t-statistics. ***, **, and * indicate statistical significance at 1%, 5%, and 10%, respectively.

Panel A. Adjusted Stock Return (ADJRET) and Foreign Currency Translation Adjustment

VARIABLES	(1) OLS	(2) OLS	(3) Fixed-effect	(4) OLS	(5) Fixed-effect
NI		0.0011***	0.0011***	-0.0011	-0.0005
		(3.117)	(3.690)	(-1.590)	(-0.925)
FCA		-0.0007	0.0035	0.0086	0.0095
		(-0.081)	(0.475)	(1.060)	(1.298)
CICURR	0.0111***	0.0111***	0.0066***	0.0073***	0.0042***
	(6.129)	(6.156)	(4.455)	(4.811)	(3.172)
TXFO		-0.0013	-0.0026*	0.0014	0.0017
		(-0.724)	(-1.862)	(0.509)	(0.758)
IB	0.0009***				
	(3.825)				
Constant	0.1071***	0.1082***	0.8419***	0.0854***	0.8266***
	(19.165)	(19.253)	(624.011)	(12.981)	(94.115)
Control Variable				YES	YES
Observations	8,704	8,704	8,704	8,704	8,704
Adjusted R-squared	0.0095	0.0094	0.1921	0.0723	0.2280
Year FE			YES		YES

Panel B. Raw Stock Return (RET) and Foreign Currency Translation Adjustment

VARIABLES	(1) OLS	(2) OLS	(3) Fixed-effect	(4) OLS	(5) Fixed-effect
NI		-0.0007	-0.0005	-0.0030***	-0.0026***
		(-1.374)	(-1.176)	(-3.435)	(-3.249)
FCA		-0.0084	-0.0034	0.0039	0.0050
		(-0.813)	(-0.373)	(0.416)	(0.579)
CICURR	0.0127***	0.0129***	0.0081***	0.0086***	0.0053***
	(5.542)	(5.531)	(4.020)	(4.398)	(2.908)
TXFO		0.0048**	0.0030	-0.0009	-0.0004
		(2.018)	(1.459)	(-0.236)	(-0.118)
IB	-0.0002				
	(-0.603)				
Constant	0.1437***	0.1365***	0.8458***	0.1065***	0.8119***
	(24.642)	(23.485)	(453.767)	(15.029)	(72.639)
Control Variable				YES	YES
Observations	8,704	8,704	8,704	8,704	8,704
Adjusted R-squared	0.0080	0.0090	0.1537	0.0862	0.2064
Year FE			YES		YES

All independent variables are replaced with deflator of last period raw stock price instead of adjusted stock price.

Panel C. Adjusted Stock Return (ADJRET) and Foreign Currency Translation Adjustment with condition of Labor Intensity – LABOR 1

	(1)	(2)	(3)
VARIABLES	High Labor Intensity	Low Labor Intensity	Full Sample
NI	-0.0003	0.0003	0.0002
	(-0.345)	(0.346)	(0.328)
FCA	-0.0052	0.0130	0.0115
	(-0.278)	(1.567)	(1.493)
CICURR	0.0038	0.0001	0.0013
	(1.348)	(0.026)	(0.681)
TXFO	0.0018	0.0014	0.0001
	(0.377)	(0.440)	(0.033)
LABOR1			-0.0085
			(-0.169)
Constant	0.0258	-0.0052	0.0236
	(0.566)	(-0.197)	(0.834)
Observations	219	334	561
Adjusted R-squared	-0.0160	-0.0036	-0.0064

Panel D. Adjusted Stock Return (ADJRET) and Foreign Currency Translation Adjustment with condition of Labor Intensity – LABOR 2

	(1)	(2)	(3)
VARIABLES	High Labor Intensity	Low Labor Intensity	Full Sample
NI	0.0021***	0.0015***	0.0009**
	(3.247)	(4.140)	(2.097)
FCA	0.0036	-0.0016	-0.0057
	(0.236)	(-0.149)	(-0.516)
CICURR	0.0197***	0.0061***	0.0141***
	(5.481)	(4.068)	(6.226)
TXFO	0.0053	-0.0052***	0.0011
	(1.146)	(-2.801)	(0.469)
LABOR2			-0.1056***
			(-9.038)
Constant	0.1505***	0.0639***	0.1708***
	(16.603)	(7.044)	(19.103)
Observations	4,444	3,707	8,143
Adjusted R-squared	0.0248	0.0052	0.0212

