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BANKING SECTOR UNDER STRESS — THE ROLE OF TRANSPARENCY

When financial stability is under threat, economic policy measures of two different kinds are applied with various consequences for public finances. After the experience of the global financial crisis a new reflection on the optimal path to financial stability is needed. We analyze the measure that might be more effective in the future since traditional bail-outs turned out to be costly. We outline the role and importance of transparency in reporting and disclosures in the banking sector. We argue that transparency is measurable and can give policy makers an insight into the state of the banking sector. We show an example of the application to the national banking sectors in Slovenia and Austria.

Keywords: transparency; disclosure; banking sector; financial crisis; state aid and interventions.

JEL: G01, G18, G21.

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БАНКІВСЬКА ГАЛУЗЬ В УМОВАХ СТРЕСУ — РОЛЬ ПРОЗОРОСТІ

У статті показано, що коли фінансова стабільність знаходиться під загрозою, застосовують заходи економічної політики двох видів, із різними наслідками для державних фінансів. Після світової фінансової кризи необхідним є новий підхід до оптимального забезпечення фінансової стабільності. Проаналізовано заходи, які можуть бути ефективнішими в майбутньому, оскільки традиційні методи виходу з кризи виявилися дуже коштовними. Підкреслено роль і важливість прозорості у звітності і наданні облікової інформації в банківській галузі, наведено приклад застосування методу у національних банківських галузях Словенії і Австрії.

Ключові слова: прозорість; надання облікової інформації; банківська галузь; фінансова криза; державні дотації і втручання.

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БАНКОВСКАЯ ОТРАСЛЬ В УСЛОВИЯХ СТРЕССА — РОЛЬ ПРОЗРАЧНОСТИ

В статье показано, что когда финансовая стабильность находится под угрозой, применяются меры экономической политики двух видов, с различными последствиями для государственных финансов. После мирового финансового кризиса необходим новый подход к оптимальному обеспечению финансовой стабильности. Проанализированы меры, которые могут быть более эффективными в будущем, поскольку традиционные методы выхода из кризиса оказались слишком дорогостоящими. Подчеркнута роль и важность прозрачности в отчетности и предоставлении учетной информации в банковской отрасли, приведен пример применения метода в национальных банковских отраслях Словении и Австрии.

Ключевые слова: прозрачность; предоставление учетной информации; банковская отрасль; финансовый кризис; государственные дотации и вмешательство.

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Introduction. A negative shock that affects bank's capital has direct impact on bank lending (Peek and Rosengren, 1995 and Valencia, 2008). Maintaining financial stability is essential as it ensures smooth functioning of the real economy, and thereby maintains prosperity. Following the experience of the global financial crisis 2007-2009 there is a need for new reflections on the optimal path to financial stability. We propose measures of economic policy makers, which would be the most appropriate for future intervention in banking sectors in two separated groups.

The first group consists of the measures that represent the creation of funds for future preventive interventions (e.g., in the form of taxation). A disadvantage of additional tax is that the burden would at least to some degree be passed from financial intermediaries to their customers, while for banks' owners there wouldn't be provided incentives for more prudent risk taking. Also, we can never be sure that funds collected in this way would ever be sufficient in size for future interventions. Moral hazard would therefore continue to be present. From the governmental point of view it represents a solution that at least partially mitigates the strong pressure on the state budget in the intervention period, and certainly serves in favor of fiscal stabilization. In the case where such a tax would be spent for current expenses, future banking interventions would again bring about fiscal burden.

The second group is represented by actions that interfere into the functioning of banking and broader financial system by regulating it in order to provide greater stability. According to already present regulation role of the state, this group of measures represent the incentive to strengthen regulator's authority and power in order to force owners to adequately care for a risk taken by a bank. Those measures might be cheaper for taxpayers, but it raises further complex issues, such as attractiveness of banking sector for investors when regulation raises rules which might affect competitiveness when compared to non-banks and causes the costs of compliance to regulation rise above other sectors'. The supervisor can never fully prevent the chance of bank failure in the occurrence of a capital shock. Such a possibility is apparent from the nature of banking business which essentially remains risk taking. However, the supervisor can affect the reduction of moral hazard and limit the potential for undermining financial stability to the admittedly the most extreme (and primarily) external factors. In this sense, the supervisor is not only the body which formally regulates the banks, but (as has already been raised in Basel II-III) the role of market participants coincides with the role of supervisor. This brings up a path of prudent self-regulation when taking financial risk.

