

23. 4. 2024 | [Michl Aleš](#)

The target

Aleš Michl, CNB Governor

CNB Discussion Forum 2024

University of Pardubice

Pardubice, 23 April 2024

I will start with mathematics and physics, specifically celestial mechanics, the science of the motion of celestial bodies. One of the tasks of celestial mechanics is to calculate and predict the motion of three bodies that interact gravitationally, for example, the sun, the earth and the moon. To this day, it's still a difficult mathematical and physical problem to solve. Under certain assumptions, such as one body having negligible mass compared to the others, the problem can be solved. The issue is explored in popular form in *The Three-Body Problem* by Chinese science fiction author Liu Cixin.

In the economy, we also have three bodies: the private market, the government and the central bank. However, modelling the relationships between them and predicting future developments is an even harder task than three-body motion in physics. It requires many simplifications and assumptions. Unlike in physics, there are no hard and fast laws such as the law of gravity or the law of action and reaction.

Economic predictions sometimes don't work out. After all, even the knowledge of economists isn't as constant as that of physicists. Streams of economics are sometimes very wide of the mark.

In the first half of 2022, prices in the Czech Republic grew at the fastest rate in history, leaving aside the transformation period. The annual inflation rate was a terrifying 18% in September 2022.

The whole world was hit by rising costs, especially rising energy prices. However, the Czech Republic had the highest inflation in the European Union at the time, even adjusted for this cost shock ("core inflation"). Some specific and unique errors must therefore have been made in our country in the past.

The two main monetary policy errors were:



(1) Incorrect and late termination of the Czech koruna depreciation policy in late 2016 and early 2017. At that time, speculation on the koruna led to excessive growth in bank money. The liquidity excess in the banking sector almost doubled from CZK 1.3 trillion to CZK 2.4 trillion between December 2016 and March 2017.

(2) The second error was that the CNB's key interest rates had been below inflation for the previous more than ten years. In other words, real interest rates had been negative. For example, in 2010–2022, when average annual inflation was 3%, the average CNB repo rate was 1% and the average ex ante real rate –1.4%. That is not an anti-inflationary policy. It can hardly be made up for by sudden and rapid rate hikes once inflation has set in.

Inflation and interest rates in 2010–2022

Period	Average annual inflation (%)	Average CNB repo rate (%)	Average ex-post real repo rate (%)	Average ex ante real rate (%)
2010–2016	1.4	0.3	-1.0	-1.7
2016–2022	4.3	1.5	-2.8	-1.1
2010–2022	3.0	1.0	-2.0	-1.4

Source: CNB ARAD

Note: Ex post real rate = repo rate – annual inflation

Ex ante real rate = repo rate – financial market inflation expectations 12 months ahead

Errors (1) and (2) both encouraged borrowing, not saving. In other words, they helped induce inflation.

In this situation, with inflation at 17.5%, the new Bank Board took responsibility for monetary policy.

I was appointed Governor in May 2022 with effect from July 2022. In the speech I gave on my appointment, I said that the goal would be to gradually return inflation to 2% and that I expected this to take two years (Michl, 2022a).

The new Bank Board took over the management of the bank in July 2022. It was vital for us to tackle the situation head-on, start solving the problems and deliver results as quickly as possible.

In a speech at Masaryk University in November 2022, I unveiled a new monetary strategy setting out the conditions under which the Czech koruna would be strong again (Michl, 2022b).

In February 2023, two new members joined the Bank Board.

In spring 2023, we achieved the tightest monetary conditions in 20 years (the monetary conditions represent the combined effect of interest rates and the exchange rate on the economy). The exchange rate of the koruna was the strongest ever at the time, so the country was able to import expensive commodities more cheaply. The strong koruna also tightened monetary conditions for large firms, which until then had not been affected by the CNB's high rates, since they were borrowing in euros. Although the nominal rate stayed at 7% for most of 2023, ex ante real interest rates – which reflect expected inflation – gradually rose to historical highs. Only then did monetary policy start to work the most.

