

Changes in Economic Stability of Enterprises in CEE After Pegging National Currencies to the Euro

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Pegging of national currencies to the euro is an interesting research subject both from an academic and applied perspective. The first steps of the mandatory planned transition towards the single European currency has already created some effects in the economic landscape of CEE countries also by the way of altering the nature of business risk. Pegging national currencies to the euro before entering exchange rate mechanism II in CEE countries has taken place in different times. Although pegging to the euro is not a formal requirement to enter ERM II, which allows some fluctuation band beyond what could be called a peg, more explicit tying of national currencies to the euro with a narrower fluctuation band than required have been chosen by the national banks of many CEE countries. Although the cases in each country have their differences, the general principles of changing business risk landscapes due to repegging are similar and are explored in this article

Pegging to the euro and the planned substitution of national currencies with the euro creates increased stability for enterprises, whose trade is mostly denominated in the euro but will create negative effects for enterprises, whose trade is denominated in any other currency in the case of a previous float or another currency of peg.

In the Latvian case the available data show that even after pegging to the euro a large part of foreign trade of is denominated in the USD but there is a reason to believe that the future role of the euro will increase. Although physical introduction of the euro in Latvia is initially planned in January 2008, high inflation in 2004 and 2005. Exceeding Maastricht criteria makes the possibility of following the initial plan doubtful. A similar situation could be observable in other CEE countries.

Classification of financial risk in different sources is done differently. One of the most successful classifications, in the opinion of the author, can be made in the following way:

- Interest rate risk;
- Currency risk;
- Share price fluctuation risk;
- Commodity price fluctuation risk.

In this publication only foreign currency fluctuation risk is reviewed leaving other risk types outside the scope of this work.

Much bigger unanimity among researchers exists in the question of classification of currency fluctuation risk. It is usually classified in the following categories (Arnold, 2002):

- Transaction risk;
- Economic risk;
- Translation risk.

Transaction risk is the change in the value of the incoming and outgoing cash flows at the moment when currency exchange takes place. The scale, in which the value of the future cash flows is influenced by exchange rate fluctuations, is called transaction risk. Researching this type of risk includes two steps: (1) determining the projected volume of net incoming or outgoing cash flows in each of the currencies, and, (2) determining the total risk in each of these currencies.

Determination of the possible currency fluctuation area is a difficult task, and, although currency exchange rate forecasting cannot be done with sufficient precision, it is valuable to take into account currency fluctuations in the past. One of the best indicators of the past currency fluctuations is standard deviation. Currency exchange rate volatility in the course of the years can change substantially, therefore, this past indicator is not a perfect instrument.

By forecasting the future currency exchange rate a useful indicator is also the past correlation of exchange rates. This is determined by using correlation coefficients used in statistics. Knowing the correlation coefficients of different currencies it is possible to determine the fluctuation risk of the total currency portfolio.

If currencies are perfectly correlated, and the level of their fluctuations is similar also the standard deviation of their portfolio will be equal to the sum of fluctuations of each separate currency. However, if the currencies are not perfectly positively correlated, the volatility of their portfolio usually will be lower than the volatility of each separately. By decreasing the value of the correlation coefficient (minimal value – minus 1) the portfolio risk will also decrease. Theoretically it is possible that the currency basket risk level is zero, for example, in the case if it would contain two perfectly negatively correlated currencies in equal proportions. However, in practice such situations are impossible, and risk will always be positive.

It is possible to create an equation also for a multicurrency portfolio, however, it would be very complicated, and it is not necessary to display the methodology of its composition in this work.

A similar method, by determining the degree of exposure to currency risk, is the Value-at-Risk method widely used in practice, which includes in itself currency fluctuations and correlations to determine the potential maximum one day loss from currency positions.

Multinational enterprises, unlike others, must take precautions only towards the total consolidated currency risk, and not to make independent precautions in each subsidiary separately, as different currency flows can partially exclude each others risk. In some cases enterprises can try to escape currency risk by demanding payments in some preset currency, however, this strategy has its limitations.

Economic risk is the scale, in which the present value of future cash flows of an enterprise is influenced by currency fluctuations. All kinds of transactions, which cause transaction risk, cause also economic risk as these transactions mean currency flow, which can be influenced by currency exchange rate fluctuations. In addition, some kinds of businesses, which are not influenced by transaction risk, are influenced by economic risk.