We will devote our study to the second group of measures, and outline the role and importance of transparency in reporting and disclosures in banking. In the second chapter we present a link between transparency and disclosure in reporting to financial system stability. Based on the research (see Zunko and Jagric, 2012) we show a possible way to measure transparency. Conclusions are given in the final chapter.

2. Financial reporting and stability of banking system.

The current financial crisis places greater emphasis on the importance of public disclosure and transparency of financial institutions. In particular, disclosures about financial institutions' risk exposures have frequently been cited as an important contributor to market discipline (Hirtle, 2003). A number of initiatives have sought to increase the transparency of financial institutions, among which a push toward more

disclosure of information in published accounts has been prominent (Baumann and Nier, 2004). Such objectives has, for instance, the Pillar Three in the Basel II legislation (Alexandre et al., 2010).

Baumann and Nier (2004) argue whether such initiatives are beneficial, as "banks are inherently opaque institutions and increase in disclosure may not be able to materially change this". They alert that an increase in quantitative disclosure may not necessarily increase transparency since, Greenspan as states (2003), public disclosure and transparency are not interchangeable. Transparency challenges market participants to place provided information into the context that makes them meaningful. They state also that disclosure is costly, both directly at producing and disseminating information and also indirectly at costs that might arise from competitors' possibility to exploit publicly provided information. Diamond and Dybvig (1983) stated that certain information on the financial situation of a bank, especially its liquidity, may result in a bank run and thus may destabilize the banking sector (Diamond and Dybvig, 1983).

According to Basel (BCBS 1998), more transparent public disclosure allows a more accurate assessment of a bank's financial strength and performance and increases the credibility of information disclosed by a bank. It demonstrates the bank's ability to monitor and manage its exposures and reduces the uncertainty of market participants (Ng and Rusticus, 2011).

A lack of transparency is regarded as a key reason for turmoil after prominent events such as Enron's December 2001 collapse and the financial crisis that erupted in 2008 (Ng and Rusticus, 2011). This crisis places the importance of information about all banking activities center stage in any debate (Alexandre et al., 2010). In this context important is the finding by Morgan (2002) who basing on the evidence of greater ratings disagreement between bond rates concludes that the banking industry is more opaque than other industries.

Following numerous banking crises, the regulators (IMF and Basel Committee) wanted to increase the reporting transparency in banks (e.g., with the Third Pillar in Basel II). Bank transparency should improve the effectiveness of market discipline that could replace regulatory discipline to solve the problems of moral hazards and efficiency in banks (Alexandre et al., 2010). According to Landskroner and Paroush (2008), market discipline should have a direct effect on the risk of the bank's assets and its capital structure on the cost of its funds. They show that increase in market discipline will result in lower government regulation that is introduced via deposit insurance provided to some of depositors.

On other hand, market discipline may have limited strength because of presence of moral hazard (if depositors have their deposits insured or if investors have their portfolios diversified) or because banks may provide information that is favorable to them (Alexandre et al., 2010). In such circumstances, increase in disclosure level is not necessarily beneficial as it cannot contribute to market discipline.

Perignon and Smith (2010a) investigate the level and quality of market risk disclosure at commercial banks with value-at-risk method. To measure the level of disclosure they construct a disclosure index that summarizes the level of information about value-at-risk disclosed in annual reports. They find an overall upward trend in the quantity of information released to public while quality of value-at-risk disclosure shows no sign of improvement over time.

With similar disclosure index Hirtle (2007) investigates the relationship between the amount of information disclosed by bank holding companies and their subsequent risk profile and performance. She finds that more disclosure is associated with lower risk, especially idiosyncratic risk, and in turn with higher risk-adjusted returns. Her findings suggest that greater disclosure is associated with more efficient risk taking, although the direction of causation is unclear.

3. Comparing the level of value-at-risk disclosure. In the following section we will present some results from broader analysis of transparency and stability of Slovenian and Austrian banking sector. In doing so, we will assume that we can, based on the presented model for the analysis of the disclosure of the exposure to market risk, conclude about the general level of disclosure and transparency of banks.

Similar as in other European countries, Slovenian and Austrian commercial banks are obligated to report quantitative information about their exposure to market risk. One of the possible measures is the value-at-risk method that summarizes information about the potential loss in portfolio value within a specified holding period at the chosen confidence level.

