The Concept of Capital within the Framework of Basel II

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The new Basel II Capital Accord has been one of the financial sector's most fiercely discussed topics in the recent past. After many years' debate, the regulations formally took effect on January 1, 2007, and the advanced measurement approaches are scheduled to become fully operational on January 1, 2008. The new regulations will cause a number of changes in the area of credit risk. The calculation of risk-weighted assets, and thus of regulatory capital, will henceforth be based on borrowers' credit ratings to a much greater extent than according to the old regulations (Basel I). The concept of capital (i.e. the definition of own funds) itself will remain largely unchanged, although it was subject to repeated changes in recent decades. This paper examines the definition of capital in the new Austrian Banking Act and shows that the capital concept will need to be modified in the future. In addition, it defines regulatory capital in relation to other capital concepts, revealing inter alia that capital has a broader definition than balance sheet equity. An analysis of the capital adequacy of Austrian credit institutions demonstrates that their capital ratio clearly exceeds minimum capital requirements and that the composition of banks' capital shows a favorably high share of core capital.

JEL classification: G21, G28.
Keywords: Basel II, credit institutions, banking supervision, capital, regulatory capital, own funds, capital ratio.

1 Introduction

Following a consultation phase that lasted several years, the new capital adequacy framework (Basel II) formally took effect in early 2007. (By exercising a national discretion, credit institutions in Austria may, however, defer the application of the new regulations to 2008.) The advanced approaches (advanced IRB approach and AMAs) become fully operational in 2008. Austria transposed the relevant EU directives ("Capital Requirements Directive", CRD, and "Capital Adequacy Directive", CAD) into national law by revising the Austrian Banking Act and publishing the new Solvency and the Disclosure Regulations. In the sphere of credit risk, borrowers' credit ratings will play a bigger role in establishing capital requirements under the new rules than they used to under the Basel I framework. While this means that the calculation of risk-weighted assets – and thus capital ("own funds"[1] in the CRD) – will be subject to major changes compared with Basel I, the definition of capital will remain largely unchanged for the time being. However, there are plans to revise the concept of capital as current national discretions and differing accounting standards are expected to give rise to differences in the eligibility of different types of capital. Given the complexity of the topic, these changes are not envisaged until after Basel II has become fully operational.

This paper examines the impact of the new capital regulations on the definition of capital. A historical outline illustrating the development of the concept of (liable) capital is provided before we examine the definition provided in the (new) Austrian Banking Act and show what (minor) adjustments have been made to the Austrian Banking Act in the course of

Refereed by:
Markus S. Schwaiger, OeNB

[1] *The terms "capital" and "own funds" are used inconsistently in the various legal documents this paper refers to; for reasons of consistency, we use "capital" throughout the paper.*

its amendment. Furthermore, regulatory capital is defined in relation to other concepts of capital, and the capital adequacy of Austrian credit institutions and its historical development are analyzed. Finally, we provide an outlook on changes to capital requirements that can be expected from Basel II. Macroeconomic aspects of Basel II such as procyclicity are not considered in this article.[2]

2 The Concept of Capital within the Framework of Basel II

2.1 Historical Development of the Capital Concept

Austrian banking legislation as such did not exist until March 1979. Until then, Austrian credit institutions were subject to the (adapted) regulations of the German Banking Act dating from 1939. Before the German Banking Act was introduced, individual regulations and special statutes governed the Austrian banking sector. [3]

The concept of "liable capital" is found for the first time in the above-mentioned German Banking Act of 1939, although similar provisions had existed previously, e.g. in the Mortgage Banking Act (restriction of credit bond issuance in relation to share capital). The German Banking Act defined for the first time what, in regulatory terms, may be recognized as capital in an initial attempt to set structural norms. These structural norms comprised a maturity matching rule, a liquidity rule and a type of large exposures rule.

Passed in 1979, the first Austrian Banking Act (Kreditwesengesetz) was to a very large extent based on its German equivalent, with capital corresponding to liable capital plus loosely defined general allowances for losses. The maturity matching rule stipulated that capital must amount to at least 4% of liabilities that are not covered by liquid funds. The liquidity rule stipulated that the balance sheet value of equity investments, real estate and buildings may not exceed 100% of capital. A type of large exposures rule stipulated that the exposure to a single client may only amount to between 5% and 7.5% of liabilities. These three rules constituted the structural norms. The calculation of capital requirements was based exclusively on the liability side of the balance sheet, which meant that capital adequacy in Austria was lower than in other countries. This situation – highlighted by an OECD study, according to which the equity ratio of Austrian banks fell from approximately 6% to below 2.5% from 1960 to 1983 – called for a change.

