

Report on the Workshop on "Equity and Operational Efficiency of Central Banks" 1

12th of September, 2024

The Fiscal Council of Hungary (hereafter: Council), as one of the national independent fiscal institutions created in the EU following the sub-prime mortgage crisis in 2011, has a prominent rule in the public finances of Hungary.

Up until the end of 2023, the tasks of the Council focused primarily on combating the annual budget deficit and government debt, by examining whether the provisions (in short: the government debt to GDP ratio cannot exceed fifty percent; as long as this ratio is above the prescribed level, the national debt has to be decreased each year) laid down in the Basic Law of Hungary (the Hungarian Constitution) will be met based on the draft budget of each following year. While the Council had (and still have) the opportunity to comment on any economic or fiscal issue it deems worthy of its attention, its legal mandate was significantly expanded in 2023 December.

The Hungarian Parliament, also in consultation with the European Central Bank, decided to amend both the Act on the National Bank of Hungary (MNB) and the statutory tasks of the Council in order to ensure the capital adequacy of the MNB. Accordingly, when examining the laws on the central budget for the coming years, the Council must decide not only whether the macroeconomic path on which the bill is based is sound and credible, and whether the deficit and government debt will be met as prescribed at the end of the given budget year, but also whether direct reimbursement should be covered by the central budget, to ensure that the equity of the MNB reach at least the level of the subscribed capital for the purpose of compliance with the principle of financial independence, in case the amount of equity remains below the subscribed capital for a prolonged period of time.

The Council has been relying not only on the researches and experience of both the Hungarian State Audit Office and the National Bank of Hungary, but on the expertise of domestic and international institutions and experts. In carrying out this new task the Council decided the organize a closed workshop with the preeminent researchers and experts of the field, while providing opportunity to gather insight from central banks that are in similar situation. The workshop was held on 12th of September 2024, in a hybrid format (the presenters and discussants joined via video call, while the Hungarian audience followed the event mainly in person, within the Jókai Hall of the Hungarian National Parliament).

The National Bank of Hungary, the Hungarian State Audit Office, and the Hungarian Ministry of Finance was represented by its experts attending either in person or via online connection. All of the participants of the workshop attended online, with the exception the moderator of the roundtable discussion and the Chair of the Council.

In the first presentation, it was underlined that there seems to be a consensus in that central banks aim to achieve their policy goals, and not to make profit. From historical data it is known that positive central bank equity is neither a necessary nor a sufficient condition for preserving trust and money, i.e. reaching the policy goals of central banks. As profits and losses drive primarily the changes in equity, it is worth examining what drives those profits and losses.

In the first broad category, we can find the emerging market and small open economy central banks that have built up FX reserves to cushion shocks and defend their currencies. But the direction of FX rates and resulting profit volatility is of course hard to predict, and as such sometimes there are profits (that can be transferred to the government) and sometimes there are losses, that can result in negative equity. It is clear that positive central bank capital is not a necessary condition for preserving price stability and trust in money, as can be seen from examples such as Chile, Czechia, and Israel (for various lengths of time, ranging from 20 to 30 years), where although equity was negative, inflation remained contained.

¹ Held in online format, under Chatham House Rule

In the second category we can find advanced economy central banks that purchase domestic currency assets or through other programs like funding for lending, who are now facing valuation declines on those asset purchases and at the same time rising funding costs from higher interest rates. After the great financial crisis, a number of central banks used asset purchase programs or other lending programs to achieve macroeconomic and financial stability objectives. While other central banks introduced these programs only during the pandemic, the results were similar: a significant balance sheet expansion, essentially transferring financial risk from the private sector to the public sector, which is consistent with the very purpose of central banks. To fund that expansion, the amount of interest-bearing commercial bank reserves increased as well, reducing the share of interest-free liabilities, cash, and equity. This funding was inexpensive when rates remained low, but in the context of rising rates that changed: as inflation spiked with the recovery from the pandemic, central banks raised interest rates to tackle inflation, meaning that interest expense increased significantly and net interest income declined.

As we can see, reported profits and losses at central banks also depend on the accounting approach, the income recognition and distribution rules, and risk transfer arrangements with the government. So it is worth taking account of these types of arrangements briefly just to get some sense on what it ultimately means for government revenues.

