Using high-frequency data to monitor developments in the banking sector – the case of the Czech Republic

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Introduction

The structure of data collection should always follow the users' requirements. The way in which respective countries are affected by the financial crisis determines the users' requirements and ultimately the data needs. The financial crisis, which turned into a global recession, has provided a good opportunity to carry out a stocktaking exercise in the area of data availability. In the case of the Czech Republic, it was a relatively comprehensive exercise since the Czech National Bank (CNB) acts as a monetary authority, integrated supervisor and statistical institution, thereby creating many synergies. This paper discusses the impact of the financial crisis on the Czech economy, the data collection stemming from the new requirements and the lessons learned from this collection.

The position of the Czech financial sector prior to the financial crisis

The Czech Republic has benefited from a unique combination of features stemming from the fact that its economy was in transition and is still in the process of catching up with the more developed countries of the European Union. The financial sector was privatised relatively recently, in the 1990s, and all major financial institutions are already in private hands. An even more important factor regarding the position of the financial sector is that the balance sheets of the privatised institutions had been cleared before they were privatised. A special bank, which later turned into a non-bank agency, was established in 1991 to deal with bad loans transferred from banks. Its role was fulfilled and the agency was dissolved in 2007.

Economic activity in our country has been relatively high in recent years. We have benefited from the privatisation of the majority of our economy, which is particularly true in the case of strong foreign shareholders. They have brought not only capital and know-how to our country, but also market contacts. This has resulted in high GDP growth at the macroeconomic level (around 6% annually in 2005–07) and a number of fruitful projects at the microeconomic level. The strong demand for credit allowed banks to carry out their normal business – to provide financing to the non-financial sector and households. The banks were in such a good position that they did not need to look for further investment opportunities and, therefore, their exposure to exotic assets, which have become toxic, was very limited (the share of bad loans was also very limited prior to the financial crisis).

There is one further feature that should be mentioned: the Czech currency. The Czech koruna has been an attractive currency with an appreciating trend for many years. This trend, enforced by systematically low interest rates that have been at some point lower than those in the euro area for some time now, has not encouraged clients – either businesses or

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households – to borrow in foreign currencies. Therefore, our clients do not face the problems associated with exchange rate risks.

The funding of banks is based mainly on primary deposits, which exceed loans by more than 20%. This means that banks have no particular need to look for funding in the financial market or abroad. There is a significant surplus of liquidity in the money market, putting the central bank in a position to permanently withdraw the liquidity from the market. This overall surplus represents approximately one third of primary deposits or one tenth of GDP. Nevertheless, the liquidity is not equally distributed among the financial institutions. There are also some institutions whose business is based on refinancing in the market, but they do not rank among the biggest ones.

All the above-mentioned factors mean that the financial sector in the Czech Republic was in relatively good shape prior to the start of the financial crisis. However, the financial market is sufficiently developed and has an international character. The problems which the Czech economy is facing are not of domestic origin, but are almost exclusively imported. There are no obvious problems stemming from pressure on balance sheets.

Impact of the financial crisis on the Czech economy

The first signs of the global financial crisis were detected in the interbank market in autumn 2008. The normally smoothly operating market displayed a more cautious approach, with institutions maintaining a liquidity surplus. The main cause for this was a lack of confidence among banks probably spreading from abroad, resulting in their preference to hold more liquidity than usual. In spite of the fact that there has long been a significant surplus of liquidity in the Czech money market, this lack of confidence caused a deterioration of the proper functioning of the market. The CNB launched liquidity-supplying repo operations with maturities of two weeks and three months in October 2008. Czech Republic government bonds were made eligible as collateral in those operations. The CNB thus supported the smooth functioning of the government bond market. This technical measure was aimed at preventing the potential spread of problems from foreign financial markets to the Czech financial sector. In fact, the liquidity-supplying repo operations have been used by banks only to a very limited extent. Nevertheless, the developments in the financial market have been reflected in the level of interest rates. While there had been a 0.3 percentage point spread between the three-month interbank rate and the CNB repo rate before the period of turbulence, it temporarily increased to 1.5 percentage points at the end of 2008 and has remained at a somewhat higher level (0.6 percentage points.) compared to the period before the crisis.

