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Implications and consequences of Basel II for banking sector of a small open transition economy – a case of Slovenia[1]

Abstract

Basel II was primarily not written having small banks or small national banking markets in mind. Therefore, the paper tries to estimate the impact of Basel II on the banking sector of a small open transition economy. The analysis starts with describing how Basel II was implemented in Slovenia and what the main differences compared to the official Accord are. In order to gain an insight into Slovenian banks a survey was conducted just three months before the implementation of Basel II. This may have been a more appropriate moment for the evaluation of Basel II consequences than the Slovenian Quantitative Impact Study which was made in 2003. It is also commented how the banking regulation could further be developed in Slovenia.

Keywords: New Capital Accord, Slovenian legislation, banking sector, quantitative impact study.
JEL Classification: G21, G28, G32.

Introduction

Like all the member states of the European Union Slovenia was also obligated to implement EU Directives 2006/48/EC and 2006/49/EC into its national banking legislation. The directives are renewed EU Directives 2000/12/EC relating to the taking up and pursuit of the business of credit institutions and Council Directive 93/6/EEC on the capital adequacy of investment firms and credit institutions. In that way Slovenia adopted New Capital Accord (Basel II) through EU Directives. As an EU member state Slovenia could not decide upon a cost/benefit analysis of Basel II consequences for her national banking sector.

Basel II rules were implemented into Slovenian legislation in December 2006 and have been valid from the 1st of January 2007. Before that, there have been some activities in order to perceive the effects of Basel II on Slovenian banking sector and an attempt of the regulator to discuss possible changes in the regulation of Slovenian banks.

Like in many developing countries (Powell, 2004) the Slovenian banking sector also had the benefit of foreign bank entry. In many cases this has increased competition, efficiency and improved financial stability. These "internationally active" banks are precisely the ones that will be implementing the more advanced approaches of Basel II on a worldwide, consolidated basis (Powell, 2004).

Basel II was primarily not written having small banks or small national banking markets in mind. However, the issues that Basel II raises will undoubtedly shape an important part of the dialog regarding the improvement of banking regulation and supervision going forward. Moreover, the spectrum of regulatory approaches, now encompassed in Basel II, is very wide indeed.

To estimate impacts of Basel II there have been quantitative impact studies made by Basel Committee for Banking Supervision (see BCBS 2006 and older QIS publications). Besides BCBS, the consulting and rating agencies (PriceWaterhouseCoopers 2004, Ernst&Young 2006) as well as the academic field and banks have done research studies in this field (Carling, 2002; Majnoni et al., 2004; Berger, 2004; Hakenes and Schnabel, 2005; Keefe, Bruyette & Woods, 2006).

The paper starts with describing how Basel II was implemented in Slovenia and what the main differences compared to the official Accord are. The reasons for deviations from the Accord are discussed along with the issue where the demand for the deviations came from. The implications of Basel II for the banking sector in Slovenia are analyzed in the next section. We tried to gain an insight into Slovenian banks upon a survey. The analysis was conducted just three months before the implementation of Basel II. This may have been a more appropriate moment for the evaluation of Basel II consequences than the Slovenian Quantitative Impact Study (SiQIS) which was made in 2003, when banks were not yet intensively preparing for Basel II. It is also commented how the banking regulation could further be developed in Slovenia.

1. Differences in Slovenian legislation compared to the Accord

The EU capital adequacy framework is, to a great degree, based on the Basel II standards. The new Directive applies Basel II standards to all EU credit

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institutions or banks and to all investment firms authorized under the Investment Services Directive (ISD). As an EU member state Slovenia implemented Capital Requirements Directive (CRD) into national legislation. Therefore, Basel II rules are valid for all Slovenian banks as well. Slovenian banks are going to implement new capital requirements on the 1st of January 2008 and they also had the chance to implement them already on the 1st of January 2007 like banks in other countries.

Bank regulation has been increasingly using external credit ratings in recent years. For Slovenian banking sector, the revised international capital accord based on a more prominent role for credit ratings means another step in improving banking and risk management quality. In most European countries the coverage of bond issuance and company ratings by rating agencies is generally available to the public from a wide variety of sources, including the rating agencies themselves. Not only the banks internal risk tools will improve but also recently rating agencies have expanded their coverage to other debt products and have introduced variants or refinements of their traditional products. In some cases, such as ratings on structured debt, the concept of credit rating is essentially the same as before, although the debt product may be more complex.

