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To: Members of the Executive Board

From: The Acting Secretary

Subject: **Czech Republic—Publication of Financial Sector Assessment Program Documentation—Technical Note on Macroprudential Policy Framework**

Attached for the **information** of Executive Directors is a technical note on the macroprudential policy framework that was completed in connection with the Financial Sector Assessment Program (FSAP) assessment of the Czech Republic.

It is intended that this paper will be published on the Fund's external website after July 13, 2012.

Questions may be referred to Mr. Prokopenko, MCM (ext. 38916).

This document will shortly be posted on the extranet, a secure website for Executive Directors and member country authorities.

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FINANCIAL SECTOR ASSESSMENT PROGRAM UPDATE

CZECH REPUBLIC

MACROPRUDENTIAL POLICY FRAMEWORK

TECHNICAL NOTE

JULY 2012

INTERNATIONAL MONETARY FUND
MONETARY AND CAPITAL MARKETS DEPARTMENT

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GLOSSARY

| | |
|------|---------------------------------------------|
| APRA | Australian Prudential Regulations Authority |
| CNB | Czech National Bank |
| ESRB | European Systemic Risk Board |
| EU | European Union |
| FSD | Financial Stability Department |
| FSR | Financial Stability Report |
| FX | Foreign exchange |
| LTV | Loan-to-value |
| MFC | Macrofinancial Committee |
| MOF | Ministry of Finance |
| MOU | Memorandum of Understanding |
| NPL | Nonperforming loan |
| RBNZ | Reserve Bank of New Zealand |
| RSB | Reserve Bank of Australia |
| VAT | Value-added tax |

I. BACKGROUND¹

1. **The Czech National Bank (CNB) has been actively developing its macroprudential policy framework for some time, including most recently the establishment of a separate Financial Stability Department.** The role of macroprudential policy frameworks is to complement existing microprudential systems to identify and address emerging risks across the financial system as a whole—so-called systemic risk.² Designing such frameworks may encompass several aspects, including new institutional frameworks for coordination and decision making across supervisory agencies, frameworks for assessing systemic risk such as early warning systems and stress testing, and recognition that prudential regulations can also be actively used to help contain systemic risks. In the context of the Czech Republic, key features that impact upon the design of the macroprudential policy framework should include a) the CNB's mandate, which includes both monetary policy and financial stability, and its role as an integrated supervisor; b) European Union (EU) membership, which may limit the use of certain tools; c) the prevalence of foreign banks; and d) the macroeconomic landscape, with a relatively small domestic market highly dependent on trade with Germany.

2. **The authorities' first line of defense against threats to financial stability has been, and continues to be, sound macroeconomic policies.** Sound macroeconomic fundamentals prior to the crisis, as evidenced by solid growth, a comfortable external position, a credible inflation targeting regime, and low public debt, rendered the incentives for the buildup of systemic risk weaker compared to other countries in the region and provided room to ease policies during the crisis. For example, the low and stable interest rate environment, along with the floating exchange rate regime, weakened the incentives for unhedged borrowers to take out loans in foreign currency. Cushioned by automatic stabilizers and discretionary fiscal measures, as well as lower policy interest rates, output declined moderately in 2009 and began to recover soon thereafter, driven mainly by external demand (particularly Germany). However, public debt has risen by one-third since end-2008. Also, macroeconomic policies may be insufficient to address sectoral imbalances such as real estate bubbles (see below).

3. **The Czech financial system overall appears stable (see overall stability assessment).** In the run-up to the global financial crisis, net capital flows into the Czech Republic were smaller than those experienced in other Central and Eastern European-4 countries (Figure 1) and the new member states (Figure 2). A credit boom did ensue, but several factors stand out in this case relative to others in the region:

¹ Prepared by Piyabha Kongsamut (MCM). Box 2 was prepared by Christian Schmieder.

² Systemic risk is defined as follows: “a risk of disruption to financial services that is (a) caused by an impairment of all or parts of the financial system and (b) has the potential to have serious negative consequences for the real economy.”

Figure 1. Czech Republic: Net Capital Flows

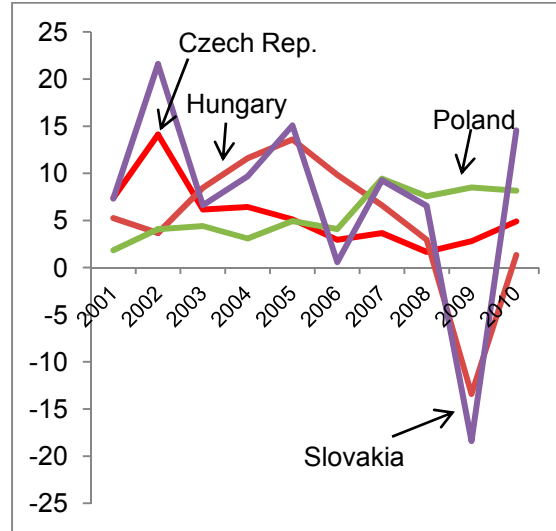
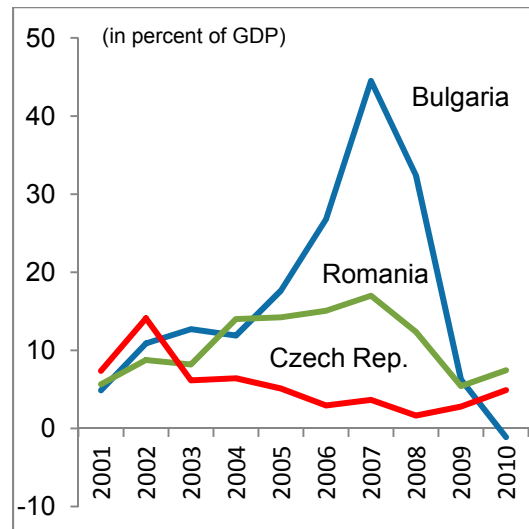