The Act amending the first German Banking Act (1986) represented a fundamental intervention in the law existing at the time and basically tightened up the provisions relating to capital by introducing the concept of participation and supplementary capital (while reducing the eligibility of so-called surrogate capital). In addition, rules governing the coverage of banking risks – large exposures, liquidity, open foreign exchange positions, investment limits – were also

[2] *The data (on an unconsolidated basis) used in this paper are provided by the OeNB as compiled from banks' monthly balance sheet reports.*

[3] *See Turner (2000) for details on the information provided in this paragraph and the following ones regarding the historical development of capital and the capital concept.*

tightened up or added. This amendment had two aims: first, to reflect the international trend in limiting ever more complex banking risks with more stringent capital provisions and, second, to encourage credit institutions to build up more capital. In this connection, the 1986 amendment introduces the term "liable capital." The asset side of the balance sheet now represented the basis for calculating liable capital, with 4.5% of asset items having to be held in liable capital at all times. Moreover, off balance sheet transactions (contingent liabilities) were now also included in the capital requirements (2.25%).

In 1994 the second Austrian Banking Act (Bankwesengesetz – BWG) entered into force as a new legislative framework for banks, introducing the concept of "eligible own funds." The new regulations differed from the old framework both in terms of composition and eligibility by imposing a 1:1 ratio of core capital[4] to supplementary capital[5]. Among other things, eligible capital had to attain a solvency ratio of 8% of both risk-weighted assets (based on counterparty risk) and off balance sheet transactions. This solvency ratio also had to be used on a consolidated basis.

The Banking Act was subsequently amended several times, in particular with a view to implementing the Capital Adequacy Directive in 1996. As a result, the definition of capital was again changed (to include tier 3 capital[6]), and capital requirements for market risks were introduced, thus abandoning the exclusive focus on credit risks (market risks had not been covered at all previously, apart from restrictions on open foreign exchange positions). In 1998, finally, innovative capital (hybrid capital[7]) instruments were recognized as capital based on consolidated figures. This definition of capital continues to apply by and large and was also retained – with a few modifications – in the (new) Banking Act, which has been in force since January 1, 2007.

2.2 The Definition of Capital under § 23 Austrian Banking Act

The definition of eligible regulatory capital as outlined in the 1998 Capital Accord (Basel I) remains in place, except for some modifications, in the revised capital adequacy framework (Basel II) and in the revised Austrian Banking Act. At present, capital thus includes the original categories of core (tier 1) and supplementary (tier 2) capital plus short-term subordinated

[4] *Core or tier 1 capital is the most reliable form of capital and broadly equivalent to balance sheet equity. Core capital must be fully and immediately available to a credit institution for covering risks and absorbing losses as soon as they arise.*

[5] *Supplementary or tier 2 capital is the second most reliable form of capital and includes items such as hidden reserves. Tier 2 capital is limited to a proportion of tier 1 capital held.*

[6] *Tier 3 capital includes short-term subordinated capital, which is less reliable as a source of liability capital than tier 1 and tier 2 capital. It may only be used to apply capital requirements for market risks and is subject to restrictions on recognition.*

[7] *Although both the concepts of innovative capital instruments and hybrid capital are often used synonymously, they sometimes have different meanings. The concept of hybrid capital describes instruments that possess both equity and debt components. Since 1998 (Sydney press release), the concept of innovative capital instruments (or innovative tier 1 capital) has normally related to the portion of hybrid instruments that are recognized as (core) capital within the framework of Basel II. See CEBS (2006b, p. 2).*

(tier 3) capital, which was introduced in line with the explicit recognition of market risks (1996).[8]

Table 1 presents a summary of the components eligible as capital under § 23 Banking Act, the items to be deducted from capital and the eligibility of various forms of capital.

Although this definition of capital remained essentially unchanged, a few amendments were made to the (new) Banking Act – apart from renumbering articles and paragraphs and the relevant references:

- If expected losses as calculated according to the IRB approach are less than value adjustments and provisions, credit institutions may recognize as capital the difference up to a maximum of 0.6% of risk-weighted assets (§ 23 para 1 No 10).
- Where expected losses exceed value adjustments and provisions, banks must deduct the difference from capital (§ 23 para 13 No 4c).
- Banks must also deduct from capital a securitization exposure subject to a risk weight of 1,250% (§ 23 para 13 No 4d).

The first two points reflect the fact that – unlike the original proposals of the Basel Committee on Banking Supervision (BCBS) – the IRB approach will focus to unexpected loss only. Credit institutions must, however, compare their expected loss amounts with their value adjustments and provisions levels. As explained, they may count a positive net balance toward capital, but must deduct a negative net balance.

