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Inwestycje finansowe i ubezpieczenia – tendencje światowe a rynek polski ISSN 1899-3192

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VERIFICATION OF THE DISCLOSURE LEMMA APPLIED TO THE MODEL FOR REPUTATION RISK FOR SUBSIDIARIES OF NON-PUBLIC GROUP WITH RECIPROCAL SHAREHOLDING ON THE POLISH BROKER-DEALERS MARKET[1]

Abstract: The paper presents the approach for the verification of the lemma used for the model for reputation risk for subsidiaries of non-public group with reciprocal shareholding as proposed by the author in priory works. For all entities with the absolute value of the reputation risk greater than the entity's materiality the reputation risk management system should be in place. The entire population of the Polish broker-dealers market was investigated. Based on the accounting assessment of the materiality, market value of the consolidated equity for listed groups and BASEL II disclosure a verification procedure was designed. Based on the procedure, the lemma was confirmed.

Keywords: Risk, reputational risk, model, risk management, IFRS, BASEL, CRD, accord, solvency, disclosure.

1. Introduction

The lemma discussed in this paper was used for the purpose of the design of the model for reputation risk for subsidiaries of non-public group with reciprocal shareholding. The model delivered a concept for reputation charge at the level of the unconsolidated entity with reciprocal holding when the market quotation of the group is not available. The model was based on the following lemma:

Lemma 1 for $|z| \geq M$ than the reputation risk management system should be in place for any entity. Thus there could be a tendency for high positive z (above M) to set up the risk management system but without recognition of the risk value in the risk reporting.

[1] Early version of this paper is accessible as the MPRA Working Paper 44210, University Library of Munich.

For any $z < 0$ where $|z| \geq M$ the reputation risk should be disclosed by applying true and fair concept to the financial reporting.

Where: z − value of reputation,

M – materiality.

The purpose of this paper is to show the empirical test for the lemma.

2. Background

The reputation is defined for the model as current or potential cash outflow arising from information not reflected in the current fair value of net assets controlled or influenced by an entity.

Let:

y − represents the fair value of net assets controlled or influenced,

x − current market value of the equity,

subject to (initial assumptions):

i) efficient market,
ii) public traded shares of the entity on consolidated bases,
iii) lack of material influence on other companies,
iv) verifiable net controlled and influenced assets,
v) efficient, subject to non-material errors the auditing procedures,
vi) available consolidated values.

The following equation denotes the lack of the reputation:

$$y = x,$$

$$\mathrm{x} \in R; \mathrm{y} \in R_{+}.$$

The equation represents the situation where the fair value of the net controlled and influenced assets is equal to the market value of the entity. Consequently in equilibrium situation there is no reputation risk presence. In contrary any divergence form the equilibrium constitutes the reputation risk (or liability) or asset.

Thus the value of reputation equals:

$$z = x - y,$$

$$z, x \in R; y \in R_{+}.$$

The existence of the reputation risk is not conditioned on the efficiency of the market. The set of the initial assumption is conditioning the status of the nil risk. Any other sources of the reputational risk drivers as “corporate climate”, “social capital” etc. are not factorized.

If $z \neq 0$ than the reputation is recognized. In any $z > 0$ the reputation assets are built up while for $z < 0$ there is a fair market expectation that the entity assets include the expected cash outflow due to the reputation.

3. Theoretical considerations

The background of the model and its theoretical consideration has been provided by P. Staszkiewicz [2012]. This paper is focused solely on the practical verification of the lemma cited in the introduction, while the model construction and its assumption discussion is a matter of earlier study.

In order to reconcile the materiality used in lemma and those applied for the verification of the lemma the general accounting materiality concept was applied. There is no prescribed benchmarking for materiality. H. Blokdijk et al. [2003] indicate after W.R. Kinney [2000] and D.M. Guy and D.R. Carmichael [2000] the existence of the heuristics "frequently suggest the planning materiality ranges from 5 percent to 10 percent of Net Income before Taxes (NIVT) or 0.5 percent to 1.5 percent of Total Assets or Revenues". Even if the specific benchmarks are not stable and depend on number of qualitative factors, for this research the heuristic approach was applied with calculation correction. To avoid the subjectivity in materiality selection by dependence of the specific auditing methodology a two-fold approach with min-max calculation was performed. By application of materiality spread the benchmark becomes audit methodology resistant and stables itself.

