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Foreign Currency: Accounting, Communication and Management of Risks

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ABSTRACT

We obtain survey responses from 168 North American CFOs and interview 16 of them to understand (i) how foreign currency exposure is measured and reported inside and outside the firm; (ii) how goal setting, performance evaluation and compensation of managers reflect exchange rate impacts, (iii) what specific currency exposures firms hedge and why? To develop expected answers to these questions, we provide a series of exhibits of hypothetical transactions at, and financial reports for, the foreign subsidiary. We benchmark these theoretical insights against the survey responses and uncover several questionable managerial choices and practices. First, although no performance measure is insulated from a currency impact, a large majority of senior managers and board members only review translated USD data, especially cash flows, that are fraught with significant measurement error. Second, companies are more likely to communicate, both inside and outside, the currency impact on net income and revenue but not on operating costs, operating or (free) cash flows, the balance sheet and all profitability measures. Hence, almost all decision makers, especially investors, will

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be unable to readily isolate the portion of the firm's performance attributable to currency changes. Third, many of the current practices used to (i) set budgeted exchange rates for planning; (ii) hold local managers accountable for currency fluctuations; and (iii) manage foreign currency risk are inconsistent both with one another and with theory. We hope our work furthers the understanding of currency exposure among students, academics and practitioners.

Keywords: foreign currency; translation; transaction; reporting; performance evaluation; hedging; compensation; free cash flow; accounting standards; SFAS 1 and 8; SFAS 52; budgeting; survey

1

Introduction

> "I think very few people in the corporate side really understand the effects of FX, and virtually no investors." Interviewed CFO of a large multinational on 2/28/2017

Since the fixed exchange rate regime ended, the impact of fluctuating foreign exchange rates has plagued internal and external users of accounting information. The FASB has struggled with the topic and has issued four accounting standards including the very first one, SFAS 1, followed by SFAS 8 which was revised again with (i) SFAS 52 that dealt with the balance sheet and income statement; and (ii) SFAS 95 that covered the statement of cash flows.[1] Analogously, managers have grappled with how to budget for, evaluate and reward performance when traditional performance measures of subsidiaries and the group are significantly impacted by changing exchange rates. Given managers' difficulties with exchange rate issues, it is unrealistic to assume analysts and investors can parse out the impact and understand its implications on performance and valuation. As the opening quote illustrates, exchange rate volatility impacts real and reported measures of a firm's

[1] Foreign Currency Accounting GAAP regulations are now included in Accounting Standards Codification (ASC) 830.

business in ways that are complicated and arguably little understood or appreciated by board members, senior executives, analysts, investors and empirical researchers. In this monograph, we hope to further our collective understanding of the measurement and management of foreign currency exposure.

Unsurprisingly, given the requirement for consolidated group reporting in firms with multinational operations, managers, investors, analysts and empirical researchers utilize aggregate measures in a single reporting currency. Foreign exchange rates impact both (i) specific transactions in a currency other than an entity's operating (functional) currency; and (ii) translation of a subsidiary's measures in its operating currency to its parent's reporting currency. The translation process is analogous to restating length from centimeters to inches. However, unlike the ratio of length metrics that is constant at 2.5 centimeters to an inch, floating exchange rates are volatile.[2] Such volatility introduces differences in that translation process which potentially impacts every measure in an accounting system and report. As we demonstrate in a series of exhibits, no decision relevant measure is immune from this impact and given exchange rate volatility in the last few years, these impacts can be material. These measurement issues significantly affect management decisions, yet, as our survey evidence indicates, there is little consensus of approaches in practice.

To assess how current practice deals with exchange rate volatility, we conducted a detailed field study, consisting of 168 survey responses and 16 interviews with Chief Financial Officers, Treasurers and Controllers (collectively labeled CFOs), to provide systematic answers to four sets of questions related to: (i) reporting; (ii) communication; (iii) budgeting and performance evaluation; and (iv) risk management. To develop expected answers to these questions, we construct a series of exhibits containing hypothetical foreign currency transactions at, and financial reports for, the subsidiary and how this can be reflected on consolidation. Benchmarked to the theoretical concepts illustrated in the exhibits, we

[2] In the last few years, the financial press has frequently reported on the impact of foreign exchange on companies' performance. For example, Trentman (2018).

document several novel findings summarized after the research questions presented under the four mentioned captions.[3]

(i) Reporting: How do managers' report and consume data on cash flow which includes a currency component? We question the common perception that cash flow is a key measure of performance that avoids accounting issues. Given how cash flows are measured and reported, we ask which exchange rates are employed to translate the components of cash flow and how these rates match with the rate used for various balance sheet and income components. Then we ask how the differences see below the differences in exchange rates used impact various measures employed in performance evaluation and compensation contracts (e.g., profitability measures, revenues, cash flow and earnings targets/forecasts).

