

## HOW EXCHANGE RATE AFFECT MANAGING OF THE COMPANY

### KAKO KURS UTIČE NA UPRAVLJANJE KOMPANIJOM

PhD, Tatjana Boshkov, Assistant Professor<sup>34</sup>  
MSc, Nikola Dimeski, Lecturer<sup>35</sup>

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**Abstract:** *Although the theoretical view of the relationship between business and financial risk, and hence the implicit connection between business and financial strategy, is well known and understood, research on the interaction between these two central strategies is in fact a difficult task. Mutual pairing of these strategies is an especially difficult task for managers when the range of available sources of financing is relatively limited. In this paper the focus is on dealing with the currency exposure which is all about managing risk, as if companies fail to manage this risk appropriately, they face angry shareholders and a drop in share value – as well as a drop in profits.*

**Key words:** *hedging, business, currency exposure, exchange rate.*

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**Sadržaj:** *Iako je teorijski pogled na odnos između poslovnog i finansijskog rizika, a time i implicitne veze između biznisa i finansijske strategije, poznat; istraživanje o interakciji između ove dve centralne strategije je u stvari težak zadatak. Međusobno uparivanje ovih strategija je posebno težak zadatak za menadžere, kada je raspon dostupnih izvora finansiranja relativno ograničen. U ovom radu fokus je stavljen na suočavanje sa valutnim izlaganjem i upravljanje rizikom, jer ukoliko se rizikom svrsishodno ne upravlja, preduzeća se suočavaju sa ljutim akcionarima i padom vrednosti akcija - kao i padom profita.*

**Ključne reči:** *hedžing, biznis, valutna izloženost, devizni kurs.*

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## 1. INTRODUCTION

**A**lthough managers do not believe that diversification and internationalization, taken individually, significantly influence decisions about the level of debt that they will engage in, managers are aware of the fact that the volatility of EBIT, as a synthetic indicator of implemented business strategies, determines ability to borrow. Managers also believe that the level of debt is largely dictated by the regular settlement of obligations by their buyers, the choice of which represents an important aspect of applied business strategy. Firm size significantly affects the intended financial strategy. Managers of small companies are more concerned that increasing daily sales outstanding, entering new businesses, and/or internationalization may force their companies to increase debt.

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<sup>34</sup> Assistant Professor at University “Goce Delcev” - Shtip, Macedonia

<sup>35</sup> Lecturer at University “St. Kliment Ohridski” – Bitola, Faculty of Economics, Prilep

In recent years, investments in international financial securities have grown significantly among individual and institutional investors. Broadening portfolios beyond domestic borders may help investors achieve greater diversification. Although the rapid growth in international investments reflects the benefits of geographic diversification, currency risk can counteract some of these advantages. Since foreign exchange rates can have a significant impact on returns, investors may be interested in hedging this risk where possible and appropriate. Investments in overseas instruments, such as stocks and bonds, can generate substantial returns and provide a greater degree of portfolio diversification, but they introduce an added risk, that of exchange rates. While hedging instruments such as currency futures, forwards and options have always been available, their relative complexity has hindered widespread adoption by the average investor.

## **2. THEORETICAL LITERATURE REVIEW**

How does the exchange rate regime affect firms' incentives to hedge their exposure to currency risk? This question has been at the center of the debate over optimal exchange rate regimes in emerging markets since the financial crises of the 1990s exposed the perils of unhedged foreign currency debt. Yet there is no clear consensus among economists on whether the type (or degree of flexibility) of the exchange rate regime affects the corporate sector's incentives to take on foreign currency denominated liabilities or to insure against depreciation risk.

