Derivative Odyssey: From Czech and Romanian Reporting Perspective

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Paper performs an analysis of the Czech and Romanian derivatives market through a deductive approach, starting from the macroeconomic picture of capital markets of Central and Eastern Europe, and then moving to the specific case of the national stock exchanges within the two countries. After a review of their parallel accounting reform, an empirical study focusing on the comparison of reporting for financial derivatives by using IFRS in comparison with the national accounting regulations. Findings reveal potential sources of information asymmetry which might put the informational advantage in the hands of some parties involved in derivatives trading. The very low level of information reported on derivatives operations might be the signal of an alarming situation concerning the characteristics of accounting information.

Field of Research: Financial Reporting (Accounting), Financial Markets

1. Introduction

Currently we are all witnessing the second great era of financial globalization, the first one ending in 1914. Regardless of the chosen measure in evaluating the globalization within the financial sector, evidence seem to show that capital markets were more open in 1914 than in any other subsequent moment in time up to the ’70.
All these contributed to the present financial sophistication, sustained particularly by the blast of financial instruments based on derivatives, simply considering for example the Black-Scholes derivatives pricing formula and developments from it or the insights of Modigliani and Miller as to how to think about the value of a firm.
Financial sector liberalization is considered to be the aim for all industrialized countries, the exact moment of it happening still depending actually on the legacy of controls from the 1930s and from World War II which were active for a long time. All these current realities lead both to a higher efficiency of the financial sector and higher vulnerability and therefore concerns towards potential risks within the international financial system. Massive numbers expressing the nominal value of derivative financial instruments raise fears concerning financial crisis which could occur, but it is still the derivatives that made it possible for the risks to be separated from their original context by shifting them the ones most willing to assume them.

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Derivative financial instruments are seen by some as bringing a plus of efficiency and robustness in financial systems, but as "financial weapons of mass destruction". The main concern regarding derivatives is that the risks that are passed on through derivative contracts may be inappropriately placed and not adequately recognized. One possibility would be in the case when the risks move from people who understand them to those who don't. It is not to neglect that risks may be moving from places which are forced to mark to market to places which are not forced to mark to market, because many participants in financial markets prefer to retain the capacity to smooth their revenues and profits, these leading to information asymmetry issues. Statistics released by the Bank for International Settlements show that approximately 93% of total derivatives outstanding as of 31 December 2006 are OTC derivatives. As an old adage has it, whenever competitive conditions are altered, new windows of opportunity open up, market niches grow in dimensions and the more agile companies refocus their plans to take advantage of the innovation. Therefore derivatives could be our friends or foes in accordance to how we design them, price them, use them, and control the exposure we are assuming through them as Chorafas (2008) sees it.

Data published within a study of the World Federation of Exchanges show a new historic record of 11.6 billion derivative contracts being transacted in 2006 on exchanges worldwide, with 5.0 billion futures and 6.6 billion options traded, this increase in derivatives markets activity confirming their continuing growth over recent years. Considering the period between 2002 and 2006, the average annual growth rate of the number of traded contracts reached 14% for options and 22% for futures.

We have framed the topic of our paper within the macroeconomic picture of capital markets and linked it to the main events in their development process. Since the collapse of the communist regimes the Central and Eastern European (CEE) countries acknowledged a transition period from a command economy to a market orientated economic system. Capital markets and the banking system are the major intermediaries that allocate savings and investments in market economies. Under the communist regime capital markets and banking institutions as we know them in Western economies did not exist. The transition in the field of capital markets and banks therefore had to start almost from scratch. As a consequence, although the capital markets of some of the CEE countries have developed quite positively they are still in an early stage.

We have focused on the Bucharest Stock Exchange (BSE) particular situation, and then performed an empirical analysis on the companies listed on the Prague Stock Exchange (PSE) and identify prospects for the two countries. An analysis concerning the similitude and dissimilitude degree between the two national GAAPs and the international referential on reporting for derivatives issues is also being done as a result of the findings concerning the Czech companies.

