

Taming Inflation from 18 to 2% and Paving the Way for ESG Financing

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Good morning. I would like to thank the organisers for the invitation. I would like to thank Jade for her excellent coordination with my team. It is an honour to speak here today.

I became Governor of the Czech National Bank in July 2022.

Inflation was at 17.5 per cent and peaked two months later at 18 per cent.

This was the highest inflation rate in the history of the Czech Republic (except for price liberalisation after the Velvet Revolution in the early 1990s).

This year, in February and March, annual inflation reached 2 per cent, which is exactly our target.

And today, I am here to tell you how we got from 18 to 2%.

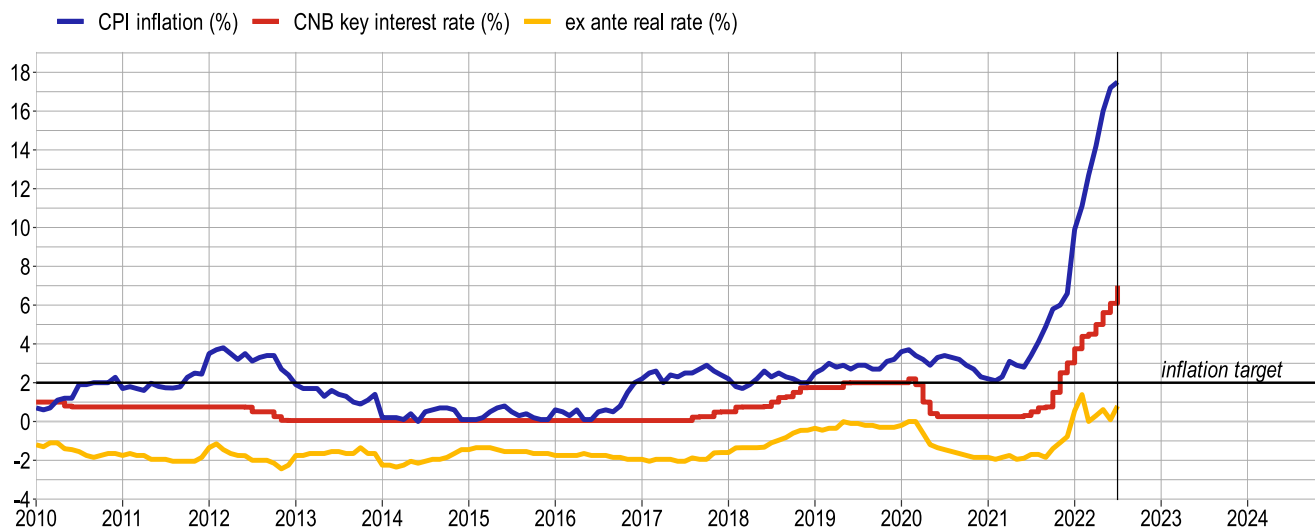
This chart shows data from the Czech Republic.

The chart starts in 2010 and ends at the point when I became Governor.

The x-axis indicates time and the y-axis shows the percentages.

- » The blue line is CPI inflation.
- » The red line is the key interest rate of the CNB.
- » The yellow line is the real ex-ante interest rate (that is, the CNB's policy rate adjusted for the value that analysts expect the inflation rate to be in 12 months' time).
- » The black horizontal line shows the CNB's inflation target, which is 2% in terms of CPI inflation.

Chart 1: Inflation and Interest Rates in the Czech Republic



Source: CNB ARAD

When I was appointed, the CNB's key interest rate was 7%. That was very high. In the 10 years before Covid, the average interest rate had been just 0.6%.

When inflation started to rise in the Czech Republic, the CNB switched from extremely low to very high interest rates. But even with a key interest rate of 7%, it was not able to bring inflation down quickly.

The Bank Board in our country consists of 7 members including the Governor. The Board was almost completely replaced by the President within a short period of time because the terms of office of the previous members had expired. We have formed a new team.

In my very first speech when I was appointed, I promised the public that we would bring inflation down from 18 per cent to the inflation target of 2 per cent within two years (Michl, 2022a).

How we thought about inflation

We made two key assumptions about the causes of inflation:

(1)

Firstly, we assumed that most of the inflation was due to the rising cost of imported energy and goods. In a small open economy like ours, higher interest rates can neither lower European energy prices nor solve the problems in global supply chains (Dědek and Michl, 2021).

