

CURRENT AND FUTURE DEVELOPMENT OF THE CZECH BANKING SECTOR FROM THE PERSPECTIVE OF CAPITAL ADEQUACY REGULATION IN EU

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Abstract

This article deals with current and future development of the Czech banking sector from the perspective of capital adequacy regulation in EU. Firstly the differences in the regulation of the banking sector, especially between Basel II and new regulatory framework Basel III, are described. The article follows the calculation of capital adequacy ratio under the Basel II and changes in the calculation under the Basel III. The main aim of this article is to introduce development of bank capital, capital requirements and capital adequacy in the Czech financial market in years 2006–2011 and based on these findings to assess the stability of banking in the future. Finally the impacts of new regulatory framework for Czech banks are evaluated.

Introduction

Certain risks of the financial system are not properly valued by banks or other institutions in the financial market. Banks accept a higher risk because they are partly refinanced by uninformed depositors. This behaviour includes elements of moral hazard in which is risk transferred to the depositor. One way to solve this problem is requiring capital adequacy to cover risks associated with the activities of financial institutions. The amount of capital adequacy should match the risk profile of the bank and has to ensure proper risk assessment. Risk management represents a key strategic function of each financial institution. EU regulation based on the risk management responds to the changes and actual situation in financial markets. This concept is implemented in the banking industry under the title Basel Accords. The Basel Committee on Banking Supervision (BCBS) published reforms to the international regulatory framework Basel III as a solution of financial crisis's impacts to global financial market. The reform measurements strengthen regulation for banks based on microprudential and macroprudential approaches.

In the first part of the article the new regulatory framework for banking sector is described. The second part of the paper deals with the calculation of capital adequacy ratio under the Basel II and Basel III. The analysis of capital, capital requirements and capital adequacy ratios for Czech banking is made in the years 2006–2011. The impacts of EU regulation to Czech banks are determined from this analysis.

The data for this analysis are especially from the financial market supervision report of Czech National Bank [5] and from the annual reports of selected banks (ČSOB – Československá obchodní banka, a.s, ČS – Česká spořitelna, a.s and KB – Komerční banka, a.s.) [6] [7] [8]. About new regulatory framework Basel III and calculation of capital adequacy ratio there are some textbooks, research studies or consultative documents, see); The Basel Committee on Banking Supervision (BCBS) (2010) [2]; Cipra (2002) [3]; Sherman & Stearling LLP (2011) [9] and others.

1 Regulatory framework for capital adequacy of banking sector

The essence of capital adequacy is that the risks must be covered by equity of the bank. The capital adequacy is defined as the ratio of capital and risk-weighted assets. An insufficient amount and poor quality of regulatory capital are the problems of the Basel II concept. These shortcomings are eliminated in the Basel III concept, where are conditions tightened. Basel III rules mean an increase of the quality capital requirements, and also an increase of capital requirements for risk-taking by banks that is reflected in the cost of credits (in the interest rate).

1.1 The Basel III Capital Adequacy Accord

The Basel I Accord was adopted in 1988. The Basel I was not sufficiently sensitive in measuring risk exposures, so the Basel II Accord was implemented in 2008, but it was never fully implemented. The new regulatory framework Basel III would make significant changes in regulation of capital requirements:

The new definition of regulatory capital means the strengthening of global capital framework with raising the quality, consistency and transparency of the capital base, strengthen the risk coverage with a capital conservation buffer, supplementing the risk-based capital requirement with a leverage ratio, reducing procyclicality and promoting countercyclical buffers, addressing systemic risk and interconnectedness, a new liquidity requirement and other elements (“SIFIs”).

The quality capital requirements and the capital adequacy will increase between 2013 and 2019. The overall capital requirement will increase from 8% (Basel II) to 10.5% (Basel III) in 2019, because there are introduced capital conservation buffer and countercyclical buffer. The reform process is captured in table 1 below.

