

RESEARCH AND POLICY NOTES 3

Helena Sůvová, Eva Kozelková, David Zeman and Jaroslava Bauerová:
Eligibility of External Credit Assessment Institutions

5
200

RESEARCH AND POLICY NOTES

Eligibility of External Credit Assessment Institutions

Helena Šůvová
Eva Kozelková
David Zeman
Jaroslava Bauerová

CNB Research and Policy Notes

The Research and Policy Notes of the Czech National Bank (CNB) are intended to disseminate the results of the CNB's research projects as well as the other research activities of both the staff of the CNB and collaborating outside contributors. The Notes aim to present topics related to strategic issues or specific aspects of monetary policy and financial stability in a less technical manner than the CNB Working Paper Series. The Notes are refereed internationally. The referee process is managed by the CNB Research Department. The Notes are circulated to stimulate discussion. The views expressed are those of the authors and do not necessarily reflect the official views of the CNB.

Printed and distributed by the Czech National Bank. Available at <http://www.cnb.cz>.

Reviewed by: Michal Hlaváček (Czech National Bank)
 Jaroslav Brada (Prague School of Economics)
 Petr Vinš (CRA Rating Agency)

Project Coordinator: Juraj Antal

© Czech National Bank, November 2005

Helena Šůvová, Eva Kozelková, David Zeman, Jaroslava Bauerová

Eligibility of External Credit Assessment Institutions

Helena Šůvová, Eva Kozelková, David Zeman and Jaroslava Bauerová *

Abstract

The Basel Committee on Banking Supervision in 1999 issued a draft New Basel Capital Accord (Basel 2). Its principles are to be incorporated into the European legislation and into the Czech banking regulations. The Standardised Approach to calculating the capital requirement for credit risk is newly based on external credit assessments (ratings). Banking regulators and supervisors have to be prepared for the process of determining eligible credit assessment institutions (ECAIs) and will have to elaborate a formal recognition procedure. This paper investigates the approaches a supervisor may apply to ECAI recognition and elaborates on the criteria of recognition. First, the paper reviews the available rating agencies on the market (including their rating penetration on the Czech market), their best practices and the experience with the use of their ratings for regulatory purposes. Second, drawing on international experience and the proposed Basel 2 rules, we outline the fundamental supervisory approaches to recognition, including the legal aspects thereof, and analyse their pros and cons and the frontiers of supervisory decision making. Third, we outline the rules for recognition, including requirements or expectations (e.g. soft limits), documentation and typical interview questions with the potential candidates. We find the CNB's approach to be in compliance with CEBS Consultative Paper CP07 (issued for public consultation in June 2005).

JEL Codes: E65, G21, G18.

Keywords: Basel capital accord, Basel II, Credit rating, default, eligibility criteria, eligibility evaluation, external credit assessment institution (ECAI), export credit agency (ECA), mapping rating grades, market acceptance of ECAIs, rating agency, recognition process.

* Helena Šůvová, Czech National Bank (helena.suvova@cnb.cz); Eva Kozelková, Czech National Bank (eva.kozelkova@cnb.cz); David Zeman, Czech National Bank (david.zeman@cnb.cz) and Jaroslava Bauerová, Czech National Bank (jaroslava.bauerova@cnb.cz).

This work was supported by Czech National Bank Research Project No. C7/2003.

We would like to thank to Petr Vinš, Urs Birchler, Pavel Vacek, Tibor Hlédik and Jaroslav Brada for useful and valuable comments.

Introduction

In response to the rapid development of the financial markets, and in order to promote safety and soundness in financial systems, to enhance the competitive equality among banks, and to allow banks to use more comprehensive approaches to risk management, the Basel Committee on Banking Supervision (BCBS) in 1999 drafted new rules for setting minimum capital requirements – the New Basel Capital Accord (also referred to as **Basel 2**, see www.bis.org). In June 2004, the final version of the document (now called International Convergence of the Capital Measurement and Capital Standards) was released (see BCBS, 2004). It presents the outcome of the BCBS's work over recent years to secure international convergence on revisions to the supervisory regulations governing the capital adequacy of internationally active banks. The document was agreed by all BCBS members. The principles stipulated in this document have already been incorporated into the proposal re-casting Directive 2000/12/EC and 93/6 EEC (hereinafter the "Directive proposal") released in July 2004 (see Commission of the European Communities, 2004) and will be incorporated (after it has passed through the European Parliament and the Council) into the Czech banking legislation and will become obligatory for banks in the Czech Republic as of the stipulated date of implementation. This date is currently expected to be 1 January 2007, but may be subject to further change after discussions in the relevant European structures.

With particular respect to Basel 2, great attention is being paid at present on the regulatory/supervisory side to greater convergence of supervisory practices. This is being driven by demands for a truly single market for financial services in an environment where supervision remains a national responsibility. More converged practices will mean reduced compliance costs for internationally active banks and will encourage the creation of a level playing field for all the banks operating in Europe. The issue of ECAI recognition was therefore included among the tasks of the Committee of European Banking Supervisors¹ (CEBS), in which the competent authorities should achieve convergence of their procedures.

The present rules contained in the Basel Capital Accord (of 1988, amended 1996 – see www.bis.org) are based on a simple methodology for calculating regulatory capital for credit risk (via risk weights) and also include capital requirements for market risk. These rules have been incorporated into the Czech National Bank's regulations ("provisions"). Basel 2 (see BCBS, 2004) is more flexible than the current rules and provides banks with a variety of possible approaches to choose from. One of the main objectives is to improve risk management. Therefore, there are some incentives for banks to introduce some of the more sophisticated approaches and save on regulatory capital. In this project we concentrate on credit risk.

Basel 2 (see BCBS, 2004) introduces the following approaches to setting capital requirements for credit risk:

- Standardised Approach (SA),
- Foundation Internal Ratings Based Approach (FIRB),
- Advanced Internal Ratings Based Approach (AIRB).

¹ The CEBS was established by Commission Decision of 5 November 2003 to contribute to the consistent application of Community directives and to the convergence of Member States' supervisory practices throughout the Community.

The **standardised approach** is analogous the current approach, but the risk weights are derived from ratings set by export credit agencies (ECAs) or external credit assessment institutions² (ECAIs) and, contrary to the current approach, are not based on the criterion of OECD membership. The eligibility of such ratings will be subject to approval by the regulator/supervisor.

Under both **IRB approaches**, risk measurement will be based on the bank's own ratings of its clients: *internal ratings*. Under the FIRB approach, the bank will use its own estimates of the probability of default associated with the obligor, but the other risk characteristics will be set by the regulator/supervisor. The AIRB approach leads to own estimates of all the risk characteristics that enter the calculation of regulatory capital.

The IRB approaches are more sophisticated and should be more accurate. By implication they are also more costly and not suitable for all banks. Smaller and less sophisticated banks may not have the capability to introduce the advanced approaches (at least not in the foreseeable future) and may permanently use the SA. Some other banks will apply the SA on a temporary basis or for certain categories of exposures before roll-over to IRB. In that sense, we can consider external ratings to be a substitute for internal ratings. Taking that into account, external ratings should inject more accuracy into the credit quality of the exposures and therefore improve the quality of the regulatory capital requirements under the SA.

For a bank to be able to use ECAI/ECA assessments for capital requirement purposes, it must choose from the list of ECAIs/ECAs recognised by the regulator/supervisor. The concept of recognised agencies comes from the USA. The US SEC (U.S. Securities and Exchange Commission) has since 1975 been developing a system for designating a rating agency as an NRSRO (Nationally Recognised Statistical Rating Organisation) – see U.S. Securities Exchange Commission, 2005. This system reviews the rating organisation's operations, position in the marketplace and other criteria, including its acceptance by the predominant users of securities ratings. The system was originally accepted by the US SEC for determining the capital charges for debt on different grades of debt securities.

It is important to note that ECAI is a term coined by Basel 2 (see the ECAI definition in section 3.3 of this report). Credit Rating Agency (CRA) is used for agencies that conform to the IOSCO (International Organisation of Securities Commissions) – see IOSCO (2003a) – definition, which includes:

- those entities whose primary business is the issuance of credit ratings for the purposes of evaluating the credit risk of issuers or debt and debt-like securities; or
- any organisation whose ratings are recognised for regulatory purposes by a financial regulatory authority.

1.1 Criticism of Ratings

Notwithstanding the idea of recognised ECAIs incorporated into Basel 2, it is important to mention the key points of concern relating to ratings. These concerns were raised particularly strongly after the collapse of Enron and later on the Parmalat scandal.

² Where such external ratings are available.

The core issues raised by regulators/supervisors, market participants and the general public are as follows (see, for example, IOSCO 2003a, IOSCO 2003b, BCBS 2000 and Committee of European Securities Regulators 2004):

A) Potential conflicts of interests (either within rating agencies or between agencies and their clients):

- Rating services may be influenced by other services provided by the rating agency (ancillary services) or its group members, and rating activity may not even be its core activity. Should the rating services be totally separated? If so, how?
- The payment strategy of the rating agency may strongly influence the ratings of the issuer. If the issuer pays for the credit rating, there is a risk of it wanting to influence the outcome. Who should then pay for the rating?
- Issuing unsolicited ratings first can bring undue pressure to bear on the issuer to cooperate and/or pay for the rating. Can unsolicited ratings distort the information? Is it fair treatment of customers?
- Capital or other interest links between the CRA (and its affiliates or investments) and the issuer or its affiliates may result in distorted ratings.
- Can rating agencies misuse their access to inside information on issuers?

B) Objectivity and transparency of rating methodologies

Most of the rating agencies disclose the key elements and assumptions of their rating methodologies, but they are not able to disclose any universal recipe for how to produce a rating, because such a recipe does not exist. The methodologies also differ in their level of expert judgement and might differ slightly from case to case. There are, however, concerns about whether the methodologies are objective and all the influencing factors are correctly assessed, whether they lag behind the market, and if there is any value added above market evaluations. Should regulators interfere with the methodologies? Is through-the-cycle methodology appropriate?

C) The number of staff and their qualifications

The number of staff is usually relevant to the applied methodology. Concerns have been raised about whether the number of staff is appropriate and whether their qualifications, experience, workload and performance evaluations are relevant. Should there be any standards for the number of the staff and their qualifications?

D) The lack of competition on the market

The rating market is oligopolistic. Does this reduce the quality of ratings? Do rating agencies have any anti-competitive practices? Could the establishment of a governmental rating agency contribute to the development of the market?

1.2 Eligibility Criteria

Basel 2 (see BCBS, 2004, p. 23) sets **six eligibility criteria** for **ECAIs**, which are quoted below:

“Objectivity: The methodology for assigning credit assessments must be rigorous, systematic, and subject to some form of validation based on historical experience. Moreover, assessments must be subject to ongoing review and responsive to changes in financial condition. Before being recognised by supervisors, an assessment methodology for each market segment, including rigorous backtesting, must have been established for at least one year and preferably three years.

Independence: An ECAI should be independent and should not be subject to political or economic pressures that may influence the rating. The assessment process should be as free as possible from any constraints that could arise in situations where the composition of the board of directors or the shareholder structure of the assessment institution may be seen as creating a conflict of interest.

International access/Transparency: The individual assessments should be available to both domestic and foreign institutions with legitimate interests and at equivalent terms. In addition, the general methodology used by the ECAI should be publicly available.

Disclosure: An ECAI should disclose the following information: its assessment methodologies, including the definition of default, the time horizon, and the meaning of each rating; the actual default rates experienced in each assessment category; and the transitions of the assessments, e.g. the likelihood of AA ratings becoming A over time.

Resources: An ECAI should have sufficient resources to carry out high quality credit assessments. These resources should allow for substantial ongoing contact with senior and operational levels within the entities assessed in order to add value to the credit assessments. Such assessments should be based on methodologies combining qualitative and quantitative approaches.

Credibility: To some extent, credibility is derived from the criteria above. In addition, the reliance on an ECAI’s external credit assessments by independent parties (investors, insurers, trading partners) is evidence of the credibility of the assessments of an ECAI. The credibility of an ECAI is also underpinned by the existence of internal procedures to prevent the misuse of confidential information. In order to be eligible for recognition, an ECAI does not have to assess firms in more than one country.”

There is also additional guidance for regulators/supervisors to help them consistently map the credit risk assessments to the available risk weights. It is based on two quantifiable measures:

- the ten-year average of the three-year cumulative default rates (or estimates thereof for newly established ECAIs),
- the most recent three-year cumulative default rates associated with each credit risk assessment.

Basel 2 also provides benchmarks for comparison. Those benchmarks are derived from publicly available historical default data of major credit rating agencies and represent upper bounds for each assessment (rating grade). These benchmarks are not intended to be applied mechanically.

Basel 2 (see BCBS, 2004) proposes two **criteria for an eligible ECA**. The ECA has to:

1. publish its risk scores,
2. subscribe to the OECD agreed methodology.

These criteria are further developed and described in the Directive proposal (see Commission of the European Communities, 2004). The Directive proposal differentiates between ECAI assessments and ECAI methodology.

Note: The Directive proposal defines a **competent authority** as the national authority which is empowered by law or regulation to supervise credit institutions.

There are four criteria concerning **ECAI methodology** (see Commission of the European Communities, 2004 – Annex VI, Part 2), the principles of which are described below:

1. Objectivity

- the methodology is rigorous, systematic and continuous, and validated on historical experience

2. Independence

- free from political influences and economic pressures
- factors of independence evaluated:
 - ECAI ownership and organisation structure
 - ECAI financial resources
 - ECAI staffing and expertise
 - ECAI corporate governance.

3. Ongoing review

- credit assessments must be subject to ongoing review and responsive to changes in financial conditions
- credit assessment reviewed at least annually and after all significant changes
- assessment methodology according to the following standards:
 - backtesting established for at least 1 year
 - regularity of the ECAI review process monitored
 - the ECAI notifies the competent authorities of the extent of its contacts with the senior management of the rated entities
- competent authorities must be promptly informed of any material changes in methodology.

4. Transparency and disclosure

- principles of the ECAI assessment methodology publicly available.

Furthermore, there are two criteria for **ECAI assessments** in the Directive proposal:

5. *Credibility and market acceptance*

- recognised in the market as credible and reliable by the users of the assessments
- factors assessed:
 - ECAI market share
 - revenues generated by the ECAI and the ECAI's financial resources
 - pricing based on the rating.

6. *Transparency and disclosure*

- accessible at equivalent terms (to both domestic and non-domestic parties having legitimate interests).

The eligibility criteria for ECAs stipulated in the Directive proposal are more or less consistent with Basel 2. An ECA credit assessment shall (according to both documents) be recognised if:

1. the assessment is a consensus risk score from an ECA subscribing to OECD guidelines, or
2. the ECA publishes its credit assessments, subscribes to OECD methodology and the credit assessment is associated with the minimum export insurance premiums that the OECD agreed methodology establishes.

Although the criteria in some cases have different names, they are in essence identical. Let us address **the differences between Basel 2 and the Directive proposal**.

The Directive proposal, as distinct from Basel 2, *omits* the following provisions:

- assessment based on a combination of quantitative and qualitative approaches
- specification of CDR benchmarks
- some details on disclosure: definition of default, time horizon and meaning of each assessment category, transition matrix.

On the other hand, the Directive proposal sets out some *additional provisions*. These additional provisions generally make the assessment of ECAIs more direct and explicitly stated. By setting criteria for approval and by stipulating enrolment in the list of recognised ECAIs, the competent authorities undoubtedly influence ECAIs, but this is not equivalent to regulation. The ECAI can run its activities even without the recognition of the competent authorities. The approval of an ECAI by a competent authority for capital adequacy purposes may be taken as a widening of the scope of application of its ratings. Simultaneously, it is a factor supporting the ECAI's reputation. This reputation, however, cannot emerge as a result of recognition for capital adequacy purposes itself.