2. Literature Review

Capital market-based researches in financial accounting have been performed starting from the early '70s and still have strong grounding in order to represent a widely approached topic nowadays. In the review made while examining the European evidence for the relationship between accounting information and capital markets, Dumontier and Raffournier (2002) classify the European literature into three groups: studies of the market reaction to newly released accounting information; studies of the long term association between stock returns and accounting numbers

and studies devoted to the use of accounting data by investors and to the impact of market pressure on accounting choices.

Analyzing the information content comprised by trading volume in modeling stock price is obvious since we all agree that price and quantity are two fundamental elements in any market interaction (Zhou, 2008). Lo and Wang (2000) found that the average trading turnover is related to a firm's characteristics, such as expected stock return and market capitalization while examining the implication of portfolio theory for the cross-sectional behavior of equity trading volume. Moreover they have focused (2006) on the implication of trading volume in an Intertemporal Capital Asst Pricing Model (ICAPM) framework showing that a hedging portfolio constructed on individual stock trading volumes consistently outperforms other predictors of future returns on a market portfolio, this hinting that trading volume contains valuable information that can be used to predict future market returns.

Lien and Zhang (2008) performed a survey on emerging derivatives markets concluding that both commodity and financial derivatives markets have grown in emerging market economies over the past few years, though the sizes of the markets are relatively small compared to those of matured economies. Both theoretical and empirical researches which have addressed the role of derivatives markets in emerging market economies showed that commodity derivatives markets offer a more effective and welfare-improving method to deal with price volatility and that derivatives markets had their contribution in supporting capital inflows into these economies. These doesn't mean that using financial derivatives does not have its negative effects, such as leading to exacerbated volatility and accelerated capital outflow, seldom causing financial crisis but having the potential to amplify their negative effects and to accelerate contagion. Lien and Zhang (2008) also stress that the underlying reasons for the negative effects are associated with the leverage nature of derivatives transactions, nontransparent reporting of transaction risks, and unsophisticated or insufficient risk management controls in financial institutions, as well as weak prudential supervision. Their conclusion concerning the constructive development of derivatives markets in emerging market economies is that it needs to be supported by sound macroeconomic fundamentals and updated financial policies and regulations and that there is no uniform optimal development strategy that countries can adopt to sequence or structure their markets; gradual development schemes accounting for dynamics in different markets being encouraged.

Borokhovich et al (2004) provide evidence on the relation between the board of directors and the firm's decision to use interest rate derivatives. Since the capital structure decision and hedging decision are considered to be endogenous they have modeled the firm's capital structure and its interest rate derivative decisions simultaneously. After the losses suffered by several prominent entities in the early '90 greater risk-management oversight was required by firms. If different incentives to managing risk exist between management and shareholders, then conflict situations might appear and moreover the outside members of the board of directors are expected to work in the best interests of the shareholders. Borokhovich et al (2004) prove that the decision of using interest rate derivates is being influenced by boards of directors and that the decision varies with the composition of the board. A significant and positive relation was found to exist between the quantity of interest rate derivative use and the relative influence of outside directors. On average, corporate interest rate derivative use was proven to benefit shareholders, while there was no evidence for the managers' benefits.

Another interesting issue concerns the way investors evaluate managers in accordance to their option towards using or not derivatives, as soon as the outcomes of their decision is available, different theories offering different predictions. Koonce et al (2007) find that investors are more satisfied with firm managers and assign a higher value to firms when managers use derivatives (that address firm risks) than when they do not. Their study also stresses the idea that investors believe that managers who use derivatives in these situations exhibit a higher level of decision-making care than those who do not use derivatives. Moreover they have documented that these inferences about greater decision-making care do not apply to the speculative use of derivatives.
As for where the Czech Republic's experience in derivatives, Jilek (2000) describes them as a "phenomenon of the financial and commodity markets of the 80's and '90" allowing fast, easy, and affordable management of market risks faced by financial institutions, businesses and individuals. He performed an analysis on their national and international development trends and also described some accounting practices together with the approach of regulators.