According to our DSGE model, we should have raised interest rates from 7% to 8%, 9%, 10% and more to lower inflation expectations and inflation. But we assumed the DSGE projections could be wrong. For example, they didn't take into account that companies had started to

borrow in euros instead of koruna due to the wide interest rate differential. This weakened our transmission mechanism.

We introduced our new strategy:

- » Interest rates would remain at 7%.
- » Our guidance was that we wanted to keep interest rates higher for a longer period of time.
- » And we started to fight inflation by stressing the need for a strong exchange rate. This would quickly make all imports, especially commodities, cheaper. I presented the strategy in November 2022 in the “Policy for a strong koruna” speech (Michl, 2022b).

Initially, several local economists and politicians publicly claimed that our approach was wrong. At the same time, our DSGE model was indicating that the Czech koruna would only appreciate if we continued to raise interest rates. We went against the mainstream opinion.

Despite the claims of our opponents, we have earned the trust of investors. The koruna started to appreciate against the euro. Within a few months, in spring 2023, it was at its strongest level in history. This appreciation was driven by the market; we were not active on the foreign exchange market.

An interest rate of 7% and the strongest koruna in history have together resulted in the tightest monetary conditions in 20 years. That was when monetary policy had its full effect.

I gave three other major public speeches in 2023. I called them “The Road to the Target I, II and III” to show that we had a plan to lower inflation (Michl, 2023a, 2023b, 2023c). I explained how the plan would work. I gave several television interviews and wrote articles explaining our policy. For example, I gave interviews to both Bloomberg and the largest Czech tabloid to explain our approach. We wanted to reach both market participants and the general public – that’s why we used all channels. By “all channels” I mean that we also used Instagram, Facebook and X. My fellow Board members were also actively involved in communicating with the public.

Over time, data began to show that the strong exchange rate had helped lower inflation. We calculated inflation momenta that show the current trend in prices. These dynamics are not influenced by prices from a year ago. We define it as a three-month moving average of monthly changes in the price index. We communicated that although inflation is still high year on year, the momentum is already slowing. Our policy began to take effect.

Then the extremely high global prices of commodities and goods began to ease. That was crucial to our “Road to the Target”. I made a video comparing the situation to a ketchup bottle

and shared it on the social network X (Twitter at the time). That's not typical of a conservative banker, but neither was the overall economic situation.

The video explained the bottleneck effect: During the Covid lockdown, part of production was stopped. After the end of the lockdown, demand jumped, but the goods were not yet ready. It's like opening a new bottle of ketchup, turning it over, but the ketchup gets stuck in the bottle. This shortage of goods led to rising prices. When the problems in the supply chain were solved and demand normalised, there was a surplus of goods. Similar to when the ketchup finally flows out of the bottle, but much more than you wanted. We then observed an easing of the bottlenecks and disinflation in tradable goods.

To keep an eye on the risk of demand-driven inflation, we tracked the development of demand in the economy practically in real time by creating an index of high-frequency indicators. My colleagues and I have written a working paper on this research (Adam et al., 2021). The index summarises the development of high-frequency indicators such as electricity consumption, the development of tolls collected on motorways and Google searches for unemployment benefits. Based on this indicator, we were able to determine that demand in the economy remained muted during 2023.

We have also stressed how important it is to avoid a wage-price spiral so that cost inflation does not turn into demand inflation. Our aim was to lower inflation expectations. I warned against a wage-price spiral in every speech, in every conversation. And we mentioned it in every statement after the monetary policy meetings. I called for wage restraint everywhere, and in order to gain the public's trust, we had to show that the CNB itself was operating properly and responsibly.

The salaries of the Board members and all Board – 1 managers were frozen in 2023. The salaries of other employees increased by an average of 4.5%, although the inflation rate for the year as a whole was 10.7%. Overall, we focused on the bank's income statement and started with operations, as it could be tackled immediately. In 2023, we reduced the number of Board – 1 managers from seventeen to fourteen and achieved cost savings in all departments. The number of jobs at CNB fell by 5.1% in 2023, representing the first major job cuts at the central bank in 10 years.