The fact of the matter is that some of the requirements for ECAIs as specified in the Directive proposal are explicit and, by implication, could be interpreted as regular reporting of ECAIs to the regulator/supervisor. This concerns requirements such as the ECAI disclosing the extent of its contacts with the senior management of the rated entities and promptly informing the regulator/supervisor of any material changes in its methodology. The interpretation of all these requirements (including data requirements) will certainly be subject to further discussions at the EU level and, hopefully, a reasonable approach will be found.

1.3 Issues Associated with Eligibility Evaluation

Currently, there are only three major international credit rating agencies: Moody's, Standard & Poor's (S&P) and Fitch. All of these agencies have a long history. Moody's (see www.moodys.com) started publishing ratings in 1909; the others followed in 1916–1924 (see www.standardandpoors.com; www.fitchrating.com; Vinš, Liška, 2005). Therefore, they cover many individual assessments (tens of thousands) and have long default histories. They also have experienced and sufficient teams of analysts assuring ongoing review. But primarily, they are recognised by market participants. As a consequence, the process of recognising any of these major agencies as an eligible ECAI should be relatively easy. However, there has recently been crisis of confidence brought about by corporate mismanagement and scandalous accounting practices. This has also brought into question the timeliness of rating assessments.

In addition to these major firms, there are specialised and smaller rating agencies, mostly of regional importance (see BCBS, 2000). In many cases they provide ratings in addition to other consultancy business. Without exception they assign only a few assessments and then disappear or stop this activity. These rating agencies face the problem of a lack of data, as they have no – or only limited – historical experience.

If regulators/supervisors were to interpret the set of eligibility criteria very strictly or rigidly, recently established and/or small rating agencies could not be recognised. On the other hand, this would raise barriers to entry to the industry. With the application of Basel 2/the Directive proposal (i.e. the use of ratings for regulatory – capital adequacy – purposes) there may be a growing demand for rating services. The regulatory restrictions on supply, on the other hand, tend to favour incumbents over entrants.

Moreover, regulators/supervisors face the problem of the general character of the eligibility criteria. (In particular, the Directive proposal sets only qualitative criteria.) There are no quantitative measures, no specific benchmarks. However, according to Basel 2/ the Directive proposal, regulators/supervisors have to make the process for recognising ECAIs/ECAs publicly available and have to map the ECAI's assessments to the risk weights. This also means the process should be clear and transparent. The Directive proposal also contains the option of mutual recognition of ECAIs by member states of the EU.

1.4 Project Objectives

The beginning of this project relates to the necessity to address the above-mentioned issues. The objectives of the project are:

- to prepare a theoretical survey of the possibilities and approaches to external credit assessment,
- to specify the appeals procedure and the range of documents (both obligatory and supplementary) that an ECAI will be obliged to present to the regulator/supervisor,
- to develop eligibility criteria for simplifying and making unequivocal regulators'/supervisors' decision-making on ECAI recognition,
- to propose a method for assigning rating grades from different ECAIs to the framework of standard risk weights (mapping),

- to specify the criteria for limited ECAI eligibility (for certain types of exposure or certain jurisdictions).

Generally, this project should help to put the regulator/supervisor in a qualified position as regards the recognition of rating agencies.

2. Credit Rating and ECAIs

2.1 Definition of Credit Rating

Many credit rating characteristics have been summarised by Ong (2002). A credit rating is:

- a judgemental process of ranking and classifying loans into different risk categories. Each of these categories represents a clear and precise statement of the creditworthiness of the rated firm;
- a predictive process using observable and current information to project potential future outcomes (e.g. future loss);
- key ingredients include both *quantitative analyses* (e.g. ratios, cash flow, industry, sector, macroeconomic analyses) and *qualitative analyses* (e.g. financial strength, management and corporate governance).

The IOSCO (2004) defines a “credit rating” as an “opinion forecasting the creditworthiness of an entity, a credit commitment, a debt or debt-like security or an issuer of such obligations, expressed using an established and defined ranking system”. Credit ratings are not recommendations to purchase or sell any security.

Firms also have their own ratings definitions, for instance:

Standard & Poor's

A credit rating (see Standard & Poor's, 2005) is “opinion of the general creditworthiness of an obligor, or the creditworthiness of an obligor with respect to a particular debt security or other financial obligation, based on relevant risk factors. It does not constitute any recommendation (to purchase, sell or hold a particular security) and does not comment on the suitability of any particular investment”.

Moody's

A Moody's rating (see Moody's Investors Service, 2003) is an “opinion of future relative creditworthiness, derived by fundamental credit analysis and expressed through the Aaa–C symbol system. Fundamental credit analysis incorporates an evaluation of franchise value, financial statement analysis and management quality”.

Moody's definition of default includes three types of default events, namely (see www.moodys.com):

- a) there is missed or delayed disbursement of interest and/or principal, including delayed payments made within a grace period,
- b) an issuer files for bankruptcy, or legal receivership occurs, or
- c) a distressed exchange occurs where:
 - the issuer offers bondholders a new security or package of securities that amount to a diminished financial obligation (such as preferred or common stock, or debt with a lower coupon or par amount), or
 - the exchange had the apparent purpose of helping the borrower avoid default.

Fitch Ratings

Fitch Ratings (see www.fitchrating.com) provides an “opinion on the ability of an entity or a securities issue to meet financial commitments such as interest, preferred dividends, or repayment of principal, on a timely basis”. Ratings can apply to a variety of entities and issues, including sovereigns, governments and structured financings, as well as the financial strength of insurance companies and financial guarantors.

In principle, these firms' definitions correspond to the general characteristics described by Ong (2002) and are perceived as nearly perfect substitutes. These ratings, unlike scoring based systems, are based on both quantitative and qualitative analyses and on a judgemental process. Ratings also differ from investment recommendations and in that sense they are independent. But in fact, S&P states that rating definitions are expressed in terms of default risk, while Moody's states that ratings are statements about expected loss.

2.2 Major International ECAIs

BCBS (2000) indicates that there might be 130–150 credit rating agencies, but the BCBS also points out that there may be big differences in the amount of analytical work they perform. Some of the agencies have “large capacities” because they rate companies using published data as inputs into their statistical models. In these cases, the term “rating” may be misleading.

BCBS (2000) makes a distinction between three categories of credit rating agencies: national, regionally targeted and global. BCBS emphasises that membership of the last category seems to be dependent upon reaching some critical mass.

Furthermore, as mentioned by BCBS (2000), certain scoring/rating services are provided by several European central banks (through their central credit registers and central financial statement databases), sometimes operated jointly with the banking industry. Banks are the main recipients of services, but some general studies are also published and the systems are used for banking supervision and monetary purposes. These systems were originally designed for appraising the quality of bills discounted by central banks. The analytical approach is either judgemental or quantitative. The coverage generally exceeds 75% of exposures. A traditional and well established rating system is managed by the Bank of France. Other systems are operated in Germany, Italy, Austria, Belgium, Portugal and Spain. Some discrepancies also exist in the definition of default across countries and in the reporting frameworks.

Actually, after some recent mergers, only three major public credit rating agencies are recognised by a large number of investors. They are: Standard & Poor's, Moody's Investor Service and Fitch. Although they have not passed any formal Basel 2 recognition process they are already recognised in some countries for certain regulatory purposes (for instance in the U.S.) – see BCBS (2000). Although not specifically mentioned, they (and their statistical data on defaults) provided a basis for the references or benchmarks in the Basel 2 document.

2.2.1 Standard & Poor's (S&P)

S&P, which traces its history back to 1860, is one of the leading credit rating agencies (see www.standardandpoors.com). It was an independent, publicly owned corporation until 1966, when McGraw-Hill Inc., a major publishing company, acquired it. Standard & Poor's Rating Services is currently one of its business units, but in terms of ratings operates independently.

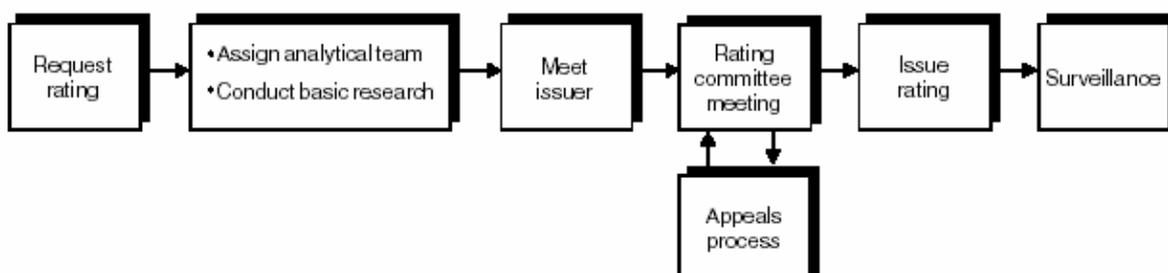
S&P (2001) in its manual for corporate ratings clearly describes its rating products, rating process and rating scale. A similar manual has been issued with a methodology modified for financial institutions (S&P, 1999).

It provides these main **rating products**:

- Issue-specific credit ratings
 - long-term
 - municipal note
 - short-term
- Issuer credit ratings
 - long-term
 - short-term
- Other rating products

S&P's **rating process** is standardised (see the scheme given in Figure 1). A rating is provided only when there is adequate information available and after the relevant quantitative, qualitative and legal analyses have been conducted. S&P assembles a team of analysts with appropriate expertise to review information pertinent to the rating. There is a lead analyst responsible. The members of the team meet with the management of the rated entity to review the key influencing factors. Following this review and discussion, a rating committee meets, discusses and finally votes. The rated entity is informed about the result and the factors supporting it, and it can appeal prior to publication if there is new or additional important information to be presented.

Figure 1: Standard & Poor's Rating Process



Source: Standard & Poor's (2001).

Corporate ratings on publicly distributed issues are monitored for at least one year. The company can then elect to pay for continuing **surveillance**. Ratings assigned at the company's request have the option of surveillance or being "point-in-time". Then the primary analyst is in periodic contact with management, and management meetings are scheduled at least annually. As a result of the process it sometimes becomes obvious that changing conditions need reconsideration. Preliminary review may lead to a CreditWatch listing and then to comprehensive analysis and full revaluation.

The rating scale contains ten major notches (AAA, AA, A, BBB, BB, B, CCC, CC, C, D), which can be further modified by adding + or – to show the relative standing in the major category. Rating "D" is used only where **default** has actually occurred (not where it is expected). D is assigned in these cases:

- on the day an interest and/or principal payment is due and is not paid (an exception is made if there is a grace period);
- upon voluntary bankruptcy filing or similar action (an exception is made for cases of a specific issue where payments are expected to continue; technical default is also not sufficient);
- upon the completion of a tender or exchange offer, whereby some or all of an issue is either repurchased for an amount of cash or replaced by other securities having a total value clearly less than par;
- in the case of preferred stock or deferrable payment securities, upon non-payment of the dividend or deferral of the interest payment.

In case of issuer ratings, an SD (*selective default*) rating can also be assigned when an issuer is expected to default selectively, that is to continue payment of certain issues or classes of obligation.

Figure 2: Corporate Credit Analysis Factors

Business Risk
Industry Characteristics
Competitive Position
(e.g.) Marketing
(e.g.) Technology
(e.g.) Efficiency
(e.g.) Regulation
Management
Financial Risk
Financial Characteristics
Financial Policy
Profitability
Capital Structure
Cash Flow Protection
Financial Flexibility

Source: Standard and Poor's (2001).

S&P's **evaluation (rating) methodology** divides the analytical task into several categories including both fundamental and financial analysis (see Figure 2). Each category is then scored and there are also scores for the overall business risk profile and the overall financial risk profile. But the way of scoring is not unified and different analytical teams may choose different ways, and there are no formulae for combining scores to arrive at a rating conclusion. Judgements are always part of the evaluation. S&P (2001) further publishes the individual drivers and gives examples of how they are evaluated. The published description, no matter how detailed it is, can never give the full specification and technical details, which differ case by case. S&P also describes the evaluation of transaction characteristics (level of seniority), the relations between parent and subsidiaries and other specific features taken into account.

As the rating is forward-looking (especially in case of long-term ratings), the ideal rating is assigned "*through the cycle*" and does not fluctuate with near-term performance. Business cycles are factored into the credit rating all along. Sensitivity to cyclical factors is, however, higher for non-investment grade firms, where the credit quality is more volatile and near-term changes may have a strong impact on the probability of default.

Both S&P and Moody's rate and make public all US SEC-registered corporate bonds whether requested by the issuer or not. If not requested, the rating is based on publicly available information. In the 1970s, S&P (following Moody's and Fitch) started **charging issuers** for its ratings. If the issuer requests a rating it gets the privilege of sharing its information with the credit rating agency, but it has to pay.

Recently, the renowned agencies have changed their strategy and now make assessments (and further analyses) available only by subscription.

S&P carries only solicited ratings for structured securities and non-US company bonds.

2.2.2 Moody's

Moody's is another leading credit rating agency. The company published Moody's Manual of Industrial and Miscellaneous Securities in 1900, the company's founding year (see www.moodys.com). The manual provided information and statistics on stocks and bonds of financial institutions, government agencies, manufacturing, mining, utilities and other companies. Over time, the "Moody's rating" became a factor in the bond market. In 1914, Moody's Investors Service was incorporated. Moody's continued to publish and monitor ratings during the Great Depression. In the 1970s, Moody's ratings were further extended to the commercial paper market and to bank deposits. After buying KMV in 2002, Moody's pooled the activities of this company and its former subsidiary Moody's Risk Management Services and established a new company – Moody's KMV, which is one of the most important players on the market. At present, Moody's rating and analysis tracks about USD 30 trillion of debt covering (approximately) 136,000 corporate, government and structured finance securities, 67,000 public finance obligations, 6,000 corporate and financial institution relationships and 100 sovereign nations (as of January 2005, see www.moodys.com).

Moody's publishes a number of **different rating products** reflecting the wide variety of obligors and obligations that exist. Traditionally, Moody's specialised in publishing debt ratings. In recent years, however, Moody's has begun to publish new types of ratings reflecting the growing market

demand for more sophisticated credit risk management techniques. The main types of ratings that it provides are as follows:

- Issue-specific credit ratings
 - long-term
 - municipal note
 - short-term
- Issuer credit ratings
 - long-term
 - short-term

Other rating products

Moody's has published several documents (see www.moody.com) about its rating methodology for different market segments. These describe the main characteristics of:

- *its rating process;*

Moody's has highlighted the following principles that can be considered as applicable in general for any credit rating agency:

- The level of the rating assigned to an issuer is affected neither by the existence of a commercial relationship between the rating agency (Moody's) and the issuer, nor by the nature of that commercial relationship.
- The rating agency should consider all information relevant to the issuer's rating. Upgrades can represent greater capital market access and interest cost savings for issuers, and improved securities prices for investors, while downgrades can mean higher capital costs for issuers and portfolio turnover and losses for investors.
- The rating agency should act as judiciously as possible. In this respect three elements of rating system management are to be applied to rating activities – awareness, analysis plus disclosure and discussion.
- A rating is an opinion forecast of an issuer's future relative creditworthiness. This means that there can be a range of actual outcomes and a range of uncertainty about the forecast.
- Any confidential non-public information provided to the rating agency should be used only for the purpose of assigning ratings.

- *its fundamental credit analysis;*

Fundamental credit analysis:

- consists of an opinion forecast (prediction) of the probability that an obligor will make promised payments;
- usually has an evaluation of franchise value, financial statement analysis and management quality as its main elements;
- results in a credit rating that provides objective, consistent and simple measures of creditworthiness;
- consequently guides ratings to improve the information flow between borrowers (issuers) and lenders (investors) and thus helps to reduce the asymmetry of information available to borrowers and lenders.