Another element of the lemma verification is reconciliation to the capital requirement disclosure of the existence of the reputation risk by entity itself. One of the parts of the capital requirements is the economic capital assessment of the entities. The standard requires the disclosure of the material risks. In contrast to the supervisory rules, self-assessment builds up the base for recognition of so called not measurable risks. This constitutes the source for the reputational risk management, measurement and disclosures only if the entity recognizes the risk as material. The standard however does not define the materiality and it tends to base the materially on the accounting and auditing rules due to reference in the basic methods to the financial statements. The set of rules indicated in standards are however somehow weak in term of the obligatory requirements as standards for capital requirement calculation tend to influence the pro-cyclicality. This attribute transmits as well to the reputation recognition while its assessment is based on the pillar one requirement. In order to address the inborn weakness there is a need for either bank (brokers-dealers) or supervisors for "dynamic provisioning" or "dynamic regulation" as indicated by A. Sławiński [2010]. The pro-cyclicality is opening, on the other hand, the space for alternative automatic stabilization tools search. Consequently there is a need to develop the methodology for risk measurement and recognition in abstract from the pillar one especially in terms of non-measurable risks. The construction of the measurement and identification system should however not diverge from the existing internal system of control and data verification system (internal auditing, and control process). In consequence irrespectively of the measurement strategy applied by management the disclosure obligation provides the indicator for the existence of the reputational risk within given entity or groups of entities.

In contrary to proposed method of measurement as stated in the model there is not agreement among researchers on the recognition approach. C. Fombrun and C. van Riel [1997] liked this disagreement towards the multidisciplinary approach to the reputation. They outlined the areas of research in respect of the reputation pointing out the different views like: economics, strategic, marketing organization, sociological, accounting. Consequently this paper is placed between accounting and newly developed capital adequacy regime which tends to enhance the corporate social reporting. Thus the recognition of the reputational risk could be stated either as the non-quantifiable as presented in social reporting stream, such as marketing and mix approach derived from the brand name. A. Adamska and T. Dąbrowski [2010] claimed the term of reputation and risk need still a uniformed definition. C. Lajoie stated that measurement of the reputation risk is difficult itself "the risk appetite is nil: not expected losses are to be tolerated in this field". J. Bebbington et al. [2008] stated openly that "the identification of reputation risk is closely linked to attempts to manage such risks", thus there are strong interconnections between models and management strategies. An alternative approach is the search for the measurement. However, there are no simple approaches available as it was already criticized – "narrow calculations of cost benefits are insufficient for the management of reputation risks" – by S.V. Scott and G. Walsham [2005]. S. Tadelis in terms of the amorphous behavior of name stated that "name trading and name changing seem to be a rule, rather than an exception". He indicated that the name was behaving itself as an asset [Tadelis 1999].

Consequently the value of the reputational risk as stated by the entities self--disclosure within the standards framework would be of little use for the lemma verification as the basis for recognition and measurement are likely unrecognizable. Therefore, for verification, only fact of disclosure should be taken into account.

In order to maintain the comparability between the data a financial statements approach was used. This allows for comparing the different groups and entities subject to minor differences between the accounting standards. Application of IAS 39 has built a bridge between historic and fair value accounting for financial instruments and a transmission channel for the fair value volatility. This was further investigated as the 2008 crisis occurred by other authors: G. Strampelli [2011], J. Bischof et al. [2010], M.E. Barth and W.R. Landsman [2010].The consequence of fair value reporting on an effective market was among others that the balance sheet value of net assets should be equal to market value of equity[2]. Thus the net equity (including profit and loss), total liabilities and provisions would have to reflect in total the fair value of assets. By application of the audited financial statements the potential data quality issue is resolved provided lack of qualification. Thus the types of audit opinion undergo verification for lemma check.

[2] Subject to problem with fair value valuation of own generated liabilities.

4. Empirical model, data and procedures

Model: Lemma 1.

Data sources: stooq.pl, web pages of the companies on Polish broker-dealers market.

Cut of date:

– 31 December 2010 for financial statements and capital adequacy reports,
– for quotation the closest quoting date to 31 December 2010,
– in case of the beginning of the quotation after the 31 December 2010 the date of first quotation.

For NWAI the 2011 capital adequacy report was used.

Scope of population: The Polish broker-dealers market was chosen for verification purposes. The broker-dealers which were domiciled in Poland as of the cutoff date were selected for the verification process. The dealer-brokers operating within the structure of the banks, foreign banks and branches (semi-brokers-dealers) were excluded, as those entities do not report separately the capital adequacy and financial statements. Another reason for the exclusion was that that semi-broker-dealers are integrated to risk management system of larger and more diversified organizations like banks or conglomerates. The entities being the members of a financial group or conglomerate, quoted on the main or alternative markets, but not quoted as individual entities were excluded due to allocation bias[3] risk.

The entire population of 50 entities was verified. Out of the population of the entities floated on the stock exchange (main or alternative market) – 7 – met the selection criteria mentioned above. Procedures:

1. Market selection – broker-dealers market.

2. Gathering of data – web and database search.

3. Selection of the target group – conditional selection for lemma statement, directly quoted investment companies domiciled in Poland as at the current date reconciled back to the cut off, in case of short time series as at the first quotation date

4. Consideration of both financial statements based on IFRS and PL GAAP. In case of availability of both unconsolidated and consolidated financial statement, the consolidated were used to reconcile the entity market value.