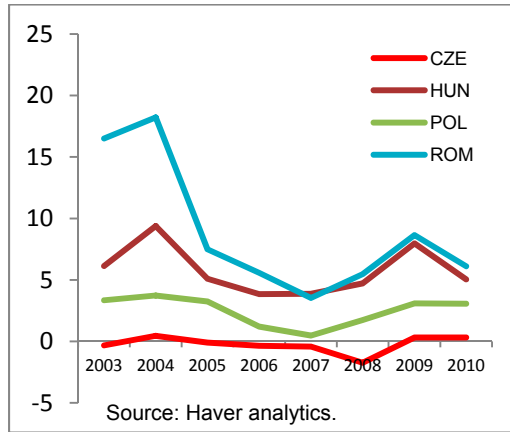
Figure 2. Czech Republic: Net Capital Flows



- The Czech Republic was more advanced on the path to convergence with the EU, with the highest GDP per capita (close to \$11,000, vs. below \$8,000 except for Hungary) at the time of accession relative to its peers in Figure 1 and Figure 2 at the time of their accession (below \$8,000). In addition, its export sector was well developed, with close trade links with Germany.
- Funding remained mainly local, with the deposit-to-loan ratio above 100 percent, even though the Czech banking system was predominantly foreign-owned, similar to the comparators above. Rather than bringing more funds from the parents as done in other countries, banks found that domestic funds were sufficient to support their planned activities, and low interest rate differentials also likely played an important

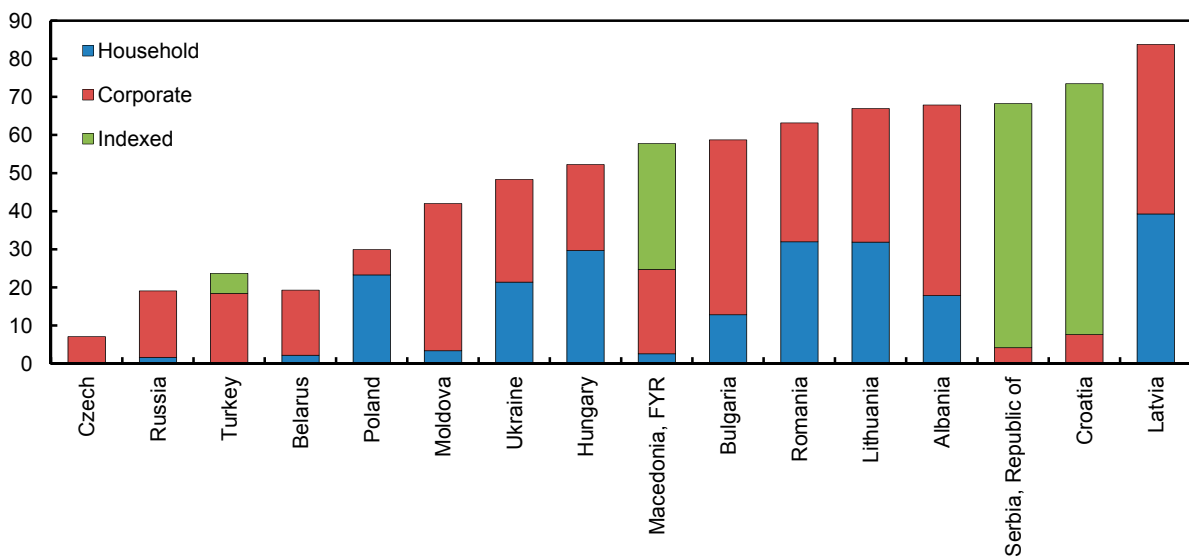
role (Figure 3). In fact, the banking system has been a net creditor externally, on the order of 6 percent of GDP in 2010.

Figure 3. Czech Republic: Interest Rate Differentials vs Euro Rates



- Virtually no foreign exchange (FX) loans were made for mortgage or retail lending (Figure 4). The interest rate differential between koruna loans and foreign currency loans was also relatively low—unlike some other countries in the region, there had been no hyperinflation period in the recent past and retail depositors did not have a preference for FX deposits. Also, the exchange rate was floating, and exhibited some volatility, further limiting the incentive to borrow in FX. Loans in FX mainly went to corporate borrowers who were exporters and thus were naturally hedged.

Figure 4. Czech Republic: FX and FX-indexed Loans as a Share of Private Sector Credits



- While the credit boom was less strong than that experienced in other countries in the region (Figure 5), real estate price inflation in the Czech Republic ahead of the crisis was stronger than in Hungary, Slovenia and Poland, comparable in magnitude to Bulgaria, but less pronounced than in Slovakia (Figure 6). Nevertheless, loan-to-value (LTV) ratios for housing mortgages remained relatively conservative in Czech Republic, at below 60 percent.