Looking at different accounting approaches, the first is fair value or mark-to-market, which essentially front loads valuation changes, the Reserve Bank of Australia is an example of a central bank that takes this approach. The second such accounting approach is one where fair value changes are recognized but retained in equity by reserving. This could include asymmetric approaches where unrealized losses (arising from asset revaluations) are reflected in profit and loss reporting, but unrealized gains are not recognized as income but are instead only recorded in reevaluation accounts and do not comprise distributable profits. This is the approach of the Euro system, as well as that of the Riksbank. The third such approach is to use historic cost accounting and avoid recognizing valuation gains or losses in reported income, though these central banks do often report valuation changes for transparency and informational purposes, while the losses would only be recognized in the event those assets are sold. All these differences primarily affect the timing of income recognition as results are very much similar over the long term. It should be noted though, that there's no worse or better approach, but this does mean that along with financial year differences, results can be quite difficult to compare across central banks.

Taking a snapshot of the different income recognition and distribution rules it is important to point out that some central banks, the Fed being an example, must automatically transfer excess profits to the fiscal authority, while others can or in cases must hold buffers to absorb losses. Those can be either statutory or discretionary and still others incorporate averaging or other distribution smoothing mechanisms to reduce volatility of transfers. While this is a simplified typology, we can see that there are many variations with buffers as a fixed threshold, as a percentage of profit, and it is clear that there are almost as many variations as there are central banks in some sense. On the topic of the pros and cons of such buffers. On the one hand, having these buffers in place definitely reduces volatile swings in remittances to the government, internalizes the risk to some extent, and reduces the frequency for potential recapitalization requests, which might entail negotiation with the fiscal authority. Thus, having larger buffers to some degree ensures that central banks are unconstrained in their focus on policy objectives. On the other hand, the amount needed to cover the risks in all states of the world, and all possible circumstances would be absolutely massive as one can see from the current situation facing many central banks. To have very large buffers could perhaps be socially inefficient since those resources could be utilized for other purposes and given that the central bank has the inherent fiscal backing of the fiscal authority. It can also be observed that in some countries, having a very large buffer at the central bank can tempt extraction on the part of the government, as can be seen in the handful of cases. It should be noted, that there is no better or worse approach to doing this, and these mechanisms are not mutually exclusive, while they are also broad categories with much variation across central banks.

On the topic of risk transfer arrangements, it should be noted that it is done very differently or not at all in the number of central banks. Governments can provide indemnities, these are in some cases for a specific vehicle for specific operations, for example as it is with the Bank of England Asset Purchase Facility. In other cases, it can be a general indemnity. There can also be arrangements that require automatic recapitalization from the government based on certain parameters. The advantage of indemnities is that they can make clear that the financial risk of policy measures belongs broadly to the public sector and not only to the central bank itself, reflecting these ties and the consolidated public sector balance sheet. To some extent it can be viewed as a way to make clear that the fiscal support is there and that there's no need to constrain policy measures because of financial risks to the central bank. But there could be downsides as well, as these indemnities can be viewed as just being simply unnecessary, since the link to the public sector balance sheet is already there implicitly, while there are concerns that having indemnities could create risks if they give the impression that central bank independence could be constrained by having them in place.

It is also worth taking a look at how central bank profits and losses affects government revenues. Keeping in mind all the broad, but distinctive, groups and differences explained earlier, central bank profit and loss can and do impact government revenues eventually. As central banks are public institutions, they remit excess profits to the fiscal authority and are therefore part of the consolidated public finance picture. Central banks can't be insolvent in the way that private banks can: they can in theory always print new money; they also have, in most cases, a future income stream that can offset losses in the long run; as seigniorage income provides a structural and reliable but relatively limited income stream; and there is the fiscal backing that mentioned earlier. Central banks are protected from bankruptcy as a part of the state, they're indirectly backed by taxpayers, but in cases where when fiscal backing is lacking, problems can arise.

It is very important to underscore that the contribution of central banks to government revenues is quite modest in the grander scheme of things, hovering below 1 percent of government revenues (median being 0,10-0,15 percent). It should be noted that the purpose of central banks is not to make profits, not to contribute to government coffers, but it is to execute their policy mandate. Seigniorage is just a structural side effect of banknote issuance, and certainly not intended to function as a source of profit for the government.