2.3 Future Modification of the Capital Concept

There are plans to revise the definition of capital, basically for two reasons. First, the above-mentioned calibration of unexpected loss and thus the new treatment of provisions will generally reduce the ratio of core capital requirements to overall capital requirements. Second, there currently exist national discretions and differing accounting standards, which will give rise to (competition-distorting) differences in the definition and the eligibility of different forms of capital. Growing convergence toward a uniform international capital standard requires a unanimously agreed list of capital instruments that may be used to cover unexpected loss.[9]

Uniform standards for regulatory capital cannot be attained until currently diverging national differences concerning the regulatory recognition of various capital items are eliminated. "Because of national differences in the composition of regulatory capital and loan loss provisioning standards, Basel II may require banks to be subject to widely varying degrees of prudential safety while ostensibly satisfying an identical IRB minimum capital requirement. If a bank's regulatory capital includes a greater share of equity than average and its specific loan loss provisions are more conservative than average –

[8] *The term "core (tier 1) capital" used in the Austrian Banking Act and in the Revised Framework Version published by the Basel Committee on Banking Supervision (BCBS) is equivalent to "original own funds" used in the EU directives; "supplementary (tier 2) capital" is equivalent to "additional own funds." For "short-term subordinated capital" or "tier 3 capital," the EU directives use the term "ancillary own funds."*

[9] *See BCBS (2006, p. 4).*

Table 1

The Definition of Capital Pursuant to §23 Austrian Banking Act

	Capital Components	Eligibility		
Core capital	Paid-up capital pursuant to § 23 para 3	Unrestricted eligibility (§ 23 para 14 No 1)		
	Disclosed reserves including liability reserve pursuant to § 23 para 6;			
	The interim profit in the current business year shall be counted toward the disclosed reserves only if			
	a) it has been calculated in accordance with the principles set out in Chapter XII after deducting all foreseeable taxes, charges and dividends,			
	b) the bank auditor has verified the accuracy of the calculation pursuant to lit a, and			
	c) the credit institution has demonstrated to the FMA the accuracy of the calculation pursuant to lit a;			
	If a credit institution is the originator of a securitization, the net profits from capitalized future income generated by securitized claims that enhance credit quality may not be included.			
Deductions from core capital	Funds for general banking risks pursuant to § 57 paras 3 and 4			
	– The credit institution's portfolio of own equity at book value pursuant to § 23 para 2			
	– Intangible assets pursuant to § 23 para 13 No 1			
	– Net loss as well as substantial negative results in the ongoing business year (§ 23 para 13 No 2)			
Supplementary capital	Hidden reserves pursuant to § 57 para 1	Up to 1.5% of the assessment base, provided core capital amounts to 4.5% of the assessment base (§ 23 para 14 No 4)		Up to 100% of core capital (§ 23 para 14 No 2)
	Supplementary capital pursuant to § 23 para 7 and participation capital (§ 23 paras 4 and 5) with the obligation of subsequent payment of dividends			
	Revaluation reserves pursuant to § 23 para 9			
	A positive net balance of value adjustments and provisions vis-à-vis expected losses of up to 0.6% of the assessment base pursuant to § 22 para 2, provided the expected losses are calculated pursuant to § 22b para 6 No 1 using the IRB approach pursuant to § 22b; securitization exposure that is subject to a risk weight of 1250% must not be included in this item.			
	Subordinated capital pursuant to § 23 para 8	Eligible five years prior to the repayment date in five equal annual installments (§ 23 para 14 No 5)	Up to 50% of core capital (§ 23 para 14 No 3)	
	Liability sum surcharge pursuant to § 23 para 10	Up to 25% of core capital (§ 23 para 14 No 6)		
Short-term subordinated capital	Short-term subordinated capital pursuant to § 23 para 8a	Only to be used for covering market risk. The amount of short-term subordinated capital employed may not exceed 200% of the core capital used for covering market risk (§ 23 para 14 No 7).		
Deductions from capital	– Shares, subordinated claims and other capital components held by the credit institution in other credit institutions and financial institutions of which it holds more than 10% of their capital pursuant to § 23 para 13 No 3	Deduction of 50% from core capital, 50% from supplementary and subordinated capital pursuant to § 23 para 14 No 8 If the amount of deductions exceeds supplementary and short-term subordinated capital, the excess amount must be deducted from core capital. Securitization exposures pursuant to § 23 para 13 No 4d must not be deducted if included in the calculation of risk-weighted assets.		
	– Shares held directly or indirectly, subordinated claims and other capital components held by the credit institution in other credit institutions or financial institutions of which it holds up to 10% of their capital that exceed 10% of the credit institution's capital (§ 23 para 13 No 4)			
	– Shares and capital components in insurance companies, reinsurance companies and insurance holding companies pursuant to § 24 para 13 No 4a			
	– For credit institutions which use the IRB approach pursuant to § 22b the difference between expected losses pursuant to § 22b para 6 and value adjustments and provisions (§ 23 para 13 No 4c)			
	– A securitization exposure which is subject to a risk weight of 1250% (§ 23 para 13 No 4d)			