Two basic views exist in this respect. On the one hand, several authors have argued that pegged exchange rate regimes biases corporate borrowing towards foreign currency, due to an implicit exchange rate guarantee given by the government (Mishkin (1996) and Goldstein and Turner (2004)). Under fixed or pegged regimes, the central bank keeps currency volatility within a pre-announced range, effectively underwriting currency risk (Dooley (2000)). Thus, firms borrow in dollars to benefit from the lower *ex ante* dollar interest rates, and expect the government to insure them from any potential loss in the event of a large devaluation. A second variant of this argument suggests that because of limited exchange rate volatility under fixed or tightly managed exchange rate regimes, borrowers appear to consider a steep devaluation a low-probability event, and therefore neglect or underestimate the exchange rate risk associated with borrowing in foreign currency. The fact that fixed/pegged exchange rates have played a role in every recent financial crisis since 1994, and that firms relied extensively on unhedged foreign currency financing in the years leading up to the crisis, is often used as strong evidence for these views.

On the other hand, Eichengreen and Hausmann (1999) and Eichengreen, Hausmann, and Panizza (2005) dispute this view. The authors suggest that at the root of currency mismatches lies the fundamental inability of emerging markets to borrow abroad in their own currency. Inevitably, this leads to an accumulation of foreign-currency denominated debt which firms are simply unable to hedge, even if they have the foresight or prudence to match the currency structure of their assets and liabilities. In addition, McKinnon and Pill (1999) argue that adopting a floating rate regime will actually exacerbate currency mismatches. Because the domestic interest rate risk premium is a direct function of the stability of the currency, exchange rate volatility associated with floating rates will increase domestic interest rates (and thus the incentives to borrow in foreign currency) and make financial hedging more expensive.

### **3. INTERNATIONAL FIRMS VS INTERNATIONAL CURRENCY**

Companies with overseas branches or those that trades internationally are at the mercy of global currency fluctuations. As is the case with private investments, changes in conversion rates can wipe out profits or increase gains. When a firm has shareholders to report to, and the figures can run into millions, and then it can have a serious impact on profits and losses. The rapidly changing currency landscape can have the potential to make businesses reluctant to set firms figures in contracts months before a deal takes place. If US-based firms make EUR 10 million, they can end up with much more or less than though depending on the movement of the EUR/USD exchange rate.

A study by SunGard Data Systems polled 275 US businesses of various sizes. It found that 59 per cent of those surveyed had seen a loss or gain of more than five per cent as a result of currency fluctuations in the previous year. The majority of corporations are in the business of doing business, producing and manufacturing, not hedging currencies. A lot of companies were caught unawares by volatility. Also, looking at where the exposure lies of waiting for quarterly results to discover the impact of fluctuations was a better approach, although this study conceded that this is a stance more and more firms are taking.

### **4. HEDGING AS AN EFFECTIVE RISK MANAGEMENT TOOL FOR UPSTREAM COMPANIES**

Commodity price volatility has always been with us and is the single biggest variable in forecasting EBIT for non-integrated independent exploration and production companies. The recent volatility in oil prices and the collapse of the North American gas price suggest strongly this is not going to change.

Hedging using derivatives can dampen the impact of price movement on earnings and is a staple tool in the oil or gas company treasury arsenal, particularly for North American CFOs. The use of commodity derivatives can mitigate or remove oil or gas price uncertainty as one of the fundamental industry variables, a variable which in turn directly impacts liquidity, (the poor management of which is the biggest predictor of a small cap's impending mortality). Like many useful tools, derivatives are a double-edged blade and their use either by CFOs or by bankers must be done cautiously with due respect to the risks both hidden and obvious. To quote Julius Caesar, "It is always the unseen dangers that are the most terrifying." There are many unseen dangers in the interaction between derivatives, the underlying reservoir, and the fiscal and commercial risks in upstream oil and gas endeavors.

If used incorrectly, without a clear understanding of and regard for the interaction between derivative product and its specific characteristics and the underlying reserve, production, timing and fiscal risks, derivatives can multiply losses in the case of reservoir-related production, under-performance.

#### **4.1. The North American model**

Hedging as a tool to manage price risk is long established in North America and often used by CFOs to manage price exposure. For bankers, it allows them to safely increase leverage to smaller oil and gas companies. Hedging tools can also be useful to underpin leverage or protect returns on equity in leveraged acquisition scenarios in volatile commodity price environments.