Translation risk is taking place from the translation of enterprise financial results in other currencies. This does not include in itself so big risk as transaction and economic risk. In this work transaction risk will be primarily reviewed, however, the results of this work can be attributed also to the remaining 2 kinds of currency fluctuation risk as they are very similar in nature.

With pegging of national currency fluctuations to the euro, already before the physical introduction of the euro, completely eliminated is the need to hedge against fluctuations towards the euro, which decreases the costs of enterprises, but increased is the need to hedge against the fluctuation against other currencies, which is associated with additional costs. As a larger share of foreign trade in CEE countries usually is denominated in the euro than in other currencies, the fluctuations of national currencies against the euro create unnecessary difficulties for enterprises. After pegging Lats to the euro decreased is the currency risk for the exporting enterprises.

Entrepreneurs must remember that a result of a sudden negative cash flow can be insolvency, which makes impossible the receipt of any future profits. The bigger is the risk, to which any enterprise is subject to, the smaller is the debt level, which it can undertake, not to be insolvent. However, in practice often enterprises with a very

volatile cash flow can be more leveraged than it would be optimal for their value. The possibility of such situation is well explained by the pecking order theory of capital, which determines that enterprises choose the type of financing, which is the easiest available. Debt is usually one of the simplest instruments, which can be used by the enterprises.

Due to bankruptcy costs a stable cash flow with a lower average value can be more valuable than a more volatile cash flow with a higher average value. Taking into account the costs of decreasing risk, this justifies hedging against currency risk. After pegging to the euro entrepreneurs, in whose work this was the dominant currency, have seen the decrease in the revenue fluctuations from currency exchange rate fluctuations, and they can afford to take higher risk by choosing higher leverage. However, for enterprises, for which important incoming and outgoing cash flows are denominated in other SDR basket currencies (i. e. USD or GBP), the volatility of revenues increases, and this increases the possibility of enterprise bankruptcy.

Different financial instruments are available for hedging currency risk, for example, forwards, futures, swaps and options. As the most appropriate instruments for hedging against currency risk without speculative goals can be mentioned swaps and forwards although some combinations of options are similar to them.

Financial instruments for decreasing currency risk must be used in cases when currency exchange rate fluctuations will create insolvency problems in the case of adverse movements of exchange rate as well as if there is no mother company, which in the case of financial difficulties can allot the subsidiary additional means to escape bankruptcy. In other cases using financial instruments for decreasing currency risks is not so important, and this can be done by the management in case it wants the financial results of the company to reflect operating results, not currency market fluctuations.

Modigliani and Miller in their revolutionary among professionals and theoreticians highly regarded work of 1958 (Arnold, 2002, Emery, 1998), by making substantial assumptions and simplifications, prove a hypothesis that in the world without taxes and with perfectly functioning financial markets, leverage level has no meaning.

However, in reality there is some optimal leverage level, which is maximizing company share value. This is determined by the fact that in real life interest payments are not taxed and increase the value of the enterprise, in addition financial markets are not perfect, and bankruptcy of an enterprise means large asset because of inefficient secondary specialized machinery market as well as due to other imperfections.

Graphical illustration proposed by the author offers a new way of depicting the linkage between

enterprise value and the level of leverage by uniting several concepts in one illustration:

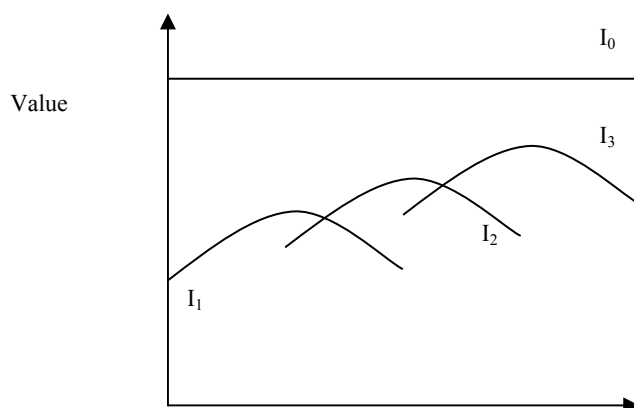


Figure 1. Correlation between the level of debt and enterprise value

I_0 – situation described by Modigliani and Miller, where financial markets are perfect and taxes do not exist

I_1 to I_3 – real world situations, when taxes exist and financial markets are imperfect, with growing level of profit, and also economic stability (I_3 profit stability is higher than that of I_1).