Figure 5. Czech Republic: Real Credit Growth to the Private Sector

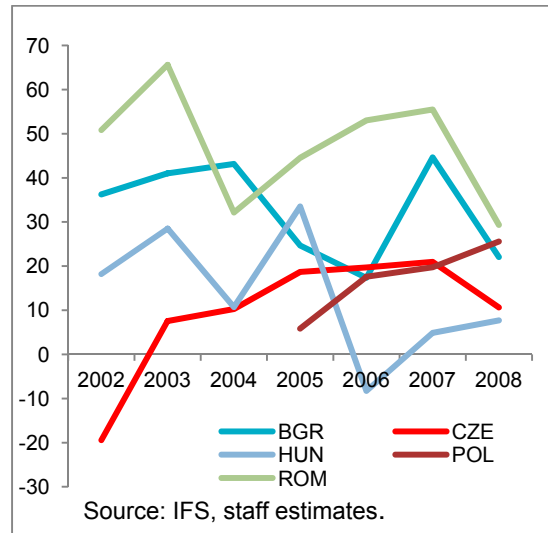
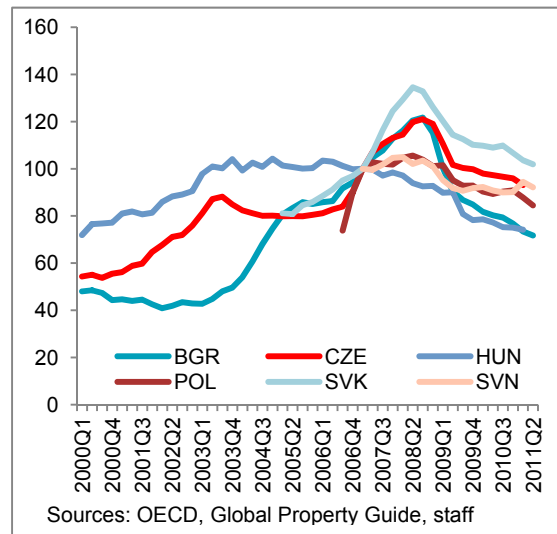


Figure 6. Czech Republic: Real House Prices in the Region



4. **This paper assesses the macroprudential policy framework in place by analyzing key sources of systemic risk, discussing possible macroprudential tools to address such**

risks, and examining the institutional framework in place for formulating and implementing macroprudential policies.³

II. SYSTEMIC RISK ANALYSIS

5. **Looking ahead, risks stem mainly from external shocks, including financial contagion from the crisis in Europe.** First, the real shock from a likely double-dip recession in Europe would hit the Czech banks once again, as discussed in the Aide-Mémoire and the Stress Testing Technical Note. Second, the financial status of parent banks has weakened since 2008, and their (in) ability to absorb further shocks may become channels of contagion to the Czech Republic's financial system. Finally, but more distant, as the region recovers, the country's relatively stronger macroeconomic position, and a banking system with deep capital buffers, may result in a renewed credit and asset price boom as experienced ahead of the global economic crisis.

Renewed downturn in the region

6. **Stress tests indicate that the banks would have sufficient capital and liquidity buffers to withstand a double-dip recession.**⁴ While nonperforming loans (NPLs) would increase once again, banks are still strong enough to bear the stress from a two-year recession, with growth declining by 10 percentage points on a cumulative basis. Since banks do not rely on their parents for funding, liquidity stresses are also manageable. However, a combined severe scenario including contagion from parent banks (as discussed below) could bring the system below the regulatory minimum capital adequacy requirement.

Contagion from parent banks

7. **The system's exposure to parent banks represents a source of systemic risk.** In terms of direct exposures to parent banks, the system figure is 50 percent of capital (gross).⁵ This is currently within the regulatory limit which is consistent with EU rules. Stress tests indicate that the combination of a double-dip scenario and parent bank contagion resulting in a loss of 40 percent of this exposure, system capital would fall below minimum requirements. Liquidity contagion is not seen as a risk because the system's loan to deposit ratio is relatively low at 73 percent and banks have ample liquidity cushions.

8. **Parent banks could use the Czech subsidiaries' strong financial position to boost their own, either via transfers from the subs into the center, or deleveraging either**

³ The approach taken is based on the conceptual framework laid out in "Macprudential Policy: an Organizing Framework", and in "Institutional Models for Macprudential Policy", IMF SDN/11/90.

⁴ See the Technical Note on Stress Testing, and the discussion of financial stability in the Aide-Memoire.

⁵ See Technical Note on Stress Testing.

through sales of assets or a reduction in credit. EU banks are required to increase capital to 9 percent of core Tier I capital by June 2012; most of the parents of the major Czech banks are affected.⁶ Depending on the specific situations, affected parent banks may upstream substantial parts of their earnings as well as liquidity from the subsidiaries, while others may find divestment of assets including the sale of their subsidiaries an attractive option in the current difficult environment. At the same time, divestment may also be a risky strategy given the risk of fire sale prices, as well as uncertainty with regard to buyer interest. Deleveraging through a shrinking of the asset portfolio may also be an attractive option to raise capital ratios—with the mix of credit reduction across their subsidiaries in the region likely dependent on economic prospects in each country. Such actions would have an adverse effect on the Czech economy.

9. **From the perspective of the CNB, if the sale of some of the subsidiaries does materialize, it would have to take into account not only fit and proper criteria but also likely relations with an unfamiliar home supervisor.** Because of EU banks' relatively weak financial position, it is unlikely that a bank from within the EU could acquire one of the subs, and therefore, the CNB may need to develop relations with a new home supervisor for which no Memorandum of Understanding (MOU) or ongoing relationship currently exists.

10. **In an environment where the parent banks are weakened, close monitoring of the parent bank financial situation relative to that of the subsidiary, active participation in supervisory colleges, and close cooperation with home country supervisors are key to keeping ahead of potential contagion channels coming from the parent.** The CNB is monitoring on a weekly basis liquidity conditions for key banks, as well as possible transfers being made between parent and subsidiary for significant transactions. The CNB considers that experience with cooperation in supervisory colleges and home-host coordination has been mixed.