Due to the potential or real problems of parent companies or headquarters abroad, transfers of profit or liquidity and the exposure of Czech banks to them were the main potential threats that needed to be monitored. The country was also affected by an increase in risk aversion to the whole of central and eastern Europe, mainly due to the real problems of countries which required external financing. The Czech Republic is among the countries that provide loans to some of them or participate in lending schemes organised by international institutions such as the International Monetary Fund. The financial crisis itself has had only a limited impact on the Czech financial market – an increased spread between money market and policy rates has been the most visible effect.

The financial crisis has led to a significant decrease in global economic activity. The Czech economy is very open and export-oriented; the loss of demand from major trading partners is affecting domestic economic activities. Weak foreign demand might be the most severe impact stemming from the global financial crisis for the Czech economy. The fall in GDP represents 5% in y-o-y terms in the first half of 2009. These developments have been

reflected in a weaker domestic demand in both business and household sectors and banks have become more cautious in providing them with credit.

Information collected beyond the standard reporting framework

After detecting the first signs of potential problems in the financial market in October 2008, additional information began to be collected. While a set of information was prepared once a week, a substantial amount of information was collected on a daily basis.[2]

Liquidity

Development in liquidity was the first area to be monitored. Banks and branches of foreign banks were required to report the following information on a daily basis:

(a)   volume of highly liquid assets

(b)   volume of deposits broken down into deposits on demand and term deposits

(c)   expected transactions which might significantly decrease the highly liquid assets

(d)   bank exposures vis-à-vis the group of the foreign parent bank

This set of information revealed the actual liquidity situation and was a good indicator of the functioning of the market. It monitored the positions of major players in the money market and also the potential flows between the Czech banks and related companies abroad since Czech banks belong to international groups. Cross-border exposures are a very important indicator in monitoring the potential spread of problems from foreign to Czech banks.

Money market

The figures collected from banks were supplemented by information from the money market. The CNB carries out open market operations, thereby allowing the mood of the market to be monitored.

Cash operations

A lot of information in the media about the spread of the financial crisis from abroad to our country created nervousness not only in the financial markets but also in businesses and households. This was reflected in a higher than usual preference for cash. The CNB gathered daily information on the overall deposits and withdrawals of cash carried out by banks at CNB branches. Claims on cash were broken down into those required within the standard regime and additional ones, if they arose. Bank drawings exceeding a specific amount were monitored on an individual basis.

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[2]   Due to the improved situation in the financial market, most of the additional data has ceased to be collected since June 2009.

Credits

Daily information on the volume of outstanding loans was reported by selected banks representing more than 80% of the market. It is necessary to take account of the fact that the outstanding volume represents something akin to gross information since it is the result of providing new credits and repayments from those provided in the past. In addition, they are influenced by non-transaction changes such as exchange rate movements or write-offs. This information is easily available and based on accounting, and was considered a leading or early warning indicator regarding bank lending activity.

New businesses

The volume of new credits and the interest rates imposed on them according to European standards are the variables that accurately describe the actual situation with regard to lending. There are two kinds of interest rates on credits in the statistics of the CNB (which is also the case in other member states of the European Union): (i) on the outstanding volume; and (ii) on new business. They are different in the way that they reflect the up-to-date level of interest rates. The interest rates on outstanding amounts bear a great burden from the past. In particular, loans with a long-term maturity do not reflect the present level of interest rates. The harmonised European methodology (reflecting the most up-to-date interest rate levels[3]) defines new business as credits newly stipulated in the respective month. The volumes of these newly stipulated credits are entered as weights in compiling interest rate statistics.

Two measures were applied to these statistics: the earlier provision of information and a more detailed structure of new business. With regard to the former, the CNB agreed with selected banks to shorten the timeliness for the standard reporting of these statistics: the information was available one week earlier than the statistics for the whole monetary financial institution sector, and served as a leading indicator. As regards the latter, detailed information on the structure of new credits and their respective interest rates were reported. The information was broken down according to sector (non-financial and households), the volume of credit provided to non-financial institutions (below and above approximately EUR 1 million equivalent) and the purpose of the credit in the case of households (for dwellings, consumer credits). In addition, all this information was monitored according to different banking groups: large, medium and small banks; branches of foreign banks; and building societies. This more detailed information enabled the identification of potential changes in the behaviour of different banking groups in their lending activities and changes in their approach to different clients' demands.