and to the extent that its national regulations or supervisor encourages these business practices – the bank will satisfy a higher prudential standard than the average bank that meets Basel II IRB standards."[10]

As regards standardizing the definition of capital, specialist literature sometimes points out that it would be grotesque "to stipulate the percentage of minimum regulatory capital with extreme precision but to allow gray areas for the summands of the numerator both at the national level and in internal market competition."[11]

The key importance of a standardized definition of capital is evident not least in a study published in mid-2006 by the *Committee of European Banking Supervisors* (CEBS). This study provides a detailed analysis of the capital components that are cited in Article 57 of the CRD and eligible in the EU Member States. Although the study identifies a number of commonalities between individual countries (there are e.g. criteria such as robustness, cover for losses and flexibility, whose degree of compliance determines both the allocation to various capital component categories and the degree of eligibility), it concludes that the scope provided for in the directive, the differing corporate and accounting regulations and local market characteristics will give rise to varying definitions of capital items.[12] The key findings of the study can be summarized as follows:[13]

- In all EU Member States, (paid-up) capital and reserves constitute the highest quality core capital and are unreservedly recognizable as such from a regulatory perspective.
- On the first-time application of IAS/IFRS, equity is reduced owing to the fact that the Commercial Code and IAS/IFRS valuation provisions currently differ. Although this situation is mitigated by *prudential filters*, an adjustment of core capital cannot be prevented entirely.[14]
- Some countries have accepted as components of core capital new forms of capital (hybrid capital) geared to the relevant national legal and tax conditions although these new forms do not have the same quality as (paid-up) capital and reserves. The volume of hybrid capital – which is subordinated vis-à-vis deposits, other liabilities and subordinated liabilities – has grown significantly in recent years, attaining a volume of some EUR 60 billion in Europe according to a CEBS study conducted between end-2005 and early 2006.[15,16]
- The recognition of hybrid instruments gives rise to different scenarios between Member States. Most countries plan to apply a cap

[10] *See Kupiec (2003, p. 31).*

[11] *See Bruckner and Raab (2004, p. 630).*

[12] *See CEBS (2006a, p. 3–4).*

[13] *For details on the following statements, see CEBS (2006a, p. 4–6). For a clear-cut comparison of the national differences, see appendix of CEBS (2006a).*

[14] *See also CEBS (2006c).*

[15] *See CEBS (2006b, p. 3).*

[16] *On the development of hybrid capital in Europe, see also ECB (2006, p. 108–110).*

of 15% of core capital to hybrid capital with *incentives to redeem*. The recognition limit of overall hybrid items will vary to a greater extent and can amount to up to 50%. In Austria, hybrid capital pursuant to § 24 para 2 No 1 Austrian Banking Act can be counted toward consolidated capital up to a maximum level of 15% of consolidated core capital. Unless otherwise agreed in line with § 24 para 2 No 6e Austrian Banking Act, hybrid capital can be counted toward consolidated capital up to a maximum level of 30% of consolidated core capital.

- The requirements for the eligibility of different supplementary capital items have consistently been implemented in the individual EU Member States.
- Basically, only undated instruments qualify as supplementary capital (apart from subordinated items). In some cases, however, items with a specific maturity are also recognized, typically subject to regulatory approval. Table 1 presents capital items that are eligible as supplementary capital in Austria.
- The biggest differences in respect of subordinated instruments that are eligible as supplementary capital relate to the recognition restrictions applicable in the last five years prior to the repayment date.
- No standardized procedure currently prevails for deducting shares in insurance companies.
- In the area of subordinated capital, Member States recognize short-term subordinated instruments for hedging market risk. Although their respective requirements have generally been implemented consistently, there are some differences regarding the eligibility of various instruments. For instance, net trading book profits of credit institutions are not recognized in Austria in contrast to Germany.