Following the lead from both regulators and large international banks during the mid-1990s, almost all financial institutions now use some form of value-at-risk as a risk metrics, although it is a subject to some critics (many quants and academics argue against it because it is not necessarily sub-additive) (Alexander, 2008). The Basel Committee's 2001 disclosure survey shows that 89% of banks were using value-at-risk for providing summary quantitative information on market risk exposure (BCBS, 2003). Woods et al. (2008) states that value-at-risk is one of the most notable quantitative risk measures. He states that a key development of value-at-risk disclosure was a joint 1995 report by the Basel Committee (BCBS), International Organisation of Securities Commissions (IOSCO) and Technical Committee (BCBS, 1995) that included a suggestion that financial institutions should provide information about their value-at-risk models to their supervisors.

Amendment to the capital accord to incorporate market risk (BCBS, 1996) has listed value-at-risk within the internal model as possible approach to calculation of the capital requirement for market risk. As possibility besides standardized approach for the capital requirement calculation it was also listed in the Basel II directive (BCBS, 2006). This framework has in the Pillar Three attempted to increase the importance of market discipline that seeks to achieve with enhanced disclosure and transparency. Thus the value-at-risk disclosures among other disclosures should benefit to market participants (BCBS, 2006). Value-at-risk is also one of the three reporting methods for market risk disclosure in the US, described in Reporting release number 48 (Securities and Exchange Commission, 1997).

Value-at-risk disclosure was subject to several studies. Jorion (2002) has investigated the relation between the trading value-at-risk disclosure on a sample of the US commercial banks and the subsequent variability of their trading revenues. His results suggest that value-at-risk disclosures are informative in that they predict the variability of trading revenues and can be used to compare the risk profiles of banks' trading portfolios. This was confirmed by Liu et al. (2004) who state that banks' trading value-at-risk have predictive power for trading income variability that increases with bank technical sophistication and over time.

We will investigate the level of value-at-risk disclosure with the disclosure index. This approach was used for similar investigation by Hirtle (2007).

Similar disclosure index for investigation of level of value-at-risk disclosure was used by Perignon and Smith (2010a). They found an overall upward trend in the quantity of information released to public while quality of value-at-risk disclosure shows no sign of improvement over time.

Based on these disclosure indices, similar index was used by Fang (2010). He found that more informative value-at-risk disclosure is associated with more effective corporate governance characteristics and that it is negatively associated with the cost of equity capital.

Disclosure of exposure to market risk with value-at-risk method was encouraged through Basel frameworks, but with the EU directives it became a part of national legislation for both Slovenian and Austrian commercial banks. They are obligated to report their exposure to market risk but in doing so they are not obliged to use value-at-risk method. Since empirical studies indicate usefulness of market participants' disclosure with value-at-risk method, there arises a strong motivation for an investigation, how much Slovenian and Austrian commercial banks use it, how its use has evolved with time and how much information about used methodology they actually report. Namely, value-at-risk method includes several parameters (confidence level, holding period and data period), it can be calculated with several methodologies and by using it, one should be aware of its weaknesses.

To measure the level of value-at-risk disclosure of exposure to market risk we will use a disclosure index based on disclosure indices in similar researches (Perignon and Smith, 2010a; Hirtle, 2007; Fang, 2010) with minor adjustments to information that can be deduced from the annual reports of Slovenian commercial banks. At this we will concentrate on market risk and its risk categories as they are specified by International financial reporting standards (IFRS 7): currency risk, interest rate risk and other price risk. Namely, banks use different notion and terminology for market risk and its risk categories, especially in older annual reports. We will concentrate on trading book.

Disclosure index represents a sum of points that are assigned if it is possible to deduce criteria from bank's annual report, grouped in 6 facets of value-at-risk disclosure. Disclosure index aggregates points in a single number between 0 and 15. In the calculation of disclosure index we will consider every item with equal weight, as Coombs and Tayib (1998) noted that the use of unweighted and weighted scores for the items disclosed in the annual reports and accounts can make little or no difference to the findings.