5. Capital adequacy reports were based on the implementation of 48 and 49/2006 EU directives. In case of lack of reports as of the cutoff date the next closes report was selected.

6. If financial report of an entity was qualified, the entity was excluded from procedures and discussed separately.

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[3] The fact of recognition of the reputation risk on the group consolidated level does not implies the recognition of the reputation on subsidiary level as well the consolidated fair value of markets on the group level is not necessary to be straight allocable to the subsidiary. Thus market value, disclosure of the capital adequacy on that level might be misleading.

7. Market values calculation: the closest available date to the cutoff date for market valuation (30 or 31 of December, 2010)[4] was taken into account.

8. For materiality calculation the two-fold procedure was applied. The maximum and minimum values of the scalar, derived from financial statements[5] of net equity, profit before taxation, total assets and revenues from core activities weighed with the materiality rated as 5, 8, 0,1, 0,5% respectively. The inequality $|z| \geq M$ was considered for maximum and minimum values of M.

9. The reputation risk management system was assessed as existed if in the capital adequacy disclosure report the reputation risk itself was named and addressed.

10. The financial recognition of the system in the economic capital provision was considered as existing only if it was disclosed both on the level of financial statements and capital adequacy report.

5. Results

The market consists of 50 broker-dealers entities; out of them 7 are quoted directly on main or alternative market.

For six entities the z was positive, for one, IDM SA, negative.

For all of the selected entities the inequality $|z| \geq M$ holds true irrespectively of the minimum or maximum value of M. Details of specific entities are shown in Table 1 for z vales and Table 2 for materiality.

Table 1. Comparison of market value and book value

As of 31 December 2010 000 PLN Entity name	Market value x	Net equity y	Consolidated	z	Positive
1. IDM SA	650 167	721 613	yes	–71 446	no
2. Ipopema securities SA	447 769	69 251	yes	378 518	yes
3. TMS Brokers SA	220 598	24 801	no	195 797	yes
4. WDM SA	59 400	44 307	yes	15 093	yes
5. Caspar AM SA	92 263	6 074	no	86 189	yes
6. Copernicus securities SA	186 599	39 995	yes	146 604	yes
7. NWAI Dom Maklerski SA	35 179	2 795	no***	32 383	yes

*** Available only unconsolidated data.

Source: Own calculations detail on market value table 5.

[4] Quotation historic data were retrieved from stooq.pl archive.

[5] In case of GAAP differences the most adherent values was taken into account.

Table 2. Materiality calculation

As of 31 December 2010 000 PLN	Materiality rates		8%	0.50%	5%	0.10%
Entity name	Materiality		Pretax profit	Revenue*	Net equity	Total assets
	Max	min				
1. IDM SA	36 081	616	41 173	123 216	721 613	1 290 326
2. Ipopema securities SA	3 463	408	23 542	100 415	69 251	408 402
3. TMS Brokers SA	1 694	84	21 181	16 742	24 801	133 061
4. WDM SA	2 215	17	2 020	3 434	44 307	62 617
5. Caspar AM SA	304	8	707	7 125	6 074	7 588
6. Copernicus securities SA	2 000	71	6 123	24 086	39 995	71 127
7. NWAI Dom Maklerski SA	155	4	1 941	4 553	2 795	3 708

* From basic operation.

Source: Own calculations based on Monitor Polski B reports.

None of the seven considered entities had financial statements qualified by the auditor. In case of Copernicus securities an explanatory note was included in the auditor opinion.

Table 3. Comparison on disclosure the reputation risk in capital requirements and financial statements stream

As of 31 December 2010	Reputation risk disclosure		Risk value
	Financial statements	Adequacy disclosure	
Entity name	Yes/No	Yes/No	Yes/No
1. IDM SA	yes	yes	no
2. Ipopema securities SA	no	yes	no
3. TMS Brokers SA	no	yes	no
4. WDM SA	no	yes	no
5. Caspar AM SA	no	yes**	no
6. Copernicus securities SA	no	yes	no
7. NWAI Dom Maklerski SA	no	yes	no

** As a part of hard quantifiable (non-measurable) risks.

Source: Financial statements and risk reports (see table 4) of specific companies, own presentation.

In all entities, in case of high positive z (above M), the risk management system was reported in capital adequacy regime but not reported in financial statements

regime. There were no information provided for the values of the reputation risk neither in capital reporting systems nor in financial statements. The details for entities are shown in Table 3. The data sources are shown in Table 4.