Panel E. Raw Stock Return (RET) and Foreign Currency Translation Adjustment with condition of Labor Intensity – LABOR 1

	(1)	(2)	(3)
VARIABLES	High Labor Intensity	Low Labor Intensity	Full Sample
NI	-0.0020	-0.0007	-0.0009
	(-1.010)	(-0.513)	(-0.804)
FCA	-0.0142	0.0107	0.0074
	(-0.331)	(1.095)	(0.771)
CICURR	0.0040	-0.0033	-0.0008
	(1.050)	(-0.746)	(-0.256)
TXFO	0.0042	0.0038	0.0013
	(0.525)	(0.848)	(0.340)
LABOR1			0.0332
			(0.652)
Constant	0.1317**	0.0295	0.0675**
	(2.654)	(1.167)	(2.327)
Observations	219	334	561
Adjusted R-squared	-0.0074	-0.0071	-0.0054

Panel F. Raw Stock Return (RET) and Foreign Currency Translation Adjustment with condition of Labor Intensity – LABOR 2

	(1)	(2)	(3)
VARIABLES	High Labor Intensity	Low Labor Intensity	Full Sample
NI	0.0002	-0.0007	-0.0010*
	(0.227)	(-0.983)	(-1.728)
FCA	-0.0077	-0.0014	-0.0134
	(-0.436)	(-0.092)	(-1.019)
CICURR	0.0228***	0.0070***	0.0171***
	(5.376)	(3.765)	(6.055)
TXFO	0.0125**	0.0028	0.0081***
	(2.292)	(0.968)	(2.827)
LABOR2			-0.0870***
			(-6.414)
Constant	0.1809***	0.0864***	0.1861***
	(17.488)	(9.592)	(19.525)
Observations	4,444	3,707	8,143
Adjusted R-squared	0.0237	0.0016	0.0176

Table 6 Stock Return and Foreign Currency Accounting Factors Industry Analysis

This table shows regression results of the relation between stock return and foreign currency transaction gains and losses and translation adjustment in different industries with a sample of U.S. listed, non-financial firms over 2002-2020. Panel A shows year fixed-effect models between adjusted stock return and foreign currency transaction gains or losses and translation adjustment within different industries. Panel B shows results of year fixed-effect models based on Panel A with 16 other accounting variables. Panel C and Panel D show results based on Panel A and Panel B, respectively, with positive transaction gains and losses conditions. Panel E shows the results of the relation between stock return and accounting variables for the new economy firms, which is in the majority of technology industry firms. The appendix provides variable definitions. In parentheses presents the robust t-statistics. ***, **, and * indicate statistical significance at 1%, 5%, and 10%, respectively.

Panel A. Adjusted Stock Return (ADJRET) and Foreign Currency Accounting variables in Different Industries.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
VARIABLES	Mining	Construction	Manufacturing	Transportation & Public Utilities	Wholesale Trade	Retail Trade	Finance Insurance & Real Estate	Services	Public Administration
NI	0.0020***	0.0124*	0.0011***	0.0005	0.0044	0.0045*	0.0001	0.0008	0.0056
	(3.186)	(2.110)	(3.690)	(1.048)	(1.316)	(2.010)	(0.224)	(1.001)	(1.254)
FCA	-0.0041	-0.0467	0.0035	0.0116	0.1034***	0.1385	0.0003	0.0112	-0.0307
	(-0.418)	(-0.605)	(0.475)	(1.163)	(2.911)	(1.040)	(0.029)	(0.799)	(-0.377)
CICURR	-0.0039*	0.0115	0.0066***	0.0039*	0.0126	-0.0003	0.0031	0.0034	0.0143
	(-1.920)	(1.053)	(4.455)	(1.750)	(1.525)	(-0.111)	(0.932)	(0.833)	(1.102)
TXFO	-0.0010	-0.0815**	-0.0026*	0.0015	0.0573***	-0.0099	0.0034	-0.0039	0.0067
	(-0.582)	(-2.280)	(-1.862)	(0.695)	(3.045)	(-0.766)	(0.986)	(-0.762)	(0.180)
Constant	0.7859***	0.3767	0.8419***	0.2726***	0.1293	1.3937*	0.0760	0.2207***	0.0937
	(4.240)	(1.353)	(624.011)	(3.129)	(1.314)	(1.887)	(0.690)	(4.015)	(0.408)
Observations	992	66	8,704	681	413	265	968	3,112	54
Adjusted R-squared	0.3551	0.3623	0.1921	0.2159	0.2116	0.1310	0.2468	0.1646	0.2461
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES

Agriculture, Forestry, & Fishing industry has too few variables, therefore, it is not included in the table.