Cost cutting at the CNB during periods of high inflation

	2022	2023	Year-on-year change (%)
Number of Job Positions	1,516	1,439	-5.1
Number of Board – 1 Executives	17	14	-17.6

Source: CNB

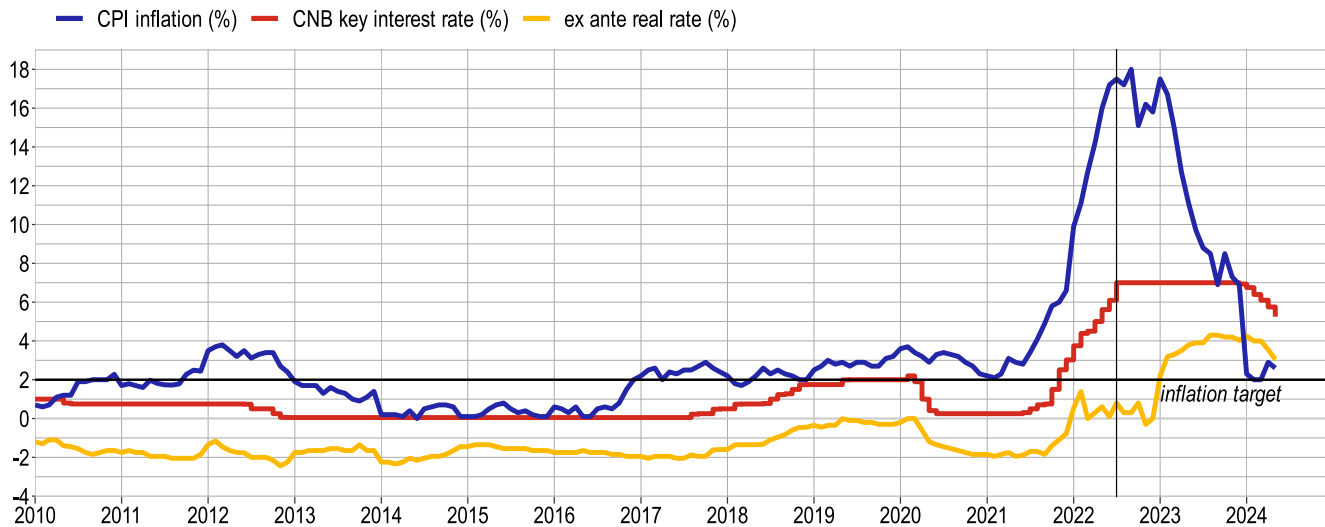
Wage restraint at the CNB during the high-inflation period in 2023 (year-on-year change)

Inflation	10.7%
Wage Growth of Bank Board Members	0%
Wage Growth of Board – 1 level Executives	0%
Average Wage Growth	4.5%

Source: CNB

In the end, our efforts paid off: Inflation expectations began to fall towards our target. And inflation started to decline even in year-on-year terms. By the end of 2023, we were able to lower interest rates slightly because we were confident that inflation was heading towards our target in 2024.

Chart 2: Inflation and Interest Rates in the Czech Republic



Source: CNB ARAD

This chart shows the results. Inflation and inflation expectations are close to the target and real interest rates are positive. When low inflation was announced, I made a public statement on our website and sent a letter to CNB staff telling them that they should be proud of working together for the good of the country. However, I pointed out that there would be no celebrations or press conferences because we would be judged by our long-term results, not short-term ones. In addition, inflation was 2% year on year in February and March, but 2.9% in April and 2.6% in May. Personally, I would prefer inflation to be just below 2%, not above.

Overall, almost two years after becoming Governor, I can confirm that most of the inflation was actually imported or due to external costs. Our DSGE model did not predict this situation. A working paper written by staff at the Bank for International Settlements (Auer et al. 2024) analysed inflation in 56 countries between 2000 and 2023. They found that 85% of inflation fluctuations in the Czech Republic were due to global factors. This is because we are a small open economy that is closely linked to global value chains and the German economy.

That was the first of two assumptions about the causes of inflation that we made at the beginning.

(2)

The second assumption was that another part of inflation was caused by too much money in the economy and by high government deficits. This type of inflation is more difficult to fight.