Historically hedging was and still often is limited, both in lending policies of some banks and in oil company board-approved risk mitigation strategies to proved, developed, and producing (PDP) reserves over a time horizon of perhaps three to five years. On a diversified conventional reserve base of multiple wells, several producing horizons and fields with significant production history, predicting the future production performance over this sort of time horizon using type and decline curves is generally quite accurate. Companies with this sort of conventional reserve base can enter into contingent liability derivatives like swaps on a high percentage of their PDP production with a high degree of confidence that the physical production to back any hedge liabilities will be there regardless of availability of future resources like capital and rigs to drill and complete future wells.

One feature of the US market not seen anywhere else is the volumetric production payment, or VPP. Unlike a conventional loan, in a VPP the holder of the instrument provides the producer with an upfront cash payment in return for receiving specific volumes of oil or gas (not a specific amount of cash) from specifically designated fields over a specified period of time. In most cases an agreement transferring the specified reserves to the VPP holder is executed as part of the transaction. In order to mitigate the price risk that has been transferred to the holder of the VPP, the VPP will often have a hedge in the form of swaps associated with the production volumes integrated into the commercial structure of the agreement.

This structure is unique to the US because VPPs transfer ownership of a specific volume of oil or gas to the buyer in return for capital. The transfer of oil and gas ownership of reserves when "still in the ground" is not something that can be done in many places outside of the US as reserve ownership tends to be in the hands of the state with oil and gas companies receiving the right through a license or contract to extract and sell the oil (ownership of the oil or gas itself transferring at the wellhead).

Where a hedge is integrated into the deal, the PDP production stream is sold forward on a locked-in price to result in a stable predictable revenue line that is used to repay the capital (and any embedded interest/profit) over the life of the VPP. Because all of the sales revenue is taken for repayment, the unhedged non-transferred volumes from the underlying parent oil or gas field or fields must be sufficient to cover all of the global field-level opex and any other liabilities or obligations of the field, including the operating costs of the VPP volumes.

Depending on the economics of the underlying asset, including the nature of the lease operating expenses of the properties (fixed vs variable etc.) and the precise shape of the commodity forward curves, a VPP structure may or may not result in higher leverage than a traditional loan with hedging. Other considerations when using this structure include accounting and tax issues and the fact that a VPP may result in an actual transfer of reserves (whereas a reserve-based loan repayable in dollars does not) impacting reserve replacement ratios and other performance indicator statistics of the parent company.