Central banks fulfill a critical policy purpose. Sometimes this coincides with profitability as it has for most of the past decade, but this should not be taken for granted. Taking on financial risk is an inherent part of the role of central banks, and it cannot be avoided. It is reasonable to debate whether policy choices were optimal at that time, with the benefit of hindsight. Lessons will no doubt be learned for the future on whether and how to achieve policy goals at a lower cost. But clear communications are important so that people understand the role of central banks and the risk that they take on. So independent central banks with clear mandates and solid fiscal backing that is also stated clearly and as firmed up as much as possible remain the best bet for a stable monetary system.

The second presentation put the type and amount of necessary capital into its focus, as there have been significant losses over the last years for many central banks. These extensive losses also always gain some public attention about how effective central banks are. Question rise such as whether national banks can do their mandates better, to the extent of even asking how competent are the central banks. If they lose this kind of money by doing their monetary policy, is this really necessary? It also should be realized that the asset purchase programs have become a new tool in the monetary policy toolbox, at least in the euro system and it is clearly said that they are here to stay. They can be used again in the future, which means also that this interest rate risk is not going away.

On the relevance of central bank capital, it should be noted that the amount of capital at the central bank has to be balanced because there are two conflicting interests. The first one being that capital at the central bank contributes to the financial strength of the institution. So the central bank is financially more solid. But also, when capital is left at the central bank, that amount cannot be distributed to the government where it in the end should be, because while it is public money, it cannot be used to fulfill its public purpose. The question that was examined was a practical one: what is actually an appropriate capital management policy for De Nederlandsche Bank in practice, that works.

That question could be broken down into a few sub questions. What type of capital can be considered to be a buffer? What should be the target level of this capital? How bad is it if the actual level is different, too high or too low? What kind of profit distribution scheme should be agreed upon with the Ministry of Finance? Is recapitalization an option there?

Before talking about proper capitalization, definitions had to made clear to both the experts from the National Bank and to those from the Ministry of Finance. In the end it was concluded that the central bank is a government authority, but it also has features of a commercial bank. It is a government authority in the sense that it has a public task, it is part of the public apparatus therefore has financial backing. But the central bank also engages in activities that are similar to that of commercial banks: they lend money, take deposits and run financial risks.

Another aspect that is important to consider apart is that central banks, in order to fulfill the task of monetary policy effectively, has to be independent from the government. This independence has several factors: knowledgeable people who are experts in the field of monetary policy; a strong legal basis, and

having and earning its own money, that can be used to cover costs and take risks. It was concluded during the talks between the Central Bank and the Ministry of Finance, that the role of capital for Central Bank is that it contributes to its independence and its credibility. This capital should be able to provide unconditional loss absorption.

With regards as to what form this capital can take, three areas should be noted: the paid-in capital, the retained earnings, and general risk revision. Other forms of capital, such as revaluation reserves or future seigniorage were considered for this purpose, but these were deemed too volatile or overall unable to ensure the above-mentioned unconditional loss absorption ability. An indemnity used to be in place and was discontinued, as it was deemed to be at odds with the purpose of independence.

On the types of risks that these buffers should be able to work for central banks credit risk, market risk (including FX risk), interest rate risk should be kept in mind, while liquidity risk can be ignored for obvious reasons. Because central banks face mostly the same risks as commercial banks, they can use the same methods and risk models (analytical formulas, simulations, scenario analysis) and same metrics (Value-at-Risk, Expected Shortfall) As the role of capital is more supportive, a different confidence level is appropriate, e.g.99% on a 1-year horizon, compared to 99.9% for commercial banks. Due to the specific features of central banks a tailor-made Asset-and-Liability model may be useful.

Central banks and commercial banks differ in terms of capital and latent risks. Capital is a supportive role for central banks, while it is a key aspect of financial strength for commercial banks. Latent risks, which may appear on the balance sheet due to mandates, are unique to central banks. These risks can include providing loans as a lender of last resort, foreign exchange interventions, and quantitative easing. Commercial banks do not face these same risks, as they will not take on new exposures if they lack the necessary capital and liquidity buffers. Central banks, on the other hand, may engage in these actions to fulfill their mandates and influence inflation if needed in the future.