The above-mentioned information can be divided into two groups: for supervisory or financial stability purposes and for monetary purposes. The first group, which includes liquidity indicators, money market and cash information, monitors the impact of the global financial crisis on the Czech financial market. Although some effects have been reflected in the Czech economy, eg wider spreads along the yield curve, the overall impact has so far been limited. The second group, which includes information on credits and interest rates, is of a

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[3] There also used to be a third kind of interest rate on credits in the statistics of the CNB: for newly provided credits. They were compiled before the harmonised interest rates on new business were introduced in 2003. The only difference was the methodology of weights. The newly provided credits in a respective month were used as weights instead of the newly stipulated loans. It meant that the interest rate statistics were also affected by the conditions stipulated in the past. From this point of view, the harmonised European methodology most accurately reflects the up-to-date level of interest rates.

macroeconomic character and monitors the impact of the slowdown of economic activities. This is having a more significant effect on the Czech economy.

Lessons learned and concluding remarks

As mentioned above, an integrated supervisory body is located at the central bank. Supervisory information is added to statistical information which is usually available at the central bank. Certain data, both standard and those provided as a result of the global financial crisis, are collected mainly for supervisory reasons, whereas other data are collected for monetary purposes, but together they provide the policymakers with a more comprehensive set of information than if these two functions had been separate. In addition, the statistical and regulatory concepts have interacted more closely as a result of the new data collection. The breaking down of loans by volume of individual cases in the statistics is a good example. The unified data collection system is also an advantage. The integration of a regulator at the central bank has thus proved successful during this turbulent period.

The CNB always discusses new reporting requirements with banks prior to their implementation. The feedback provided by banks is appreciated mainly with regard to the designing and structure of statements. The same approach was applied in the case of higher-frequency data collection and tougher timeliness. The banks have been cooperative, and have suggested several improvements, eg shortening the timeliness. On the other hand, they have explained their procedures while completing the standard reporting, which was also of general interest. Having received these explanations, the CNB has ceased its intramonth collection of interest rate statistics and turned its attention to shortening the timeliness of data provision in the case of the most significant banks. The quality of the intramonth data would not have been reliable since the quality checks are carried out in several waves and are finished just before the standard timeliness. This cooperative approach has resulted in a better quality of data and has thus been confirmed as the best practice.

The need for more timely data showed that there is still some room for improving the timeliness. Reserves have been found both at banks and at the CNB. This is also an important outcome, since the timeliness of reporting to the ECB will be tougher for the Czech Republic after joining the euro area.

Stating that statistics have been "discovered" is of course an exaggeration. Nevertheless, the statistics, particularly those concerning new business, have released their potential. In addition, new requirements or requirements for more detailed information within the standard statistics have appeared, eg figures on credit broken down by economic branch, all of which have been a very useful resource.

The media, even professional publications, published articles based on figures that were not entirely relevant, or on data that were not interpreted in the correct way. The main problem was that the whole region (central and eastern Europe) was assessed as a block without distinguishing among individual countries. This was an incentive to check whether any information was missing from the CNB website or whether any information could be released on an earlier basis. We have found at least one piece of information which has not yet been published: an amortisation schedule for long-term debt by creditor and debtor broken down by principal and interest and by years. This information has been included on the balance of payments section of the CNB website.

The last remark concerns the developments of harmonised statistics in the European System of Central Banks. Phenomena such as the wider use of mortgages, the lending provided by non-bank financial institutions to households or the securitisation of loans are being captured by statistics. The regulation on statistical reporting requirements as regards securitisation has recently entered into force. The securitisation of loans and their transfers to specialised

institutions was identified as an important phenomenon at least two years ago when the regulatory work began. The financial vehicle corporations engaged in securitisation have not yet been identified in the Czech Republic, but they exist in other countries. This regulation enables the monitoring of transfers of loans or credit risks from the balance sheets of banks.