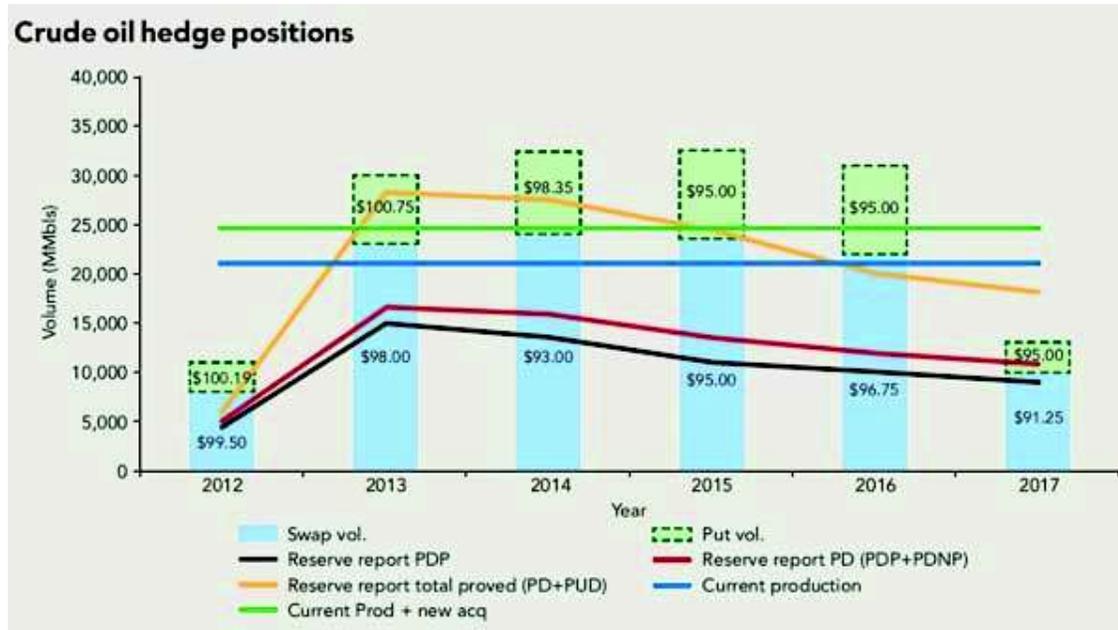


Figure 1: Crude oil hedge positions

## 4.2. International markets

The level of hedging risk acceptable outside of North America varies depending on the context but is normally far less than can be comfortably tolerated in the American context for a number of reasons. Undeveloped conventional reserves and contingent derivatives are a dangerous mix. Firstly, reserve risk is different, typically the reserve base is almost always conventional, and therefore the undeveloped components of reserves have far more geological-specific risk associated with them than in a resource play. In addition, reserves are often offshore, meaning additional drilling to make up any production shortfall is logistically far more expensive and time constrained in terms of resources to mobilize rigs. Trying to drill your way out of trouble is never a very convincing strategy, but offshore cost and time considerations make it impossible.

Generally, the use of swaps in upstream project finance for conventional reservoirs against non-producing reserves is inadvisable. In the cases of an underperforming reservoir or even a delayed start up of production, "out of the money" swaps can quickly amplify the loss in the event of default. Puts, or differed variations of them, are generally used avoiding any potential contingent liability (apart from the option premium) unless and until reserves are producing. The only (rare) exception to this is perhaps where an asymmetrical collar structure can be used to offset the time uncertainty of first oil or gas in a new field development (floor now but with a high level call strike perhaps a year after predicted first oil or gas to allow room for unexpected delays).

This strategy, while providing some mitigation to start-up delays, still does nothing to mitigate reserve risk itself, which is always higher on undeveloped "volumetrically" calculated reserves, so the banker providing the derivative and the oil company CFO must question if the costs saved in premiums for options is worth the potentially huge risk if the field significantly underperforms on first production at a time when the call is out of the money. It might be argued that such an approach is betting not just the loan, the careers of

board members (and their bankers), but indeed the company itself on variables that are beyond the control of management in order to save some upfront costs.

## **5. DOING BUSINESS IN EUROPE?**

Expanding internationally can be a great way to grow the business. Currency hedging isn't just for big companies. According to the U.S. Department of Commerce, small and medium-sized businesses account for 97.6 percent of all U.S. exporters and 97.1 percent of identified importers. Experts are advising small businesses that import or export to the European Union to begin hedging (or consider it). After all, if currency fluctuations could jeopardize company's cash flow, margins, or profitability. It's fairly critical that small businesses hedge. "The important thing to think about here is that business owners in a dangerous environment need to focus on running their businesses. They don't need to be focused on worrying about the financial end of things. The currency volatility we're seeing is really taking that focus off and materially damaging the bottom line. Hedging takes the risk off the table. It allows the business to really budget around the funds that they're receiving or paying.

Entrepreneurs agree that hedging is something that's been on their mind lately. Johnnie Stoker, president and CEO of K2 Energy Solutions, a Henderson, Nevada-based company that makes and sells rechargeable battery systems for electric vehicles around the world, says that even though his company is not hedging right now, they're looking into it. The cost of setting it up and managing it compared to euro revenue is too high to be worth it for now. As they keep growing euro revenue, they will probably start a strategy. Kevin MacDonald, CEO of Black Mountain Systems, a software developer in San Diego that earned \$4.4 million in 2010, says that the business isn't hedging at the moment, but if they were larger and more penetrated in the EU, would probably be very concerned. Schamotta, the market strategist, says that he's seen an explosion of interest over the last period in hedging and in risk management strategies. He expects this trend to continue saying that the euro is triggering volatility throughout the world. There's a cascading effect that's happening. Many businesses have a set exposure to the euro, and that can materially damage them. But they're able to offset that risk by protecting themselves in other areas of the world as well.

