

Hedging strategies against currency risk and inflation in a long-term service contract

Executive Summary

Globalization and capital liberalization have created a highly interconnected financial system with an increased interdependence of different companies and markets (Gao et al., 2015). These dependencies brought benefits but also risks. Hence, risk management has become an increasing area of interest and an important element for most of the company's overall business strategy (Guay and Kothari, 2003). Hedging strategies are one way to counteract the risks to which one is exposed. Especially against exchange rate fluctuations and rising inflation rates.

Research in the field of risk management have dealt with the rationales in hedging activities including factors such as that hedging should increase the value of tax shields, reduce costs of financial distress, mitigate the underinvestment problems, and reduce the agency costs (Froot, 1993; Stulz, 2013). While hedging has been researched in several industries with the aim to better understand strategic and financial decision making, empirical evidence on the impact of hedging is not conclusive and the literature is divided. While some found that hedging increases firm value (Allayannis and Weston, 2001; Carter et al., 2006; Stulz, 2013) others found no significant effects (Guay and Kothari, 2003; Mian, 1996). Although the results from the different studies vary and the possibility to reach one strong conclusion is difficult, the literature suggests that minimizing expected tax liabilities, reducing the expected cost of financial distress, management risk aversion, and costly external financing are unlikely to be the primary motivations to hedge when managing foreign currency risk. In practice, hedging is used to smooth earnings and thus, to achieve a stable margin and obtain price advantages on the product market. Unfortunately, there is limited research on the impact of risk management on specific contracts and their earnings before interest and taxes (EBIT) margins (Carter et al., 2006).

This thesis aims to analyze the different hedging strategies against currency and inflation risk in a long-term contract. With the assessment of the hedging strategies at project level, the impact on the EBIT margin should be better understood.

In the first step, all applicable hedging strategies and their advantages and disadvantages were analyzed. The strategies against currency and inflation risk can each be divided into three different areas: contractual measures, internal, and external strategies. Some strategies can be used against both risks. The focus is mainly on the hedging strategies that can be used in a long-term contract.

Based on the analysis of different contractual, internal, and external hedging strategies, there is no method that can always be used. To facilitate the selection of strategies, two flowcharts have been developed, one for hedging currency risk and one for hedging inflation risk. In combination with the analysis of the advantages and disadvantages of the respective strategies, it should be possible to find a suitable strategy for each project. However, the basis of any analysis is a solid risk assessment, therefore a risk assessment tool was developed together with Stadler's finance department. On this basis, the sequence of investigation is that one first tries to take measures in the contract and then checks the applicability of internal and external strategies.

In the second step, the results from the theory were applied in a case study to hedge an existing 35 year maintenance contract of Stadler Service AG in Newcastle. Stadler's finance department has already made an initial analysis of possible hedging strategies, but none has been implemented. Comparing the previous method and its effects to the results obtained from the flowcharts, three conclusions can be drawn: Firstly, the study is better structured and therefore less prone to error, which simplifies the analysis of the strategies. This makes the analysis of the strategies easier to handle. Secondly, early purchase of expensive material and introducing a clause to renegotiate the risk premium every 5 to 10 years (in contracts longer than 10 years) improves the analysis of currency risk and the finding of realistic price premiums for taking on risks. Thirdly, the selection of local suppliers and the inclusion of fixed prices in contracts with suppliers can lead to great stability in practice.

Overall, there is still too little literature in hedging at project-level. Nevertheless, certain theoretical strategies could be well applied in practice. The big difference lies in the contractual measures. In practice, one would like to absorb as much risk as possible with the contract, so that only a few internal and external instruments are needed, whereas in theory, the internal and external methods are analyzed. One conclusion from the research is that hedging can reduce the volatility of the cash flows and the margins, which is also the overall goal of a hedging strategy. However, it is important to understand that gains and losses from a well-constructed hedge are intended to increase the stability of earnings and cash flows, not to provide additional gains. Therefore, with a good hedging strategy and the resulting stability, one can even accept a small margin reduction. This is however only a result from practice and further research on project-level hedging strategy options is needed to understand all possible strategies and their impact on project margins.