Even though implementation of the Basel II framework continues to move forward around the globe there are some differences between the original Accord and national legislations. The same is true for Slovenia. Basel II consists of three pillars: Minimum Capital, Supervisory Review and Market Discipline. This paper only focuses on the first pillar. Minimum Capital is set according to three types of risk appearing in banking business: credit, market and operational risk.

1.1. Credit risk. In Slovenian legislation there are two available approaches just like in the Accord under capital requirements for credit risk for banks: The Standardized and Internal Rating Based (IRB) approaches (Foundation and Advanced approaches). In both approaches the differences are small.

In the standardized approach the Accord lists risk weights according to the credit assessment, while for corporate credit assessment classes there are AAA to AA-, A+ to A-, BBB+ to BB-, Below BB- and Unrated. In Slovenia banks have a lot of exposures to Slovenian corporate bodies, which are small and medium sized and have therefore rarely an external rating. According to the CRD, the Slovenian regulator had published procedures for recognition of ECAI-s and mapping of their credit assessments. In the procedures, the mapping of credit assessments is based on a three-year cumulative default rate (three-year CDR) for each credit assessment. The Bank of Slovenia additionally includes some more information, like default definition, ten-year average of three-year cumulative default rate (CDR), target PD for each class if in use, significance level of default rate, definition of the rating methodology (point-in-time or through-the-cycle), transition matrices to finally map ECAI-s ratings and credit quality step in the standardized approach of national legislation.

There are no differences in the treatment of claims included in the regulatory retail portfolios. In the Slovenian regulation, just as in the official Accord, mortgage loans are excluded from the retail portfolio if they qualify for the treatment as claims secured by residential property. In the treatment of those claims there are differences in accuracy level of the formulation. Like most paragraphs in the Accord also those defining claims secured by residential property are broadly specified. The Accord says that the risk weight used should be 35% if lending is fully secured by mortgage on residential property. The Accord adds that this weight should be used in accordance with strict prudential criteria, such as the existence of substantial margin of additional security over the amount of the loan based on strict valuation rules. The Accord advises the supervisors to increase the standard risk weight where they judge that the criteria are not met. The Bank of Slovenia has set the risk weight for claims in the part where they are secured by residential property at 100%. Risk weight is set to 35%, if the claim meets additional criteria which are the same as in the CRD – only one of the criteria is different. If the value of the secured exposure does not exceed 50% of the market value of the property in question or 60% of the mortgage lending value, banks may risk weight 35%. The difference to the Accord is when the loan-to-value ratio does not meet this precise criterion. The whole claim is weighted at 100%, but a residential property as security exists. There are no other significant differences in the treatment of other claims.

Further on, in the Slovenian regulation more explicit definitions of categories of exposures are missing. One such example is the explicit definition for insurance companies, whether they are being treated like banks in the category of claims on institutions or like corporate bodies in the category of claims on corporate bodies. This question is clear in the original Accord. It says that claims on security firms may be treated as claims on banks provided these firms are subject to supervisory and regulatory arrangements comparable to those under the Basel II framework. Otherwise such claims should be treated as corporate bodies. In Slovenian legislation such clear definition is missing.

In some other points Slovenian regulation is even more severe than the CRD. One of such rules concerns conditions for including an exposure into the retail portfolio. In Slovenia, an individual retail exposure (or sum of the exposures of connected people) may not exceed 0,2% of the total retail portfolio. This can be problematic for smaller banks or banks with small retail portfolios.

Under the internal rating based (IRB) approach for the credit risk there is a first difference in exposures categories. Both, the Accord and Slovenian legislation define categories of the exposure to corporate bodies, sovereigns, banks, retail and equity exposure. The Accord additionally defines the category of qualifying revolving retail exposure while the Slovenian legislation includes it as a sub-category of the retail portfolio. However, both the Accord and Slovenian legislation define three formulas to calculate risk weight in the retail portfolio. The difference between the three formulas is in correlation (R), which is given for qualifying revolving retail exposures and mortgages but is being calculated for other retail exposures. In addition, the Slovenian legislation defines the categories of positions in securitization and other assets from non-credit exposures while the Accord has only one more category, which is eligible purchased receivables.