Paul Stafford, the director of Currency Risk Management, LLC, based in Missoula, Montana, agrees that even small companies—those that earn between two and three million dollars in foreign revenue—are finding currency hedging as an increasingly important part of their business plan. This means that it's very worthwhile for small businesses because they generally don't have the capital or staying power to absorb larger losses that might occasionally happen with foreign exchange. Some U.S. companies hedge currencies by doing international business in dollars, but experts say this shouldn't be the sole strategy.

Forward contracts, the most common, and in many cases—practical—form of hedging, is a contractual obligation to buy from, or sell currency from a bank at a predetermined exchange rate. It's worth noting that this protects your company from adverse currency moves, it also prevents your company from cashing in on profit from any favorable moves as well. Forward prices are determined by an adjustment to the exchange rate made to spot (the current rate), and based on the difference between interest rates between the two currencies. In other words, between euro and dollar.

So, what is needed to know to start hedging?

Stafford lays out the three essential steps to setting up hedging strategy.

Step 1: *Find a bank that provides the hedging tools you need.*

Step 2: *Figure out what kind of exposure you have. (If a significant percentage of your revenue comes from the euro, you're highly exposed to volatility.)*

Step 3: *Enlist someone—an expert or consultant in this area—that can offer unbiased information.*

Regarding these three steps maybe the third one is the most important part. A misquote of an interbank rate can double hedge costs. Any sort of disagreement in implied volatility can double options premiums. It's essential to have some sort of a third party that has access to interbank pricing, who can help to negotiate terms with the bank. There's another reason to consider hedging, too. It may help in beating out the competitors. When companies are able to take their exposure off the books and protect themselves against it, it can be a big boon to their efforts. It's a huge competitive advantage for companies because many small businesses are just not that familiar with protecting themselves in this way.

## 6. BUSINESS CIRCUMSTANCES IN MACEDONIA

Refinancing risk is significant for Macedonia. It will need to repay large Eurobonds maturing in 2013 and 2015, as well as the PLL purchase (in 2014–16) and the bank loan guaranteed by the World Bank PBG (in 2016). Market volatility has been high since the onset of the global crisis, due to external rather than domestic factors. This was evident in 2009, when the government issued a 3½-year Eurobond at a yield of 9⅞ percent, more than double the 4⅝ percent yield of the 10-year issuance in 2005, and in 2010 when it canceled a planned Eurobond issuance after market rates spiked in the run-up to the Greek program. In addition, domestic debt features a very short average maturity of just 6 months, and hence the need to roll over existing debt on average 2 times per year.

Macedonia's exposure to currency risk could gradually be reduced by increasing domestic non FX-indexed denar issuance. Currency exposure is considerable: all external debt is in FX, and almost half of outstanding domestic government debt is FX-linked (Table 1). Taken together, almost 90 percent of general government debt is hence denominated in or linked to foreign currency. Currency risk—defined as the (high) exposure multiplied by the (low) probability of a shock—may not appear to be high in light of the stability of the peg over the past 15 years. However, reducing it would add to policy flexibility in the event of unforeseen shocks in the future. Gradually increasing the share of domestic denar-denominated, non FX-linked debt would be a prudent strategy in this context, together with increasing the share of domestic debt in fiscal financing. These actions would also bring other benefits, including developing the domestic currency yield curve, improving the monetary policy transmission mechanism, and in general promoting greater use of denars in financial transactions.