- *its conceptual approach to the issue of bankruptcy versus ratings;*

The fundamental statement is formulated as follows:

Expected credit loss = probability of default × severity of loss

Default is any missed or delayed disbursement of interest and/or principal, bankruptcy, or receivership. The probability of default is primarily influenced by the debtor's ability to service its

debt obligations within the terms and conditions of its borrowing facilities. Ratings reflect the probability of default, such that as ratings move down the ratings scale and further out in time, the probability of default goes up.

Unlike with S&P, defaulting entities (issuers/issues) are not assigned only one rating grade (like “D” in S&P), but can be assigned any speculative grade. This is because of the slightly different definition of default.

The severity of loss is determined by many factors – company type, industry sector, asset size and quality, ability to restructure, size of indebtedness, value of assets upon liquidation, prevailing insolvency regime.

Recovery levels are influenced by various factors e.g. transaction structure or the power of creditors relative to debtors in insolvency.

- *empirical results of ratings and the rating process*

Ratings as predictors of relative creditworthiness can be defined as a relative expected loss rate.

Empirical results present the after-the-fact analysis of ratings and the empirical outcomes of rating definitions and the rating system plus default rating forecasts, tests for rating consistency and the severity of loss in the event of default.

Default research – one of the most important reviews – shows the close link between ratings and subsequent average default and loss events at different investment horizons. It proves that long-term cumulative default rates differ according to the appropriate rating categories.

The cumulative default rate depicts the default events of many different groups of issuers that began a particular year carrying the same rating. Differences in the default experiences of similarly rated groups formed in various years give another angle on the relationship between default rates and ratings.

Processed experimental data collected over a long period of time (e.g. 20 years) allows Moody’s to improve its rating practice as well as to adjust the rating of an issuer.

Moody’s ratings are opinions of future relative creditworthiness, which is expressed through the familiar **rating scale** using the Aaa–C symbol system. Moody’s applies numerical modifiers 1, 2 and 3 in each generic rating category from Aa to Caa. Modifier 1 indicates that the issuer is at the higher end of its letter rating category. Modifier 2 indicates a mid-range ranking. Modifier 3 indicates that the issuer is at the lower end of the letter ranking category (these modifiers are applied similarly to the obligation rankings).

Following the Basel 2 preparations, Moody’s repeatedly expressed its view³ on the new capital framework proposal. Moody’s broadly supports the proposal and commends the Basel Committee on Banking Supervision for its efforts. However, Moody’s has pointed out some unintended consequences arising from the regulatory use of external ratings (e.g. rating shopping, decreasing rating agency independence) and has presented several proposals (external ratings should be

³ Comment on the Second Consultative Package of the New Basel Capital Accord.

subject to public scrutiny and would benefit from broad disclosure of underlying information; recognition of credit rating agencies should be based on their acceptance by major investors).

2.2.3 Fitch Ratings

Soon after its foundation in December 1913, Fitch Ratings became a recognised leader in providing critical financial statistics to the investment community through such publications as the “Fitch Bond Book” and the “Fitch Stock and Bond Manual” (see www.fitchrating.com). After recapitalisation in 1989, Fitch grew dramatically throughout the 1990s, especially in the new area of structured finance, by providing research to investors, clear explanations of complex credits and more rigorous surveillance than the other credit rating agencies. Fitch merged with IBCA Limited in 1997. This was the first step in building Fitch into a global competitor. The next step was the acquisition of Duff & Phelps Credit Rating Co. in 2000, followed by the acquisition of Thomson BankWatch. Fitch Ratings is a wholly-owned subsidiary of Fimalac, S.A., an international business support services group headquartered in France. As a result of Fitch’s growth and acquisitions, it today has approximately 1,500 professionals at its 49 world offices. Fitch Ratings currently maintains coverage of 3,100 financial institutions, including 1,600 banks, and rates over 1,200 corporate issuers and 80 sovereigns.

Fitch Ratings covers the global spectrum of credit ratings (see www.fitchrating.com). The main types are as follows:

- Long-term Ratings
 - national long-term
- Short-term Ratings
 - national long-term
- Individual Ratings
- Support Ratings
- Insurer Financial Strength Ratings
 - National Insurer Financial Strength Ratings
 - Short-term Insurer Financial Strength Ratings
 - Quantitative Insurer Financial Strength Ratings
- Cash Flow Bond Ratings
- Managed Funds Credit Ratings
- Volatility Ratings
- Asset Management Ratings
- Country Ceiling Ratings

Rating scale

Fitch’s ratings are used by investors as indications of the likelihood of repayment in accordance with the terms on which they invested. The use of credit ratings defines their function: “investment grade” ratings (international long-term AAA–BBB; short-term F1–F3) indicate a relatively low probability of default, while those in the “speculative” or “non-investment grade” categories (international long-term BB–D; short-term B–D) may signal a higher probability of default or that a default has already occurred.

Fitch Ratings’ **evaluation methodology** is based on consideration of the historical and prospective financial condition, quality of management, and operating performance of the issuer

and of any guarantor, any special features of a specific issue or guarantee, the issue's relationship to other obligations of the issuer, as well as developments in the economic and political environment that might affect the issuer's financial strength and credit quality. Specific aspects related to the different types of ratings are taken into account as well. For example, in the case of structured financing, the quality of its underlying assets and the integrity of its legal structure are considered.

As for investment-grade ratings, they reflect expectations of timeliness of payment. However, ratings of different classes of obligations of the same issuer may vary based on expectations of recoveries in the event of default or liquidation. Recovery expectations are a relatively minor consideration in investment grade ratings, but Fitch uses "notching" of particular issues to reflect their degree of preference in a winding up, liquidation, or reorganisation, as well as other factors. Recoveries, however, gain importance at lower rating levels, because of the greater likelihood of default, and become the major consideration at the DDD category.

Foreign currency ratings are typically subject to a "country ceiling". A sovereign government's powers of taxation and foreign exchange control mean that its long-term foreign currency rating sets a ceiling for the ratings of other issuers within its jurisdiction.

Fitch Ratings has two affiliates. The first of them is Fitch Risk, which is a wholly owned subsidiary of Fimalac, S.A., an international business support services group headquartered in France. Following the preparation of the implementation of the new capital framework (Basel 2), Fitch Risk know-how is presently being installed and being used by clients throughout the world. In July 2004, Fitch Risk entered into a subscription agreement with one of the largest financial services groups in the eurozone, Société Générale. Société Générale has adopted the tools of one of the Fitch Risk products to enable quantitative and qualitative assessment of operational risks. The second affiliate is Fitch Training, which specialises in credit, corporate and structured finance programmes.

Fitch Rating is one of the three credit rating agencies first recognised as a nationally recognised statistical rating organisation (NRSRO) by the U.S. Securities and Exchange Commission in 1975 (besides Standard & Poor's and Moody's). Fitch Ratings ranks constantly among the group of three world-renowned credit rating agencies in spite of its lower total number of assigned credit ratings (in comparison with Standard & Poor's and Moody's). Its activities are aimed mainly at financial institutions.

2.3 Local ECAs

A BCBS survey (2000) has revealed that national credit rating agencies are especially evident in Sweden. Regionally targeted credit rating agencies focus on specific regions, e.g. Asia/Pacific or Central/Eastern Europe (e.g. Capital Intelligence), or on specific countries. The CNB has general information about the local/regional agencies present on the Czech market and the German market. Not all of them provide rating services in the full sense, but they offer certain information services on companies, including rankings/scores.

Typical features of the rating services provided by these agencies:

- only a few rated entities,
- no details of methodology available,
- only a short history (track record),
- no default statistics available,
- some of them also provide other information, consultancy and/or training services,
- use of mapping to the rating scale of a major agency and/or local rating scale,
- coverage of a negligible proportion of the corporate sector,
- impossible to compare their data/ratings because there are no common customers.

2.3.1 Agencies in the Czech Republic

Dun & Bradstreet (see dbczech.dnb.com/ChkLang.htm)

The products Dun & Bradstreet provides include D&B ratings, corporate payment histories (last 12 months) and overall corporate economic reports. A D&B rating is a part of all corporate economic reports and is an estimate of the probability of default. This rating has two parts: the financial strength of the company and the level of risk of doing business with this company. It takes into account publicly available data: trends in the industry, payment history, court information and accounting data. Dun & Bradstreet can recommend a maximum credit for a company. Information is provided only to subscribers.

Coface Intercredit Czechia (see www.cofaceintercredit.cz)

This agency was established in 1991 and belongs to the French Coface Group, which has more than 50 years of experience. It provides credit information and payment services. It has at its disposal a corporate database (ICON) with information on 4.8 million entities. The agency cooperates, for instance, with credit insurance companies. Its services include business credit reports (estimates of the quality of business relations), monitoring services (monitoring of creditworthiness), marketing services (identification of potential clients), data quality check and verification services, receivables management and debt recovery.

CRA Rating Agency (see www.crarating.com)

CRA Rating Agency was established in 1998 and since 2000 has been an affiliate of Moody's. Its main focus is the rating of industrial companies, municipalities and financial institutions, bond issue ratings (including mortgage bonds) and project ratings (especially housing construction projects). CRA declares that its rating includes an intensive, deep and complex evaluation phase that sums up all the potential future risks concerning the evaluated entity. Moreover, the agency provides some scoring/ranking services (Czech Sector Award, based on an industrial sector index of corporate economic management, and CRA Fond Scoring). The number of rated entities is about 100 (not all of them publicly available). It covers entities from the corporate, municipal and financial sectors. It uses the Moody's international rating scale and its own local scale. The agency initially operated in the Czech Republic only, but later entered the Slovakian and

Hungarian markets. Currently (2005) it is stepping up its activities in other countries of Eastern Europe.⁴

Czech Credit Bureau (see www.creditbureau.cz)

Czech Credit Bureau was established in 2000 and focuses on the management of credit reporting systems, decision support systems for risk control and marketing strategies (scoring, client segmentation, etc.). This company collaborates with U.S. company **CRIF**, which specialises in the development and management of credit reporting systems. No further information about scoring products is available.

To show the penetration of ratings on the Czech market, we present in Annex 3 the basic global ratings coverage of entities in the Czech Republic and in Annex 4 the coverage of ratings by the CRA Rating Agency.

2.3.2 Local Agencies in Germany

We have received some information from the Deutsche Bundesbank⁵ on a survey of the rating market in Germany. Besides the major international agencies, there are also a few local agencies:

- Creditreform Rating – this agency was established in 1999. It provides issuer ratings and has so far published 12 ratings. It has more than 20 employees. Only limited information about its rating approach is available, but it has links to rated companies. It uses the S&P rating scale.
- URA – Unternehmens Rating – this agency was established in 1998 and also has affiliated offices in Switzerland; it provides issuer ratings and has published one rating. It has a standardised rating process with a fixed aggregation mechanism and uses the S&P rating scale.
- Rating Alliance – established in 2000 – cooperates with Hermes Rating and TUV Rheinland-Pfalz. It provides issuer ratings, uses the S&P rating scale and has published three ratings. Its rating methodology includes individual aggregation of single assessments.
- RS Rating Services – established in 1999; has published 12 ratings.
- Global Rating – established in 2001; has no published ratings.
- GDUR Mittelstundrating – established in 1999; has published two ratings.

In addition to the above-mentioned rating services, some of these agencies (or other agencies) provide scoring/ranking (or, say, “quick rating”) services. These services were not considered ratings in the full sense and were not included in the survey.

2.4 Export Credit Agencies/Consensus Country Risk Scores

As mentioned in the introduction to this report, under the Basel 2 rules in the Standardised Approach (see BCBS, 2004), banks may use – as an alternative to ratings provided by ECAIs and subject to supervisory approval – the country risk scores assigned by Export Credit Agencies

⁴ An Agreement on Cooperation was signed in the spring of 2005 with the Bulgarian Advisory Group (BAG). This agreement envisages the founding of a National Credit Rating Agency (NCRA), a local rating agency to cover Bulgaria, Serbia and Montenegro, Macedonia, Bosnia and Herzegovina, and Albania.

⁵ Information provided in person in July 2003 by the following experts: Mr Rudolf Neidhart and Mr Jochen Flach.

(“ECAs”) for the purpose of risk weighting claims on sovereigns.⁶ Banks may choose to use the risk scores published by individual ECAs that have satisfied certain conditions, or use the consensus risk score of ECAs participating in the “Arrangement on Guidelines for Officially Supported Export Credits”⁷ (“Consensus”).⁸

The purpose of Consensus is to reduce unfair competition in the insurance premia that ECAs charge their exporters. The participants of Consensus are required to charge no less than the minimum premium benchmarks based on the country risk category ratings assigned.

The **methodology** for calculating the benchmarks is contained in an agreement known as the Knaepen Package (see OECD, 2001), which came into force on 1 April 1999. The aim of the Knaepen Package is to seek convergence on pricing of officially supported medium and long-term export credits by means of Guiding Principles for setting premium fees.

The key elements of the Knaepen Package are:

- “a system for assessing country credit risk and classification of the countries into seven categories
- MPB⁹ rates for each category of risk
- the application of the surcharges or discounts to the MPB rates for the qualitative differences between ECA products, including percentage of cover,
- Permitted Exceptions with appropriate levels of discount against the MPBs in the case of risk externalisation/mitigation,
- an Electronic Exchange of Information among ECAs on all aspects of the Guiding Principles,
- a regular review process to allow for adjustments and enhancements in the light of experience.”

An inseparable part of the Knaepen Package is the Country Risk Classification Method, which:

- a) “measures the country credit risk, i.e. the likelihood that a country will service its external debt,
- b) uses an Econometric Model based on quantitative indicators, e.g. the financial and economic situation and the payment experience of the countries,
- c) takes into account possible qualitative factors, e.g. political and other economic and financial factors not included in the quantitative Econometric Model,
- d) combines the quantitative and qualitative factors,
- e) results in countries being classified into seven premium categories.”

The Belgian Credit Agency (which is one of the ECAs participating in the Consensus) runs the CRAM model centrally in Brussels. The CRAM is updated for each country (the risk classifications cover about 150 sovereigns, excepting the high-income OECD countries) when new information becomes available or when important sudden events may change the perceived

⁶ While these scores are developed officially to price export credits, in the Basel Committee’s view they serve equally well for differentiating country risks for regulatory purposes under Basel 2.

⁷ In 1999 this methodology was adopted by the Czech Export Guarantee and Insurance Corporation (EGAP, a.s.), which is an ECA. EGAP is a member of Consensus.

⁸ The Participants are representatives of 24 (out of the 30) OECD countries.

⁹ See Annex 5.

country risk. The details of the CRAM are confidential and not published. The outcome of the CRAM is an objective starting point for the final assessment of country risk. The CRAM outcome is transformed into a classification on a fixed scale of seven categories. Where appropriate, the resulting risk category is adjusted for qualitative risks related to the political situation and to other risk factors not included in the quantitative CRAM, in accordance with procedures agreed by the Participants. The final classification, based on valid country risk elements, is a consensus decision of the sub-Group of Country Risk Experts, that involves the country risk experts of the Participating Export Credit Agencies. The sub-Group of Country Risk Experts meets (typically) several times a year. The experts exchange views at each meeting in order to arrive at a consensus. The way in which they formulate their desired outcome at national level prior to the meeting is up to them. However, it is expected that the experts' considerations should be based on the empirical results of the CRAM, bearing in mind that the CRAM outcome may need to be adjusted for any qualitative factors.

3. Regulators'/Supervisors' Views, Experience and Future Intentions Regarding ECAI Recognition

3.1 The U.S. Concept of Nationally Recognised Statistical Rating Organisations

Over the past 30 years, regulators/supervisors have increasingly used credit ratings to help monitor the risk investments held by regulated entities. Since 1975, the U.S. Securities and Exchange Commission ("US SEC") has relied on the ratings issued by market-recognised rating agencies for distinguishing among grades of creditworthiness in various regulations under the federal securities laws.