2.4 Definition of Regulatory Capital Compared with Other Capital Concepts

The above remarks make clear that the regulatory definition of capital differs from the one used in the accounting concept of capital. It is defined more broadly and not limited only to (equity) items shown on the balance sheet. The interaction between these two approaches at both the national and international level has an impact on capital adequacy measurements – a situation which the Basel Committee is aware of. The Committee is therefore endeavoring to narrow disproportionate differences between regulatory and accounting standards.[17,18]

In the following, we will briefly explain the terms "balance sheet equity" as well as "economic value" and "market value" of equity, which are used in addition to the term "regulatory capital," and provide a comparison of these concepts with that of regulatory capital:

[17] *See BCBS (2006, p. 3).*

[18] *Differences between regulatory and accounting standards are, however, not only found in the area of equity. For expected loss, for example, both approaches define and interpret the risk parameters (PD, LGD and EAD) required for the calculation of expected loss in differing ways. See, for instance, PWC (2006).*

– Balance sheet equity corresponds to the book value shown on the balance sheet and is composed (in simplified form) of the following items: subscribed capital, capital reserves, profit reserves, liability reserves as well as balance sheet profit or loss.
  The amount of balance sheet equity depends on the accounting rules used by the respective credit institution, as the Commercial Code and IAS/IFRS valuation provisions currently differ. This is why, for instance, the valuation of assets following international standards relies much more strongly on market values (see, for example, the rules governing the valuation of financial instruments pursuant to IAS 39).[19]
  In addition, balance sheet equity provides only an approximate picture of cover pools actually available at a credit institution, which is primarily attributable to the fact that hidden reserves are not included. This situation is only partially mitigated by IAS/IFRS.[20]
– The economic value of equity is obtained by adding balance sheet equity to hidden reserves. In this case the valuation of assets is based on market values (fair value accounting) and includes only transactions that have already been concluded. In the absence of market values, specific valuation methods (e.g. the discounted cash flow method) are used to calculate these values. To calculate the net economic value, all value-reducing factors that may arise when hidden reserves are increased must be deducted (e.g. realization risk). In retail banking, for instance, all discounted costs (operating costs, risk costs, costs of capital) must be deducted from the calculated present value of cash flows in order to obtain the long-term net economic value.[21]
– Unlike the calculation of the economic value of equity, the market value of equity also includes the expected goodwill. Whereas the market value for publicly traded companies corresponds to the shareholder value, for private companies it can be calculated using internal models (e.g. valuing future projected profits using the net present value method). From a risk perspective, the use of this valuation approach, i.e. the use of market values, is problematic insofar as the calculated value of equity in a risk event is hardly available over a sustained period of time.[22]

Chart 1 draws a clear and comprehensive picture of the distinction between the concept of regulatory or supervisory capital on the one hand and the above-mentioned definitions or valuation approaches on the other.

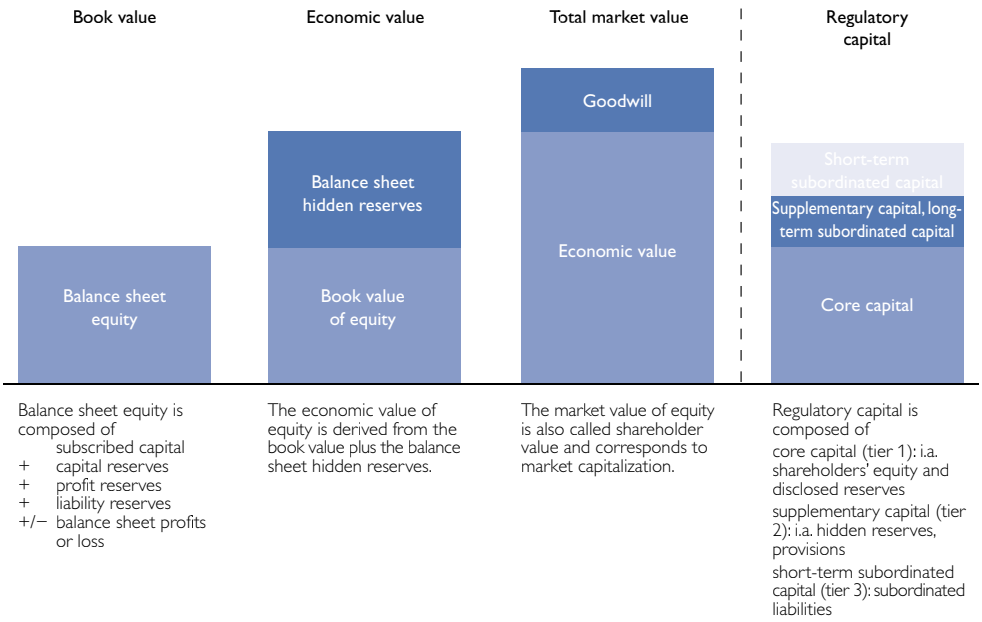
2.5 Regulatory Capital vs. Economic Capital