The latent risks identified in the analysis are closely linked to macro variables such as government debt, financial sector size, and money supply. For example, the potential impact of a new QE program is likely to be proportional to the government debt size, meaning that the central bank may need to buy a percentage of the debt corresponding to its magnitude. Similarly, the risks associated with a lending of last resort program may mirror the size of the banking sector in different countries. These macro variables offer insights into the scale of latent risks present in the system.

In summarizing the role of capital in commercial banks versus central banks, it is noted that capital is crucial for providing credibility and independence to central banks, while it serves as a key protection for depositors and bondholders in commercial banks. The significance of capital differs between the two, with central banks benefitting from a supportive role while commercial banks consider it essential.

Regarding risk management strategies, central banks can use a confidence level of 99% for adequate capitalization (as is done for instance within the Eurosystem). In contrast, commercial banks are required by regulation to comply with a higher confidence level of 99.9%. Capital growth strategies also diverge, as central banks typically rely on retained earnings, while commercial banks may issue stocks in addition to retaining earnings.

Recapitalization, though a potential measure in times of crisis, is seen as a last resort as it contradicts the goal of financial independence and strength. The preference lies in organic capital growth through retained earnings over a realistic time frame, aiming to avoid the need for external financial support. Discussions with government authorities may be necessary in cases where recapitalization becomes unavoidable due to significant losses.

Overall, understanding the interplay between macro variables, the role of capital, and risk management strategies is important in both commercial and central banking sectors.

Formulating a central bank capital policy could help central banks manage and uphold to appropriate level of capital discussed above. This policy should use a target level of capital lower than commercial banks, should be based on both calculable as well as latent financial risks, while using a stable target level, calibrated to macro variables such as GDP. It also should rely on buffers which are directly and unconditionally available, as well as on its own profitability for capital growth and restoration. And it should be robust and objective, while also being simple and transparent.

The third presentation focused on central bank balance losses and their implications. In Hungary, the Central Bank increased balance sheets by providing cheap funding to the financial sector in order to maintain financial stability, leading to expanded asset purchases including corporate and mortgage bonds. This resulted in increased interest rate risk and decreased profitability. On the other hand, Poland and Romania Central Banks were less active in asset purchases, keeping their balance sheets contained. Czechia has been running negative capital and reserves, facing deep losses, particularly in 2022. In Czechia, negative capital is largely attributed to FX developments, with the Central Bank selling reserves during high inflation to reduce inflation via currency appreciation, resulting in high FX losses. Hungary saw decrease in capital and reserves due to increased liquidity and sterilization operations. Poland and Romania maintain a solid source of revenues, with non-interest bearing liabilities still making up about 40% of assets.

The Central Banks' profitability in the region heavily relies on seigniorage revenues, maturity transformation, currency depreciation, and taking risks by investing in more risky assets like corporate and mortgage bonds. The increase in balance sheets has significantly decreased the share of interest-free liabilities. Romania remains profitable due to moderate interest rate increases and small balance sheet size. For the Czech Central Bank, a high balance sheet with 99% foreign assets poses a currency sensitivity issue, with significant unrealized and realized losses due to currency appreciation. In contrast, Hungary's currency depreciation led to some profits from asset effects, but high interest rates consumed them.

Currency depreciation can lead to short-term profitability, but may contradict the central bank's goal of price stability. This was observed in Hungary, where depreciation also contributed to high inflation. The Czech National Bank faced losses due to the appreciated Czech koruna in 2021. Despite not distributing profits for over a decade, the bank aims to stabilize reserves through a relatively stable currency. In contrast, in Hungary the depreciation and low interest rates was followed by high inflation. To prevent similar negative outcomes, central banks should prioritize capital preservation, following commercial banks' anti-cyclical buffer policy. The Polish and Romanian central banks experienced temporary dips in profitability, with the latter demonstrating stability by distributing profits regularly. Romania's managed currency flow aims to prevent unfavorable appreciation. Ultimately, central banks should prioritize long-term stability over short-term gains by retaining capital reserves and avoiding risky practices that may harm the economy.

A central bank cannot default on its own currency and it is protected from court-ordered bankruptcy. There is no economic logic that compels a functioning central bank to have positive equity. Anyone doubting that a central bank can operate with negative equity has only to look at the reasonably successful monetary policy operated over several years by the Bank of Israel, the Czech National Bank, and the Central Bank of Chile, for example.