Tab. 1: Phase-in arrangements

CAPITAL / YEARS	2013	2014	2015	2016	2017	2018	2019
Min. Core Tier 1 Capital Ratio (% of RWA)	3.5	4.0	4.5	4.5	4.5	4.5	4.5
Capital Conservation Buffer (% of RWA)				0.625	1.25	1.875	2.5
Min. Core Tier 1 plus Capital Conservation Buffer (% of RWA)	3.5	4.0	4.5	5.125	5.75	6.375	7.0
Min. Tier 1 Capital (% of RWA)	4.5	5.5	6.0	6.0	6.0	6.0	6.0
Min. Total Capital (% of RWA)	8.0	8.0	8.0	8.0	8.0	8.0	8.0
Min. Total capital plus Capital Conservation Buffer (% of RWA)	8.0	8.0	8.0	8.625	9.125	9.875	10.5
Countercyclical Buffer	Range between 0 – 2.5% (common equity or other fully loss absorbing capital)						

Source: [2]

The minimum amount of the capital conservation buffer is 2.5% of the risk-weighted assets (RWAs). The capital conservation buffer would increase in increments of 0.625% of RWAs annually. That means, on January 1, 2016, the conservation buffer would be 0.625%; on

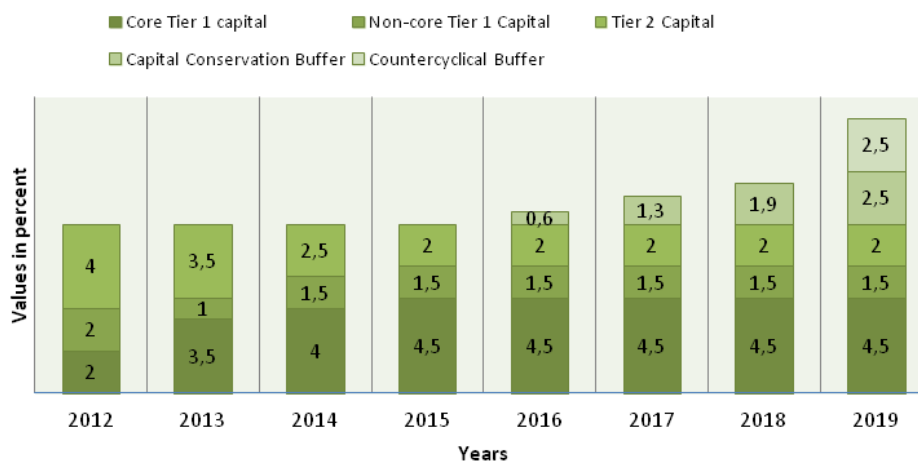
January 1, 2017, it would be 1.25%; on January 1, 2018, it would be 1.875%; and 2.5% on January 1, 2019.

Countercyclical buffer should be between 0 – 2.5% of total risk-weighted assets consisting of common equity capital to absorb risks. This buffer aims to ensure that capital requirements take account of the macro-financial environment in which banks operate. In an economic expansion the countercyclical buffer would increase and in an economic recession it would decrease. The capital adequacy may be up to a total of 13%.

“SIFI surcharge” (Systemically important financial institutions) represents other element of additional capital requirement and liquidity surcharges. The issue of global SIFI touches the Czech banking sector rather indirectly through the parent companies of the largest Czech banks. [2], [9]

1.2 The calculation of the capital adequacy ratio

The impact of Basel III on the calculation of capital adequacy ratio is evident from figure 1. The stricter capital definition means an increased quality of Tier 1 (going concern capital), a simplification and reduction of Tier 2 (gone concern capital), an elimination of Tier 3 and new eligibility criteria and limits for capital components. The increased RWAs mean/include higher risk weights for (re-)securitizations, higher capital requirements for trading book positions and higher capital requirements for counterparty credit risk exposures arising from derivatives, repo-style transactions and securities financing activities. [1]



Source: [1]

Fig. 1: Changes in the calculation of capital adequacy ratio

The calculation [3] of the capital adequacy under Basel II (1):

$$\text{capital adequacy ratio} = \frac{\text{Tier 1} + \text{Tier 2} - \text{DI} + \text{Tier 3}}{A + B + C} \cdot 0.08 \quad (1)$$

The capital adequacy must be no lower than 8 %.