Another differentiation to be made is that between regulatory capital and economic capital. Economic capital signifies "[…] the overall risk cover-

[19] *For the fundamental differences between the Commercial Code and IAS, see the appendix in Zingel (2006).*
[20] *See OeNB and FMA (2006, p. 63).*
[21] *See OeNB and FMA (2006, p. 63).*
[22] *See OeNB and FMA (2006, p. 64).*

Chart 1

Systematic Presentation of Capital Concepts



Source: OeNB and FMA (2006, p. 65), author's additions.

age potential that must, at minimum, be held in reserve so that credit institutions can remain solvent should the predefined maximum stress scenario occur."[23] Such extreme stress scenarios are usually not covered by VaR calculations as these are based on the assumption of "normal" market conditions.

Credit institutions can employ economic capital to manage their business operations by using it as a basis for allocating capital to their individual operational areas, as a basis for calculating risk-adjusted ratios and for limiting risks. The use of regulatory capital for internal management purposes has so far been problematic insofar as its calculation under Basel I rests on rather general assumptions. Under Basel II, regulatory capital is brought more closely into line with economic capital, thus rendering management by regulatory capital more effective.[24] Nevertheless, the problem remains that the regulations are still portfolio-invariant, which is an argument against basing credit portfolio management on regulatory capital.

Harmonizing regulatory capital with economic capital is also necessary so as to mitigate to the greatest possible extent any disincentives that might arise from differing definitions or interpretations of capital and the consequences of such disincentives. Of key importance here is regulatory arbitrage, whereby credit institutions take advantage of "differing regulatory capital requirements as well as differences between true economic risks and those measured in accordance with the Basel Capital Accord"[25] for their own benefit, but with detrimental repercussions for

[23] *See Schierenbeck (2003, p. 21).*

[24] *See OeNB and FMA (2004, p. 64–65).*

[25] *See BCBS (1999), p. 6.*

the stability of the banking sector.[26] As borrowers' credit risk only plays a minor role under Basel I, credit institutions are prompted to remove items with low economic risk (i.e. high-quality assets) from the balance sheet, which results in a deterioration in the quality of the loan portfolio and thus higher economic risk. Although Basel II alleviates this problem by introducing more risk-sensitive capital requirements, it is not entirely resolved given the lack of homogeneity within rating categories.

Any comparison of regulatory capital and economic capital should take into account that, according to a survey conducted by the Deutsche Bundesbank, there is no uniform definition of economic capital. Although most credit institutions manage their operations on the basis of core capital, some supplementary capital components (e.g. nonrealized reserves or preferred stock) are also used.[27]

3 The Capital of Austrian Credit Institutions

3.1 Capital Adequacy of Austrian Credit Institutions

Given the expansion of Austrian credit institutions in recent years, risk-weighted assets (or their assessment base) have gone up significantly, and so have capital requirements. Austrian credit institutions' overall capital requirements, which are composed of capital requirements for solvency, for the securities trading book, for open foreign exchange positions and gold as well as for eligible non-equity interests, came to some EUR 32,042 million on an unconsolidated basis (consolidated: EUR 38,318 million) in September 2006.

With an unconsolidated volume of EUR 59,660 million (consolidated: EUR 57,674 million), capital held by banks thus exceeded the increased capital requirements by a wide margin. The fact that Austrian banks' capital ratios surpass the minimum capital requirements clearly reflects this situation. The capital ratio indicates regulatory capital adjusted for market risk in relation to the assessment base; chart 2 shows the development of capital ratios for various sectors in recent years (on an unconsolidated basis).

First and foremost, the chart reveals that capital ratios vary widely across sectors. For instance, state mortgage banks and building and loan associations exhibit a far lower capital ratio than other sectors over the entire period under review – a fact that is attributable to the specific business operations these credit institutions engage in and that should not be considered negative as their capital ratios surpass the 8% level by a wide margin. Among the other sectors, savings banks noticeably have a higher capital ratio than cooperative banks (Raiffeisen and Volksbank credit cooperatives) and, with the exception of 2005, always outperformed the rest of the sector (apart from special purpose banks[28]) in capital ratio terms. A positive point to note is that the capital ratio of the sector as a whole went up in the period under review, attaining a value of 15.22% (unconsoli-