3. Research Methodology

Paper performs an analysis of derivatives' trading and accounting within the Czech Republic and Romania by placing it into the macroeconomic picture of emerging capital markets in the Central and Eastern Europe.
Believing that comprehension of the past can color the assumed research questions we have focused on the Czech and Romanian capital markets, particularly on aspects concerning derivatives. The comparative approach for the two countries is motivated through summarizing their parallel accounting reforms by using tools of qualitative research. Trading figures of the Prague Stock Exchange and Bucharest Stock Exchange are being analyzed for year 2006 with the purpose of correlating the information on the development level of the two, with the findings of analyzing financial reporting aspects. Data is being used from reports of international organizations surveying capital markets around the world. Finally we have focused on the comparison of reporting of financial derivatives using IFRS in comparison with the national accounting regulations.

4. Emerging Capital Markets of Central and Eastern Europe

Opening capital markets to international investors brings significant benefits in knowledge spillovers for the financial sector, improvements in domestic accounting, prudential supervision standards and portfolio and risk management. Trading in derivative financial instruments and other financial innovations offering new opportunities for the financial sector to bear risks represents a qualitative change influencing the development of capital markets. Therefore we have provided some information on the stock exchanges in the CEE countries joining the EU along with the two states considered for analysis, which will be furthermore detailed in the following chapters of the paper.
Furthermore we will concentrate on the two countries chosen for analysis, the Czech Republic and Romania. According to a study performed by the National Bank of Romania (2002) the volume of derivatives trading through banks in Romania was at the end of 2002 of 170 mil dollars, in comparison to the one of 1.217,3 mil dollars in the Czech Republic. The development of derivatives trading within banks in the Czech

Republic was influenced by the active involvement of foreign banks and their subsidiaries, on the Czech capital market. Most of these banks came from member countries of the EU, suggesting a direct relationship between the degree of knowledge on financial innovations and the development of the market. Another influential factor for the derivatives in the Czech Republic was the concentration of the banking system by extending the group of medium banks against the small ones, all these taking place at a later time in Romania. A comparison analysis can be performed on the trading figures of the BSE (Bucharest Stock Exchange) and PSE (Prague Stock Exchange) for 2006:

Table 1: **Bucharest vs. Prague Stock Exchange. Trading Figures 2006**

Elements	Shares				Sec. Derivatives			
	Electr. Order Book Trades		Negotiated Deals		Electr. Order Book Trades		Negotiated Deals	
	BSE	**PSE**	**BSE**	**PSE**	**BSE**	**PSE**	**BSE**	**PSE**
Turnover (USD m)	1 460.49	35 585.03	131.75	2 076.56	-	0	-	0
Trades	601 499	567 893	193	3 138	-	29	-	0
Market Cap. (USD m)	23 661.45	43 529.90	23 661.45	43 529.90	-	-	-	-
Listed companies	53	32	53	32	-	8	-	8

	ETFs				UCITs			
	Electr. Order Book Trades		Negotiated Deals		Electr. Order Book Trades		Negotiated Deals	
	BSE	**PSE**	**BSE**	**PSE**	**BSE**	**PSE**	**BSE**	**PSE**
Turnover (USD m)	-	-	-	-	1 774.17	-	43.92	-
Trades	-	-	-	-	835 887	-	114	-
Market Cap. (USD m)	-	-	-	-	3 208.31	-	3 208.31	-
Listed companies	-	-	-	-	5	-	5	-

Source: European Exchange Report 2006
Note: BSE – Bucharest Stock Exchange, PSE – Prague Stock Exchange

If we approach a comparative analysis of the two stock exchanges, the one in Bucharest and the one in Prague, from the traded shares point of view we can notice that their value in the case of PSE is 25 times larger in terms of turnover (millions USD). Also we can see an almost double market capitalization on PSE which has half of the number of the listed companies on the BSE for the considered period.
On the other hand we have a reduced activity on Sec. Derivatives on PSE, while it is actually inexistent for BSE. The situation is reversed on the UCITs chapter, while both of them have no registered operations on ETFs. Therefore PSE is a step ahead BSE where trading for derivatives is concerned, since it started trading in 2006.
An overview of the two stock exchanges for the analyzed period can conclude that the Czech stock exchange has a higher degree of development than the Romanian one, but the potential for further developments of the two remains as future research topics.
Moving forward to accounting aspects we should mention the parallel accounting reform which took place within the two countries during the 90's.