I have regularly described the path to the target in several speeches over the past almost two years: the first, already mentioned, at Masaryk University on the strong koruna policy, the second at the University of Economics and Business, the next at a meeting of the Czech Banking Association, and the most recent at the university in Zlín (Michl, 2022b; Michl, 2023a; Michl, 2023b; Michl 2023c).

Annual inflation reached 2% in February and March this year, which is exactly our target. The last time inflation was at the target was five years ago, in December 2018. We have restored price stability, our statutory mandate. When I was appointed governor, I said we would deliver low inflation within two years, and we have. The word of the head of an institution must be credible and must be kept.

There was no celebration, no special news conference or the like, because the future will judge us not by partial successes but by the long-term results of our work.

To avoid repeating the mistakes of the past, we will improve the operation of our institution.

In particular, we will stay hawkish and do our utmost to achieve price stability and not cause inflation. We therefore expect rates to be higher than we have been used to over the last ten years or more. The economy needs to be based on savings, not debt. That is why I think we must persist with tight monetary policy. It is possible that in a week's time, when we have a monetary policy meeting, we will lower rates even further. Even then, however, we will be very cautious about cutting rates further. We will assess the new data from meeting to meeting and decide accordingly. The interest rate reduction process can be paused or terminated at any time at levels that are still restrictive if inflation – especially its core component – does not develop in line with the forecast.

We take the lessons of past mistakes seriously. We have therefore commissioned a set of assessments of the conduct of monetary policy. In particular, we expect this review to help

improve our forecasts and modelling of the three-body interaction problem. This is the first external assessment of monetary policy in the history of the CNB.

The review will consist of three independent parts. A team led by Professor Martin Mandel and Associate Professor Karel Brůna from the University of Economics and Business in Prague will look at the broadest range of topics, including the interaction between central bank monetary policy and government fiscal policy. John Muellbauer from the University of Oxford will evaluate the set of models used at the CNB and how their outputs are translated into monetary policy recommendations. Roman Šustek from Queen Mary University of London will focus on the individual models, their settings and their interactions.

We will evaluate the results of the assessments in the Bank Board and publish the conclusions around the turn of the year.

In addition to restoring price stability in our country, which is our primary objective, we at the CNB have also focused on the institution's operations. You remember the first mistake I mentioned – the late and incorrect termination of the koruna depreciation policy in late 2016 and early 2017. This increased the CNB's balance sheet and therefore multiplied the volatility of the bank's financial result. And so the new Bank Board took over the CNB when it had its largest ever loss: CZK 487 billion.

For the institution to function properly, the new Bank Board had to start with the profit and loss account. We began with operations, one of the parts of the profit and loss account that could be addressed immediately. We inherited record-high growth in our operating expenses and we had to tame it, as the CNB should lead by example. We therefore started a rationalisation in 2023. Alois Rašín would have been pleased with the results: during 2023 we downsized our senior management team – managers reporting directly to the Bank Board (BR-1s) – from 17 to 14. As well as delivering cost savings, this made the institution more manageable.

Results of the rationalisation at the CNB in 2023

	2022	2023	Y-o-y change
No. of job positions at the CNB	1,516	1,439	-5.1%
Number of executive directors reporting to the Board	17	14	-18%

Source: CNB

There are now 14 BR-1s under the seven board members, meaning that each member oversees two teams. The board members can thus give the teams their full attention and deliver results together. In particular, the integration of the licensing and enforcement teams into the supervision function should greatly improve the results of our work. We will modernise the

payment system as well. We have also rationalised every department at the bank. The number of job positions at the CNB was reduced by 5.1% in 2023. This was the first time the central bank's operations had been comprehensively streamlined in ten years. This allowed wages at the bank to rise without dramatically increasing operating expenses. Wages at the CNB will continue to go up, because we want to reward our people well and attract the best possible employees, including some of you.

We managed to end 2023 with a profit of CZK 55.1 billion. We therefore erased part of our accumulated loss of previous years in 2023. However, our asset and liability structure is not yet such as to allow us generate a profit on a sustained basis, and we need to continue to make changes.