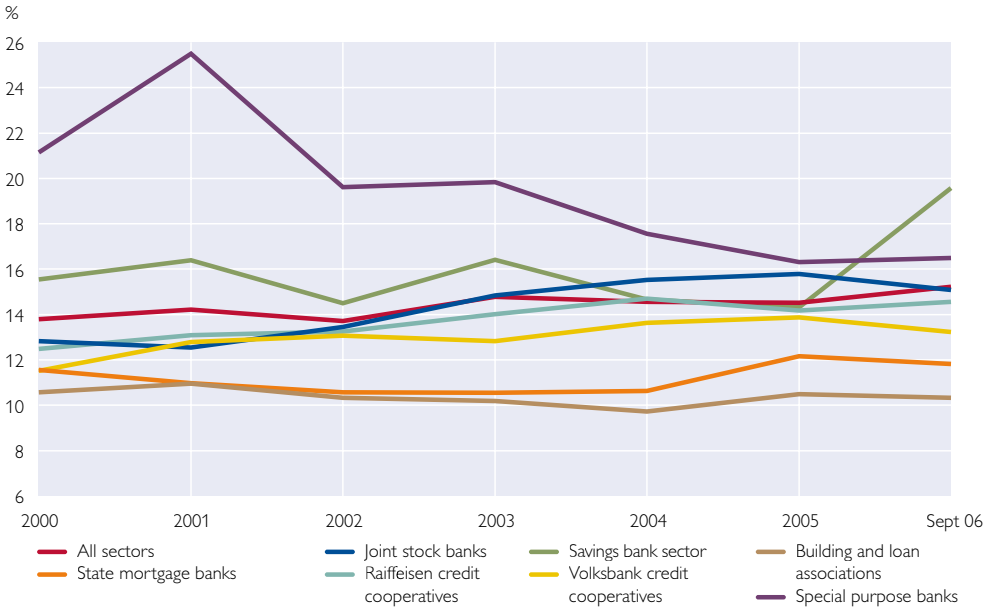
[26] *For the different options relating to capital or regulatory arbitrage and their underlying principles, see Jackson et al. (1999, p. 22–25), and Jones (2000, p. 40–47).*

[27] *See Deutsche Bundesbank (2002, p. 41).*

[28] *Special purpose banks are not comparable with other sectors owing to separate developments and limited banking licenses.*

Chart 2

Unconsolidated Capital Ratio in Austria by Sector (%)



Source: OeNB.

dated) and 12.22% (consolidated) in September 2006. These values also compare favorably in an international context. According to the ECB, the average capital ratio of major European banks stood at 11.2% in the first half of 2006.[29]

It should be highlighted here, however, that these current capital ratios merely reflect a temporary rise that was fairly strongly influenced by the capital increases carried out by major banks to finance their foreign operations.

3.2 Capital Composition

A qualitative analysis of Austrian banks' capital shows that the share of core capital in total capital went up across all sectors in the past few years, coming to almost 66% on an unconsolidated basis[30] and around 70% on a consolidated basis across the entire sector in September 2006. At the same time, the tier 1 ratio reached approximately 10.5% on an unconsolidated basis and almost 9% on a consolidated basis. Compared with the tier 1 ratio of 8% calculated by the ECB on data from major European banks,[31] Austria's current ratio is quite favorable. This situation is primarily attributable to the capital increases carried out by major Austrian banks to finance their expansion in Central and Eastern Europe.

In view of the exclusive capital requirements for unexpected loss under the IRB approach (which will generally reduce the ratio of core capital requirements to overall capital requirements), it remains to be seen

[29] *See ECB (2006, p. 88, as well as appendix, p. 24).*

[30] *In calculating the share of core capital in total capital, the deduction items were directly deducted from the capital components (50% of core capital and 50% of supplementary capital).*

[31] *See ECB (2006, p. 88, as well as appendix, p. 24).*

how the level of core capital and its percentage share in total capital will develop in future.

The composition of core capital reveals that disclosed reserves have increased at a disproportionately fast pace in recent years, attaining a share of some 84% in September 2006. As a result, they accounted for the lion's share of tier 1 capital, while paid-up capital accounted for a share of around 16%, with the fund for general banking risks making up the rest (about 1%).

Apart from core capital, the share of supplementary capital also augmented in the past few years (at the expense of short-term subordinated capital), which led to an improvement in the quality of capital held by Austrian banks. It should generally be noted that such an increase in eligible supplementary capital may be traceable to two factors: (1) an actual increase in these capital items or (2) the enhanced eligibility of supplementary capital caused by an increase in core capital.