We find that the actual foreign currency rates used in the income statement, balance sheet and cash flow statement are usually not internally consistent. The proportion of CFOs who either plead ignorance or explicitly report the use of internally inconsistent exchange rates are (i) 56% for depreciation add backs in the indirect cash flow statement; (ii) 80% for working capital changes; (iii) 73% for debt issuance/repayment; and (iv) 76% for capital issuance and buybacks. These findings are problematic especially because survey respondents say that 78% (86%) of senior managers (board members) only review translated USD cash flows from their foreign subsidiaries. On top of that, via a specific hypothetical question in the survey, we show that the cash flow measure that senior managers and investors have access to and use is not a real cash flow measure in an economic sense. If managers do not have the information to identify the underlying economic cash flows, then it is implausible for analysts and investors to assess or forecast real cash flows either. Apart from imposing significant barriers in understanding

[3]The literature contains two related field studies that have focused primarily on risk management. Brown (2001) investigates the foreign exchange risk management program of HDG Inc. (pseudonym), a US-based manufacturer of durable equipment, and finds that informational asymmetries, facilitation of internal contracting, and competitive pricing concerns appear to motivate why the firm hedges. Bodnar *et al.* (2016) conduct a survey of CFOs to understand why firms manage risk. They find that the manager's personal risk aversion in combination with other executive traits plays a key role in hedging.

the business, this finding also suggests that investors cannot hedge the firm's foreign currency exposure on their own, contrary to what textbooks claim. These results may seem somewhat surprising because (i) managers have detailed data and could, in principle, measure and report the underlying transactions to reflect the impact of exchange rates; and (ii) the advancement of technology and management information systems could, in theory, have enhanced management's ability to isolate exchange rate impact in ways that were infeasible when the original U.S. accounting standards were written.

(ii) Communication: How is information about foreign currency exposure communicated inside and outside the firm? Does this choice differ internally for the board of directors, senior management and local managers? When presenting results, is the currency translation effect isolated for the board or the senior management? Do they factor it into their decisions? What information about foreign currency exposure is presented to analysts and investors?

64% (59%) of surveyed firms state that they communicate the foreign currency impact on revenue (income) to investors and analysts. However, companies rarely communicate the foreign currency impact on operating cash flows (25% say they do), operating costs (38% say they do), liabilities (13% say they do) and assets (13% say they do). Further, reviewing the financial statements of interviewed companies and others where the company is identified, shows that when the foreign currency effect is isolated, in most cases, it is quite aggregate and does not allow for meaningful by currency historical or forward-looking analysis. Hence, analysts and investors must struggle to understand how much of the firm's earnings are affected by potentially unsustainable foreign currency changes.

(iii) Budgets and performance evaluation: How do managers set exchange rates to be incorporated into targets and budgets? How are exchange rate impacts incorporated (or excluded) in measurement and performance evaluation of subsidiaries and management? Are local managers and corporate executives held similarly responsible for the impact of currency fluctuations in their performance evaluations? If so, which aspects are they responsible for? Are the exchange rate impacts

factored into compensation decisions based on performance metrics for senior and local managers?

We document several issues with how exchange rates are incorporated in budget planning and performance evaluations. First, many seem to rely on frozen or constant currency rates that are usually communicated to the subsidiaries at the beginning of the budgeting period. Less than 10% of CFOs state that they use local managers' inputs in setting such a budgeted exchange rate. In sharp contrast, 45–49% of surveyed firms make local managers responsible for the foreign currency impact on local earnings translated back to USD. Such a mismatch in incentives is bound to distort economic decisions related to product pricing and capital allocation to the subsidiary. Moreover, most of the firms appear to use a single rate for the full forecast period ignoring use of market-based forward curves even for major currencies.

Second, for around half of surveyed firms, neither the local nor corporate officers are held responsible for transaction and translation gains and losses in their performance evaluation process. Hence, apart from the shareholders, no one in management is apparently held accountable for these gains or losses.[4] Third, only about half of our surveyed public firms' factor in translation gains and losses reported in Other Comprehensive Income (OCI). In contrast, only 31% of private firms ignore such gains and losses in their evaluation of senior managers. These gains and losses result from a financing decision of leaving the net investment in the subsidiary exposed to the local currency. We believe such translation adjustments represent a real financing cost. Local managers should be responsible for the expected (hedgeable) portion of this and corporate executives should be responsible for the remaining "unexpected" portion.