Panel B. Adjusted Stock Return (ADJRET), Foreign Currency Accounting variables and 16 other Accounting Models in Different Industries.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
VARIABLES	Mining	Construction	Manufacturing	Transportation & Public Utilities	Wholesale Trade	Retail Trade	Finance Insurance & Real Estate	Services	Public Administration
NI	0.0013	0.0469	-0.0005	0.0007	0.0020	0.0011	-0.0004	-0.0021	0.0176*
	(1.467)	(1.120)	(-0.925)	(1.086)	(1.328)	(0.137)	(-0.549)	(-1.482)	(2.046)
FCA	0.0008	0.1568	0.0095	0.0188*	0.0613**	0.1369	0.0028	0.0081	0.0966
	(0.082)	(1.014)	(1.298)	(1.869)	(2.484)	(1.006)	(0.273)	(0.531)	(0.702)
CICURR	-0.0035	0.0630	0.0042***	0.0055***	0.0141	0.0045	0.0036	0.0034	0.0190
	(-1.600)	(1.028)	(3.172)	(2.887)	(1.645)	(1.146)	(1.187)	(1.162)	(1.872)
Constant	0.6062***	0.1274	0.8266***	0.2101**	0.1114	1.0303	0.0436	0.1940***	0.1345
	(2.772)	(0.862)	(94.115)	(2.034)	(1.108)	(1.379)	(0.413)	(3.676)	(0.399)
Control Variable	YES	YES	YES	YES	YES	YES	YES	YES	YES
Observations	992	66	8,704	681	413	265	968	3,112	54
Adjusted R-squared	0.3779	0.5111	0.2280	0.3012	0.3092	0.1823	0.2729	0.2009	0.6173
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES

Agriculture, Forestry, & Fishing industry has too few variables, therefore, it is not included in the table.

Panel C. Adjusted Stock Return (ADJRET) and Foreign Currency Accounting variables in Different Industries when FCA >0.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
VARIABLES	Mining	Construction	Manufacturing	Transportation & Public Utilities	Wholesale Trade	Retail Trade	Finance Insurance & Real Estate	Services	Public Administration
NI	0.0012*	0.0311	0.0010*	0.0009	-0.0007	0.0019	0.0005	0.0000	0.0140
	(1.711)	(0.935)	(1.787)	(1.604)	(-0.135)	(0.557)	(0.652)	(0.035)	(1.644)
FCA	0.0028	-0.0222	0.0600***	0.0883**	-0.1710	0.3325	0.0350	0.0571	-2.1988
	(0.122)	(-0.035)	(3.076)	(2.058)	(-0.807)	(1.153)	(1.218)	(1.312)	(-1.353)
CICURR	-0.0054	0.0028	0.0063***	0.0067*	0.0038	-0.0049	0.0002	0.0045	-0.0185
	(-1.513)	(0.104)	(2.831)	(1.726)	(0.261)	(-0.618)	(0.041)	(1.363)	(-1.285)
TXFO	-0.0006	-0.1366	-0.0069**	-0.0064	0.1083	0.0016	-0.0038	-0.0053	0.0122
	(-0.259)	(-0.820)	(-2.407)	(-1.394)	(1.634)	(0.058)	(-1.530)	(-0.554)	(0.310)
Constant	0.5841***	-0.0037	-0.2220***	0.3358**	0.2621	-0.0462	-0.0165	0.2704***	-0.0357
	(12.084)	(-0.521)	(-2.812)	(2.483)	(1.133)	(-0.145)	(-0.098)	(2.654)	(-0.050)
Observations	404	23	3,279	288	163	113	401	1,113	23
Adjusted R-squared	0.3745	0.2112	0.2115	0.2640	0.2449	0.1066	0.2198	0.1428	0.1627
Year FE	YES	YES	YES	YES	YES	YES	YES	YES	YES

Agriculture, Forestry, & Fishing industry has too few variables, therefore, it is not included in the table.