CNB financial results

Year	Profit/loss in current year (CZK billions)	Cumulative profit/loss at year-end (CZK billions)
2022	-412	-487
2023	+55	-432

Source: CNB

In particular, we are going to increase the expected return on our assets and diversify them. This process should be aided by the gradual purchase of gold up to a total of 100 tonnes, which would be the largest amount in the CNB's history (for comparison: in 2019 we had 8 tonnes of gold in our vaults, an all-time low). We are also going to gradually increase the share of equities over the next few years. If you are interested in this issue, I recommend you read the findings of the research we conducted with my colleagues Tomáš Adam and Michal Škoda (Adam, Michl, Škoda, 2023). I cannot guarantee that we will record a profit again this year. But I will do all I can to leave the next governor a better balance sheet and profit and loss account than I inherited.

We are also changing the CNB's corporate culture. Professionalism, teamwork, hard work and the drive to do new things – that's what we are trying to impress on our staff. We are also supporting the rapid adoption of new technology, including artificial intelligence. I intend to cultivate and promote morality, ethics and decency at the Bank. Each of us should be of upright and exemplary character. People who are guided by universal values and have character tend to achieve their goals, be happy at home and at work and have a higher purpose in life than envy, defamation and malice.

So much for the example we at the CNB want to set in terms of the proper functioning of the institution.

In our line of work, it will always be about getting the three-body problem right – how to reconcile the markets, the central bank and the government.

An example: Paul Samuelson, the 1970 Nobel Prize winner, advocated big government with big spending after World War II. He drew heavily on the teachings of J. M. Keynes, hence Keynesianism. Milton Friedman (Nobel Prize 1976) recommended small government. He drew on the theories of Adam Smith and Friedrich Hayek. After World War II, Keynesianism was the economic mainstream. Then came the era of monetarism. Contemporary economists and politicians are again more Keynesian. It almost seems as if we are going round in circles in economics as the currents of opinion shift.

But sometimes we criticise the invisible hand of the market of the father of modern economics, Adam Smith, without also adopting his ethics and morals. And similarly, many politicians now invoke Keynesian policies, pumping money into the economy and buying and supporting what they can. But before that, they have abandoned his other argument about budget surpluses in times of prosperity to save for bad times. For example, the Czech government talks about reducing the government deficit. But the government deficit [rose \(external link\)](#) last year according to Eurostat methodology. So the budget had an inflationary effect. I mention this because defeating inflation in the long term is conditional on coordination between bodies – between monetary and fiscal policy. If fiscal policy records increasing budget deficits even in good times, monetary policy will find it very hard to ensure low inflation on its own in a system with such a huge liquidity surplus and a willingness of banks to buy bonds.

You know, we keep trying to help the economy, but it would be better to start with properly functioning institutions, led by the central bank and the government. They determine how the free market will work, which is the subject of another branch of economics called institutional economics. Then there's the importance of respect for the law, law enforcement and the judicial system. For my part, I can say that the CNB will conduct monetary policy in such a way as to maintain price stability. I expect rates to be higher than we were used to in the ten years before Covid. I would like the government to achieve balanced public finances on average and to reverse the thinking that the state will solve all the problems that may arise in the economy. That's the only way to achieve low inflation in the long term. That's the only way to achieve a balance between the three bodies in the economy.

References

Adam, T., Michl, A., Škoda, M. (2023). [Balancing volatility and returns in the Czech National Bank's foreign exchange portfolio](#). CNB, RPN No. 1/2023.

Michl, A. (2022a). Speech given by Aleš Michl on his appointment as Governor. Appointment of CNB Governor, Prague. 11 May 2022.

Michl, A. (2022b). Policy for a strong koruna. CNB Discussion Forum. Faculty of Economics and Administration at Masaryk University, Brno. 23 November 2022.

Michl, A. (2023a). Inflation: The road to the target. University of Economics and Business, Prague. 15 May 2023.

Michl, A. (2023b). The road to the target II. CBA Assembly of Members Czech Banking Association, Prague. 15 June 2023.

Michl, A. (2023c). The road to the target III. CNB Discussion Forum 2023. Tomas Bata University, Zlín. 17 October 2023.