The Bank of Slovenia requires for a bank, which wants to implement the IRB approach gradually, to have at least 50% of all exposures on the IRB approach on the day when the IRB approach is implemented.

Slovenian legislation continues to implement typical Basel II – language, which gives sometimes too much space for the interpretation. Banks are expecting further on more detailed explications from the Slovenian regulator. For example, consider IRB approach where it speaks about the quality of the rating models (Jagric and Jagric, 2007). The legislation says, the model should be as much unbiased as possible. When it speaks about the stress testing, it says that the bank should perform it on regular basis and that it should include the majority of the banks' portfolio. But when speaking about quantitative measures it is important that we all understand what little correlation is, unbiased in great extent, performing something regularly etc., in the same way.

1.2. Market and operational risk. For Slovenian banks Basel II under the market and operational risk does not introduce that much effort as it does for the credit risk. However, there are differences in the Slovenian legislation compared to the official Accord. Slovenian regulation is broader, more precise and stricter. Let us examine a few cases through this section.

The Accord doesn't speak about the conditions under which the bank may apply rules on standardized and IRB approaches for the trading book issues, too. Slovenian regulation sets contain several conditions: trading-book business usually does not exceed 5% of the whole banks business activity, total position in trading-book usually does not exceed 15 million Euros, and trading-book business never exceeds 6% of the whole banks business activity and total position in trading book never exceeds 20 million Euros. Whenever a bank exceeds these criteria, the national regulator must be immediately notified and capital requirement must be calculated according to the rules set for market risk. However, it is still unclear what "immediately" means and the Slovenian banks have raised the question whether that meant "daily". The Slovenian regulation requires from a bank to clearly define the aim of the trading in its strategies and policies and defines how the bank can prove the trading aim.

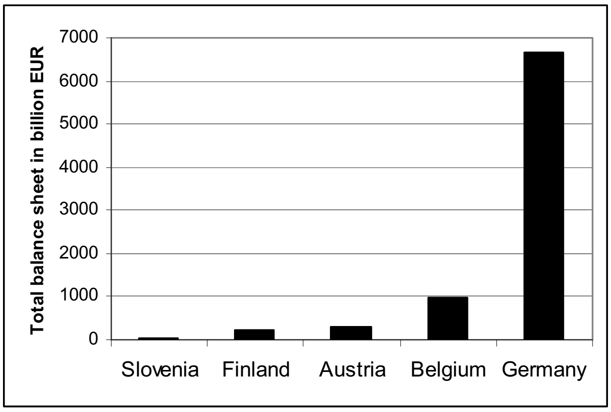
In practice many regulatory requirements are unclear, but they are clear enough in the general Accord. Hereby this includes examples like the following. In the national legislation there are two different terms used, prompt and market exchange rate. We believe that it would be better if only one was used. Another practical question is who an independent expert is whose job is to validate model assumptions according to the national legislation – is this an external expert or only an internal employee not involved in the model development?

Under the operational risk Slovenian legislation follows the accord with all approaches already laid there down, Basic Indicator Approach, Standardized Approach, Advanced Measurement Approaches (AMA). Being provided with a range of approaches, a bank ought to select the one most appropriate to its size, the complexity of its operations, and the nature of its risks. Basel II Operational Risk Framework requires from Slovenian banks to prepare, develop and implement suitable tools for operational risk management policies. The analysis of our survey, which will be described later on, indicates that Slovenian banks will mostly start with simple approaches and move to more advanced ones in the future. The banks mainly work on the collection of operational risk loss data and are starting with build and modeling of the appropriate database. Operational risk database should enable the bank to gain an efficient overview over all actual operational losses appearing in the bank and in that way help improve operational risk management. Designing of an appropriate database starts with the definition and identification of all types of operational risks which a particular bank is exposed to.