Panel D. Adjusted Stock Return (ADJRET), Foreign Currency Accounting variables and 16 other Accounting Models in Different Industries when FCA>0.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
VARIABLES	Mining	Manufacturing	Transportation & Public Utilities	Wholesale Trade	Retail Trade	Finance Insurance & Real Estate	Services
NI	-0.0003	-0.0008	-0.0013	-0.0124	0.0067	-0.0000	-0.0006
	(-0.252)	(-0.801)	(-1.260)	(-0.921)	(0.529)	(-0.026)	(-0.255)
FCA	-0.0065	0.0447**	0.0179	0.2153	0.2373	0.0384	0.0091
	(-0.323)	(2.160)	(0.700)	(1.137)	(0.544)	(1.031)	(0.218)
CICURR	-0.0085**	0.0027	0.0072	-0.0113	0.0035	-0.0004	0.0010
	(-2.163)	(1.257)	(1.387)	(-0.576)	(0.296)	(-0.082)	(0.303)
Constant	0.4637***	-0.2706**	0.2263	0.2057	-0.2868	-0.1655	0.2297**
	(5.384)	(-2.476)	(1.328)	(0.703)	(-0.654)	(-0.893)	(2.535)
Control Variable	YES	YES	YES	YES	YES	YES	YES
Observations	404	3,279	288	163	113	401	1,113
Adjusted R-squared	0.4217	0.2427	0.3827	0.3873	0.2025	0.2562	0.2001
Year FE	YES	YES	YES	YES	YES	YES	YES

Agriculture, Forestry, & Fishing industry, Construction and Public Administration has too few variables, therefore, they are not included in the table.

Panel E. Adjusted Stock Return (ADJRET), Foreign Currency Accounting variables and 16 other Accounting Models for New Economy Firms.

VARIABLES	(1) full sample	(2) positive FCA	(3) negative FCA	(4) full sample	(5) positive FCA	(6) negative FCA
NI	0.0007**	0.0006	0.0009***	-0.0013*	-0.0011	-0.0013*
	(2.489)	(1.159)	(2.638)	(-1.891)	(-1.108)	(-1.714)
FCA	-0.0040	0.0446*	-0.0406**	0.0022	0.0537**	-0.0266*
	(-0.432)	(1.924)	(-2.545)	(0.291)	(2.000)	(-1.856)
CICURR	0.0007	0.0024	0.0004	0.0020	0.0021	0.0028
	(0.397)	(1.033)	(0.216)	(1.300)	(1.153)	(1.294)
Constant	0.2911***	0.2884***	0.2901***	0.2703***	0.2688***	0.2732***
	(7.621)	(4.851)	(5.959)	(7.116)	(4.671)	(5.545)
Control Variable				YES	YES	YES
Observations	5,463	2,011	3,349	5,463	2,011	3,349
Adjusted R-squared	0.1537	0.1565	0.1583	0.1817	0.1848	0.1839
Year FE	YES	YES	YES	YES	YES	YES

Table 7 Performance of Foreign Currency Transaction Gains and Loss as Indicator of Value Relevance

This table shows regression results comparing foreign currency transaction gains or loss and earnings (Panel A), and conditional association of transaction gains or losses regression (Panel B and C) using a sample of U.S. listed industrial firms over 2002-2020. Panel A shows the regression models between adjusted stock return and foreign currency transaction gains or losses compared to earnings with different models. Panel B shows the regression models between adjusted stock return and foreign currency transaction gains or losses with a high proportion in earnings. Panel C shows the regression models between adjusted stock return and foreign currency transaction gains or losses with a high change ratio of FCA when FCA is positive. The appendix provides variable definitions. In parentheses presents the robust t-statistics. ***, **, and * indicate statistical significance at 1%, 5%, and 10%, respectively.

Panel A. Adjusted Stock Return (ADJRET) and Transaction Gains or Losses Compared to Earnings.

VARIABLES	(1) FCA Positive	(2) FCA Positive	(3) Full Sample	(4) Full Sample	(5) Full Sample	(6) Full Sample
NI	0.0013**		0.0008*		0.0001	
	(2.497)		(1.861)		(0.126)	
FCA	0.1237***		0.0086**		0.0104**	
	(6.139)		(2.115)		(2.641)	
CICURR	0.0043**	0.0044***	0.0040***	0.0040***	0.0051***	0.0051***
	(2.489)	(2.754)	(3.981)	(3.970)	(7.425)	(7.110)
IB		0.0010*		0.0009*		0.0001
		(1.845)		(1.958)		(0.257)
Constant	-0.3632***	-0.3329***	0.5538***	0.5311***	0.6862***	0.6504***
	(-2.695)	(-2.659)	(6.334)	(5.282)	(13.091)	(9.391)
Control Variable			YES	YES	YES	YES
Observations	5,812	5,812	15,270	15,270	15,270	15,270
Number of id	1,841	1,841	2,180	2,180		
Adjusted R-squared	0.2503	0.2382	0.2691	0.2689	0.2233	0.2230
Firm FE	YES	YES	YES	YES		
Year FE	YES	YES	YES	YES	YES	YES
Industry FE					YES	YES

Panel B. Adjusted Stock Return (ADJRET) and Transaction Gains or Losses with Condition that FCA has HIGH Proportion in Earnings.