Let us assume that before pegging Lats to the euro the value of an enterprise working in Latvia is connected to the leverage level by line I_2 . If the cash flows of an enterprise are denominated in the euro, then after repegging Lats from SDR towards the euro its stability will increase, and the value of the enterprise will be tied to the leverage level by line I_3 . However, if the cash flows of an enterprise are denominated in USD, JPY or GBP, share price and leverage level will be tied by relationship depicted by line I_1 .

Graphical illustration proves that the volatility of profit influences the value and optimal debt level of an enterprise. The dependency of value on profit, and thus, revenue and fluctuations, is very well illustrated by the classical capital asset pricing model, which determines that the demanded return on more volatile, and thus more risky assets is higher than from assets with lower volatility. The widely known formula (1) summarizes this relationship (Brealey and Myers, 1994):

$$r = r_f + \beta(r_m - r_f) \quad (1)$$

where:

r – return on an asset (the interest rate it generates)

r_f – return on risk-free assets (for example, t-bills)

r_m – market rate of return

β – beta, which can be expressed as $\text{COV}(r, r_m) / \text{VAR}(r_m)$

Although empirical research has shown that in separate time periods this relationship does not hold, there is reason to believe that in a longer time frame, when the short-term market fluctuations level out, for investment into riskier assets (also enterprises,

which are more subjected to currency fluctuations) due to increased probability of financial loss, investors demand higher return.

Multinational corporations are focusing on transaction risk in a shorter time period when it is possible to precisely forecast cash flows. As these enterprises usually have branches in the whole world, they need an information system, which can track the different currency positions. Internet allows all branches to connect to the same network and to send information regarding current and future currency positions (Madura, 1995). To measure transaction risk a multinational enterprise must forecast the consolidated total incoming and outgoing cash flow in different currencies. Cash flows must be translated into a single currency with the expected exchange rate at a given date. However, results thus obtained are just a forecast as the exchange rates at a future date, at which currency exchange transaction will take place, are not known, and not always a larger cash flow value means a larger currency risk as some currencies are fluctuating more than others. That is why it can be useful to take into account several possible directions of currency exchange rate fluctuations and to compose two future cash flow forecasts using the optimistic and pessimistic scenarios. As a result it is possible to forecast the forecasted fluctuation area for cash flow in each currency (Madura, 1995).

Multinational enterprises must centralize currency risk management as the currency risk of separate subsidiaries can cancel out, and the total consolidated risk will always be smaller than the sum of risks of separate subsidiaries. If the object, which is subject to bankruptcy, is the whole concern, and its separate parts in the case of financial difficulties can receive subsidies from the mother company, as the risk management unit should be treated the mother company.

The total effect from the introduction of euro on CEE country economies on macro level cannot easily be determined. There is reason to believe that the European Central Bank, based on its statutes and the example of successful European economies will continue to realize a very conservative inflation policy directed towards price stability.

Latvia and other new EU member countries must lose the important monetary policy instruments, which help in the regulation of economic development. Currently the only real risk, taking into account the current development of Latvian economy, could be overheating of the economy, which could require the attention of monetary policy. There is reason to believe that introduction of the euro will not create a substantial price increase. Only a price increase for separate goods or services could be observable.

It can be said that the new currency and the peg to the euro will give access to a much wider financial markets. There is reason to believe that introduction of the euro will create a decreasing impact on the interest rates due to larger financial markets as well as due to the decrease in currency risk. This will give enterprises and private individuals saving in interest expenses and will allow using financial instruments to a larger extent.

Pegging to the euro will create positive effects for enterprises, whose trade is mostly denominated in the euro decreasing the fluctuations of its revenue but will create negative effects for enterprises, whose trade is denominated in other currencies by increasing the fluctuations of revenues. This will change the optimal debt level of the enterprise – it will increase for enterprises, whose transactions are denominated in the euro, and will decrease for enterprises, whose transactions are denominated currency of previous peg.