2. Why are there differences in national legislation compared to the Accord?

We can broadly conclude that deviations from the official Accord are small. Mainly they appeared as a consequence of deviations between EU Directive and the official Accord. Changes from the original Accord appeared due to specifics of the European banking sector. In the EU the main concern about the Basel II implementation is that no bank should suffer from the competitiveness due to Basel II. Differences in sizes between banks in the EU are huge. Basel II could set banks of different sizes into different favorable position. Hakenes and Schnabel (2005) discuss that the implementation of the IRB approach requires large initial investments in risk management technologies, which may deter small banks from choosing the IRB approach. In that case, only large banks profit from the reduction in capital requirements (and hence marginal costs) for safe loans in the IRB approach.

This argument is very important for the Slovenian banking sector. In Slovenia the whole market is small, so no bank can be big in terms of European banks. The total of balance sheets of all banks amounted on December 2006 only 33.8 billion Euros (Slovenian Banking Association, 2007) where the market leader has a market share of about 32%. In the sense of economies of scale, available longest (time) data series and experiences, this bank could have the best position in the process of implementing Basel II. To gain an insight of the size let us compare these data to the size of some other European banking markets (see Fig. 1).



Source: National Bankers' Associations.

Fig. 1. Banking sector size in selected EU countries (data for 2006)

Finnish banks have the total balance sheet of 220 billion Euros (end of 2006, The Finnish Bankers' Association), Austrian banks have 290 billion Euros (end of 2006, Austrian Bankers' Association), Belgian banks have the total balance sheet of 970 billion Euros (in year 2006, The Belgian Bankers' and Stockbroking Firms' Association (ABB-BVB)), and German banks have 6663 billion Euros (end of 2006, Association of German Banks).

Besides the size of the banks there are a few concerns about implementing Basel II in Slovenia. Like in the USA (Berger, 2004) and in the other EU-member states (ECB, 2007) Slovenian banks (and governments) were also concerned about the future of financial position of small and medium-sized enterprises (SMEs) with bank loans. In Slovenia, 99,7% of all companies fall into the category of SMEs. SMEs employ over 65% of all workers (Zupancic, 2007). Expensive bank loans for SMEs would have an extremely negative impact on the national economy. The same is true for other European economies, since SMEs are a very important part of the European economy (ECB, 2007). We can conclude that Slovenian regulation deviates just a bit more from the Accord than the CRD does. There is a reasonable question if that is enough and if Slovenian banks wouldn't have the need for further deviations from the CRD.

Conducted Quantitative Impact Studies (QISs) presented by Basel Committee on Banking Supervision (BCBS) have shown that the more advanced approach the bank takes, the greater can be the reduction in required capital (BCBS, 2006). Results of the Fifth QIS show that the retail mortgage portfolio contributes the most to the reduction in minimum required capital under the standardized and the IRB approaches (-6.3% to -7.6% for G10 Group 1 banks). Since there was no explicit capital charge for operational risk under Basel I, the highest increase is due to the new capital requirements for operational risk (5.6% to 6.1% for G10 Group 1 banks). For Group 1 banks under the IRB approach, the other main contributing portfolios are corporate and SME retail (decreases) as well as equity (increase) (BCBS, 2006). The results of BCBS's 5th QIS are summarized in Table 1.

Table 1. Results of 5th BCBS QIS

	Change in minimum required capital relative to Basel I, in %			
	Standardized approach	FIRB approach	AIRB approach	Most likely approach
G10 Group 1	+1.7	-1.3	-7.1	-6.8
G10 Group 2	-1.3	-12.3	-26.7	-11.3
CEBS Group 1	-0.9	-3.2	-8.3	-7.7
CEBS Group 2	-3.0	-16.6	-26.6	-15.4
Other non-G10 Group 1	+1.8	-16.2	-29.0	-20.7
Other non-G10 Group 2	+38.2	+11.4	-1.0	+19.5

Source: BCBS, 2006.

In 2003 the Bank of Slovenia and The Bank Association of Slovenia have conducted a Slovenian Quantitative Impact Study (SiQIS). The study shows data as of September 9, 2003. The study tried to estimate the effect of the Basel II implementation on Slovenian banks. The study was made before banks had all the necessary knowledge and available data about Basel II. Out of these reasons SiQIS implied only the simplest approaches, which are the standardized approach for credit risk and simple approach for the operational risk. Data gathering was a big challenge for the banks, since data requirements are bigger and partly differ from what was available until SiQIS in the bank data a warehouses or other databases. Upon the results of the three scenarios, the Bank of Slovenia tried to identify which national discretions would be the most appropriate for the Slovenian banking sector. According to SiQIS, capital requirements for Slovenian banks would raise on average. Since other impact studies have shown that banks would benefit from the use of advanced approaches (BCBS QISs 2006 and older, Price-WaterhouseCoopers 2004), we can expect Slovenian banks to use the IRB approach and other more sophisticated approaches in the future. The results of SiQIS are summarized in Table 2.