Regulatory Use of Credit Ratings

The term "nationally recognised statistical rating organisations" (NRSROs) used for the rating agencies was originally adopted by the US SEC solely for determining capital charges on different grades of debt securities under the Net Capital Rule.¹⁰ The Net Capital Rule requires broker-dealers, when computing net capital, to deduct from their net worth certain percentages of the market value of their proprietary securities positions. A primary purpose of these "haircuts" is to provide a margin of safety against losses that might be incurred by broker-dealers as a result of market fluctuations in the prices of, or lack of liquidity in, their proprietary positions. The US SEC determined that it was appropriate to apply a lower haircut for the securities held by a broker-dealer that was rated by a rating agency of national repute. The reason was that those securities were more liquid and less volatile in price than securities that were not so highly rated. The requirement that the credit rating agency be "nationally recognised" was designed to ensure that its ratings were credible and reasonably relied upon by the marketplace.

Over time, as marketplace and regulatory reliance on credit ratings increased, the use of the NRSRO concept became more widespread. Today, NRSRO ratings are widely used in legislation

¹⁰ Adoption of Amendments to Rule 15c3-1 and Adoption of Alternative Net Capital Requirements for Certain Brokers and Dealers No. 34-11497 (June 1975).

and rules issued by financial and other regulators/supervisors in the USA and some other countries. The US SEC itself has incorporated the NRSRO concept into additional areas of the federal securities laws.¹¹ In addition, Congress has incorporated the NRSRO concept into a wide range of financial legislation.¹²

Recognition of NRSROs

In 1975, when NRSRO ratings were first incorporated in the Net Capital Rule, the US SEC determined that the ratings of S&P, Moody's and Fitch were used nationally, and that these firms should be considered NRSROs for purposes of the Net Capital Rule. Since 1975, the US SEC staff has issued "no-action letters"¹³ with respect to NRSRO status to six additional rating agencies.¹⁴ With the exception of two rating agencies – A.M. Best and DBRS (for more information on them see www.sec.gov) – each of the additional firms has since merged with or been acquired by other NRSROs. At present, five NRSROs remain.

NRSRO Recognition Criteria

The US SEC initially did not adopt specific standards for determining which credit agencies were nationally recognised for their services, preferring instead to address the question on a case-by-case basis. But through the subsequent no-action letter process, the US SEC developed a number of objective criteria for assessing national recognition. The single most important factor in the US SEC's assessment of NRSRO status is whether the rating agency is "nationally recognised" in the United States as an issuer of credible and reliable ratings by the predominant users of securities ratings. The US SEC staff also reviews the operational capability and reliability of each organisation. Included within this assessment are (see U.S. Securities Exchange Commission, 2005):

1. the organisational structure of the rating organisation,
2. the organisation's financial resources (to determine whether it is able to operate independently of economic pressures or control from the companies it rates),
3. the size and quality of the rating organisation's staff (e.g. if the entity is capable of thoroughly and competently evaluating an issuer's credit),
4. the rating organisation's independence from the companies it rates,
5. the organisation's rating procedures (to determine whether it has systematic procedures designed to produce credible and accurate ratings),
6. whether the rating organisation has internal procedures to prevent the misuse of non-public information and whether those procedures are followed.

¹¹ For example, Rule 2a-7 under the Investment Company Act of 1940 limits money market funds to investing in only high quality short-term instruments, and NRSRO ratings are used as benchmarks for establishing minimum quality investment standards.

¹² For example, when Congress defined the term "mortgage related security" in the Exchange Act, as part of the Secondary Mortgage Market Enhancement Act of 1984, it required, among other things, that such securities be rated in one of the two highest rating categories by at least one NRSRO.

¹³ This "no-action letter" is sent to a rating agency if the Commission determines that the agency can be considered an NRSRO. The letter states that it will not recommend enforcement action to the Commission against broker-dealers that use ratings issued by the rating agency for the purposes of the net capital rule.

¹⁴ 1. Duff and Phelps, Inc., 2. McCarthy Crisanti & Maffei, Inc., 3. IBCA Limited and its subsidiary, IBCA, Inc., 4. Thomson Bank Watch, Inc., 5. DBRS, and 6. A.M. Best.

Initiatives in the 1990s

In the 1990s, the US SEC (see U.S. Securities Exchange Commission, 2005) reviewed a number of the issues regarding credit rating agencies and the greater regulatory oversight of them. Some of the instances in which the US SEC reviewed the regulatory treatment of credit rating agencies coincided with a large-scale credit default.¹⁵ In 1994, the US SEC issued a Concept Release soliciting public comment on the US SEC's use of NRSRO ratings. A number of domestic and foreign rating agencies had been prompted to seek NRSRO status. Specifically, comment was solicited on (see U.S. Securities Exchange Commission, 2005):

1. whether the term "NRSRO" explicitly should be defined in US SEC rules,
2. whether the existing no-action letter process for recognising NRSROs was satisfactory and, if not, the alternative formal procedures to be established.

The comment letters received in response to the Concept Release supported, in general, the continued use of the NRSRO concept (a few commenters suggested the US SEC discontinue the use of the NRSRO concept and instead employ statistical models or historical spreads to determine the level of risk associated with a particular instrument). Most comment letters recommended adopting a **formalised process** for approving NRSROs (specifically, criteria for NRSRO recognition) by the US SEC. The view was that the no-action letter procedures did not contain sufficient guidance for submitting an application for NRSRO recognition and the types of information that should be included in the application. In general, however, commenters opposed formal regulatory oversight of NRSROs, particularly to the extent regulation might interfere with a rating agency's credit rating process or rating judgements.

As a response to the Concept Release and the comments received thereon, the US SEC proposed in 1997 to amend the Net Capital Rule to define the term "NRSRO". The proposed amendments set forth criteria to be considered by the US SEC in recognising rating agencies as NRSROs.

The Net Capital Rule amendment would establish a formal US SEC process for recognition of NRSROs as well. According to this amendment, a rating applicant seeking NRSRO designation would provide the US SEC with detailed information explaining how the rating organisation satisfies each of the required attributes. US SEC staff would approve or reject an application for NRSRO status. Each recognised NRSRO would be required to notify the US SEC of any material changes. If the US SEC determined the NRSRO no longer satisfied all of the above-mentioned attributes, the rating agency's NRSRO recognition could be revoked or withdrawn (see U.S. Securities Exchange Commission, 2005).

Although the comments received from public generally supported the US SEC's attempt to define the requirements necessary for a rating agency to be designated as an NRSRO, due to concerns regarding, among other things, the standards defining the term "NRSRO" and the initiation of broad-based US SEC and Congressional reviews of credit rating agencies, the US SEC did not act upon the 1997 rule proposal briefly described above.

¹⁵ Such as those of Orange County, California, and the Washington Public Power Supply System. In March 2002, the Senate Committee on Governmental Affairs held a hearing – entitled "Rating the Raters: Enron and the Credit Rating Agencies" – that focused on the role of the credit agencies in the Enron collapse. Concerns had been expressed regarding the significant market power of the three NRSROs, their privileged access to non-public issuer information, their apparent lack of care and diligence in the Enron situation, and their very limited regulatory oversight.

Recent review of NRSROs

During 2002–2004, the US SEC focused its efforts on discussions with rating agencies and market participants, formal examinations of each of the NRSROs and public hearings that offered a broad cross-section of market participants the opportunity to communicate their views on credit rating agencies and their role in the capital market. The topics addressed during the hearings covered numerous issues, e.g. the current role and functioning of credit rating agencies, information flow in the credit rating process, concerns regarding credit rating agencies and the regulatory treatment of credit rating agencies (see U.S. Securities Exchange Commission, 2005).

Following discussions with credit rating agencies and market participants, the US SEC published a Concept Release in June 2003 (see U.S. Securities Exchange Commission, 2005) seeking comment on a number of issues relating to rating agencies. These issues included whether rating agencies should continue to be used for regulatory purposes and, if so, the process of determining whose credit ratings should be used. Another issue discussed was the level of oversight of such rating agencies.

Following the above-mentioned recent initiatives, the US SEC proposed to define the term “NRSRO” in new Exchange Act Rule 3b-10. It is supposed that the definition would be composed of three components designed to determine those rating agencies whose ratings are sufficiently reliable to be used for a variety of regulatory purposes. The US SEC proposes (see U.S. Securities Exchange Commission, 2005) to define the term “NRSRO” as an entity:

- a) that issues publicly available credit ratings that are current assessments of the creditworthiness of obligors with respect to specific securities or money market instruments,
- b) is generally accepted in the financial markets as an issuer of credible and reliable ratings, and
- c) uses systematic procedures designed to ensure credible and reliable ratings, manage potential conflicts of interest, and prevent the misuse of non-public information, and has sufficient financial resources to ensure compliance with those procedures.

The US SEC believes that all five rating agencies meet the proposed definition of “NRSRO”.

3.2 Output of the Czech National Bank Questionnaire on Regulators’/Supervisors’ Experience and Future Intentions Regarding ECAI Recognition

Regulators/supervisors will have to fulfil a completely new and very important task based on Basel 2 (see Basel Committee on Banking Supervision, 2004), which, in the European Union, is incorporated into a Directive (Commission of the European Communities, 2004). They will have to approve the ECAIs (External Credit Assessment Institutions) whose ratings banks will be allowed to use for regulatory purposes, i.e. for the application of the Standardised Approach to calculating the capital requirement for credit risk (see Commission of the European Communities, 2004).

At the beginning of its work relating to ECAI recognition (the start of 2003), the Czech National Bank prepared a questionnaire aimed at gaining an overview of how regulators/supervisors abroad had been dealing with issues relating to ECAIs. The questionnaire had two parts. The first six

questions were devoted to the regulators'/supervisors' current experience with the use of ECAI ratings, while the rest (11 questions) were concentrated on regulators'/supervisors' procedures during the evaluation process (see Annex 2).

The questionnaire was sent to ten regulators/supervisors abroad. The Czech National Bank received answers from six authorities – in Slovakia, Austria, Finland, Belgium, the State of New York and France. Generally we can say that the answers received differ, e.g. only some regulators/supervisors have so far been using ratings for regulatory purposes. As regards the ECAI assessment process, the regulators'/supervisors' intentions were not homogeneous, as explained below.

Furthermore, the Czech National Bank received an oral response from the Norwegian authority, which stated that it had no particular considerations on the topic at that time.

Current application of ratings

As regards the use of ratings for regulatory purposes, three regulators/supervisors (France, Finland and Belgium) answered that they had been using the ratings of internationally recognised rating agencies – e.g. S&P, Moody's and Fitch – for market risk purposes since 1996. They do not apply any special criteria in the ECAI recognition process. It is important that banks use such ratings. There is no ongoing monitoring of agencies, except for monitoring of publicly available information (Belgium). The regulators/supervisors answered that a long track record was not required in the case of local rating agencies.

Intentions for the future based on Basel 2

The regulators/supervisors do not have any preference as regards the entity that should give the impulse for starting administrative procedures for ECAI recognition by regulators/supervisors. Some regulators/supervisors would prefer a supervisory body or any market participant, while the rest would accept ECAIs or even other institutions.

The qualitative factors to be set for recognising rating agencies are as follows: the rating scale, the definition of default, the rating methodology and differences in ratings across rating agencies.

The regulators/supervisors are of the opinion that the following quantitative parameters should be monitored when recognising rating agencies: the risk characteristics for the individual rating grades, the minimum number of rated entities, the minimum length of time series and rating stability (the average time validity of the assigned rating grades).

None of the regulators/supervisors uses quantitative methods to assess rating agencies. Most of the regulators/supervisors look at the generally published methodology describing a rating's main features when assessing the criterion of objectivity. Four regulators/supervisors (Austria, Finland, Belgium and the State of New York) are going to ask for a detailed description, including unpublished information, in this context.

As regards the recognition of ECAIs by the market, the regulators/supervisors think that there is no necessity for market participants to declare in writing to the regulator/supervisor that they internally use a specific ECAI.

Most of the regulators/supervisors would explicitly stipulate the type of information to be published about the ratings assigned and the frequency of data updates (rating grades, probability of default, migration matrices).

The Basel 2 document stipulates that ECAIs should have “sufficient resources”. Two regulators/supervisors (Austria and the State of New York) consider the number of analysts to be a criterion for possible use.

One of the Czech National Bank’s questions concentrated on which ECAI might be used as a benchmark. Some regulators/supervisors (Finland and Belgium) would choose a large ECAI used worldwide. The National Bank of Slovakia intends to concentrate on the criterion included in Basel 2. The State of New York would not prefer any particular ECAI as a benchmark.

If an ECAI’s historical default experience (cumulative default rates) exceeded the benchmark or was not statistically meaningful, two regulators/supervisors (Austria and the State of New York) would not recognise the ECAI as eligible. The rest of the supervisors would either move the risk assessment to a less favourable risk category or not recognise the ECAI as eligible.

The outputs of the questionnaire generally showed that little attention was being paid to the issue of ECAI recognition in late 2002/early 2003. The thinking of the competent authorities, however, has been evolving over time, as described and explained in the following section.

3.3 Current European Activities

In September 2004, the CEBS established a working group on ECAIs (ECAI WG). The key objective of its work is twofold:

1. To identify key areas of potential overlap, and potential differences in approach, between the European Commission proposal’s requirements for ECAI recognition and the issues under scrutiny by the CESR¹⁶ (Committee of European Securities Regulators). The Commission has recommended that the CESR collaborate with the CEBS. The Commission is assessing the need for introducing European legislation in relation to CRAs (credit rating agencies) and has mandated the CESR to provide technical advice on CRAs.
2. To facilitate convergence between the Member States on:
 - the application of the requirements set out in the Commission proposal, in order for the credit assessments of ECAIs to be used to determine the solvency requirements for credit institutions and investment firms – i.e. the ECAI recognition process; and
 - the mapping of credit assessments to risk weightings.

¹⁶ The Committee of European Securities Regulators was established in 2001; each Member State of the European Union has one member on the Committee. The members are the heads of the national public authorities competent in the field of securities, the European Commission and the securities authorities of Norway and Iceland. The role of CESR is: a) to improve coordination among securities regulators, b) to act as an advisory group to assist the EU Commission, c) to work to ensure more consistent and timely day-to-day implementation of Community legislation in the Member States.

The views of the CESR and the CEBS, however, differ to some extent. This is partly because they have different objectives and partly because they define rating agencies in different ways. Consequently, they are concerned with potentially different (but intersecting) populations.

The work of ECAI WG has been split into two phases. Phase 1 (the first above-mentioned aspect) was short term and finished at the beginning of 2005; phase 2 is longer term and resulted in the public release of Consultation Paper CP 07 at the end of June 2005 (see Committee of European Banking Supervisors, 2005).

ECAI WG agreed on the following ECAI definition (see Committee of European Banking Supervisors, 2005):

“An eligible ECAI is an entity, other than an Export Credit Agency, that issues external credit assessments, and that has been determined by the competent authorities to meet the eligibility requirements set out in the Capital Requirements Directive. Only the credit assessments of an eligible ECAI, and for some exposures, the credit assessments of Export Credit Agencies, may be used by credit institutions and investment firms (‘institutions’) for the purposes of determining risk weights under the Standardised Approach and the Securitisation Ratings Based Approaches.”

Under the IOSCO Code definition of a CRA (see IOSCO, 2004), all eligible ECAs qualify as CRAs. Therefore, rating agencies that are subject to the ECAI requirements of the revised Directive will also be subject to the IOSCO Code and to any requirements established in this area by the CESR.

The ECAI WG members have agreed that ECAI recognition in the Commission proposal is distinct from the regulation of ECAs in respect of the requirements it places on, and powers it affords to, the competent authorities. Supervisors will need to strike the appropriate balance between minimising moral hazard and ensuring they have sufficient information from an ECAI in order to fulfil their responsibilities under the Commission proposal.