Table 4. Sources for the risk managements reports used for Table 3

As of 31 December 2010 000 PLN Entity name	Source of data
1. IDM SA	http://www.idmsa.pl/type,2,date,2005,raporty-okresowe.html
2. Ipopema securities SA	http://www.ipopemasecurities.pl/articles.php?miId=117&lang=pl
3. TMS Brokers SA	http://www.tms.pl/relacje-inwestorskie/raporty-okresowe.html
4. WDM SA	http://wdmsa.pl/34,relacje-inwestorskie/adekwatnosc-kapitalowa.html
5. Caspar AM SA	http://www.casparam.pl/
6. Copernicus securities SA	http://www.copernicus.pl/node/196/page/4/pl/
7. NWAI Dom Maklerski SA	http://www.nwai.pl

Source: Internet.

Table 5. Market value calculation used for Table 1

Entity	Date	Closing	No. of shares	Market value
IDM SA	2010-12-31	2,98	218 176 856	650 167 031
Ipopema securities SA	2010-12-31	15,05	29 752 122	447 769 436
TMS Brokers SA	2011-01-18	62,67	3 520 000	220 598 400
WDM SA	2010-12-31	0,72	82 500 000	59 400 000
Caspar AM SA	2011-12-08	50,1	1 841 577	92 263 008
Copernicus securities SA	2010-12-30	161,55	1 155 056	186 599 297
NWAI Dom Maklerski SA	2011-03-25	19	1 851 500	35 178 500

Source: Own presentation based on Stooq.pl.

For NWAI the consolidated data were not available, therefore, the unconsolidated data were used instead. In case of Caspar AM, there was no direct disclosure of the reputation risk factor, but it was recognized as a part of the non-quantifiable risk. The disclosure was considered as a part of risk management system for reputation risk.

For Caspar and NWAI the first quoting dates were used, 25 March 2011 and 18 January 2011, respectively. For Copernicus the 30 December 2010.

6. Discussion

The lemma 1 has been proved to hold true for the Polish broker-dealers market as of the cutoff date. The empirical proof, however, is not dynamic and limited to Polish domiciled broker-dealers. The actual size of the market quoted population is relatively small, therefore, the results are subject to errors. This is due as well to the limited time span of the available observation. Lack of information of distribution of the all Basel-regime entities does not allow for drawing valid conclusion on other segments of the market and geographical territories.

For NWAI, the consolidated data were not available, therefore, the unconsolidated data were used instead. The test of materiality for NWAI yields 32 382 to 155; z to M ratio being unlikely to change significantly by consolidation. The assumption taken for calculation of M – mainly the financial statements aggregates fractions – is subject to judgmental selection. The materiality criteria are widely used in auditing practice, therefore, they are likely to represent the expected financial statement tolerable error.

In case of Caspar AM there was no direct disclosure of the reputation risk factor, but it was recognized as apart of the non-quantifiable risk. The disclosure was considered as part of risk management system for reputation risk. The market value calculation is subject to the point of time error. A selection of average, mid spread, might yield different results. The actual results, however, indicate high tolerance for valuation errors. Selection of point data allows for structural comparison. The time lag of the cutoff date for market quoting for Caspar, NWAI and Copernicus was considered to be insignificant. This assumption was not verified.

The reference market (both main and alternative) does not comply with the effective market postulates, as verified by S.B. Buczek [2005], thus it is unlikely the reputation to be nil. The lemma mechanism was proved to be operating.

7. Concluding comments

The paper presented the approach for verification of lemma used for the model for reputation risk for subsidiaries of non-public group with reciprocal shareholding. The lemma seems to be verifiable for one period, however, its dynamics was not addressed. The lemma tends to be proved for isolated sector of the broker-dealers domiciled in Poland. Even if the entire population has been examined, the generalization of results on other sectors is not likely due to specific nature of the broker-dealers market.

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WERYFIKACJA LEMATU UJAWNIENIA DLA MODELU RYZYKA REPUTACJI NIEPUBLICZNYCH GRUP KAPITAŁOWYCH Z POWIĄZANIAMI WZAJEMNYMI NA POLSKIM RYNKU FIRM INWESTYCYJNYCH

Streszczenie: Referat przedstawia metodologię weryfikacji lematu dotyczącego modelu ryzyka reputacji podmiotu zależnego w sytuacji kontroli wzajemnej w niepublicznej grupie kapitałowej. Dla podmiotów, których absolutna wartość reputacji przekracza wielkość istotności powinien być wdrożony system zarządzania ryzykiem reputacji. Badaniem objęto całą populację firm inwestycyjnych domicylowanych w Polsce. Zastosowano model istotności do celów rewizji finansowej, wartość rynkową skonsolidowanych aktywów netto oraz ujawnienia wymogu kapitałowego do celów adekwatności kapitałowej firm inwestycyjnych. Lemat zweryfikowano pozytywnie.

Słowa kluczowe: ryzyko, ryzyko reputacji, model, zarządzanie ryzykiem, MSSF, BASEL, CRD, wypłacalność, ujawnienia.