Bank will be evaluated with 15 points if the following pieces of information can be found in its annual report (Zunko and Jagric, 2012):

Value-at-risk model characteristics:

- statement of confidence level,
- statement of holding period,
- statement of data period,
- statement of calculation methodology,

Summary value-at-risk statistics:

- statement of average value-at-risk,

- statement of minimum value-at-risk,
 - statement of maximum value-at-risk,
 - statement of year-end value-at-risk,
 - statement of value-at-risk for all three risk categories,
 - statement of value-at-risk for summary market risk (with diversification effect),
- Comparison with previous year:
- statement of value-at-risk in previous year, explanation of change from previous year can be deduced,

Graphical presentation:

- inclusion of histogram or plot of value-at-risk values,
- inclusion of histogram or plot of trading revenues,

Awareness of the need for testing the calculation methodology:

- statement of awareness that backtests of models must be performed,
- statement of awareness that stress tests must be performed.

Value-at-risk model characteristics must be verified individually because in similar researches it turned out (Perignon and Smith, 2010a) that some banks don't report them, although they are the integral part of the model. Different calculation methodologies can on the same data give different results (Woods et al., 2008). Information about calculation methodology used can thus be very important and takes its own criterion in disclosure index.

Because individual values are prone to manipulation (Perignon and Smith, 2010a) we will particularly evaluate disclosures of several value-at-risk statistics (6 points). For scoring, it is important if it is possible to deduce minimum, maximum, average or year-end value for at least 1 of 3 market risk categories. If there are stated values in any form for all 3 market risk categories, we will score this particularly. Another point will be assigned if there is stated value for market risk as a whole with taking into account the diversification effect that lowers solely summed values from individual categories (Perignon and Smith, 2010b).

Similar as in reference disclosure indices we will score explanation of change of value-at-risk from previous year; respectively we will assign a point even if any value from previous year will be stated.

Numerical presentation of value-at-risk and trading revenues is highly enriched with graphical presentation. Namely, if we draw on the same plot daily value-at-risk values and daily revenues, we can easily deduce possible excedances of estimated values and relevance of calculation methodology (how much the curves fit to each other). Graphical presentation with histogram is also more meaningful than merely numbers. Graphical presentations thus represent new items in disclosure index (2 points).

Evaluating the accuracy of the value-at-risk models is a necessary exercise (Lopez, 1997). It is therefore desirable that banks report results of backtesting procedure. As it turned out Slovenian commercial banks' detailed reports about backtests are not found, we will assign a point already if it is possible to deduce awareness of bank about importance of backtests or if it is only stated that they perform them.

Accuracy of value-at-risk estimate depends on the validity of the assumptions employed, therefore it is necessary to perform additional stress tests (BSBC, 1996). If it is possible from an annual report to deduce the awareness that stress tests are inclusive part of value-at-risk methodology, we will assign the last point.

We calculate disclosure index for 7 largest Slovenian commercial banks by total assets in 2010. We compare the obtained results with disclosure index for 3 largest Austrian banks. We calculate the disclosure index based on the review of banks' annual reports, published on banks' web pages. The observation period is from 2000 to 2010 where available or for shorter period, if the reports are not available on banks' web pages.

The results are presented in Table 1. Our results show that the general level of the disclosure index augmented in the observed period what corresponds to a strong upward trend in the level of market risk reporting. The average index for observed Slovenian banks rose from 0.86 to 11.14 points. Also for the observed Austrian banks the average index rose, however, the increase is less remarkable, since the index value is high already in the beginning of the observation period, 8.5 points, while at the end the index reaches the average level of 13.33 points. The implementation of IFRS as well as Basel II encouraged banks to improve the disclosure practice in both countries. However, when disclosure practice in both banking sectors is compared, we see that Slovenian banks had first to catch up since the gap was bigger at the beginning of the period. Besides of legislation incentive, Slovenian banking sector experienced the impacts of the EU financial integration, predominantly in the role of the host country.

Table 1. Disclosure index for large Slovenian and Austrian banks

		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
SI	NLB	6	4	5	8	7	11	12	12	12	11	11
	NKBM	0	0	3	0	0	0	3	7	7	7	7
	ABANKA	0	0	0	0	3	5	9	9	9	9	13
	UNICREDIT	0	0	0	5	5	5	9	9	9	13	12
	SKB	0	0	0	4	7	7	7	10	10	10	14
	BANKA CELJE	0	0	0	0	0	0	0	12	12	12	10
	BANKA KOPER	0	0	0	2	2	3	3	8	9	11	11
AT	BANK AUSTRIA	9	7	9	14	14	14	14	14	14	14	15
	RZB	n/a	10	11	11	12	12	12	12	12	12	15
	ERSTE BANK	8	8	8	8	5	5	9	9	9	10	10
AVG SI		0,86	0,57	1,14	2,71	3,43	4,43	6,14	9,57	9,71	10,43	11,14
AVG AT		8,50	8,33	9,33	11,00	10,33	10,33	11,67	11,67	11,67	12,00	13,33

Source: own calculations based on the banks' annual reports.