Renewed credit booms and asset price bubbles

11. **Once the difficult global economic situation eventually normalizes and a sustainable recovery takes hold, the CNB will likely face the risk of renewed credit booms and possible asset price bubbles.** Capital inflows could reemerge, or banks could use their deep capital buffers to expand their balance sheets at a more rapid and sustained pace, feeding renewed credit booms and asset price bubbles.

Other risks

12. **The CNB is closely monitoring various other potential sources of systemic risk (Box 1).** Corporate and household balance sheet data are analyzed for signs of excessive

⁶ The following parent banks of the four large Czech subsidiaries are required to increase capital: Erste, Unicredit, and Société Générale.

leverage and the possible impact on credit risk. Bank lending has recently favored retail lending, reflecting stronger demand. While household balance sheets appear to still be healthy, NPLs in the sector have risen, and a period of protracted slow growth, low wage growth, and little improvement in unemployment could create problems for asset quality. Similarly, corporate balance sheets also appear to be resilient, but the companies are highly reliant on Germany's economic health as the country's largest trading partner. Under the latest circumstances credit risk would be of greatest concern, as discussed in the Stress Testing Technical Note.

Box 1. Monitoring Systemic Risk at the CNB

Various parts of the CNB contribute to detecting and monitoring of systemic risk, broadly grouped along the following types of analysis. This analysis is presented in regular Financial Stability Report (FSR) publications.

- **Aggregate indicators of imbalances:** The CNB monitors macroeconomic data and balance sheet indicators, soundness indicators, asset prices, leverage, etc., to detect the buildup of risks in the financial system and the economy at large.⁷ An analytical framework for future calibration of Basel III countercyclical capital buffers for banks is also being developed, founded mainly on modelling the gaps between credit growth or credit to GDP ratio relative to “safe trend” behavior.
- **Indicators of market conditions:** The authorities monitor high frequency indicators but find their usefulness more limited because of the low liquidity in these markets, and they consider that the frequent short-sighted views of markets are not able to signal emergence of imbalances well ahead of time..
- **Metrics of concentration of risk within the system:** Measures are currently being developed to reflect channels of contagion from outside the country rather than from internal interconnectedness. But the authorities have identified and are monitoring systemically important institutions (including nonbanks), using as criteria size, substitutability, and interconnectedness. Further work is planned on network analysis (currently limited to interbank exposures), and solvency and liquidity stress testing.
- **Macro stress testing:** Macro stress tests are conducted quarterly and the results published. Tools that have been developed to test the resilience of individual institutions are being adapted to stress test financial systems by augmenting the methodology in order to (a) incorporate market dynamics under extreme (tail-risk) scenarios and the amplification arising from network effects; and (b) better assess the interactions between financial system distress and the real economy, including through multi-round adverse feedback effects. Top-down and bottom-up stress test are conducted concurrently and the results cross checked.
- **Integrated monitoring systems:** While the metrics and approaches described above are useful on their own, they could be combined into comprehensive monitoring systems (heat maps, etc.) to provide a coherent picture of conditions across the financial system.

III. POSSIBLE MACROPRUDENTIAL INSTRUMENTS TO MITIGATE SYSTEMIC RISKS

13. **Given the identified risks, potential macroprudential instruments should be considered, to be ready for use if deemed necessary.** During the pre-crisis credit boom, the authorities eschewed specific macroprudential measures. Low domestic interest rates and a stable macroeconomic environment meant little incentive for euroization. The global

⁷ See Borio and Drehmann “Assessing the risk of banking crises – revisited,” *BIS Quarterly Review*, March 2009.

economic crisis helped cool the housing market at the right time. Nevertheless, in future there may be a need to employ macroprudential tools to address the buildup of systemic risk. This section will discuss potential instruments that may be used to address the systemic risks identified above.

14. **One instrument that has already been used is public communications and risk warnings.** The CNB warned about the risk of house price appreciation prior to the crisis, and the authorities considered that this seems to have had an effect. Such a tool can be highly effective when issued by a central bank that enjoys strong credibility, and may help restrain banks without the need for regulatory measures. If such warnings are not effective, actual measures may be needed.

15. **Some macroprudential instruments will be put in place in the context of Basel III and CRD-IV, including the countercyclical capital buffer, capital surcharges for systemic institutions, and new liquidity requirements.** These should help temper generalized booms, and may also be supplemented with such instruments as dynamic provisioning. Some work has already been done on this front by the CNB, for example on countercyclical capital buffers, and such measures should be coordinated with the home supervisors in Joint Decisions. Forthcoming work by Hardy and Schmieder offers some suggestions in this regard (Box 2). At the same time, if the situation warrants, measures stronger than those under EU-wide standards could be adopted, provided that the European regulatory framework set by the CRD IV/CRR grants sufficient discretion for national authorities to tighten the rules.

16. **With respect to systemic risk from contagion from parent banks, capital and liquidity buffers should be built, but the exact nature of the measures to achieve those buffers would need to be carefully designed.** First, from the perspective of preserving financial stability in the Czech Republic, support to weak parent banks should not come at the expense of endangering the financial position of the local subsidiaries, and stress testing could provide good guidance in this regard. Second, any decisions on policy actions should be made with long-term considerations in mind—that is, the tables may be turned in future, and if the Czech subsidiaries should run into financial difficulties down the road, the willingness of parent banks to provide assistance would likely be colored by the experience with the current episode. Finally, any prudential policy actions taken should be even-handed in nature.