3.3 Results of QIS5

The fifth Quantitative Impact Study (QIS5) recently analyzed the impact the new Basel II capital regulations will have on banks' capital requirements. Austrian credit institutions did not participate in QIS5. Results for Germany, however, show that for the entire German banking system, regulatory capital requirements decreased by 6.7% compared with Basel I. However, table 2 shows clear differences between the different bank groups (group 1 vs. group 2[32]) and the different approaches to calculating credit risk.[33]

Across all approaches, group 2 banks posted a more pronounced decrease in capital requirements compared with the corresponding approaches for group 1 banks. The capital requirements for group 2 banks decreased most sharply when the advanced IRB approach was used (–26.9%); applying the foundation IRB approach resulted in a 8.3% decrease, while using the standardized approach produced the smallest re-

Table 2

QIS5 Results (Germany)

Approach	Number of banks	Change in minimum capital requirements (Δ MCR)	Results expected if most likely approach is implemented (Δ MCR)
Group 1			
Standardized approach	12	8,4%	
Basic IRB	13	–1,0%	
Advanced IRB	6	–5,2%	
			–4,2%
Group 2			
Standardized approach	85	–5,4%	
Basic IRB	61	–8,3%	
Advanced IRB	5	–26,9%	
			–8,4%
Overall aggregated result			–6,7%

Source: Deutsche Bundesbank (2006, p. 6).

Note: MCR = minimum capital requirements.

[32] *In this instance, group 1 banks are internationally active diversified banks with a minimum core capital of EUR 3 billion. Group 2 banks are all other credit institutions that do not belong to group 1.*

[33] *See Deutsche Bundesbank (2006, p. 5–6).*

duction (–5.4%). For group 1 banks, the IRB approaches also resulted in lower capital requirements (–5.2% in the advanced IRB approach and –1.0% in the foundation IRB approach). By contrast, capital requirements went up by 8.3% when the standardized approach was applied. According to the Deutsche Bundesbank, these differing results are attributable, above all, to the generally higher share of retail exposure in group 2 banks.[34]

The results observed for Germany are around the same scale as international findings (G-10 and EU Member States). However, the standardized approach yields stronger deviations for group 1 banks (which is not of major importance as this approach is not relevant to these credit institutions) and the foundation IRB approach results in greater deviations for German group 2 banks. In both cases, the capital requirements of German credit institutions markedly exceeded their international equivalents.[35]

Given the QIS5 results for German group 2 banks, a decline in the capital requirements for credit risk can also be expected in Austria, in particular when the IRB approaches are used.

4 Conclusion

This contribution examined the impact of the new Basel II capital regulations on the definition of regulatory capital. Whereas the concept of (regulatory) capital frequently underwent major revisions in recent decades, the definition of capital in the new Austrian Banking Act (§ 23) remains essentially unchanged. It is based on the definition laid down in the 1988 Basel I Capital Accord and specifies that capital is composed of the capital components of core capital and supplementary capital as well as short-term subordinated capital, which was introduced in 1996 in order to cover market risks. In addition, hybrid instruments are recognized to a certain extent as consolidated capital. The recent amendments made to the Austrian Banking Act mainly reflect the exclusive application of capital requirements to unexpected loss under the IRB approach. However, this calibration of unexpected loss obliges credit institutions to compare expected loss amounts with their provisions levels. If expected losses are less than value adjustments and provisions, the difference may be recognized as capital; where expected losses exceed value adjustments and provisions, the difference must be deducted from capital.

Although the definition of capital will remain largely unchanged for the time being, there are plans for future adjustments to account for two circumstances. First, current national discretions and differing accounting standards will lead to differences in the eligibility of individual forms of capital. Second, the above-mentioned exclusive capital requirements for unexpected loss and the related changes in the treatment of loan loss provisions will generally reduce the ratio of core capital requirements to overall capital requirements.

An analysis of Austrian banks' capital ratio draws a favorable picture from both a quantitative and qualita-

[34] *See Deutsche Bundesbank (2006, p. 5–6).*

[35] *See Deutsche Bundesbank (2006, p. 6–7).*

tive perspective. While the capital ratio went up in recent years (across all sectors), capital composition improved on the back of a disproportionately rapid increase in core capital. The latter situation is attributable, above all, to the capital increases carried out by major Austrian banks to finance their expansion in Central and Eastern Europe.

The future development of capital requirements will depend to a considerable extent on the approaches credit institutions choose to calculate capital requirements. The results of the fifth Quantitative Impact Study (QIS5), which was conducted on the basis of the latest formulas for deriving risk weights, reveal that there are clear incentives for banks to implement advanced measurement approaches (also in the area of operational risk). As for credit risk, lower capital requirements can be expected on a sector-wide basis.

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