Taking into account the impact of foreign trade, there is reason to believe that the total positive effect from the euro denominated trade will be bigger than the negative effect from increased risk from trade denominated in currencies of previous peg, as the euro in CEE countries is usually the most important foreign currency. It can be observed that in many CEE countries in the real estate and car

markets, where pricing a few years ago had been done in USD, the EUR has become the standard of denomination.

The changed peg also means that, due to decreased currency risk, trade with the euro zone and countries will increase, but trade with countries outside the euro zone will decrease. With the peg to the euro the need to hedge against adverse movements of the euro has been completely eliminated but the need to hedge against the movements of currencies of previous peg has increased, which is connected with additional risk management costs. It is reasonable to assume that an average individual and enterprise is a risk averse entity.

As a result of a sudden negative cash flow insolvency can take place, which makes the receipt of future cash flow impossible. This justifies the need for currency risk management and hedging against it.

In the case of an equal foreign currency cash flow hedging against currency fluctuations is most necessary for enterprises, which are not subsidiaries of financially sound entities, which are consolidating their revenues. As a result of the consolidation of revenues in different currencies part of the risk is eliminated due to imperfect or even negative correlation.

For independent enterprises, which do not have a financially strong mother enterprise, hedging against currency fluctuation risk is more needed as in the case of financial difficulties it will not be possible to receive help.

References

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Ekonominio įmonių stabilumo pokyčiai susiejant nacionalinę valiutą su euru

Santrauka

Straipsnyje aptariama nacionalinės valiutos susiejimo su euru įtaka įmonėms Centrinėje ir Rytų europoje. Pagrindiniai ekonominio stabilumo pokyčiai vyksta dėl valiutų rizikos pokyčių, susiejus nacionalinę valiutą su euru, padidėja įmonių, kurios atsiskaitymuose

naudoja ne tik nacionalinę valiutą, bet ir eurą, ekonominis stabilumas, be to, padidėja optimalios skolos lygis ir jos vertė. Tuo tarpu įmonių, kurios atsiskaitymuose naudoja nacionalinę valiutą ir ankstesnio susiejimo valiutą arba kitą valiutą, nacionalinės valiutos siejimas su euru didina

pelno ir pajamų nepastovumą ir mažina optimalios skolos lygį ir jos vertę. Santykis tarp padidėjimo lygio ir įmonės vertės yra taip pat grindžiamas pagrindinio įmonės turto vertinimo modeliu, rodančiu neigiamą santykį tarp įmonės turto nepastovumo ir jos kainos pagrįsto empiriniais duomenimis. Straipsnyje pateikiamas naujas grafinis metodas apskaičiuoti santykį tarp skolos lygio ir įmonės vertės, kas labai supaprastina problemos suvokimą, kai Modigliani ir Miller siūlymas jungiamas su keletu gyvenimiškų atvejų esant skirtingiems pajamų nepastovumo lygiams. Įmonių apsisaugojimas nuo neigiamo valiutos pokyčio yra labai svarbi problema ypač tais atvejais, kai jos nėra grupės narės ir negali tikėtis pagalbos iš savininko. Bankroto kaštai dėl centrinių naudotos įrangos rinkų neefektyvumo ir negalėjimo gauti pelno ateityje kelia apsisaugojimo vertę. Tokia apsauga nuo neigiamo valiutos pokyčio taip pat mažina išorinės

vadybos kontrolės poelkį įmonės finansiniams duomenims ir gali būti panaudota šiam tikslui. Tarptautinės įmonės turi centralizuotai valdyti valiutos riziką, kadangi centralizuota įvairių pinigų srautų rizika visada mažesnė nei pavienė valiutos rizika. Siejimas su euru didina prekybos apimtį su euro zonos šalimis, nes sumažėja rizika. Daugumos Centrinės ir Rytų Europos šalių užsienio prekyba jau dabar vyksta su ES šalimis, nes išnyko prekybos barjerai, jos yra geografiškai artimos ir atsiskaitoma vienoda valiuta. Kaip valiutos siejimo su euru neigiamybė gali būti paminėta pinigų politikos instrumentų atsisakymas, kas atskirais atvejais gali sukelti šalies ekonomikos ir jos įmonių nestabilumą. Tačiau tai vargu ar gali atsitikti, o bendras nacionalinės valiutos susiejimas su euru Centrinės ir Rytų Europos šalių ekonomikai turėtų būti vertinamas parankiai.