Over the years in both countries banks reveal more information about their value-at-risk methodologies. At the beginning of the observation period Slovenian banks used value-at-risk method more marginally and only indicated the basic characteristics of the model used, which is not consistent with the findings of the Basel Committee's disclosure survey for that period at large global banks (BCBS, 2003). The lack of VaR models in regard to capturing extreme market conditions reveals the importance of the complementary usage of backtests and stress tests. While this awareness is present in annual reports of all Austrian banks, in Slovenia it is not at all present at the beginning and is importantly increasing to the end of the observed period. In case of 3 Slovenian banks the annual reports did not at all report about performing backtests and in case of 2 Slovenian banks they were mentioned in earlier reports but have disappeared in the subsequent years.

The catch-up of Slovenian banks becomes evident also while observing the evolution of the VaR reporting structure. Since Austrian banks retain a similar structure in VaR reporting, the structure is changing in reports of Slovenian banks over the observed period.

At the end of the observed period, reports for 2010 contain disclosures of market risk with VaR method are already very rich in Slovenia. An important way in which they may further improve might be gathered from analyzing the way how Austrian banks improve the disclosure index in the observed period. This was mainly achieved by incorporation of graphical VaR representation, which reveals a lot of information and by separately reporting VaR for different market risk categories and for market risk as a whole taking into account the diversification effect.

On the other hand, we observe for some banks a decrease in the level of disclosure, appearing in both countries. In case of Slovenian banks, the disclosure index is reduced since banks abandoned graphical presentation of value-at-risk and trading revenues, although they had previously been included in the annual reports. Similar reason for decrease was at Austrian banks since they had also abandoned graphical or tabular representations for some years. We see such an inconsistent way of reporting of these banks as a disadvantage, since annual reports have lost transparency.

During the global financial crisis the level of disclosure of Slovenian or Austrian commercial banks has not experienced major changes. It should be noted that we have partially adapted the structure of disclosure index to reasonably scale the information contained in Slovenian annual reports. If another scale was applied the difference in both countries might be larger in absolute terms, but in our perspective this would not reveal additional information unless all the banks would finally achieve a similar level.

4. Concluding Remarks. In the crisis 2007-2009 many governments had to apply different forms of interventions in order to stabilize the financial sector. The most important might include recapitalization, buyout investments, guarantee schemes and liquidity support measures (Attinasi, 2010). Direct effect of fiscal consolidation is one particular. This is necessary in order to tackle with other social and economic consequences of the crisis. The experience of past crises shows that the costs of interventions have significant effects on public finances over a longer time period (Attinasi, 2010).

In response to the negative fiscal impact of the interventions often the idea of an additional tax burden on the financial sector appears, also in Europe. The idea behind is that the effect of imposing new taxes would bring immediate fiscal inflows at the expense of banks and would like it is stated in EC (2011) also ensure that the financial sector contributes to fiscal consolidation. Consequently, this would also impact growth and employment. However, these targets might be excluding, since a bank would less probably strengthen its capital adequacy, lend more and at the same time pay more taxes. Therefore, the question is whether the introduction of taxes is really the right measure to ensure financial stability.

The current financial crisis has shown again that the banking sector is a key element of the financial system. Therefore, the selection of appropriate measures for stabilizing and preventing future crises is of utmost importance. We are in favor of action

that would constitute a combination of additional tax burden of the banking sector, and measures in form of further regulation that would lead to greater transparency in banking systems. Basing on the published studies and our research results, we believe that transparency is the cornerstone of the banking system stability. Therefore, in this paper, we demonstrate this belief on the data from Slovenian banking sector with measuring its level of transparency through a disclosure index.

The results show that the transparency of Slovenian banking sector differs from the transparency characteristics of the compared Austrian banks, while an important catch-up has been noticed for the period. Additionally, we find increasing awareness of transparency, and we believe that it could be stimulated further. This would ensure greater stability of the banking system and, indirectly, greater robustness of economic activity not only in Slovenia but due to banking markets interconnectedness contributing to the stability in the whole CEE region.

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