Table 2. Results of the SiQIS

Scenario	Change in capital requirements under the standardized approach relative to Basel I, in %	
	Only on credit risk	On all risks
Optimistic	-13.92	-0.60
Pessimistic	+9.80	+19.98
Realistic	-0.53	+11.02

Source: Bank of Slovenia and Bank Association of Slovenia 2003.

Slovenian banks had a lot of concerns about the successful implementation of Basel II in the time period before 2006. Some of the reasons were concurrent projects in all Slovenian banks, the adaptation of Euro on 01.01.2007 and International Financial Reporting Standards (IFRS) implementation. Small banks suffered under time and resource deficit for appropriate preparing on Basel II. Another reason for skepticism, especially concerning the IRB approach, was that there was little practice in Slovenian banks with econometric models for rating assessments and that data storage in most of the banks was not yet compliant with the IRB requirements. Most banks will first implement more simple approaches, like standardized one for the credit risk, and go for more sophisticated, like IRB, later on.

In 2006 the Bank of Slovenia published draft legislation and invited Slovenian banks to the discussion. Slovenian banks actively took part in the creation of the said legislation within the Bank Association of Slovenia by participating in the making of comments and observations related to the decisions of the Bank of Slovenia. Some comments by the banks were implemented into the new legislation while for some questions the Bank of Slovenia gave explanations. Also Slovenian banks mostly had comments about what would be more appropriate for the Slovenian market; however, the Bank of Slovenia is obligated to implement CRD at a minimum.

Banks' concerns about the standardized approach were about the availability of external credit ratings approved by the Bank of Slovenia for obligors of Slovenian banks. In the SiQIS Slovenian banks estimated that only 1% of Slovenian companies in banks portfolios have an appropriate external credit rating. Few months before the implementation of Basel II in Slovenia, banks mostly solved this problem with help of the Bank of Slovenia, which finally offered issue rules for external rating agencies being accepted as ECAI.

If we consider the IRB approach for the credit risk, the need of changing for Slovenian banks would be much greater than the one for the standardized approach. Mainly because banks are at the moment not experienced enough in the sophisticated quantitative risk measure required in the IRB approach. However, this is just a transitional problem. Banks are mostly aware of that and are not trying to simplify the regulation but rather to learn about the modern risk management techniques and their benefits and could in few years improve competitiveness in this sense, too.

3. Implications of Basel II for the Slovenian banking sector

We tried to estimate implications of Basel II for the Slovenian banking sector upon a survey. The analysis was conducted in August and September 2007, which is only 3 months before the implementation of Basel II. Slovenian banks did actively prepare for Basel II implementation. We believe that the results reflect the implications of the real Basel II for the banks. There are 21 banks or banking groups present at the Slovenian market. We received answers to our questionnaire from 8 banks, which have together a market share of about 71%. Therefore the answers to our questionnaire, despite the small number of banks, are considered to be representative enough to form statements about the Slovenian market.

Basel II has had (and further on will have) great implications for the Slovenian banking sector. 75% of banks estimate the impact of Basel II as positive. The rest estimates it as negative or both. As a positive effect, the banks listed, among others:

increased transparency, improved risk management practices, bigger impact of bank on capital requirements, increased objectivity at business decisions, stimulation of research, development and adaptation of most sophisticated modern risk management techniques. However, there are negative effects reported by Slovenian banks as well. All Slovenian banks face extremely high costs associated with Basel II implementation, economies of scale could not yet appear as time horizon is too short for now and all banks are relatively small when comparing to banks in other EU economies. Smaller banks need more time to estimate if advanced approaches pay off at all and if so, to properly develop and implement them. Besides direct costs, the Slovenian banks report high opportunity costs. Slovenian banks don't have highly trained analytical/risk departments which exclusively work on Basel II implementation. On the other hand, on the labor market there are only a small number of candidates with proper knowledge and experience to jump into risk management teams of banks right ahead.