17. **One measure currently under consideration is a tightening of exposure rules to parent banks.** Stress tests indicate that the contagion risk is material and that policy action is warranted. The authorities' current regulation is consistent with EU directives, but do not meet the internationally agreed Basel Core Principles and thus there is room for tightening to at least prevent a further increase in exposure to parent banks.⁸ However, the time frame to

⁸ For further details on the regulation see Aide-Mémoire.

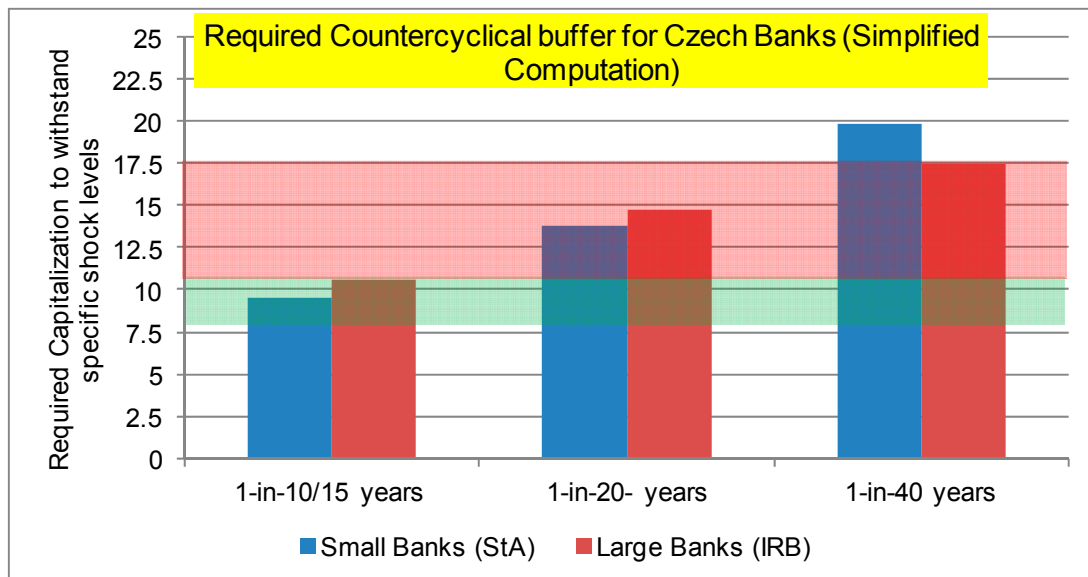
implement this change should strike the right balance between limiting the size of contagion and providing banking groups with reasonable room for maneuver to move capital and liquidity where it is most needed, while maintaining credible home-host coordination. Further background work is needed to determine the formulation of the revised regulation and the timing of its implementation.

Box 2. Countercyclical Capital Buffer for Czech Banks

The outcome of simplified computations to define countercyclical buffer levels to withstand macroeconomic shocks for the Czech banks is displayed in Figure 7. The numerical examples for the potential size of capital buffers needed by Czech banks to survive shock periods have been computed using forthcoming work by Hardy and Schmieder.⁹ The study is based on average (current) risk-return characteristics of large and small Czech banks, respectively, in terms of capitalization, credit loss levels, income, credit growth, and profit retention. Using international evidence, these parameters have been stressed simulating potential stress conditions that occur once in 10–15 years, every 20 years, and once-in-a-lifetime (1-in-40).¹⁰ In line with evidence that severe crisis lasts between three to five years, a three-year shock has been assumed.

The countercyclical buffers needed by Czech banks to withstand different levels of stress vary between 0 and 10 percentage points, depending on the risk aversion targeted by macroprudential policies. Using similar types of computations and depending on the risk policy, it is up to the macroprudential authority to set the level of the required countercyclical buffer, which could target a credit boom only or account for a general downturn more generally. Figure 6 shows time-invariant levels that would be needed not to fall below capitalization levels of 8 percent assuming that the unstressed risk-return characteristics of Czech banks remain unchanged (especially the favorable income levels). In the figure, the green area characterizes capital conservation buffer of 2.5 percentage points above 8 percent, and the reddish area the countercyclical capital buffer for the large banks (using the internal ratings base) in case of the once-in-a-lifetime shock scenario (reducing their capitalization by around 7 percent).¹¹ To define the capital conservation buffers, the CNB could use its stress test framework to compute such levels, which could be time-varying to account for changes in the macroeconomic outlook, and/or linked to early warning systems.¹²

Figure 7. Czech Republic: Illustrative Example for the Computation of Required Countercyclical Capital Buffers



⁹ Hardy and Schmieder, Rules of Thumb for Solvency Stress Tests with a global case study, forthcoming IMF Working Paper (Washington: International Monetary Fund).

19. Macprudential tools can be used to address renewed credit and asset price booms, if such growth is deemed excessive. During the pre-crisis period when capital inflows were present, the authorities appropriately have used macroeconomic policies as a first line of defense, involving a flexible exchange rate and prudent fiscal policy. This approach should continue. Macprudential policy should not be used as a substitute for macroeconomic adjustment. However, if macroeconomic policies are insufficient to prevent the buildup of systemic risk, macroprudential policies may be needed. Exact measures would depend on where the risk is building up—channels often observed in other countries include equity and real estate price bubbles; the expansion of nonbanks; bank credit booms, whether generalized or confined to specific sectors; or other financial innovations. Macroeconomic policies may be insufficient to address sectoral imbalances. One advantage of macroprudential measures is that they can be targeted to specific risks—if bubbles are suspected to be emerging, specific prudential actions can be taken, such as LTV limits if real estate prices bubbles are suspected, or debt to income limits to prevent consumer over-indebtedness, or sector-dependent risk weights. At the very least, capital and liquidity buffers can be built to help shield the financial system from harm once the boom ends.

