Case study: Currency hedging of ABB

Bachelor Thesis in Banking and Finance

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Executive Summary

Currency hedging of non-financial firms is a controversial issue in theory and practice. Disciples of neoclassical theories argue that firms should not hedge their market risk exposure as hedging does not create shareholder value. In contrast, corporate hedging theory provides a number of arguments why hedging can increase the firm value. However, empirical studies often fail to verify theoretical motives for hedging. In practice, currency hedging is widely employed by non-financial firms.

This Bachelor Thesis is designed as a case study and examines the currency hedging of ABB Group, a large multinational company with headquarters in Switzerland. The firm is a global market leader in power and automation technologies and is active in more than 100 countries worldwide. For 2007 the group reached revenues of approximately 29.2 billion U.S. dollar. The company's market value on December 31, 2007 was around 66.1 billion U.S. dollar.

Problem

Literature on corporate hedging disregards that in multinational groups currency risk typically exists on the level of foreign subsidiary firms as well as on consolidated group level. This thesis describes the implementation of currency hedging within ABB Group and examines the foreign exchange rate exposure on both entity and group level. Findings are connected to established hedging theories.

Secondly, this thesis attempts to determine ABB Group's foreign currency exposure from published company information. In contrast to conventional financial analysis which is usually focused on the impact of exchange rate changes on earnings or balance sheet values, this study intends to determine the effects on the firm value.

Approach

Literature on currency hedging is very fragmented and often limited to specific topics. Therefore, corporate hedging theory provides a more appropriate theoretical framework to examine currency hedging in a systematic mode. This thesis gives a succinct overview over frequent determinants for firms to hedge their market risk exposure. Such theories are also known in literature as theories of optimal hedging. As various empirical studies fail to confirm theoretical explanations for corporate hedging, the findings of five more recent studies are briefly summarized.

The implementation of ABB Group's currency hedging is examined from qualitative descriptions of the firm's hedging policy disclosed on SEC Form 20-F. This form is filed by the company with the U.S. Securities and Exchange Commission and provides additional information on the firm's annual reports. To get a detailed understanding of the complex interactions between subsidiary entities and the group as a whole, a constructed sample is utilized. Perceptions from the constructed sample are linked to corporate hedging theory.

In order to determine the foreign exchange rate exposure of ABB Group's firm value, the impact of exchange rate changes on the group's EBIT is examined in a first step. For this purpose, EBIT are split up by currency based on available information about the company's cost and revenue structure. Afterwards, decomposed EBIT values are capitalised. In a further step, currency exposure resulting from financial debt, cash and short-term investments is determined. Finally, exposure from capitalized EBIT components and exposure from debt and liquidity holdings are combined to obtain the exposure of the overall firm value. To verify the resulting currency exposure, regression analysis is applied on the firm's stock price return.

Findings

This case study examines currency hedging on both entity and consolidated group level. The study shows that local subsidiary firms are exposed to currency risk from revenues and costs which occur in a currency other than the entity's functional currency. The group's global division of production responsibilities leads to a considerable amount of group internal transactions and thus to additional currency exposure between group subsidiary companies. ABB Group's hedging policy requires local subsidiary entities to hedge their currency risk internally with the firm's Group Treasury function. This provides evidence that ABB intends to reduce cash flow and profit volatility of its operational subsidiary firms. Currency hedging on entity level is explainable by theories of bankruptcy cost and financial distress, convex tax functions and agency conflicts between local managers and group managers. Limited transferability of funds, as experienced by ABB in some countries, provides an additional argument for currency hedging.

Group internal hedging transactions as arranged between subsidiary companies and Group Treasury remain irrelevant on consolidated group level unless Group Treasury enters into offsetting hedge transactions with third-party financial institutions. Most of the hedging transactions are arranged as currency forward contracts with maturities of less than twelve months. This provides evidence that ABB Group perceives its currency exposure primarily by its impact on accounting numbers and not by its impact on the firm value. There seems to be a divergent understanding of 'exposure' between academics and companies.

Unfortunately, this case study fails to determine the foreign exchange rate exposure of ABB reliably from stated company information. There is a lack of available information about the company's use of derivative financial instruments. In order to asses the foreign exchange rate exposure of a firm which employs currency hedging, investors and financial analysts would need to incorporate the offsetting currency exposure from derivative instruments. This is not possible unless firms start to disclose their hedging positions in more detail. At least for forward contracts and swaps, information on aggregated notional amounts by currency would be appropriate. Furthermore, the extent and quality of published information on the firm's exposure from operations as well as from assets and liabilities is rather poor. However, this reflects more a weakness of current reporting standards under U.S. GAAP than a firm specific deficit. Ideally, firms would disclose a detailed breakdown of their operational cash flows per currency.

Results from regression analysis applied to verify the analytically determined currency exposure are highly divergent. To a certain extent, this can be explained by missing and incomplete company data. However, the study finds also evidence for the existence of substantial informational asymmetries between investors and managers regarding the actual currency exposure of a firm. It becomes therefore questionable whether the impact of exchange rate changes is always immediately and correctly reflected in stock market prices. There are indications that hedging negatively affects price formation on financial markets.

In contrast to existing empirical studies, this case study follows a bottom-up approach and brings up several aspects which are not yet reflected in literature. The study does not detect company, industry or country specific characteristics. Thus, results are expected to be applicable to other multinational group's with a comparable company structure. However, cross-sectional verification with large data samples will become difficult because most of the findings are based on detailed information which is scattered in firms' annual reports.