(iv) Risk management: What specific exposures do firms hedge? Why? Do firms hedge to their reporting currency or to their functional currency or both? We document several new frictions in how firms hedge and report foreign currency exposures. First, the actual cash flow exposure for shareholders will arise when the subsidiary repays capital

[4]Several interviewees mentioned that managers are happy to take credit for gains from foreign exchange related items but try to minimize any attribution for losses.

via dividends or repurchases of stock, at which point any cumulative translation adjustment (CTA) will be moved to earnings. Hence, it makes more economic sense to hedge dividend payments than CTA. Yet only 36% of CFOs say they hedge dividends from the subsidiary. However, 31% of all respondents say they hedge the net investment (CTA) despite a plausible argument that such hedging is a waste of resources by creating cash exposures on expiration of the hedges.

Second, when asked whether they would hedge a non-functional currency exposure (say sterling) to the functional currency (say Euros) or the reporting currency (say USD), only 42% of CFOs say they would hedge the sterling exposure to the Euro, which represents the cash flow exposure of the transaction. 29% of CFOs say they would hedge to the reporting currency USD, despite the absence of a direct economic or cash flow impact associated with such a hedge. Third, along similar lines, 40% of CFOs of public firms would purchase a derivative to preserve and report a 5% growth in earnings driven purely by exchange fluctuations with no organic growth. Several interviews confirmed that hedging activities are often motivated to smooth out the impact of currency volatility on reported operating or net income.

Fourth, 45% of surveyed executives from public firms believe that accounting standards constrain their ability to manage risk. In the interviews, we find that (i) CFOs claim that SFAS 133 makes them take more risk; (ii) firms appear to over- and under-hedge their exposures at times; (iii) hedge effectiveness is often derived ex post after the derivative is bought, contrary to the spirit of SFAS 133; and (iv) the three areas, treasury, tax and internal control, often do not work in concert to optimally manage currency risk.

Our work is important to academe and practice for several reasons. First, the exhibits we develop to illustrate the conceptual foundation and the problems associated with foreign currency measurement and management are likely to be useful in learning about these issues both for students and practitioners. Second, we show that serious inconsistencies plague the application of foreign currency rates to each line item on financial statements. Such inconsistencies make it hard for most insiders and outsiders to (i) separate the firm's economic operations in local currency from the impact of translation to the

reporting currency (e.g., dollars); (ii) hold management accountable for the return on capital employed in foreign subsidiaries; and (iii) sensibly forecast sustainable income and cash flows for multi-national companies.[5] Despite the common rhetoric, in practice and finance textbooks, that cash measures are immune from accounting issues, we show that cash and cash flow are also significantly impacted by the currency translation process. Hence, most valuations that rely on cash flow data of companies with international operations will contain material measurement error.

Third, foreign currency adjustments impact virtually every area of accounting research.[6] We wonder whether the results of many studies in the accounting and finance literature covering multinationals would differ if there was a clearer partitioning of accounting measures based on foreign currency aspects of the business including any potential hedges. In particular, quantitative investment strategies, whose popularity in practice has exploded in recent times, are partially built off academic work that tends to under-emphasize the foreign currency measurement issue. It is easy to appreciate how these investment decisions and potentially market prices will deviate, at least for some time, from the underlying fundamental reality because of the misperception of what the reported measures represent.

Finally, several papers in the literature that evaluate the value-relevance of foreign currency translation adjustments (e.g., Bartov, 1997; Bodnar and Weintrop, 1997; Collins and Salatka, 1993; Dhaliwal *et al.*, 1999; Louis, 2003; Soo and Soo, 1994; Wong, 2000) take such adjustments as given. Indeed, other papers suggest that the stock market misprices the foreign currency exposure of a firm (e.g., Bartov and Bodnar, 1994). We open the black box behind (i) how the translation adjustment number is actually compiled; and (ii) how currency exposure affects capital budgeting, hedging and performance evaluation decisions?

[5] Modeling work by Beaver and Wolfson (1982 and 1984) recognized the potential for such misinformation under the assumption of perfect and complete markets.

[6] Examples include budgeting, capital allocation, internal and external measurement of performance, compensation incentives, consolidation practices, fair value adjustments, the distinction between cash and accruals, the notion of sustainable and/or persistent earnings, and the ability to forecast future earnings and cash flows of a firm.

The rest of the monograph proceeds as follows. Section 2 describes how we gather the data via a survey with 168 CFO respondents and 16 direct interviews. Section 3 develops the exhibits used to illustrate the difficulties associated with foreign currency measurement, reporting and management. Sections 4–7 outline the results linked to the survey questions and insights from interviews. A few concluding remarks are offered in the final section.

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