5. Problems with Disclosures while Reporting Derivatives

In ***Romania*** the political choice which was made in 1991 relied on three major aspects: the need for implementing a new accounting system (after "getting out of the Russian school"), the need for adopting accounting measures which were compatible with the prescriptions within the European Accounting Directives since the country was a candidate for integration within the European Union, and also the need to use an inspirational resource since there was no time for creating a new own accounting system, the euphoria of becoming a EU member requiring quick reforms in different fields. The political choice for the French model was immediately made based on the following arguments: France being considered the "cultural heart" of the world, the financial and technical support offered by France for achieving the Romanian accounting reform, the good relationships between the French experts and the Romanians in charge which quickly became active, the fear of predominance from the German system, and last but not least, the French models' image of simplicity which could be adjusted and allowed a combination of answers for all expectations on micro and macroeconomic level. The political factor and the interest of joining the EU had a direct significant influence on the character of the national accounting regulations which comply with European Directives from 2002 as well as with IFRS.
The case of the ***Czech Republic*** is interesting through the choice made in 1991 referring to building the national accounting system based on the French model, even though the cultural semblance and linguistic closeness criteria did not characterize, during that period, the relationship between France and the Czech Republic. The arguments for this choice are similar to those found in the Romanian case: the intention of creating a certain frontier for the German great economic interest in the Czech economy (even though the German model caught the Czechs' attention), the option for the French School and also the aim of the Czechs' Republic integration within the EU. Unlike Romania, in the Czech Republic case the interventions of the French experts never had a significant volume. Following the accession of the Czech Republic to the European Union on May 1, 2004, firms that are corporations and that have issued securities in a regulated market of a Member State of the European Union have to compile their Financial Statements according to the IFRS standards. On the other hand shall be stated that the most significant problem of financial statements and items shown is the complete inconsistency of measurement bases and the application of the historic (acquisition) cost, fair value and the present value (Buus, Strouhal, Brabenec, 2007, p. 36).

The results show that the main issue in reporting for derivative operations is the very low level of the information about derivatives. Moreover the companies are in this way non-uniform although they should meet the requirements of IAS 32, IAS 39 and IFRS 7. Therefore the data are very difficult to compare and interpret. Information concerning the structure of the

derivative operations, their nominal and fair values, types of the derivative instruments is crumbled on the whole length of the annual report. For example the company reports nominal values for each type of derivative instrument, but the fair value of these instruments is aggregated only for the types of financial risks. Another problem is the reporting of cross currency swaps. Some companies report them as a part of the currency risks while other as an art of the interest rate risks.
The majority of the companies didn't report the information about their hedging strategies. The shareholders of these companies therefore have no information on which part of the sum could be classified as a fair value hedge and which part as a cash flow hedge. There was no information reported about the measurement of the efficiency of the hedge accounting. Companies only cribbed the Act about derivatives.
Summing up our empirical analysis on Czech companies we could say that information given within their annual reports is formal, non-uniform and without relying on a polished system. The majority of the companies reported, that the derivative operations are not used for speculation. Therefore the companies which didn't mention this fact demonstrably use derivative operations for the speculation. We assume that the companies are nowadays more cautious in using these operations than in previous years. But we should realize that the very low level of the information concerning the derivative operations have a negative impact on the possibility of making fair financial decisions because of the information asymmetry. Another problem that occurs is also the measurement of fair value in the Czech OTC derivative market.
In the Romanian's case, opening of the national forex derivatives markets to foreign investors represented the last major liberalization step necessary to fully open up the EU accession state's financial infrastructure, bringing it more fully within the mainstream of the CEE financial universe. This is expected to generate an increase in volumes, and some additional volatility, but the Romanian forex markets still have quite some way to go until they reach the desired level of development.