Moreover, in assessing conformance to the ECAI eligibility requirements, a competent authority would not aim to determine whether or not an ECAI’s methodology or the credit assessments it delivered were objectively correct. A competent authority would focus on whether or not an ECAI’s processes and procedures were sufficient to ensure that its methodology and individual credit assessments met the recognition requirements. Banking supervisors are not entitled to assess the validity of individual credit assessments (ratings) themselves.

It is important to note that the CNB is represented in the ECAI WG group (by Helena Šůvová) and the CNB has applied the results of this research project in formulating its comments. The interim report of this project (as of June 2004) has been forwarded to the CEBS and ECAI WG. All the outputs of ECAI WG issued to date (spring 2005) have generally been in line with the CNB’s declared views agreed in the project. However, the Member States’ thinking on many ECAI recognition issues is still developing.

This ongoing development is evidenced by the results of a short questionnaire prepared by ECAI WG at the beginning of 2004. The members of ECAI WG were asked to draw up a list of the firms that were potential candidate(s) to be eligible for prudential purposes in their country. The questionnaire was answered by 14 members. Most of the ECAI WG members (competent

authorities) were at the early stage of considering the process for recognising ECAIs (some of them planned to recognise renowned international rating agencies without carrying out their own recognition process) and had not yet gathered much information about firms that were potential candidates to be recognised ECAIs. The results of the above mentioned first and second phases of ECAI WG's work and further issues for the near future show that a considerable shift has occurred in the Members States' thinking in this area. The public consultation on ECAI recognition issues (as mentioned above) may also bring some inspiration and changes.

4. The Views of Czech Banks on the Application and Recognition of ECAIs

In May 2003, the CNB discussed the issues of current and future application of external credit assessments and the issues of ECAI recognition with Czech banks. The banks' views on these issues are summarised below.

a) Current and potential use of external credit assessments

Banks mostly use the ratings of major ECAIs: S&P, Moody's, Fitch Ratings and sometimes Dun & Bradstreet. The local CRA and local ECA¹⁷ are also used in some cases. Banks also use the internal ratings of their parent banks if available. External ratings are currently used as a benchmark or to supplement internal ratings. Their use is limited to large and/or international corporations, banks and some municipalities. From the product viewpoint, they are applied to large exposures and investment banking products (obligations, securitised assets). The major Czech banks intend to apply the internal ratings based approach (IRB) and are not much interested in using external assessments, whereas the rest of the banks are going to apply the standardised approach and are dependent on recognised ECAIs/ECAs.

b) Pros and cons of using ECAIs

ECAIs use relatively reliable data and models and qualified analysts, which makes their assessments suitable benchmarks. Global major ECAIs generally have many years' experience and long data time series. Unfortunately, however, few Czech entities possess their assessments. The smaller banks would particularly like to take advantage of a local ECAI.

c) Recognition procedure

Regulatory recognition is perceived as a formal administrative procedure, whereas true recognition is carried out by the market. The proposal to invite representatives of the academic community into the recognition process was not accepted by the majority. Some participants expressed the view that there is no space to establish a purely local ECAI. The minimum period of existence and activity on the local market should be 3–5 years. The regulator/supervisor should carefully examine the ECAI's rating methodology. References from market participants are necessary. The criteria assessed should include: number of rated entities, resources (equity, number of analysts, legal body). The ECAI should disclose the mapping of its rating scale to the rating scales of the major agencies.

¹⁷ i.e. EGAP – Export Guarantee and Insurance Corporation.

The views of the banks that took part in the discussion confirm the credibility of the major ECAIs. However, the banks do not oppose the use of local ECAIs' assessments, and some of the banks already use them.

The CNB also presented a draft ECAI recognition methodology to the banks in spring 2004 (as part of a trilateral "Basel 2 Implementation Project"). This draft received general approval and no specific comments.

5. Summary of the Situation and Potential CNB Approaches

5.1 Summary of the Situation

The Directive proposal (see Commission of the European Communities, 2004) establishes new approaches to calculating capital adequacy. This Directive will be legally binding for the Czech Republic as a Member State and will have to be incorporated into the Czech regulatory framework.

In the area of credit risk, banks will be able to calculate capital requirements using either the Standardised Approach or an approach based on internal ratings, also known as the IRB approach.

The IRB approach will be allowed only after a bank meets strict quantitative and qualitative criteria and receives approval from the competent authorities. In addition, this approach is demanding on the quality and quantity of data. Such data must be held by the bank over a certain period of time, a condition which many banks may have problems fulfilling. It follows from these conditions that a certain segment of banks in the Czech Republic (and in other countries as well) will have to use the Standardised Approach, at least in the early years after the new concept is launched.

The Standardised Approach is based on external credit assessments. In other words, the risk weightings are dependent on two factors: counterparty type (similarly to the current regime); and the external credit assessment (rating) of the counterparty.

Even under the assumption that all discretions will be exercised and simplifications used, external credit assessments will have to be applied to at least a part of the claims on sovereigns and banks. They will have to be applied in securitisation, too.

It follows from these facts that the competent authority must provide recognition to at least one external credit assessment institution (ECAI) prior to the implementation of Basel 2 (i.e. before the end of 2006). Otherwise, implementation of Basel 2 would be possible, but the point of the Basel 2 concept would be missed. This status quo would be maintained.

There is no intense competition among ECAIs. Only two institutions operate globally and cover all types of exposures – S&P and Moody's. Another globally operating ECAI is Fitch Ratings, but it deals primarily with sovereigns and banks, although it does rate some corporates. The remaining ECAIs operate only locally or regionally. The scopes of activities of European ECAIs are often restricted to the domestic market and cover only some types of exposures.

Alternatively, it is possible to use risk scores assigned by export credit agencies (ECAs). However, these scores are only available for countries (and can be used for deriving risk weights for claims on banks) and do not cover other types of exposures.

There is no wide regulatory experience with external credit assessments. An exception is the USA, where these assessments have been used for regulatory purposes since the mid-1970s (see U.S. Securities Exchange Commission, 2005). One reason is that the number of American firms having an external credit assessment is higher than the number of such firms in the rest of the world. S&P and Moody's were the first to receive regulatory recognition. Subsequently, after providing recognition to more ECAIs, general criteria were established for future recognition. These criteria are similar to the criteria laid down in Basel 2. However, even the US SEC has had to overcome a lot of problems to convert these general criteria into a comprehensive standardised methodology (see part 3.1.) and the process has not been at all straightforward.

Some other regulators/supervisors have been using external credit assessments, but only in a specific area, namely securities in the trading book that are rated investment-grade and can therefore be assigned a preferential risk weight. The ECAIs recognised for these purposes are mostly S&P and Moody's, and sometimes Fitch Ratings. The basis for recognition is their wide acceptance by markets, and they have not been subject to any standardised recognition procedure.

The foreign regulators/supervisors that were addressed had not developed a comprehensive ECAI recognition methodology proposal. They had held discussions on approaches and alternatives without reaching a final decision.

Regulators/supervisors face at least the following regulatory issues in the recognition process:

- ECAI recognition for Basel 2 purposes is **not** any kind of ECAI **regulation**. Therefore, it is necessary to minimise the potential burden on the eligible ECAIs.
- The rating market is oligopolistic rather than competitive. Rating agencies are, therefore, able to develop credibility based almost exclusively on proven track record and not on official recognition. Stronger regulatory intervention would even increase barriers to entry and reduce competition. The market participant would also perceive it as a counter-productive and potentially discriminative activity.
- There is, actually, no common professional organisation (e.g. association) of rating agencies that would help with self regulation. Nor is it possible to introduce a single standard for rating activities, methodologies and processes, or for rating agency organisation. However, the general rules specified in IOSCO Code of Conduct Fundamentals (see IOSCO, 2004) may be useful.
- A regulator/supervisor cannot assess, on principle, the quality of ratings and has to be very careful not to go too deep into assessing the methodology. Any direct judgement could create **moral hazard problems** for the regulator/supervisor.
- The treatment of rating agencies should be fair.

There are, theoretically, two extreme approaches to ECAI recognition: either to impose full regulation with a strong regulatory burden on rating agencies, or to impose a market-oriented solution. The market-oriented solution is the least intrusive solution for rating agencies and means that the ECAI should have in place effective policies and measures to deal with conflicts and potential conflicts of interests and should be transparent and disclose all possible information about its activities, organisation, methodologies, etc. The market (including

regulators/supervisors) can then assess the pros and cons of all the aspects of the ECAI's activities. It is important to note that a rating agency is a reputational business which has itself a strong incentive to ensure that it acts with integrity. Some composite approaches "in between" these two extremes could be developed as well.

The authors of this report generally support a market-oriented approach that would not impose any undue additional burden on rating agencies and would draw on publicly disclosed information to the maximum possible extent.

There are also two basic approaches to the application of the individual recognition criteria:

- "hard" triggers/rules (e.g. hard triggers preventing eligible ECAIs from issuing ratings for major shareholders with more than 10% of voting rights);
- "soft" triggers (applying more expert judgement to ECAI recognition, e.g. the competent authorities should look at the processes in place to ensure the fair rating of major shareholders);

Hard triggers, on the one hand, are usually more transparent and easy to adopt and pose a minimal administrative burden, but on the other hand can be inflexible and rigid and prevent further development. Regulators/supervisors, however, do not have any power to enforce such triggers.

Soft triggers constitute a more flexible approach and do not automatically disqualify ECAIs not meeting certain limits, but they are more administratively burdensome, less transparent and require greater knowledge and more expert judgement from regulators/supervisors.

The authors of this report generally support soft rules or mixed approaches generally based on the market-oriented solution. The main reasons are the following:

- hard rules could cause practical issues (e.g. if the quantitative criterion was exceeded only temporarily or partially);
- it is difficult to define hard rules, as they have no exact reason for being, no theory to be derived from and in essence are only subjective or arbitrary;
- we are aware that soft rules are more difficult for the competent authorities to assess, but we appreciate the higher flexibility they provide;
- in our opinion it is also necessary to assess ECAIs using a holistic approach – an ECAI should not be excluded from recognition because it fails to meet just one limit;
- it is, however, appropriate to have some soft limits (recommended limits or, say, expectations) based on best practices if there are any – so that when the limits are exceeded the regulator/supervisor is more alert but there is still room for discussion.

We are also aware that if any high level principles for ECAI recognition (based on either soft or hard rules) are agreed in the future (e.g. at CEBS level), the CNB will be expected to comply with them.

5.2 The Process and Rules for Recognising External Credit Assessment Institutions

Introduction and goals

In accordance with the Directive proposal (see Commission of the European Communities 2004), the authors of this report have elaborated a draft process for ECAI recognition by the CNB in the position of competent authority.

The proposal takes the criteria set out in Directive proposal and builds on them. Although the proposal essentially retains the structure of the Directive proposal criteria, the authors have arrived at the conclusion that these criteria are mutually inseparable and in many cases overlapping. The requirements and documents used to meet one criterion may thus simultaneously be used to assess one or more other criteria.

In designing the process we have drawn on:

- the reports and experience published by BIS on the subject of ECAIs (see www.bis.org, Basel Committee on Banking Supervision, 2000),
- the past experience of other regulators/supervisors (most notably the US SEC) with recognising rating agencies and using ratings in their regulatory activities,
- the *Statement of Principles Regarding the Activities of Credit Rating Agencies* proposed by the IOSCO (see IOSCO, 2003b),
- documents issued by the leading international rating agencies (see, for example, Moody's Investors Service, 2001a).

We regard credibility and market acceptance as the most important criteria for recognising ECAIs. The market verifies the true quality of the ratings they provide, especially in the long term. However, one cannot overlook other criteria which are intended to prevent the misuse of ratings and rule out potential conflicts of interest. The individual criteria are therefore viewed as not mutually substitutable.

The CNB's primary **goal** is to facilitate the application of the new Directive proposal. The Standardised Approach to credit risk is directly dependent on the use of external ratings, and other areas are either partially dependent on it (e.g. hedging and securitisation) or indirectly dependent on it (e.g. banks on IRB with low default data portfolios may seek to use external ratings as a benchmark or as a significant input into their Sovereign/Bank/Corporate IRB models).

We are of the opinion that the role of the competent authority in the ECAI recognition process is to verify the set criteria to a level of detail consistent with the role of external ratings in banking regulation. The competent authority should have no intention of using the recognition process to confirm the correctness of either a rating methodology or a particular rating outcome. Nor should the competent authority put up unnecessary barriers to the entry of new entities into the industry. However, it should intend to exclude the kind of entities that do not meet the criteria.

Starting the formal recognition process

We envisage the formal process for recognising ECAIs being opened in two ways – either directly, i.e. by the CNB as the competent authority itself, or indirectly, i.e. by another EU Member State.

Indirect ECAI recognition

This option for recognising an ECAI is for the CNB to rely on the recognition of the ECAI by the competent authorities of another EU Member State (so-called mutual recognition). This means that the competent authority (the CNB) formally includes the ECAI in its list of recognised ECAIs to the extent to which it is recognised by those competent authorities (e.g. for specific segments of the market). In this case, the CNB may consider exercising the right to ask the competent authorities for submission of more detailed information that led up to recognition. This possibility is conditional upon it being provided for in the relevant EU directive and the decisions of other EU competent authorities being known. It is intended to be used chiefly in the case of foreign local rating agencies, or possibly global agencies.

Direct ECAI recognition

We envisage the direct recognition process being opened in two ways:

- by submission of an application for recognition of the ECAI, together with the required documents (*full-scope recognition process*);
- by the CNB itself actively seeking entities that meet the ECAI recognition conditions, obtaining documents on their activities, and itself assessing whether those documents are complete and sufficient. Essentially, this alternative will be available exclusively to global entities having a long-standing reputation for offering quality rating services.

The range of applicants is not specifically restricted. One can expect that the applicants will be banks or their parents. The full recognition process, however, always necessitates cooperation with the ECAI. We envisage recognition on a *legal entity level*.

We think that openness and no restrictions on applicants bring more flexibility. If the process can be started only by a bank, for instance, there are at least three potential drawbacks:

- An ECAI must first persuade a bank and its managers to present an application to the competent authority. If a bank were to assess it, the ECAI would also have to disclose all its internal (and sometimes confidential) information to the bank. This situation itself creates a conflict of interests.
- There are no cost savings for the competent authority, because it would also have to verify the information presented by the bank on the ECAI and ensure the homogeneity of the recognition process. Otherwise, each bank could have different approaches to the assessment.
- The Basel 2 document underlines the higher risk sensitivity and therefore stresses the role of ratings in the Standardised Approach. This approach (excluding ECAI direct applications) could block the initial intention of Basel 2, because it would be fully up to banks whether to choose any ECAI or not. If a competent authority wants to allow the new Basel 2 concept and wants to support the role of ratings, it should also accept other

application procedures (either the initiative of the competent authority or the initiative of the ECAI itself).

Formal process

No standardised **application** form is proposed. Applications will be submitted to the competent authority (CNB Banking Supervision). The following information is to be given in the application:

- the applicant's identity,
- the identity of the ECAI to be recognised, and contact details for its representatives,
- the market segment for which the ECAI is to be recognised,
- a brief rationale for the application,
- enclosures (required documents).

In the context of the application, "market segment" means a characterisation of the rating products provided by the ECAI according to its own definition for which recognition is sought, especially with regard to the area and the type of rating. The rating area is specified, for example, by stating the type of product or subject, or the geographical location (e.g. assigning ratings to firms from a particular country). The rating type is specified by stating, for example, whether recognition is sought for long-term or short-term ratings, ratings of issues or ratings of issuers, etc.

In both cases, the competent authority will start the process by assessing the written documents. In the former case, an interview with the ECAI's representatives – managers and analysts – will then be held. At its discretion, the competent authority may also request additional documents. In the latter case, the interview is not mandatory – the competent authority will consider this option if it feels the need to supplement its information; any such interview will be agreed upon with the ECAI's representatives. Minutes will be taken during the interview, the text of which will be mutually agreed upon afterwards, and these minutes will subsequently be added to the set of documents establishing a basis for the ECAI's recognition.