Episodes of negative equity or recapitalization should not be an opportunity for the government to exert pressure on how the central bank discharges its mandates. If there is macroeconomic mismanagement and the state lacks credibility, losses may erode the central bank's standing, which may jeopardize its independence and could even lead to the currency's collapse. If losses persist, however, problems can emerge, as has been the case in some emerging and developing economies with weak governmental institutions. In particular, sizable net liabilities denominated in foreign currency can disable a financially weak central bank.

It would be risky to restore the capital by the central bank through targeting high profits. While the central bank may profit through currency depreciation and low interest rates in the short term, it can lead to high inflation and emergency rate hikes. This contradicts the central bank's mandate. Central banks should focus on their core mandate and consider the long-term impacts of their actions, including withholding dividends that could pose risks. This approach will ensure stability and prevent future costs.

After following a short coffee break, a roundtable discussion was held, where – as a scene-setter – the situation of the National Bank of Hungary was briefly summarized. The central bank had to face a double challenge due to the COVID crisis and the subsequent inflationary crisis, which also had a significant impact on the central bank's equity. Reacting to the MNB's dividend payment, he emphasized that it took place after the outbreak of the epidemic, when the public finances were particularly in need of financing due to epidemic control and economic difficulties.

Turning to more general lessons, there are basically three options for replenishing the negative equity of a central bank. The first could be the weakening of the national currency, which, however, usually is not in line with monetary policy. The second option is to change the framework of monetary policy (for example, the central bank does not pay interest on certain liabilities), but this would also weaken monetary policy. The third – and currently the only realistic option – is the possibility of waiting, i.e. to pay back the loss from future profits.

It was emphasized as a response to the above mentioned, that central bank capital is one of the supporting elements of monetary policy - and not the other way around. In principle, the capital of the central bank is not important, but it can still be important from the point of view of the credibility and independence of the central bank. There are also central banks that were able to operate successfully with negative capital because they had fiscal support behind them. However, if this is realized in such a way that the negative capital is not actually covered, but only a claim against the state, it may resemble monetary financing. At the same time, the other option, i.e. recapitalization by the state, may also raise concerns, as it may put political pressure on the central bank.

The first question to the participants of the round table was whether negative capital affects the operation of the central bank, and whether monetary policy can be independent if losses have to be taken into account. It is important to emphasize that these losses were preceded by a profitable period, in which the profit was transferred to the central budget, and - although this was not the primary goal - the quantitative easing facilitated the cheaper financing of the state budget. At the same time, according to several participants, negative equity does not affect the operation of the central bank. It has been said that there is a central bank that has been able to operate with negative equity for many years, which is greatly helped by the banner issued by the central bank, which includes the rate of capital recovery. It was emphasized again that monetary policy is more important than the central bank's profit.

The second question was, should something be done about the loss, and if so, in what form and to what extent? The idea that came up was to make central bank operations more efficient (assuming that the rate of inflation does not change), and to restructure the asset side of the central bank's balance sheet towards longer-term, higher-yielding assets. On the liability side, the costs can only be reduced if the effectiveness of monetary policy is not harmed.

The third question concerned the size of the optimal level of central bank capital and the sharing of profits with the state. According to one of the participants, recapitalization or giving up future profits actually affects the state in both cases, only with a time delay. Since the central bank can operate with negative capital, as long as it can fulfill its primary tasks, there is no need for recapitalization. It was also said that since the central bank bought long-term government bonds, it ultimately changed the maturity of the debt.

The last question was about the form of communication related to central banks' losses. Everyone agreed that transparent communication is very important, highlighting the presentation of the reasons for losses for the sake of transparency. One of the participants brought up a podcast as an example, in which a head of the central bank talks to the public about the loss. However, there was also an opinion according to which a political risk could arise if the topic became popular in the media, portraying the central bank in a negative light.

In the closing remarks it was emphasized that communication does matter. Whatever path should the MNB and the government take in the future in regards of the negative capital and subsequent steps taken, transparent and well-funded communication can tremendously help in it, and the Fiscal Council should as well aim to open communication in this and in all of its matters regarding its public mandate.