20. Experience with macroprudential measures in emerging markets in the region suggest that for the most part, such measures can help temper booms to some degree, and they are useful in building capital and liquidity buffers for when the tide turns. These buffers have contributed to overall banking stability in the region in the wake of the global economic crisis. So far, the Czech Republic has not seen the need to adopt such instruments. Since FX lending to unhedged borrowers has not been an issue and is unlikely to become one if current conditions continue, macroprudential measures in this area are unlikely to be needed. A more likely source of concern is real estate markets, in which price appreciation was strong ahead of the crisis. LTV ratios in the Czech Republic have been well within safe ranges at below 60 percent, and consumers do not look to be over-indebted.¹³ However, if asset prices and debt levels should begin to rise too fast, measures to keep them contained could be adopted after careful consideration, such as LTV limits and debt-to-income limits. LTV limits that attach risk weights between certain LTV ranges would be

¹⁰ To do so, the statistical likelihood for the occurrence of each shock has been used, where a likelihood of 2.5 percent would correspond to a 1-in-40 year shock, for example.

¹¹ This scenario is thus approximately equivalent to the severe double-dip scenario referred to in the stress tests.

¹² In the latter case, banks could be asked to build additional buffers if the authorities see the risk of a crisis materializing within the next 2-3 years, for example. Emerging risk (such as potential contagion from parent banks) could also be accounted for.

¹³ Within the household sector, the Financial Stability Reports suggest some vulnerabilities for lower-income consumers. Higher income households have a strong asset and savings cushion that lower-income households do not. The vulnerabilities of these households to slower growth and higher unemployment have been highlighted by the CNB. With respect to housing markets, the CNB monitors developments by region and market segment, as well as other indicators such as price-to-income ratios, and rental returns.

useful to build up capital buffers, as risk weights above 100 percent for certain assets would translate into higher risk-weighted assets and thereby higher capital than otherwise (even though capital levels may still be comfortably above the minimum requirements when introduced). Country experience is varied (Table 1). With respect to policies affecting the real estate market, tax policies should also be considered part of the toolkit, as these can significantly alter incentives to borrow.¹⁴ These would require cooperation and agreement with the Ministry of Finance (MOF).

Table 1. Czech Republic: Cross-Country Examples of LTV Limits

| Country | Date applied | Formulation |
|---------------|----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Canada | 2008, 2010 2011 | Down payment requirements for government-backed mortgages LTV for refinancing mortgages lowered. |
| Chile | 2009 | Loosening measure: increase LTV limit for certain banks and low risk clients. |
| China | 2010 | Straight limit on primary homes (70 percent) and on second homes (50 percent). |
| Colombia | 1999 | LTV limit of 70 percent |
| Hong Kong SAR | 1991, 2009- 2010 | For residential properties, LTV limit brackets based on property value Caps on maximum loan amounts for certain brackets Differential LTV depending on whether it is a primary residence |
| Italy | Basel II adoption | Higher capital requirements for loans above 80% LTV |
| Korea | 2002-2009 | LTV ceiling, differentiated by location (speculative zones specified), loan maturity, absolute property value. Relatively frequent adjustments. |
| Malaysia | 2010 | Maximum LTV on additional housing loan |
| Norway | 2010 | 90 percent LTV limit |
| Romania | 2004-07 | 75 percent LTV limit |
| Singapore | 2010 | Limits lowered for all borrowers, and differentiated limits based on number of housing loans, cash down payment requirements. |
| Sweden | 1010 | LTV limit of 85 percent |
| Thailand | 2003, 2009 | LTV differentiated by property value, higher risk weights for higher LTV loans. |
| Turkey | 2010 | LTV limits not only for mortgages, but for receivables secured by authorized real estate, differential limits applied depending on types of real estate used to secure loan. |

Source: IMF staff survey of authorities.

21. **Use of such tools of course imposes distortions, and, if employed, should be continually assessed for their impact and for unintended consequences—further adjustments may be required.** Country experience with these instruments has often been a learning-by-doing process, as experience is relatively limited and the circumstances of use of these tools and their impact is highly specific. Banks will likely try to avoid or circumvent the measures, and the CNB would need to closely monitor whether the new instruments are achieving their objective, and whether adjustments are needed. For example, one by-product

¹⁴ For example, the deductibility of interest payments on mortgages is being reduced.

of the extensive use of macroprudential tools in some countries in the region was disintermediation, as loans were booked from headquarters instead of locally—this also had the side effect of higher external debt of domestic corporate borrowers.

IV. INSTITUTIONAL DESIGN¹⁵

22. **A macroprudential policy framework needs to be designed to ensure that action can be taken in a timely manner.** These frameworks are still in their infancy, and countries have adopted different models, many of which remain untested. The Czech Republic’s model is centered on the CNB, whose mandate includes both price and financial stability, and it is the integrated microprudential supervisor for banks, nonbanks, securities markets, as well as being responsible for consumer protection. Since the model is centered on the CNB, this section will look into internal arrangements to assess how well they support a macroprudential mandate, as well as coordination with other agencies. The frameworks for Australia and New Zealand are described in Annex I.