The knowledge of sophisticated advanced risk management techniques was in most of the Slovenian banks very poor before Basel II. 62% of banks estimate current knowledge of sophisticated risk management techniques in Slovenian banking area as bad, given the score 2, on the scale from 1 to 4, taking 1 as the worst and 4 as the best. Work on risk management techniques was mostly an always postponed task. Now, with Basel II banks have an outside push to improve their internal risk policies and thereby the level of understanding full risks, which occur in banking. All of the banks, which answered to our questionnaire, have already separated and independent risk management unit or department, where employees devote themselves to risk management tasks only.

Before preparation projects for Basel II and final Basel II implementation, 25% of banks have been already using (some) advanced risk management techniques. Banks which have already been using advanced techniques report that Basel II doesn't represent an important change in their internal risk management policy. Banks which have not been using advanced techniques before or used them only in part, would in 83% develop them in the future. Even if Basel II didn't have the chance of using advanced risk management techniques for estimating regulatory capital requirements the banks would probably develop some advanced tools of risk management because of their internal needs (in 66%).

75% of banks consider high implementation costs as an investment in the business improvement and competitiveness and fulfilment of regulatory requirement at the same time and not only as unnecessary costs, which are caused to the banks by the regulator. Other 25% of banks see costs of implementing Basel II as unnecessary ones, which are caused to the banks by the regulator. 87% of banks report that Basel II did or will in the near future cause important changes in the daily business practice. Estimated 62% of the banks report that Basel II requires a change in the business policy for the groups of clients (credit lending policy, prizing etc.). In those banks business policy is expected to be changed in the near future. 37% of banks named SME's portfolio. Capital directive treats this portfolio more favorable in new regulative compared to the old one. Banks noticed this business opportunity very soon and therefore already today change their business policy on SME's. Other banks didn't give answers to this question or they do not expect any important changes in business policy. 37% of banks report changes in trading book policy due to Basel II as well.

Half of Slovenian banks estimate the cooperation of Bank of Slovenia with banks in the field of Basel II implementation up to now as good (with score 3 on the scale from 1 to 4, where 4 is the best). The other half estimates the cooperation as bad or very bad up to now. Slovenian banks in 62% do not expect the current regulation to change importantly. According to the Bank of Slovenia, the Slovenian capital regulation will change for the first time already before the end of 2007. Changes in the regulation are expected to be small, for now and for the near future.

Conclusions

The paper exploits the implications and consequences of Basel II for Slovenian banking sector as it is seen just before the implementation. Through Basel II, the banking regulation has made increasing use of external and bank's internal credit ratings. This fact gives new opportunities, challenges but also milestones to Slovenian banks.

The Slovenian national legislation incorporates EU Capital Requirements Directive which is based on Basel II standards. There are some little differences in the Slovenian national legislation and the original Accord. Differences could be identified, but they are very small. Since the Bank of Slovenia will introduce slight changes into current legislation, we expect those differences to disappear or be diminished, especially if they aren't in favor of banks.

We would expect even more differences in the Slovenian capital requirements regulation because of special features of the Slovenian banking market. This market is very small compared to other

European economies and therefore the size of Slovenian banks is smaller too. Slovenian banks claim that implementation of the IRB approach requires large initial investments in risk management technologies. This could deter small banks from choosing the IRB approach or they face high costs in the beginning, which means high marginal costs for safe loans in the IRB approach.

We tried to estimate the implications of Basel II for the Slovenian banking sector upon a survey. Majority of banks estimate the impact of Basel II as positive. Besides the direct costs, the Slovenian banks report high opportunity costs. Banks which did not use advanced techniques before Basel II, or did it only partially, would develop them in the future. As the results indicate, the implementation of Basel II will require major changes in the banks. Therefore, help of the central bank would be extremely important. However, only half of Slovenian banks estimate the cooperation of Bank of Slovenia with banks in the field of Basel II implementation up to now as good. We believe, that due to the size and structure of the banking sector in Slovenia, the Bank of Slovenia should make more effort to support the implementation of Basel II.

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