Croatia	53
Macedonia	51
Bulgaria	33
Romania	28
Serbia	13
Ukraine	4
Hungary	0
Moldova	0

**Table 1. Percentage of foreign currency debt in domestic debt**  
*Note: Domestic debt denominated in or linked to foreign exchange.*  
*Data for Macedonia includes structural bonds.*

By developing and following a medium-term debt strategy along these lines, Macedonia can achieve the goal of minimizing medium-term costs subject to keeping risks within appropriate pre-set bounds. As described above, the government has taken the first initial steps toward renewed market development. Further gradual moves in this direction, guided by a comprehensive debt strategy, would bring the goal within reach. Achieving this goal would benefit the budget through lower interest expense and lower risks over the medium term. At the same time, developing a domestic yield curve would yield positive externalities for the real economy, as it would clearly establish a denar yield curve that can be used in pricing private sector loans and bonds.

*What were some of hedging fiscal policies in Macedonia?*

Traditionally, Macedonia has had low fiscal deficits, ranging from -1% to +1%, but during the crisis in 2009 this grew initially to 2.5% then to 2.8% with our highest in 2012 at 3.8%. In 2013, due to the financial stimulus were at 3.5%. NBRM was able to mitigate successfully because Macedonian public debt was low at around 20% of GDP which afforded us room for expansion which we used during this crisis period.

Apart from the macro-economy concerns, the crisis with the Euro as a currency helped boost confidence in Macedonian domestic currency [MKD denar]. This is because people naturally began to wonder what would happen with Europe; therefore, its primary currency. As a result, some people began to orient more towards the MKD. Macedonia, like most former Yugoslavian countries are highly Euro-rized, which means people save and use credits in Euros, with a 65% Euro to 35% MKD ratio. During the crisis and continuing today, the ratio of households and their propensity to save in MKD has elevated to 50%.

## **CONCLUSION: HEDGING IMPACT ON REAL BUSINESSES**

Organizations have to evaluate the risks of doing business on an international level. But it doesn't always work in their favour. For instance, McDonalds's saw sales in Europe increase in 2011, but the yearly profits were actually down as a result of a weakening euro. Another example of this at eBay, with CFO Bob Swan admitting that currency fluctuations will hit the bottom line by around their points in 2012. Ralph Lauren reported that although currency changes have gone in its favour so far in 2012, they survived a turnaround in fortunes in 2013.

*What can firms do?*

As with private investors, business essentially has four options to counteract their currency exposure. The simplest approach is just to monitor the changes, and this can be the best option if companies do not think that they are at a particularly high risk from exchange rate fluctuations.

Another is to lock into an exchange rate for a fixed period of time by setting up a forward contract. If the exposure estimates are correct, this can be a beneficial approach. Some business will also purchase currency in advance if they know that they will be making big purchases and are concerned about volatility. Third option is to hedge against this exposure via derivatives. Although this may be the most complicated option, it can be effective in limiting exposure to volatility. It can also give a clearer picture of how a company's overseas operations are really performing.

Finally, firms can choose to manage their currency exposure through business practices. Having a truly international company can help with this as, theoretically, losses made when

one currency falls will be recovered when another rises. Where contracts are concerned business can also set up clauses that reduce this exposure. In many cases this comes in the form of an agreement to protect the client and the company should exchange movements exceed the agreed-upon level. Some businesses also agree on setting all contracts in their core currency, protecting them from any exposure as they always are paid the same relative amount. Dealing with the currency exposure is all about managing risk, as fluctuations are by very nature unpredictable. However, while private investors only have their own savings to worry about if they fail to manage this risk appropriately, businesses face angry shareholders and a drop in share value – as well as a drop in profits.

When it comes to the use of commodity derivatives, what constitutes a sensible risk management program depends on context. Correctly utilized, hedging tools represent a useful way of underpinning value, maintaining liquidity, and managing credit risk. Incorrectly used they can amplify risk significantly.

Currency movements can add or detract significant value within geographically diverse equity portfolios. Investors who have strong views on exchange rates can choose to accept currency risk or to hedge it out from overall risk. Because of their investors-friendly features, ETFs investing in foreign equities are convenient vehicles that may allow investors to accept or hedge the risk associated with currency fluctuations.

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