The calculation of the capital adequacy under Basel III (2):

$$\text{capital adequacy ratio} = \frac{\text{Tier 1} + \text{Tier 2} - \text{DI}}{A + B + C} \cdot 0.105 \quad (2)$$

The new capital adequacy must be no lower than 10.5 %.

Explanatory notes:

- **Capital structure:**
 - Tier 1 is core capital and is made up of mainly common shareholders' equity, most retained earnings, disclosed reserves, and perpetual non-cumulative preferred stocks.
 - Tier 2 or supplementary capital consists of subordinated debt, limited-life preferred stocks and loan loss reserves, and goodwill.
 - Tier 3 capital was abolished from January 1, 2011 due to the changes in Basel II. The measure had no effect on Czech banks as Tier 3 was not used in the Czech Republic.
 - Deductible items (DI) include goodwill, the capital increase resulting from exposures of the securitization and investments in subsidiaries, which are not part of the consolidated national system. Deductible items reduce the value of Tier 1 and Tier 2.
- **Capital requirements (RWAs):**
 - Credit risk (A)
 - Market risk (B)
 - Operational risk (C)

The capital requirements for other risks are included among the RWAs in the calculation of capital adequacy ratio in the following chapter 2.

2 The analysis of banking sector's capital adequacy

The banking stability is evaluated based on the analysis of capital requirements of banks. The bank must meet capital adequacy requirements on an individual basis or consolidated basis, depending on whether it is part a group of financial holding companies or financial conglomerates. The following analysis of the capital adequacy of banks is performed for the years 2006–2011. In table 2 can be seen prudential indicators of banks for determining capital adequacy which is calculated in table 3.

The table 2 shows that the value of bank's regulatory capital increased in the monitored years 2006-2011. The core capital Tier 1 is regularly improved year on year. Tier 1 increased to CZK 281.1 billion, thanks mainly to retained earnings. A decline in Tier 2 by CZK 2.7 billion was due to a decrease in subordinated debt of CZK 3.4 billion. Deductible items dropped significantly by CZK 10.3 billion in 2010 and by CZK 1.4 billion in 2010. Zero values for Tier 3 confirm that it is not used in domestic banking sector.

The largest proportion of the total capital requirements makes up the capital requirement for credit risk, which account for 86.7 % in 2011. The capital requirements relating to credit risk are determined mainly on the basis of the development of banking sector's investment portfolio. The capital requirements for credit risk are set/determined either the Standardised Approach (STA) or the Internal Ratings Based (IRB). Total capital requirements increased by CZK 5.4 billion in 2011. [5]

Tab. 2: Development of capital and capital requirements of banks in the Czech Republic (in CZK billions)

CAPITAL / YEARS	2006	2007	2008	2009	2010	2011
Tier 1	164.5	190.4	219.9	237.6	263.4	281.1
Tier 2	27.6	31.1	32.1	38.0	35.3	×
Deductible items	4.5	9.6	21.1	10.8	9.4	×
Tier 3	0.0	0.0	0.0	0.0	0.0	0.0
Own funds, total	187.6	211.9	230.9	264.8	289.3	303.3
CAPITAL REQUIREMENTS / YEARS	2006	2007	2008	2009	2010	2011
A – Credit risk	125.1	134.6	130.3	131.9	130.0	133.9
Aa – STA capital requirement	125.1	81.1	49.8	49.2	51.5	×
Ab – IRB capital requirement	0.0	53.5	80.5	82.8	78.5	×
B – Market risk	4.7	3.9	5.3	3.3	2.8	3.6
Ba – Interest rate risk	×	2.6	2.2	2.1	2.1	2.5
Bb – Equity risk	×	0.2	0.1	0.1	0.1	0.1
Bc – Exchange risk	×	0.2	0.3	0.1	0.1	0.4
Bd – Commodity risk	×	0.1	0.2	0.1	0.1	0.2
Be – Internal models	×	0.8	2.4	0.8	0.5	0.4
C – Operational risk	0.0	7.7	14.0	14.7	16.4	16.9
Ca – TSA method	0.0	7.2	8.7	4.6	5.6	×
Cb – AMA method	0.0	0.0	3.4	8.2	8.2	×
Cc – BIA method	0.0	0.5	1.1	1.1	1.3	×
Cd – ASA method	0.0	0.0	0.8	0.8	1.2	×
D – Other risk	0.7	0.5	0.3	0.0	0.0	0.2
Da – Settlement risk	0.0	0.0	0.0	0.0	0.0	×
Db – Trading portfolio exposure risk	0.7	0.5	0.2	0.0	0.0	×
Dc – Other instruments risk	0.0	0.0	0.0	0.0	0.0	×
Dd – Transitional capital requirement	0.0	0.0	0.0	0.0	0.0	×
Capital requirements, total	130.6	146.8	149.9	150.0	149.1	154.5