23. **The legal underpinnings for the CNB’s macroprudential policy functions could be strengthened and clarified.** The CNB Act’s current formulation provides for primacy of price stability in line with EU practices, with financial stability as one of the supporting elements of achieving the price stability mandate. While the CNB considers this adequate to carry out its financial stability functions, including macroprudential policies, it would be appropriate to elevate the financial stability function to a secondary objective to establish a stronger accountability framework. Such an elevation would also be in keeping with the country’s integrated supervisory structure.

Coordination within the CNB

24. **The CNB considers that there have been so far no conflicts between its price stability and financial stability objectives.**¹⁶ Coordination among the two objectives is built into the CNB’s internal processes (see below). The legal framework places price stability paramount, with financial stability nested as a supporting element. The authorities note that, in the case of buildup of systemic risk and potential conflict of interest between price stability and financial stability, the priority would be to achieve the price stability objective using monetary policy and using prudential tools to achieve financial stability. This does not prevent the CNB from using monetary policy at the margin to achieve financial stability objectives as long as this does not interfere with achieving price stability. In addition, a

¹⁵ Macroprudential frameworks are distinct from overall financial stability frameworks, in that crisis management is part of the latter but not the former. Crisis management arrangements are covered in a separate technical note.

¹⁶ If the pre-crisis capital inflows had been larger and the run-up in real estate prices stronger, while inflation remained low and stable, such a conflict could have arisen.

critical supporting component is strong microprudential supervision to guard against lax lending standards in good times.

25. **The Macrofinancial Panels are an effective vehicle to discuss macroeconomic and financial analysis and policy at the highest levels of the CNB.** The panels meet quarterly, comprise key departments in the CNB responsible for financial market supervision, financial stability, research, financial market operations, monetary policy, as well as all CNB Board members, and take place before the Board's monetary policy meetings. The authorities noted that the findings of the panel are understood as an input to macroeconomic policy, though the panels have also discussed systemic risk dimensions. They have so far never been a decisive element in terms of its input into the monetary policy meetings, and the panel has served mainly as a cross-checking tool and information sharing tool.

26. **The recent organizational changes should strengthen the CNB's ability to carry out financial stability analysis, to meet increased demand.** While previously those staff carrying out financial stability analysis and research activities were together in one department, the new structure is organized along functional lines, with three departments *jointly* responsible for financial stability—the Financial Stability Department (FSD), financial stability analysis and macroprudential oversight), the Financial Market Supervision Department (microprudential supervision), and the Financial Market Regulation and Analyses Department (microprudential regulation). Several separate as well as joint analyses are produced, including an FSR, stress tests, regular reports on banking system developments, as well as ad hoc analyses of specific issues and potential sources of risk. Regular mainly informal ways of communicating and cooperating seem to be in place, including with the monetary and statistics department, financial markets department, and the research department. Access to relevant information for financial stability analysis is given to those who need it.

27. **One way to help induce timely action is to formalize some processes, including the following:**

- To adopt and announce a pre-set schedule for CNB Board meetings to discuss the FSR and its internal update, similar to what is currently done for monetary policy, though with less frequency. These meetings to discuss financial stability already currently take place regularly; the recommendation is to make the timing of the meetings public, to help create a mechanism for transparency and accountability for financial stability issues. Twice a year should be sufficient, though the possibility of extraordinary meetings should be allowed for.
- A press release should be made upon the conclusion of the Board meetings to explain to the public what risks were discussed and what policy actions the CNB is taking to address those risks. As more experience is gained with this change, further

transparency with respect to the release of minutes with a time lag may be considered, taking into account confidentiality concerns with respect to information about individual banks.

- The FSD should be responsible for recommending to the Board whether macroprudential policy action is needed, and if so, propose such action to the Board. For example, if a change in regulation is deemed needed, a proposal should be made to the Board to decide upon during their discussions. Such a recommendation and accompanying proposals would need to be prepared in consultation with other departments, and recommended action would need to be compatible with EU guidance.¹⁷

Coordination with other agencies

28. **The MOF plays a relatively minor role in the overall macroprudential policy framework, though it is responsible for legislation in the financial markets area.** Two MOF representatives sit on the Financial Market Committee, which is an advisory body to the CNB Bank Board for financial market supervision, advising on matters associated with the CNB's function as the domestic financial market supervisory authority. Its membership encompasses both private and public sector representatives. The CNB currently sees the committee's role as more of a communications vehicle, to keep the MOF and market participants informed. The committee has a statutory duty to discuss the Financial Market Supervision Report, which does not cover systemic risk, but rather describes legislative actions and developments in the financial system. The FSR is the public vehicle to present the CNB's financial stability analysis.

29. **The level of formal cooperation between the CNB and the MOF should be increased for macroprudential policy purposes.** Regular dialogue could help speed up the process of being able to address a newly identified systemic risk through policy action if deemed needed because it fosters an understanding of each others' perspectives and may make it easier to reach agreement on the need for action. Through regular dialogue at the technical level, it may also be possible to exploit the potential for greater policy coordination. Tax policy may also be used for macroprudential policy purposes, as it could alter behavior and thereby impact financial stability. For example, the planned reduction in the mortgage interest deductibility will likely dampen demand for new mortgage borrowing, and pre-announced value-added tax (VAT) changes have also played a role in the past.¹⁸ Finally,

¹⁷ The European Systemic Risk Board (ESRB) is considering guidance on specific macroprudential tools.

¹⁸ In [2007], a preannounced increase in the VAT rate on real estate transactions led to some increased activity ahead of the change.

ongoing lines of communication will also be helpful in case of crisis, since the government may have to take on some fiscal costs in such a case.¹⁹

30. **Within the EU, the CNB actively participates in the supervisory and standard-setting bodies, and legislative amendments are being developed to be consistent with the new EU structures (e.g., the ESRB, European Banking Authority).** In many areas, EU proposals are still not finalized, and the authorities actively contribute views on behalf of the Czech Republic. Such efforts should continue.