6. Conclusions

The lack of experience is felt not only in trading and handling of derivatives but also where accounting aspects are concerned. Even though, as shown in a previous study performed on the two countries on formal harmonization of issues concerning financial instruments (Strouhal et al, 2008), the accounting regulations in both countries have absorbed a great deal of the foresights of the international referential (referring here to IFRS), the actual accounting practices seem to show otherwise, seen through the lens of companies' financial statements. The low level of information provided for derivatives operations can turn derivative financial instruments into a potential source of private information and furthermore to abnormal returns, and not to forget inefficiency of the market since all the market participants do not have access to the information they need for their decision making processes.
The tricks of trade connected to derivatives refer to their ability to rapidly generate imaginary profits or virtual losses, which respects the foresights of legality and therefore can be shown in the income statement as the real thing, and in the same time they can be used to hide big investment losses.
Jindrichovska & McLeay (2005) also state that "the Czech market is similar to more developed markets, at least in one respect: There is statistically significant evidence of different market effects of profits and losses, in that profits are more persistent than losses. However, contrary to the findings in more developed markets, there is no statistically significant evidence of earnings conservatism in the Czech market". These results are most probably due to the continuing influence of restrictive tax regulations that mitigate any tendency towards conservatism, as well as the transitional nature of the economy.
This being admitted by one of the smartest financial operators, makes us think twice about really understanding the risks involved by engaging derivatives trading, not only through the possibility of them escaping management control, but moreover through the responsibilities that stand on accounting information to provide the proper information for all market players.

Our analysis on the Czech and Romanian accounting for derivatives identified potential sources, if not hostess, of information asymmetry that might evolve together with the markets' development and derivative trading. Currently we might find an excuse for the low level of information provided by companies on derivatives trading, in the development level of the two capital markets' and therefore the lack of experience in reporting, but still we shouldn't forget this might be seen as a new window of opportunity in a less ethical manner by those having the informational advantage.

Acknowledgement
This paper is one of the research outputs of the project of Czech Science Foundation no. GA402/08/P024.

References

[1] Borokhovich, K.A., Brunarski, K.R., Crutchley, C.E. and Simkins, B.J. 2004. "Board composition and corporate use of interest rate derivatives", *The Journal of Financial Research*, vol. 27, no. 2, pp. 199-216.
[2] Buus, T., Strouhal, J., and Brabenec, T. 2007. *How to Valuate Your Company Comparison of the Approaches for Listed and Non-listed Companies*, Oeconomica, Prague.
[3] Chorafas, D. N. 2008. *Introduction to derivative financial instruments*, McGraw – Hill Finance and Investing, New York.
[4] Dumontier, P. and Raffournier, B. 2002. "Accounting and capital markets: a survey of the European evidence", *European Accounting Review*, vol. 11, no. 1, pp. 119-151.
[5] Jilek, J. 2000. "Derivatives in the Czech Republic and Abroad", *Eastern European Economics*, vol. 38, no. 3, pp. 26-63.
[6] Jindrichovska, I., and McLeay, S.. 2005. "Accounting for Good News and Accounting for Bad News: Some Empirical Evidence from the Czech Republic", *European Accounting Review*, vol. 14, no. 3, pp. 635-655.
[7] Koonce, L., Lipe, M.G. and McAnally, M.L. 2007. "Investor reactions to derivative use and outcomes", *Review of Accounting Studies.*
[8] Lien, D. and Zhang, M. 2008. "A survey of Emerging Derivatives Markets", *Emerging Markets Finance and Trade*, vol. 44, no. 2, pp. 39-69.
[9] Lo, A., Wang, J. 2006. "Trading volume: implication of an intertemporal capital asset pricing model", *Journal of Finance*, no. 61, pp. 2805–2840.
[10] Lo, A., Wang, J. 2000. "Trading volume: definitions, data analysis, and implications of portfolio theory", *Review of Financial Studies*, vol. 13, pp. 257–300.
[11] Strouhal, J., Matis, D. and Bonaci, C. 2008. *Financial instruments under the IFRS – a priori analysis from the Czech and Romanian regulations' perspective*, working paper.
[12] Zhou, Z.-G. 2008. "The high-volume return premium: evidence from the Chinese stock market", *Review of Quantitative Finance and Accounting*, forthcoming.