Source: Own based on [4], [5]

The capital requirements for operational risk were introduced in 2007. There are four methods how banks can set operational risk: the Advanced Measurement Approaches (AMA), the Alternative Standardized Approach (ASA), the Basic Indicator Approach (BIA), the Standardized Approach (TSA). The capital requirements for operational risk increased to CZK 16.9 billion in 2011 that means a share of 10.9% on the total capital requirements. The capital requirements for market risk with a share of 2.3% and the capital requirements for other risks with a share of 0.1% represent negligible values. It is necessary to add that the year 2007 represented the transition period for Czech banks in which they could choose whether to follow the regulation Basel I or Basel II. [5]

Tab. 3: Capital adequacy of banks in the Czech Republic [%]

CAPITAL ADEQUACY / YEARS	2006	2007	2008	2009	2010	2011
1. Capital adequacy (Basel II)	11.49	11.55	12.32	14.11	15.52	15.70
1.1. Capital adequacy Tier 1	10.08	10.38	11.74	12.67	14.13	14.55
2. Capital adequacy (Basel III)	15.08	15.16	16.17	18.52	20.37	20.61
2.1 Capital adequacy Tier 1	13.23	13.62	15.40	16.63	18.54	19.10
3. Difference between 1. and 2.	3.59	3.61	3.85	4.41	4.85	4.91

Source: Own

In table 3 can be seen that the bank sector's capital adequacy increased to 15.70% as a result of a 4.8% rise in the regulatory capital to CZK 303.3 billion in 2011. Table 4 shows the capital adequacy for three largest banks (according to total assets) in the banking sector: Československá obchodní banka, a. s. (ČSOB), Česká spořitelna, a. s. (ČS) and Komerční banka, a. s. (KB).

Tab. 4: Capital adequacy of three largest banks in the Czech Republic

CAPITAL ADEQUACY (%) / YEARS	2006	2007	2008	2009	2010	2011
1. ČSOB	9.29	11.12	8.65	12.33	16.51	13.61
2. ČS	11.10	9.60	10.30	12.30	13.90	13.10
3. KB	11.90	10.10	12.13	14.08	15.27	14.61
4. TOP 3 (average)	10.76	10.30	10.36	12.90	15.23	13.77

Source: Own based on [6], [7], [8]

The new regulatory capital requirements of Basel III will not have a direct impact on the Czech banking market. Banks in the Czech Republic meet capital adequacy requirements for a minimum of 8%, so for a new minimum of 10.5% without the new changes in regulatory capital already in the monitored years 2006–2011. The major Czech banks are capitally strong enough to resist the economic downturn. The transition to Basel III rules can be expected without any major problems according to capital adequacy of Czech banks. It is evident that capital adequacy of banking sector will be improved under the Basel III regulation. [5]

Conclusion

The Basel III represents new rules for capital regulation to avoid crises and it will be implemented in global financial market. The tightening of regulation can have a significant impact for commercial banks, although it should relate primarily to investments banks. It means that Basel III would make changes in regulatory capital requirements. Tier 1 will increase, Tier 2 will decrease and Tier 3 will canceled. These changes will have impact to calculation of capital adequacy ratio. The total capital requirement will increase from 8% to 10.5%.