Accountability and Transparency

31. **With power on monetary policy, supervisory policy and macroprudential policies concentrated in the hands of the CNB, strong accountability mechanisms are needed.** The CNB currently reports to parliament on a regular basis relating to both its monetary policy and financial stability functions, and it publishes many regular reports and minutes to shed light on its analysis and decisions (inflation report, FSR, minutes of meetings, press releases). If macroprudential measures are adopted in future, a mechanism to explain the identified risk and motivate the policy action, separate from those on monetary policy decisions, should be put in place. The current annual reporting on financial stability may be too infrequent for this purpose. However, the CNB may issue a risk warning at any time, including after its consideration of the internal stability report update.

32. **The CNB is currently discussing how to formalize decisions on macroprudential policy.** Currently, the CNB Board takes decisions on monetary policy; no separate Monetary Policy Committee exists. Hence, a similar approach could be taken for financial stability, to formalize the meetings that already take place as discussed above. Alternatively, a deeper overhaul of the policy-making governance structure could be considered, by establishing parallel structures for Monetary Policy and Financial Stability in respective Committees, separate from the CNB Board. Such committees would help establish separate accountability for the CNB's monetary policy and financial stability objectives, and also formalize a part of the macroprudential policy framework that is currently operating mainly informally.²⁰ It could also help mitigate reputational risk arising from its monetary policy and financial stability objectives, in the sense that public doubts on either the achievement of price stability or financial stability could infect confidence in the other function. However, such an overhaul would open up deeper questions on the CNB governance structure including the composition of its Board, the possible inclusion of external experts in such committees, and such considerations which are beyond the scope of this note.

¹⁹ See Technical Note on Crisis Management.

²⁰ The CNB Board's meetings on monetary policy currently take place on an announced schedule eight times a year, with a press release issued after each meeting, and an inflation report issued four times a year.

Summary of Recommendations

| Recommendation | Priority | Time frame |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|-------------|
| Continue to use stress test results to help determine extent of capital and liquidity buffers needed to protect domestic financial stability | High | Ongoing |
| Improve incentives for timely action to address systemic risk by: | High | Near-term |
| a) Including a formal consideration by the CNB Board when FSRs and their updates are discussed of whether macroprudential policy action is required | | |
| b) Giving the FSD responsibility to submit a recommendation to the CNB Board on whether action on macroprudential policies is needed. | | |
| c) Releasing a press statement at the conclusion of the Board that reports on the decision and the motivations behind action or inaction | | |
| Increase cooperation between the CNB and the MOF to establish an ongoing dialogue on financial stability and macroprudential issues | High | Ongoing |
| Continue using effective communications and outreach as part of the toolkit with respect to macroprudential policies (e.g., risk warnings) | High | Ongoing |
| Amend the CNB law to elevate financial stability to a policy objective | Medium | Medium-term |
| Macroprudential instruments: prepare possible toolkit and calibrations, including for CRD-IV and possibly beyond, using ESRB ongoing work on macroprudential tools. | Medium | Near-term |

ANNEX I. NEW ZEALAND: INSTITUTIONAL FRAMEWORK FOR FINANCIAL STABILITY²¹

- The Reserve Bank of New Zealand (RBNZ) Act provides for monetary policy as the primary objective, but with regard to financial stability (amended in 2008 to do so).
- New Zealand has a partially integrated supervisory system, with the RBNZ supervising banks and insurance companies, and the Financial Markets Authority supervising securities markets.
- Its financial system is dominated by four subsidiaries of Australian banks. These subsidiaries were highly dependent on wholesale market funding at the outbreak of the global economic crisis in 2008.
- The RBNZ's Board consists of the governor and not less than five, but no more than seven, nonexecutive Board members appointed by New Zealand's Treasurer. The governor is the chief executive of the bank.
- By law, the RBNZ publishes FSRs twice a year. The preamble to all FSRs notes that FSRs must explain and justify the prudential policies adopted. A news release is prepared with each release which summarizes the Governor's view on the key risks and what the RBNZ will do (if necessary).
- In 2009, the Reserve Bank established an internal Macrofinancial Committee (MFC) to consider macrofinancial issues and policies. Parallel committees exist for monetary policy and microprudential policies. The MFC reviews indicators of financial stability, oversees production of FSRs, and analyses of potential new macroprudential policy tools. The committee is responsible to review and recommend new policy tools to the governor. The implications of such recommendations for microprudential policy and for monetary policy would be considered by the Governor and potentially referred to the other policy committees.
- Since the crisis, the RBNZ has put in place new prudential liquidity requirements. It first highlighted this issue in the May 2008 FSR and the accompanying press release, noting the disruptions in the global financial markets, banks' dependence on funding from these markets, and the need to ensure that "there is adequate liquidity in case disruptions intensify". The press release also announced a review of prudential liquidity requirements, to help ensure that "banks diversify their funding sources and lengthen the maturity structure of their debt". The RBNZ released a policy in June 2009, consultations with banks were held, and the finalized version was released in October 2009, for implementation in April 2010. At the same time, the RBNZ announced its intent to raise the requirement gradually, and has done so flexibly in line with market conditions. A regulatory impact assessment was published.

²¹ References: RBNZ website, and Spencer, Grant. "The Reserve Bank and macro financial stability", Reserve Bank of New Zealand bulletin, June 2010, Vol. 73, No. 2.