The proposed recognition process is based on the criteria set out in the Directive proposal, which this methodology further elaborates. Each criterion can be broken down into the following three parts for the purposes of the recognition process:

- a) the requirements/expectations of the competent authority,
- b) the documents that must be submitted in order for the competent authority to be able to assess whether the requirements have been met,
- c) key questions for the interview with the ECAI's representatives.

Following a successful assessment of an ECAI, the competent authority includes the ECAI in its ***List of Eligible ECAIs*** for the relevant market segment(s). The competent authority will notify the applicant and the relevant ECAI of the outcome of the process. The ***List of Eligible ECAIs*** will be posted on the competent authority's website. The competent authority has the right, where it sees fit, to review the ECAI's eligibility and, where appropriate, remove it from the list of eligible ECAIs. The competent authority should also have the right, where it sees fit, to abandon certain aspects of recognition in individual cases. In this context, the criteria for full-scope recognition are proposed to be the maximum.

We do not propose to specify the intervals for the reviews of an ECAI's eligibility, but we recommend conducting such reviews once a year, or more frequently if the competent authority has any negative signals about the ECAI's activities and reputation. The reviews do not have to include all aspects of the ECAI's eligibility and may be selectively focused on certain criteria at the competent authority's discretion.

Length of the process

The length of the full ECAI recognition process should not exceed 12 months from submission of all the necessary documents.

(i) Credibility and market acceptance of an ECAI

a) Requirements/expectations of the competent authority

1. The use of an ECAI's ratings by a significant proportion of the market participants in the segment in which it provides its rating services (investors, issuers, trading partners of the entities it rates, securities dealers, the media, banks) for at least one year shall be evidence of the credibility of the ratings of an ECAI. A key measure of significance is the proportion of the market participants in the given segment rather than the absolute number of participants.
2. The ECAI has internal procedures in place for preventing the use of confidential information in any other way than that stipulated under the terms of the ECAI's agreement with the entity it rates (e.g. for the provision of ancillary services).
3. If the ECAI provides ancillary services (e.g. educational activities) these services may neither directly nor potentially create a conflict of interests with the rating services provided and are not significant from the point of view of the ECAI's income. By its very nature the ancillary services do not include items such as credit business and buying and selling securities and derivatives.
4. The ECAI has written internal procedures and mechanisms in place to identify and limit any actual or potential conflicts of interest that may influence the opinions and analyses of the individuals that make ratings decisions.
5. The ECAI cooperates with the competent authority and provides it with the information needed for recognising the ECAI as eligible. In particular, the ECAI notifies the competent authority promptly of any significant changes in its rating process or methodology and any other significant changes that could affect the quality of the ratings it provides.
6. If the ECAI refuses to cooperate with the competent authority, or if the competent authority receives signals from the market of a decrease in the quality of the ECAI's rating services, the competent authority is entitled to review the ECAI's eligibility and, where appropriate, remove it from the list of eligible ECAIs.
7. The ECAI is included in the list of rating agencies recognised by the Securities Exchange Commission of the Czech Republic (or the relevant authority in another EU Member State).

b) Required documents/information

1. The number of entities the ECAI rates.
2. Evidence of referencing in the media and/or literature.
3. The number of parties registering an interest in its ratings (per year).
4. The number of subscribers it has for its ratings (per year).
5. Its written internal procedures (internal rules) for preventing the use of confidential information for purposes other than those contractually agreed.

6. Contractual arrangements with the entities it rates on the treatment of confidential information, including any complaints about the misuse of confidential information.

c) Interview questions

1. What does the ECAI do to enhance its credibility on the market?
2. Does the ECAI have any references regarding its activities, especially the use of its rating services, from significant users and market participants, banks, etc.? Does the ECAI cooperate with other ECAIs? Which ECAIs are they, and what means of cooperation are used?
3. Does the ECAI have information/documentation on the purposes for which its ratings are used? If so, what? Who is interested in its ratings?
4. How have the ECAI's procedures for preventing potential conflicts of interest changed (over the past three years)? Have they changed in response to any internal or external experience?
5. Have there ever been any disputes between the ECAI and the entities it rates? What is the current situation? Have any complaints been filed in connection with the misuse of confidential information?
6. When was the ECAI included in the list of recognised rating agencies of the Czech Securities Exchange Commission (or other relevant body in an EU Member State)?

(ii) Ownership and organisation structure of the ECAI

a) Requirements/expectations of the competent authority

1. The ECAI is not a member of a group of connected persons whose members include a bank or a financial holding company pursuant to Article 21 of Decree of the Czech National Bank No. 333 Coll. of 3 July 2002, stipulating the prudential rules of parent undertakings on a consolidated basis.
2. Members of a group of connected persons whose members include an ECAI do not use the ECAI's assessments for their own purposes, e.g. for investment decision-making.
3. The ECAI is a legal entity with capital at least equal to the minimum amount of equity capital laid down for a joint-stock company in the Commercial Code.
4. The ECAI has a transparent organisation structure.
5. The ECAI has a committee, made up of representatives of organisational units, which adopts final decisions on ratings.

b) Required documents/information

1. Extracts from the Companies Register or other like register for persons having a qualifying holding in the ECAI (i.e. a direct or indirect holding, or sum thereof, which represents 10% or more of the capital or of the voting rights of the ECAI or makes it possible to exercise a significant influence over the management of that ECAI) and other information where needed to clarify the structure to which the ECAI belongs.
2. The amount of any direct or indirect holding in the capital or voting rights of the ECAI or any other manner in which a controlling or significant influence is exercised over the ECAI.
3. The subscribed and paid-up capital of the ECAI.
4. The names of the individuals who are authorised representatives of the ECAI or members of its statutory body and supervisory board or other control body, including senior management and chief analysts, together with the names of other legal entities in whose bodies they act, including the lines of business of those companies.
5. The lines of business of the ECAI as entered in the Companies Register or other like register and a list of the activities it actually carries on.

6. The participations of the ECAI in other companies – extracts from the Companies Register or other like register for these companies.
7. The organisation chart of the ECAI, including authorities and responsibilities (of members of statutory bodies, senior management and individual departments).

c) Interview questions

1. Whether the ECAI is audited, and, if so, by which auditor or auditing company.

(iii) Financial resources of the ECAI

a) Requirements/expectations of the competent authority

1. The ECAI is not dependent on funds from just a few rated entities, i.e. it has diversified revenue sources.
2. The ECAI has a transparent fee policy for its rating services.
3. The ECAI has a business plan providing for its operations going forward.
4. The ECAI has written agreements with the companies it rates, setting out their mutual relations and covering, for example, transfer of information and payment for the services it provides.

b) Required documents/information

1. The ECAI's financial results over the last three years and its current total past-due liabilities and claims.
2. Main revenue sources over the last three years, share of revenue (fees) from rating services in total revenue, share of revenue from other types of services/products in total revenue.
3. A business plan for the next three years.
4. The nature of its agreements with the firms it rates – short-term or long-term.
5. The principles of its fee policy, including the nature of its contractual covenants with users of ratings.

c) Interview questions

1. How is the sustainability of the ECAI's revenues safeguarded? Is the ECAI able to withstand potential fluctuations in its revenues? Has the ECAI analysed which factors might cause a decrease in demand for ratings in the segment in which it provides its rating services?
2. Does the ECAI have, or has it had (in the last three years), any past-due liabilities/claims? To whom? On whom?

(iv) Staffing and expertise¹⁸

a) Requirements/expectations of the competent authority

1. The number of employees and the level of education and experience of employees involved in assigning ratings (e.g. analysts and managers) are commensurate with the scope and extent of the activities the ECAI provides.
2. The level of informing employees and the assignments and evaluations of employees are set in such a way as to eliminate or effectively manage any actual and potential conflicts of interest; for instance, employees involved in issuing ratings are not involved in offering or providing supplementary/ancillary services and their incomes are not dependent on the resultant grades of the ratings assigned.

¹⁸ For the purposes of this paragraph, the concept of staff includes external workers who provide their services to the ECAI, e.g. by producing source materials, providing expert opinions, etc.

3. Wherever employees (and statutory representatives) of the ECAI are involved in issuing a rating to a firm, they do not have any conflict of interest with regard to the firm. They do not, for example, hold shares in or have membership of the statutory bodies of the firms with whom they maintain regular contact or on whose ratings they vote in the rating committee. They submit regular reports on holdings of shares in other firms.
4. The ECAI's employees, especially its chief analysts, receive ongoing training and regularly update their knowledge and skills.

b) Required documents/information

1. The total number of employees, and the number of employees (and external workers, where applicable) involved in assigning ratings.
2. The names and CVs of employees (and external workers, where applicable) involved in assigning ratings – in particular their positions, education and past experience.
3. The ECAI's Code of Conduct for employees, if it has one.
4. The principles of remuneration of members of statutory bodies, senior management and employees involved in assigning ratings.

c) Interview questions

1. What provision does the ECAI make for improving or raising the level of expertise of employees involved in assigning ratings on an ongoing basis?
2. What qualification requirements does the ECAI have for employees involved in assigning ratings?
3. How does the ECAI avoid conflicts of interest (e.g. in employment contracts)?
4. How does the ECAI verify the potential existence of financial interests of employees involved in issuing ratings to assessed firms?

(v) Corporate governance¹⁹

a) Requirements/expectations of the competent authority

1. Statutory bodies have responsibility for setting, approving and periodically reviewing the overall strategy of the ECAI.
2. Statutory bodies are responsible for independent control (the establishment, maintenance and assessment of an efficient and effective internal control system), for clearly stipulating authorities and responsibilities, and for overseeing the senior management of the ECAI.
3. The ECAI's internal control/audit department or the persons responsible for carrying out the internal control/audit function are independent, especially of business units, and report regularly to the statutory body.

b) Required documents/information

1. The strategy of the ECAI.
2. The principles of operation of its internal control system.
3. The system for handling customer complaints.

¹⁹ Definition of CG: CG is the system of relationships among a company's management, its board, its shareholders and other stakeholders through which the objectives of the company should be attained and their performance monitored, and should provide incentives for due fulfilment of those objectives in the interests of the company and its shareholders and should facilitate effective monitoring, thereby encouraging firms to use resources efficiently (based on OECD materials).

(vi) **Rating process and methodology and the objectivity thereof**

a) Requirements/expectations of the competent authority

1. **Inputs:** The ECAI has access to all relevant information on the entity it rates that may have some bearing on that entity's credit risk and draws on both public and non-public sources of information. The ECAI also has access to information on the economic and legal environment in which the entity operates.
2. **The rating methodology**
 - is rigorous, systematic, continuous and subject to validation based on historical experience. It is updated regularly – and at least once a year – to take account of assessed experience and factors affecting the entities it rates;
 - includes an evaluation of all relevant predictors of default, both financial and non-financial. The methodology combines qualitative and quantitative assessments. While credit scoring models and other mechanical procedures may play a role in the assignment of a rating, expert judgement is necessary to ensure that all relevant information, including that which is outside the scope of the model, is also taken into consideration;
 - contains a definition of default by a debtor/issuer;
 - has been actively used and documented, including backtesting, for at least one year and preferably three years;
 - the ECAI has a description of its assessment scale, including the characteristics of each rating grade, and shall propose a mapping thereof to the scale of one of the leading rating agencies (Moody's or Standard & Poor's).
3. **Rating process and storage of information**
 - the rating process (i.e. the process of proposing and approving ratings) is organised so that the possibility of applying an individual, subjective approach is limited both during the document preparation stage and during the final assignment of the rating.
 - the ECAI stores information on the entities it rates and the information used as the basis for assigning ratings, including the minutes of rating committee meetings.
4. **The assigned rating (output)**
 - The rating assigned by the ECAI must not be influenced by existing or potential ownership or business relationships between the ECAI and any other party, for instance an issuer it rates.

b) Required documents/information

1. Fundamental changes in methodology (which are also disclosed) made over the last three years, and the rationale for those changes.
2. A comparison of the ECAI's definition of default with the definition of default contained in the relevant regulation of the competent authority (consistent with the relevant European directive), and notice of any inconsistencies which might cause the rating to be overestimated.
3. Information on IS/IT support for the rating process.
4. The internal regulation governing the ECAI's rating process and setting out the manner of approval of a rating by the committee (e.g. how expert judgement is taken into consideration and how the voting is conducted) and whether external experts participate in the meetings of the rating committee and have voting rights.
5. On the basis of an analysis, the ECAI shall submit a proposed mapping of its rating scale to the scale of one of the leading rating agencies (Moody's or Standard & Poor's).
6. A description of the method for validating and reviewing the quality of the rating and its results.
7. The information sources of the ECAI, including summarised information on any external information systems it uses or purchases.

c) Interview questions

1. What public and non-public information does the ECAI use in its rating assessments, and how does it use it? (For example, the Companies Register or other like register, e.g. information from the media or the Land Register, or the internal sources of the entity it rates, based on direct contact with its management and operational levels, e.g. business plans and strategies, contingency plans, budgets and internal analyses.)
2. What factors are taken into consideration when a rating is assigned, and in what way? How were the assessed financial and non-financial indicators selected? Describe the scope for the judgement of the analyst(s).
3. How is the credit cycle and stress testing taken into consideration?
4. What direction does the ECAI expect the changes in its rating methodology to go in, and why?

(vii) Ongoing review

a) Requirements/expectations of the competent authority

1. Assigned ratings are relatively stable over the economic cycle; nevertheless, the ECAI monitors on an ongoing basis and updates the ratings it issues as soon as possible after relevant new information becomes available that necessitates a review or termination of the rating, and at least once a year.
2. The ECAI is in ongoing contact with the management and other levels of the entities it rates.

b) Required documents/information

1. Based on what data, and how often, the agency reviews and, where appropriate, changes an assigned rating, where such information is not already part of the rating methodology or process.
2. A matrix of the frequency of annual ratings migrations (migration performance) or a cumulative matrix of the frequency of ratings migrations either for the last 10–20 years or over the entire lifetime of the ECAI, if shorter than 10 years.
3. The results of backtesting – comparison of realised default rates against expectations for each rating grade.
4. At the competent authority's request the ECAI is able to submit a list of its contacts with an entity it rates and a description of the material nature of those contacts.

c) Interview questions

1. How does the agency monitor a particular entity once it has assigned it a rating?
2. How long does it take for a rating to be disclosed after a revision?
3. Have there been any major rating revisions in the last three years? What factors caused them?
4. Does the ECAI evaluate retrospectively the relationship between the course of the economic cycle and the assigned ratings? With what results?
5. In the event of a rating downgrade, is the entity concerned entitled not to disclose this rating?
6. What sort of documents does the ECAI keep on the entities it rates?

(viii) Transparency and disclosure

a) Requirements/expectations of the competent authority

1. The ECAI discloses:
 - the principles of its rating methodology (including the rating scale, the time horizon of each rating and the definition of default) and its rating process to a sufficient extent so that outside parties can understand how the rating was arrived at;
 - whether a rating was assigned solely on the basis of public information (an “unsolicited rating”);
 - a basic organisation chart and the names of the authorised representatives and senior management of the ECAI, including their authorities and areas of expertise;
 - a description of the rating services/products it provides (e.g. types of rating) and for what/whom they are intended (e.g. target segments of the market);
 - a description of the other services it provides (e.g. consultancy, training);
 - its fee policy (e.g. the nature of fees, or, where applicable, the nature of compensation agreements) towards rated entities.
2. The ratings the ECAI assigns are made available promptly to both domestic and foreign parties with legitimate interests.

b) Required documents/information

1. The ECAI must inform the competent authority about where it discloses the documents (e.g. on its website) and how often they are updated.

c) Interview questions

How long does it take for a rating to be disclosed after it is assigned?

Note: “rated entity” also covers rated issues.