From the analysis of Czech bank capital in 2006–2011 follows that the banking industry meets sufficient capital requirements. It can be deduced that Czech banks will adapt to new rules under the Basel III without major problems. New regulation will promote the development of banking, bank assurance, better protection for clients and it will ensure healthy competition in the financial market. Regulation for financial market has the potential to bring improvements to banking sector and other sectors, too.

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SOUČASNÝ A BUDOUCÍ VÝVOJ ČESKÉHO BANKOVNICTVÍ Z POHLEDU REGULACE EU ZAMĚŘENÉ NA KAPITÁLOVOU PŘIMĚŘENOST

Článek pojednává o současném a budoucím vývoji českého bankovního sektoru z hlediska regulace EU zaměřené na kapitálovou přiměřenost. Úvodní část práce popisuje rozdíly v regulaci bankovního sektoru, a to zejména mezi Basel II a novým regulatorním rámcem Basel III. Příspěvek dále navazuje na výpočet kapitálové přiměřenosti v rámci pravidel Basel II a změnami v kalkulaci kapitálové přiměřenosti v rámci Basel III. Hlavním cílem příspěvku je představit vývoj kapitálu bank, kapitálových požadavků a kapitálové přiměřenosti na českém finančním trhu v letech 2006–2011 a na základě těchto zjištění posoudit stabilitu bankovního sektoru v budoucnosti. Závěrem jsou zhodnoceny možné dopady regulace Basel III na české banky.

DIE GEGENWÄRTIGE UND ZUKÜNFTIGE ENTWICKLUNG DES TSCHECHISCHEN BANKWESENS AUS DER SICHT DER FÜR DIE KAPITALZWECKMÄSSIGKEIT ZUSTÄNDIGEN EU-REGELUNG

Dieser Artikel handelt über die gegenwärtige und zukünftige Entwicklung auf dem tschechischen Banksektor aus der Sicht der für die Kapitalzweckmäßigkeit zuständigen EU-Regelung. Der einführende Teil der Arbeit beschreibt die Unterschiede in der Regulierung des Bankwesens, und das besonders zwischen Basel II und dem neuen regulativen Rahmen Basel III. Der Beitrag knüpft hernach an die Berechnung der Kapitalzweckmäßigkeit im Rahmen der Regeln Basel II und den Änderungen in der Kalkulation der Kapitalzweckmäßigkeit im Rahmen von Basel II. Hauptziel des Beitrags ist es, die Entwicklung des Kapitals der Banken, der Kapitalanforderungen und der Kapitalzweckmäßigkeit auf dem tschechischen Finanzmarkt in den Jahren von 2006 bis 2011 vorzustellen und auf Grundlage dieser Feststellungen die Stabilität im Bankwesen in der Zukunft zu beurteilen. Als Abschluss werden mögliche Auswirkungen der Regulierung Basel III auf die tschechischen Banken bewertet.

OBEČNY I PRZYSZŁY ROZWÓJ CZESKIEJ BANKOWOŚCI Z PUNKTU WIDZENIA REGULACJI UNIJNYCH UKIERUNKOWANYCH NA ADEKWATNOŚĆ KAPITAŁOWĄ

Artykuł opisuje obecny i przyszły rozwój czeskiego sektora bankowego z punktu widzenia regulacji unijnych dotyczących adekwatności kapitałowej. W części wprowadzającej opisano różnice w uregulowaniach dotyczących banków, w szczególności pomiędzy Basel II a nowymi standardami Basel III. W dalszej części artykułu poświęcono uwagę wyliczeniu adekwatności kapitałowej w ramach standardów Basel II oraz zmianom w oszacowaniu adekwatności kapitałowej w ramach Basel III. Głównym celem opracowania jest przedstawienie rozwoju kapitału banków, wymagań kapitałowych oraz adekwatności kapitałowej na czeskim rynku finansowym w latach 2006–2011. Na podstawie tych ustaleń następnie oceniono stabilność sektora bankowego w przyszłości. W zakończeniu ocenie poddano możliwy wpływ standardów Basel III na czeskie banki.