VARIABLES	(1) FCANI above Mean	(2) FCANI above Mean	(3) FCANI above Mean
NI	0.0015**	0.0007	0.0002
	(2.568)	(1.368)	(0.244)
FCA	0.0250***	0.0242***	0.0374***
	(2.776)	(3.444)	(4.044)
CICURR	0.0051***	0.0051***	0.0032*
	(3.368)	(3.708)	(1.952)
Constant	-0.2198***	0.2423	-0.2656***
	(-10.811)	(0.773)	(-11.621)
Control Variable			YES
Observations	6,464	6,464	6,464
Number of id	1,911		1,911
Adjusted R-squared	0.2144	0.1932	0.2629
Firm FE	YES		YES
Year FE	YES	YES	YES
Industry FE		YES	

Panel C. Adjusted Stock Return (ADJRET) and Transaction Gains or Losses with Condition that FCA is Positive and High Change Ratio Over Period.

VARIABLES	(1) FCACHANGE above Mean	(2) FCACHANGE below Mean	(3) FCACHANGE above Mean	(4) FCACHANGE below Mean
NI	0.0025*	0.0013**	-0.0024	0.0014
	(1.767)	(2.232)	(-1.079)	(1.475)
FCA	0.6214***	0.0773***	0.3922***	0.0367
	(4.432)	(3.378)	(2.858)	(1.617)
CICURR	0.0086	0.0026	0.0018	0.0017
	(1.571)	(1.596)	(0.279)	(0.968)
Constant	-0.2095***	-1.0663***	-0.2578***	-1.0596***
	(-7.044)	(-12.536)	(-4.398)	(-4.827)
Control Variable			YES	YES
Observations	4,699	1,113	4,699	1,113
Number of id	1,675	520	1,675	520
Adjusted R-squared	0.2158	0.3777	0.2529	0.4334
Firm FE	YES	YES	YES	YES
Year FE	YES	YES	YES	YES

Table 8 Performance of Foreign Currency Accounting Values with Value Relevance Over Time

This table shows regression results of adjusted stock return and foreign currency transactions and translations when foreign currency transactions are positive with a sample of U.S. listed industrial firms from 2002 to 2020. The appendix provides variable definitions. In parentheses presents the robust t-statistics. ***, **, and * indicate statistical significance at 1%, 5%, and 10%, respectively.

Adjusted Stock Return (ADJRET) and Foreign Currency Transactions and Translations Over Time When FCA is Positive.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
VARIABLES	5 Days Horizon	10 Days Horizon	1 Month Horizon	3 Months Horizon	6 Months Horizon	9 Months Horizon	1 Year Horizon
NI	0.0001	-0.0002	-0.0001	-0.0008***	-0.0015***	-0.0016***	-0.0021***
	(0.888)	(-1.309)	(-0.449)	(-3.211)	(-4.357)	(-4.684)	(-3.495)
FCA	-0.0028	0.0054	0.0096	0.0250***	0.0513***	0.0654***	0.0848***
	(-0.777)	(0.893)	(1.482)	(2.771)	(4.032)	(4.904)	(4.011)
CICURR	0.0002	-0.0004	-0.0003	-0.0017**	-0.0007	-0.0034**	-0.0038**
	(0.652)	(-0.600)	(-0.408)	(-1.989)	(-0.578)	(-2.514)	(-2.106)
TXFO	0.0000	-0.0000	-0.0017	0.0048**	0.0074***	0.0087***	0.0042
	(0.049)	(-0.002)	(-1.391)	(2.454)	(2.665)	(2.713)	(0.961)
Constant	0.0851***	0.0276**	0.0169	0.0576***	0.5450***	0.6320***	0.6491***
	(9.556)	(2.218)	(1.560)	(5.709)	(43.046)	(45.483)	(30.205)
Observations	1,990	2,602	3,202	4,700	4,580	4,348	3,876
Number of id	799	1,027	1,167	1,554	1,492	1,442	1,376
Adjusted R-squared	0.0072	0.0150	0.1051	0.1015	0.1994	0.1966	0.2513
Firm FE	YES	YES	YES	YES	YES	YES	YES
Year FE	YES	YES	YES	YES	YES	YES	YES