5.3 Selected Legal Aspects of the ECAI Recognition Process

As mentioned in the introduction to this report, ECAIs will have a more important role under the Basel 2 framework, in particular for banks using the Standardised Approach. According to the Directive proposal, only those ECAIs which are recognised by the competent authorities as eligible can play this role. The Directive proposal sets out criteria which the competent authorities should follow in their own recognition process and which allow them to recognise ECAIs as eligible without carrying out their own recognition evaluation process, i.e. recognition of ECAIs which have been already recognised as eligible by the competent authorities of other Member States. The Directive proposal requires the competent authorities to make publicly available their explanation of the recognition process and their list of eligible ECAIs.

In connection with the Basel 2 implementation, certain questions have been raised concerning the need for changes in the national legal framework. One of the issues which is being discussed is whether the ECAI recognition process should be conducted in the form of administrative proceedings and whether the CNB should be authorised to recognise ECAIs in the Act on Banks. We concede that non-recognition might have an impact on an ECAI’s business activities (the number of its clients), but from the legal point of view its activities would be neither limited nor even touched by CNB non-recognition. In addition, the CNB is not a supervisor of ECAIs. Therefore, we are of the view (at the current level of understanding) that it is not necessary to

perform ECAI recognition in the form of administrative proceedings and to incorporate such authorisation for the CNB into the Act on Banks. If the CNB were to opt for recognition of ECAIs through administrative proceedings and on the basis of ECAIs' applications for recognition, the Act on CNB would have to be changed to authorise the CNB to act in certain affairs as an administrative body not only in respect of banks, but also vis-à-vis other institutions. For this reason, we suggest that the recognition process be included in the CNB decrees implementing the Basel 2 framework. However, we are aware that the questions of changes to the legislative framework following Basel 2 implementation are still under discussion. This particular matter should also be considered.

As to the legal form in which the rules (methodology) for ECAI recognition are to be issued, recognition of ECAIs by the competent authorities according to the Directive proposal does not necessarily mean that the amplified rules will be legally binding. As we mentioned above the current intention of the CNB is to release them as information or an official statement complementing the legally binding framework implementing Basel 2 (Act on Banks, regulations, decrees). We suggest that the recognised ECAI should not receive any written CNB standpoint (nothing like the "no-action letter" issued by the SEC to NRSROs). The ECAI should, however, be informed that it has been included on the list of eligible ECAIs which is to be made publicly available after the amendment to the Act on Banks and the relevant regulations and/or decrees enter into force.

5.4 Mapping Rating Grades to Risk Weight Categories

Mapping means splitting up the rating scale used and assigning each rating grade to its relevant risk weight.

Basel 2 explicitly uses the ratings of Standard & Poor's as a benchmark for assigning exposures to the risk weights (see BCBS, 2004). Given that Moody's and Fitch Rating, which are the two most important credit rating agencies along with Standard & Poor's, use rating scales where the corresponding grade means the same level of risk (in the case of Moody's there is a difference in the system of symbols used and a slight difference in the definition of default, as explained in section 2.2.2), the way the mapping is done remains the same as in the case of Standard & Poor's.

Subsequently, local rating agencies align their risk characteristics for each rating grade (such as the probability of default) with the characteristics made public by Standard & Poor's (or Moody's or Fitch Rating) and, based on this alignment, assign their individual grades to the corresponding risk weights.

However, the Directive proposal does not use the Standard & Poor's rating scale as its benchmark. Instead of explicitly using any particular agency's rating scale, it coins the term "credit quality step" (CQS), which is assigned a specific risk weight. This fact makes it necessary to draw a comparison between the EU approach and the Basel approach and, correspondingly to the size of each risk weight assigned to a CQS, link this CQS to a rating grade of Standard & Poor's (and Moody's and Fitch Rating) in order to eliminate any discrepancy between the Basel approach and the Directive proposal.

We propose the following mapping of the renowned agencies' rating grades to the risk weight categories (CQS). In our opinion, the mapping approach must be simple and transparent, as the

Standardised Approach itself is not an advanced approach. Therefore, our proposal is derived from the Basel approach.

If an ECAI is approved by the CNB, the ECAI's rating scale will have to be mapped to the renowned agencies' rating scales and to the CQS. This process will have to be supported by quantitative data (realised values if available, or expectations).

Mapping of rating grades to credit quality steps

Directive proposal	CQS 1	CQS 2	CQS 3	CQS 4	CQS 5	CQS 6
S&P's	AAA / AA-	A+ / A-	BBB+ / BBB-	BB+ / BB-	B+ / B-	CCC+ and worse
Moody's	Aaa / Aa3	A1 / A3	Baa1 / Baa3	Ba1 / Ba3	B1 / B3	Caa1 and worse
Fitch	AAA / AA-	A+ / A-	BBB+ / BBB-	BB+ / BB-	B+ / B-	CCC+ and worse

6. Conclusion

This report shows that the objectives set out at the beginning of this two-year project have been achieved. The key findings are outlined in section 5 of this report.

It is important to bear in mind that the June 2004 interim report was sent to the CEBS and that this document was welcomed by the head of ECAI WG (Mr. Paul Sharma). On the basis of its experience from this project, the CNB has also engaged in ECAI WG's activities.

In our view, the criteria to be assessed are now clear. We have tried to cover all the aspects of ECAIs' activities that can be taken into account. The target limits, however, are soft and may change as regulators'/supervisors' thinking progresses. Similarly, the aspects to be assessed may later be modified and/or narrowed in individual cases at the competent authority's discretion. The range of credit rating agencies that can become applicants for ECAI recognition is relatively limited, as there are few global players. Therefore, it is expected that recognition processes will be relatively infrequent no matter how great a discussion they elicit. In view of this, it is impossible to test the developed methodology (criteria) for recognition on a large set of potential applicants. Later, however, the market may change and new local players may appear and develop new rating approaches.

The responsibility of the competent authority in the ECAI recognition process is one of the areas of concern that has been highlighted in the course of this project. It should be borne in mind that ECAI recognition is not regulation, and the competent authority's decision does not restrict any activity of a credit rating agency. The position and responsibility of the competent authority are rather limited and in this case are similar to the situation with external auditor approval.

We would recommend that the proposed methodology be tested on a real recognition process. It would be advisable to further develop it to reflect both the convergence process in the EU and the practical experience that we may gain over time.

References

- BASEL COMMITTEE ON BANKING SUPERVISION (2000): Working Papers No. 3: "Credit Ratings and Complementary Sources of Credit Quality Information".
- BASEL COMMITTEE ON BANKING SUPERVISION (2002): "Quantitative Impact Study 3. Technical Guidance".
- BASEL COMMITTEE ON BANKING SUPERVISION (2004): "International Convergence of Capital Measurement and Capital Standards". Revised framework. Also available at: www.bis.org.
- COMMISSION OF THE EUROPEAN COMMUNITIES (2004): "Proposal for Directives of the European Parliament and the Council re-casting Directive 2000/12/EC of the European Parliament and of the Council of 20 March 2000 relating to the taking up and pursuit of the business of credit institutions and Council Directive 93/6/EEC of 15 March 1993 on the capital adequacy of investment firms and credit institutions".
- COMMITTEE OF EUROPEAN SECURITIES REGULATORS (2004): "Credit Rating Agencies: Relevant issues from the Risk Based Capital Directive – a response to the European Commission mandate to CESR on Credit Rating Agencies" (A confidential report for CEBS. No. EGRBCD/04/19) October.
- COMMITTEE OF EUROPEAN BANKING SUPERVISORS (2005): "Consultation Paper on the Recognition of External Credit Assessment Institutions". Also available at: www.cebs.org/Consultation_papers/consultationpapers.htm.
- DISCUSSIONS with the representatives of the Deutsche Bundesbank and ECAI WG members (Mr. Jochen Flach and Mr. Rudolf Neidhart).
- ECAI WORKING GROUP OF CEBS (2005): Various working documents.
- IOSCO (2003a): "Report on the Activities of Credit Rating Agencies". Also available at: www.iosco.org.
- IOSCO (2003b): "Statement of Principles Regarding the Activities of Credit Rating Agencies". Also available at: www.iosco.org.
- IOSCO (2004): "Code of Conduct Fundamentals for Credit Rating Agencies". Also available at: www.iosco.org.
- MOODY'S INVESTORS SERVICE (2000): "Bankruptcy & Ratings". Also available at: www.moody.com.
- MOODY'S INVESTORS SERVICE (2001a) : "Comment on the Second Consultative Package of the New Basel Capital Accord".
- MOODY'S INVESTORS SERVICE (2001b): "Rating Methodology". Also available at: www.moody.com.
- MOODY'S INVESTORS SERVICE (2003): "Moody's Rating Symbols & Definitions". Also available at: www.moody.com.
- MOODY'S INVESTORS SERVICE (2000): Response to the Consultative Paper Issued by the Basel Committee on Banking Supervision 'A New Capital Adequacy Framework'".
- OECD (2001): "The Knaepen Package: Guiding Principles for Setting Premia Fees under the Arrangement on Guidelines for Officially Supported Export Credits". Also available at: www.oecd.org.

ONG, M. K. (2002): "Credit Ratings: Methodologies, Rationale and Default Risk". London ISBN 1-899-332-69-3.

REGULATORS/SUPERVISORS: Responses to the CNB questionnaire (2002).

STANDARD & POOR'S (1999): "Financial Institutions Criteria". Also available at: www.standardandpoors.com.

STANDARD & POOR'S (2001): "Corporate Ratings Criteria". Also available at: www.standardandpoors.com.

STANDARD & POOR'S (2005): "Corporate Ratings Criteria". Also available at: www.standardandpoors.com.

U.S. SECURITIES EXCHANGE COMMISSION (2003): "Report on the Role and Function of Credit Rating Agencies in the Operation of the Securities Markets". Also available at: www.sec.gov.

U.S. SECURITIES EXCHANGE COMMISSION (2005): "Definition of Nationally Recognized Statistical Rating Organization". Release Nos. 33-8570; 34-51572; IC-26834; File No. S7-04-05. Also available at: www.sec.gov/rules/proposed.shtml.

VINŠ, P., AND V. LIŠKA (2005): "Rating" 1. ed. C.H. Beck Prague. ISBN 80-7179-807-X.

WEBSITES:

http://europa.eu.int/comm/internal_market/bank/regcapital/index_en.htm#consultation

<http://www.bis.org>

<http://www.c-ebs.org>

<http://www.cesr-eu.org>

<http://www.cofaceintercredit.cz>

<http://www.crarating.com>

<http://www.creditbureau.cz>

<http://www.dbis.cz>

<http://dbczech.dnb.com/ChkLang.htm>

<http://www.fitchrating.com>

<http://www.iosco.org>

<http://www.moodys.com>

<http://www.oecd.org>

<http://www.standardandpoors.com>

<http://www.sec.gov>

Appendix 1

Questionnaire for other regulators/supervisors

1. Are ratings and rating agencies used in your current regulation?

- a) yes since.....
- b) no
- c) other answer (what?.....)

If you replied “No” to question 1, please go on to question 7.

2. Which types of rating agencies are used in your regulation?

- a) generally world-wide recognised (ECAI) agencies (S&P, Moody’s, Fitch Ratings)
- b) private local agencies (ECAIs)
- c) local export credit agencies and their scores
- d) foreign export credit agencies and their scores
- e) other agencies

3. Are there any criteria or processes for recognising agencies in your institution? If yes, please describe.

4. Is there on-going monitoring of rating agencies?

- a) no
- b) yes, based on publicly available information
- c) yes, based on specific demanded written documents
- d) yes, based on personal visits to the rating agencies
- e) other solution (what?.....)

5. How many agencies are recognised?

6. If local agencies are used, is a long track record required?

- a) yes, 5 years or more
- b) yes, less than 5 years
- c) no, not required
- d) other view (what?)
- e) not relevant

New approaches to recognition of ECAIs according to Basel 2 proposal and EC Working Document²⁰

7. Who should give the impulse for starting administrative procedures for ECAI recognition?

- a) regulator
- b) any market participant (user of ratings)
- c) ECAI itself
- d) other institution

²⁰ Working Document of the Commission Services on Capital Requirements for Credit Institutions and Investment Firms (Cover Document)

8. Which qualitative factors do you think should be set for recognising rating agencies?
 - a) rating scale
 - b) definition of default
 - c) methodology of ratings
 - d) differences in ratings between rating agencies
 - e) other (what?.....)

9. Which quantitative parameters do you think should be monitored for recognising rating agencies?
 - a) risk characteristics for the individual rating grades (especially probabilities of default and/or cumulative probabilities of default)
 - b) minimum number of rated entities
 - c) minimum length of time series
 - d) ratings stability (= average time validity of assigned rating grades)
 - e) other parameters

10. Do you have (use) any quantitative methods for assessment of rating agencies? If so, please describe them.

11. Do you think that to assess the criterion of objectivity (of methodology) regulators should look at:
 - a) generally published methodology describing the main features
 - b) detailed descriptions, including unpublished information
 - c) other views (what?.....)

12. Do you think that the recognition of ECAIs by the market should be confirmed by the following market participants (in written form, i.e. the market participants should declare to the regulator that they internally use and recognise specific ECAIs)?
 - a) no
 - b) yes, by public sector entities
 - c) yes, by banks and securities firms
 - d) yes, by other financial companies
 - e) other views (what?.....)

13. What do you think is a feature of rating agency independence?
 - a) no direct relation (ownership, employment or other) between management or employees of ECAI and rated entities
 - b) not regulated
 - c) private (non-public)
 - d) other features (what?.....)

14. Do you think that the regulator should explicitly stipulate:
 - a) the type of information to be published about assigned ratings
 - b) the frequency of updating data (rating grades, probabilities of default, migration matrices)
 - c) the place of publishing information
 - d) other information (what?.....)
 - e) other views

15. What do you think about the criterion of “sufficient resources” of a rating agency? Is it necessary to set minimum requirements for:
 - a) number of analysts
 - b) equity

- c) indebtedness ratio
 - d) other requirements (what?.....)
16. Which ECAI would you choose as a benchmark if the regulators should benchmark ECAIs against each other? Please explain.
17. How would you proceed if an ECAI's historical default experience (cumulative default rates) exceeded the benchmark or was not statistically meaningful?
- a) move the risk assessment to a less favourable risk category
 - b) not recognise the ECAI as eligible
 - c) other solution (what?.....)

Appendix 2

Mapping of ratings

To assist banks participating in the Committee's Quantitative Impact Study, the following tables match credit ratings of Standard & Poor's with comparable ratings of Moody's and Fitch IBCA. For further information regarding the mapping of external credit ratings to risk weightings, please see the Technical Guidance, beginning at paragraph 24.

Agency	Ratings						
Standard & Poor's	AAA	AA+	AA	AA-	A+	A	A-
Moody's	Aaa	Aa1	Aa2	Aa3	A1	A2	A3
Fitch IBCA	AAA	AA+	AA	AA-	A+	A	A-

Agency	Ratings								
Standard & Poor's	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-
Moody's	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3
Fitch IBCA	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-

Agency	Ratings					
Standard & Poor's	CCC+	CCC	CCC-	CC	C	D
Moody's	Caa1	Caa2	Caa3	Ca	C	
Fitch IBCA	CCC+	CCC	CCC-	CC	C	D

Source: BCBS (2002), Annex 2, p. 135.

Appendix 3**Basic global ratings coverage of entities in the Czech Republic**

External Credit Assessment Institutions			
Moody's		S&P	
Name of institution	Rating	Name of institution	Rating
1. AERO Vodochody, a.s.	A1 STA	AERO Vodochody a.s.	A-
2. Agrobanka Praha, a.s.	RWR	Ceska podnikatelska pojistovna a.s.	Bpi/--/-- x) Bpi/--/-- xxx)
3. Brno, City	A3 P-2 STA	CSOB Pojistovna a.s.	BBB-/Stable/-- x)
4. Ceska Pojistovna, a.s.	Baa3 STA	Ceska pojistovna a.s.	BBB/Stable/-- xx) BBB/Stable/-- xxx)
5. Ceská Sporitelna, a.s.	A2 P-1 STA	Ceska Sporitelna a.s.	BBB+/Stable/A-2 x) BBB+/Stable/A-2 xx)
6. Ceskoslovenska obchodni banka, a.s.	A1 P-1 STA	Ceskoslovenska obchodni banka, a.s.	BBB+/Stable/A-2 x) BBB+/Stable/A-2 xx)
7. Cesky Telecom, a.s.		Czech Republic	A/Stable/A-1 x) A-/Stable/A-2 xx)
8. CEZ, a.s.		CEZ a.s.	BBB+/Stable/
9. Czech Export Bank, a.s.	A1 P-1 STA	Czech Export Bank	A/Stable/A-1 A-/Stable/A-2
10. Czech Republic, Government of	A1 P-1 STA	Czech Republic	A/Stable/A-1 A-/Stable/A-2
11. Housing&Construction (CZ) a.s.	RWR	Cesky Telecom a.s.	A-/Stable/--
12. Investicni a Postovni Banka, a.s.	RWR	First American Czech Insurance Co. a.s.	AAA/--/-- xxx)
13. Komerčni banka, a.s.	A1 P-1 STA	Komerční Banka, a.s.	BBB+/Stable/A-2 x) BBB+/Stable/A-2 xx)
14. Moravia-Silesia, Region of	A3 STA	AIG Czech Republic Pojistovna. a.s.	AAA/Stable/--
15. Oskar Holding N.V.	B3 STA	Oskar Holding N.V.	B/Stable/--
16. Oskar Mobil a.s.	B1 STA	Oskar Mobil a.s.	B/Stable/--
17. Ostrava City of	A3 STA	Ostrava (City of)	A-/Stable/A-2
18. Prague, City of	A2 STA	City of Prague	A-/Stable/A-2
19. Zivnostenska banka, a.s.	A1 P-1 STA (m)	Praha Finance B.V.	A-
20.		Brno (City of)	A-/Stable/A-2

Sources (as of February 2005): www.moodys.com; www.standardandpoors.com.

x) Local Currency

xx) Foreign Currency

xxx) Financial Strength Rating

Appendix 4

Ratings coverage by the CRA Rating Agency

Financial institutions

Entity	Short-term CRA Rating	Long-term international CRA Rating	Long-term local CRA Rating
B.O.F., a.s.	skP-2	Ba+	skA
B.O.F., a.s. emisia 04 emitovaná leasingovou spoločnosťou B.O.F., a.s.		Ba+	skA
BH Securities, a.s.	czP-2	Ba	czBaa+
Česká podnikatelská pojišťovna, a.s.	czP-3	Ba-	czBaa-
ČSOB Penzijní fond Progres, a.s., člen skupiny ČSOB		A-	czAa-
ČSOB Penzijní fond Stabilita, a.s., člen skupiny ČSOB		A-	czAa-
FINEP & partners	czP-3	Ba	czBaa
Home Credit finance a.s.	czP-2	Ba+	czA
Home Credit finance a.s. emise VAR/07		Ba+	czA
Home Credit Slovakia, a.s.	skP-2		skA
IKS Balancovaný otevřený podílový fond		Baa+	czAa-
IKS Dluhopisový otevřený podílový fond		A-	czAa
Investiční kapitálová společnost KB, a.s.	czP-1	A	czAa
Istrobanka, a.s.	skP-1	A-	skAa-
J&T Banka, a.s.	czP-2	Ba+	czBaa
Penzijní fond Komerční banky, a.s.		A-	czAa-
Pojišťovací makléřství INPOL, a.s.	czP-2	Ba	czBaa+
Praha emise VAR / 11		A	czAa
PROSPERITA investiční společnost, a.s., otevřený podílový fond globální		B	czBa
Sazka, a.s.	czP-1	Baa	czAa-
Státní fond dopravní infrastruktury	czP-1	A+	czAaa

Industrial firms

Entity	Short-term CRA Rating	Long-term international CRA Rating	Long-term local CRA Rating
ALTA, a.s.	czP-2	Ba+	czBaa+
ANECT, a.s.	czP-1	Baa-	czA-
Belagra, a.s.	czP-2	Baa-	czBaa
České dřevařské závody Praha, a.s. 6,00 / 10			czBaa-
Deza, a.s.	czP-2	Ba	czBaa+
HOCHTIEF VSB, a.s.	czP-2	Baa	czA-
Hornonitrianske bane Prievdza, a.s.	skP-3	Ba-	skBaa-
HOUR, s.r.o.	skP-3		skBaa-
Lesy České Republiky, s.p.	czP-1	A+	czAaa
Matador, a.s.	skP-2	Ba+	skA
Matador, a.s. emisia 03		Ba+	skA
Matador, a.s. emisia 04		Ba+	skA
Olympus C & S spol. s r.o.	czP-1	Baa	czAa-
OREA spol. s.r.o.	czP-2	Ba	czBaa
Pražské služby, a.s.	czP-1	A-	czAa-
Řízení letového provozu České republiky, státní podnik	czP-1	A+	czAaa
Severočeské vodovody a kanalizace, a.s.	czP-1	Baa	czAa
Slovenská pošta, a.s.	skP-1	A-	skAaa
Slovenská televízia	skP-1	A-	skAa-
SOFTIP, a.s.	skP-2	Ba	skBaa+
Spolek pro chemickou a hutní výrobu, a.s.	czP-2	Ba	czBaa
Teplárna Strakonice, a.s.	czP-1	Baa-	czA
TERMING, s.r.o.	skP-3	Ba	skBaa-
ÚRS Praha, a.s.	czP-1	Baa	czA
Vojenské lesy a statky ČR, a.s.	czP-1	A+	czAa+
WALMARK, a.s.	czP-2	Baa	czA
Železnice Slovenskej Republiky	skP-1	A	skAa-

Municipalities

Entity	Short-term CRA Rating	Long-term international CRA Rating	Long-term local CRA Rating
Beroun	czP-1	Baa	czA+
Česká Lípa	czP-1	A-	czAa+
Domažlice	czP-1	Baa+	czAa
Galanta	skP-1	Baa-	skA+
Handlová	skP-1	Ba+	skAa-
Havířov	czP-1	Baa+	czAa
Havlíčkův Brod	czP-1	Baa+	czAa
Cheb	czP-1	Baa	czAa-
Klatovy	czP-1	Baa	czAa
Kraj Liberecký	czP-1	A-	czAa
Kraj Moravskoslezský	czP-1	A-	czAa
Kraj Plzeňský	czP-1	A-	czAa+
Kraj Ústecký	czP-1	A-	czAa
Krompachy	skP-4	Caa+	skB-
Krupina	skP-1	Ba	skA
Mariánské Lázně	czP-1	Baa	czAa-
Mest. časť Bratislava - Rača	skP-2	Ba	skBaa+
Mest. časť Bratislava - Staré Mesto	skP-1	Baa-	skA+
Mest. časť Bratislava - Karlova Ves	skP-1	Baa-	skA+
Mest. časť Bratislava - Ružinov	skP-1	Baa	skAa
Mosonmagyaróvár	huP-1	Baa+	huAa-
Most	czP-1	Baa+	czAa-
Myjava	skP-1	Ba+	skA
Nová Dubnica	skP-1	Ba+	skA-
Nováky	skP-1	Ba+	skAa
Opava	czP-1	Baa	czAa-
Otrokovice	czP-1	Baa+	czAa
Poprad	skP-1	Baa-	skAa-
Považská Bystrica	skP-1	Baa-	skAa
Praha emise 6,85 / 11		A	czAa
Praha finance B.V. emise 6,95 / 10		A	czAa
Prievidza	skP-1	Baa-	skA+
Prostějov	czP-1	A-	czAa+
Přerov	czP-1	Baa+	czAa-

Příbram	czP-1	Baa	czAa
Púchov	skP-1	Baa-	skAa
Senica	skP-1	Baa-	skAa-
Spišská Nová Ves	skP-1	Ba+	skAa-
Správa a údržba silnic Jihomoravského kraje, příspěvková organizace kraje	czP-1	Baa+	czAa-
Šaľa	skP-1	Ba+	skA+
Trenčín	skP-1	Baa	skAa
Třebíč	czP-1	Baa	czAa-
Turčianske Teplice	skP-1	Ba+	skA+
Uherské Hradiště	czP-1	Baa	czAa
Ústí nad Orlicí	czP-1	Baa+	czAa
Vimperk	czP-1	Baa-	czA-
Žďár nad Sázavou	czP-1	Baa+	czAa+

Source (as of July 2005): www.crarating.com.

Appendix 5

List of abbreviations

AIRB – Advanced Internal Ratings Based Approach

BCBS – Basel Committee on Banking Supervision

CEBS – Committee of European Banking Supervisors

CQS – credit quality step

Consensus – Arrangement on Guidelines for Officially Supported Export Credits

CRA – Credit Rating Agency

Directive proposal – Proposal re-casting Directive 2000/12/EC and 93/6 EEC

ECA – export credit agency

ECAI – external credit assessment institution

FIRB – Foundation Internal Ratings Based Approach

IOSCO – International Organisation of Securities Commissions

NRSRO – Nationally Recognised Statistical Rating Organisation

SA – Standardised Approach

S&P – Standard & Poor's

MPBs – minimum premium benchmarks

CNB RESEARCH AND POLICY NOTES

3/2005	Helena Sůvová: Eva Kozelková David Zeman Jaroslava Bauerová	<i>Eligibility of external credit assessment institutions</i>
2/2005	Martin Čihák: Jaroslav Heřmánek	<i>Stress testing the Czech banking system: Where are we? Where are we going?</i>
1/2005	David Navrátil: Viktor Kotlán	<i>The CNB's policy decisions – Are they priced in by the markets?</i>
4/2004	Aleš Bulíř:	<i>External and fiscal sustainability of the Czech economy: A quick look through the IMF's night-vision goggles</i>
3/2004	Martin Čihák:	<i>Designing stress tests for the Czech banking system</i>
2/2004	Martin Čihák:	<i>Stress testing: A review of key concepts</i>
1/2004	Tomáš Holub:	<i>Foreign exchange interventions under inflation targeting: The Czech experience</i>
2/2003	Kateřina Šmídková:	<i>Targeting inflation under uncertainty: Policy makers' perspective</i>
1/2003	Michal Škořepa: Viktor Kotlán	<i>Inflation targeting: To forecast or to simulate?</i>

CNB WORKING PAPER SERIES

8/2005	Roman Horváth:	<i>Exchange rate variability, pressures and optimum currency area criteria: Implications for the central and eastern european countries</i>
7/2005	Balázs Égert: Luboš Komárek	<i>Foreign exchange interventions and interest rate policy in the Czech Republic: Hand in glove?</i>
6/2005	Anca Podpiera: Jiří Podpiera	<i>Deteriorating cost efficiency in commercial banks signals an increasing risk of failure</i>
5/2005	Luboš Komárek: Martin Melecký	<i>The behavioural equilibrium exchange rate of the Czech koruna</i>
4/2005	Kateřina Arnoštová: Jaromír Hurník	<i>The monetary transmission mechanism in the Czech Republic (evidence from VAR analysis)</i>
3/2005	Vladimír Benáček: Jiří Podpiera Ladislav Prokop	<i>Determining factors of Czech foreign trade: A cross-section time series perspective</i>
2/2005	Kamil Galuščák: Daniel Münich	<i>Structural and cyclical unemployment: What can we derive from the matching function?</i>
1/2005	Ivan Babouček: Martin Jančar	<i>Effects of macroeconomic shocks to the quality of the aggregate loan portfolio</i>

10/2004	Aleš Bulíř: Kateřina Šmídková	<i>Exchange rates in the new EU accession countries: What have we learned from the forerunners</i>
9/2004	Martin Cincibuch: Jiří Podpiera	<i>Beyond Balassa-Samuelson: Real appreciation in tradables in transition countries</i>
8/2004	Jaromír Beneš: David Vávra	<i>Eigenvalue decomposition of time series with application to the Czech business cycle</i>
7/2004	Vladislav Flek, ed.:	<i>Anatomy of the Czech labour market: From over-employment to under-employment in ten years?</i>
6/2004	Narcisa Kadlčáková: Joerg Keplinger	<i>Credit risk and bank lending in the Czech Republic</i>
5/2004	Petr Král:	<i>Identification and measurement of relationships concerning inflow of FDI: The case of the Czech Republic</i>
4/2004	Jiří Podpiera:	<i>Consumers, consumer prices and the Czech business cycle identification</i>
3/2004	Anca Pruteanu:	<i>The role of banks in the Czech monetary policy transmission mechanism</i>
2/2004	Ian Babetskii:	<i>EU enlargement and endogeneity of some OCA criteria: Evidence from the CEECs</i>
1/2004	Alexis Derviz: Jiří Podpiera	<i>Predicting bank CAMELS and S&P ratings: The case of the Czech Republic</i>

12/2003	Tibor Hlédik:	<i>Modelling the second-round effects of supply-side shocks on inflation</i>
11/2003	Luboš Komárek: Zdeněk Čech Roman Horváth	<i>ERM II membership – the view of the accession countries</i>
10/2003	Luboš Komárek: Zdeněk Čech Roman Horváth	<i>Optimum currency area indices – how close is the Czech Republic to the eurozone?</i>
9/2003	Alexis Derviz: Narcisa Kadlčáková Lucie Kobzová	<i>Credit risk, systemic uncertainties and economic capital requirements for an artificial bank loan portfolio</i>
8/2003	Tomáš Holub: Martin Čihák	<i>Price convergence: What can the Balassa–Samuelson model tell us?</i>
7/2003	Vladimír Bezděk: Kamil Dybczak Aleš Krejdl	<i>Czech fiscal policy: Introductory analysis</i>
6/2003	Alexis Derviz:	<i>FOREX microstructure, invisible price determinants, and the central bank's understanding of exchange rate formation</i>
5/2003	Aleš Bulíř:	<i>Some exchange rates are more stable than others: Short-run evidence from transition countries</i>
4/2003	Alexis Derviz:	<i>Components of the Czech koruna risk premium in a multiple-dealer FX market</i>
3/2003	Vladimír Benáček: Ladislav Prokop Jan Á. Víšek	<i>Determining factors of the Czech foreign trade balance: Structural Issues in Trade Creation</i>

2/2003	Martin Čihák: Tomáš Holub	<i>Price convergence to the EU: What do the 1999 ICP data tell us?</i>
1/2003	Kamil Galuščák: Daniel Münich	<i>Microfoundations of the wage inflation in the Czech Republic</i>
<hr/>		
4/2002	Vladislav Flek: Lenka Marková Jiří Podpiera	<i>Sectoral productivity and real exchange rate appreciation: Much ado about nothing?</i>
3/2002	Kateřina Šmídková: Ray Barrell Dawn Holland	<i>Estimates of fundamental real exchange rates for the five EU pre-accession countries</i>
2/2002	Martin Hlušek:	<i>Estimating market probabilities of future interest rate changes</i>
1/2002	Viktor Kotlán:	<i>Monetary policy and the term spread in a macro model of a small open economy</i>
<hr/>		

CNB ECONOMIC RESEARCH BULLETIN

November 2005	<i>Financial stability</i>
May 2005	<i>Potential output</i>
October 2004	<i>Fiscal issues</i>
May 2004	<i>Inflation targeting</i>
December 2003	<i>Equilibrium exchange rate</i>

Czech National Bank
Economic Research Department
Na Příkopě 28, 115 03 Praha 1
Czech Republic
phone: +420 2 244 12 321
fax: +420 2 244 14 278
<http://www.cnb.cz>
e-mail: research@cnb.cz