All countries were facing rising costs, especially energy prices. However, the Czech Republic had the highest inflation in the European Union at the time, even adjusted for this cost shock. From November 2021 to October 2022, we had the highest core inflation in the EU, which suggests that some mistakes were made in our country in the past.

Let us look at the chart again.

Since 2017, headline inflation has been above the target most of the time.

The CNB's key policy rate was below inflation for more than ten years.

In other words, real interest rates were negative for more than 10 years.

This is not a forward-looking anti-inflationary policy.

A specific problem in the Czech Republic was the central bank's exchange rate depreciation policy. Between 2013 and 2017, the CNB intentionally depreciated the Czech koruna to trigger inflation. This seems paradoxical today.

In late 2016 and early 2017, speculation on the koruna forced the central bank to buy euros and massively sell koruna. This led to excessive growth in the banking sector's money supply in korunas. Free liquidity in the banking sector almost doubled during this short period.

Such an increase in base money or liquidity, together with the central bank's zero interest rate, had no immediate impact on the consumer basket used to calculate the CPI. Instead, the increased money supply and the rising wealth of the middle and upper classes mainly drove up asset prices such as property, company valuations and other investments. For example,

property prices in the Czech Republic rose by 110% between 2016 and 2022, the second largest increase in the EU (after Hungary). Inflation was underestimated by the CPI measurement. Interest rates should have been higher than inflation at that time.

Reducing the government budget deficit also plays an important role. Milton Friedman (Friedman and Schwartz, 1963) stated that a restrictive monetary policy does not depend on the support of fiscal policy. But this claim was formulated for a situation with limited bank liquidity. We are in a different situation. We are living in excess liquidity. It is easy for banks to finance government debt. It is easy for governments to issue new bonds. This can easily lead to further inflation.

That is why I have said at the press conferences after all our monetary policy meetings that reducing government deficits is another important precondition for reducing inflation in the long term (see also Cochrane, 2023, for example).

As a board, we also discussed that if budget deficits remain high, we will need to maintain higher interest rates to keep inflation at 2%. Essentially, this means that our hypothetical/model-based neutral rate R^* would be increased due to continued fiscal deficits. This is a similar reasoning to Schnabel (2024).

Lessons and current strategy

Overall, we have learned our lessons.

We have decided to ask for 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 two professors from the University of Economics in Prague (Martin Mandel and Karel Brůna) will focus on our core model as well as on the interaction between the central bank's monetary policy and government fiscal policy.
- » John Muellbauer from the University of Oxford will review the model and subsequent monetary policy recommendations.
- » Finally, Roman Šustek from Queen Mary University of London will focus on the individual parts of the model and discuss whether it is appropriate to have only one core model.

The Bank Board will discuss the results of these assessments and we expect to publish the conclusions early next year.

That was the story and development of the second assumption we made at the beginning about the causes of inflation. This demand- or money-induced inflation can be more persistent.

Now for the current situation. Our key interest rate is now 5.25%. We have cautiously lowered interest rates since December 2023.

In December, we lowered the interest rate from 7% by 25 basis points.

Then by 50 basis points to 6.25% in February.

Then by 50 to 5.75% in March.

Then by 50 to 5.25% in May.

The debate at the next meeting at the end of June will probably be about whether to cut by 50 or by 25 bps. Both options are open, and in both cases, we will still be in the restrictive territory. Then we will be very cautious about further rate cuts. We will assess new data at each meeting and decide accordingly. The rate cutting process can be paused or stopped at any time if inflation, especially core inflation, is not in line with our forecast.

We will stay hawkish and do everything we can to achieve long-term price stability and not trigger inflation. Our hypothetical/model-based R^* is 3–3.5 per cent in nominal terms. The closer we get to our neutral interest rate, the more likely it is that we will slow down or even interrupt the normalisation of our policy.

We therefore expect interest rates to be higher than we have been used to over the last decade or more. The economy needs to be based on savings, not debt. I believe that if we are strict, we will one day prevent major inflation.

Vision

Finally, I would like to set out my vision.

My vision is that the CNB should be profitable in the long term. This will allow us to pay a dividend to the state budget.

Our mandate is price stability. We want to keep inflation close to 2%. All our actions will lead to this goal. My vision is subordinate to this goal. But it can also be fulfilled at the same time.

So far, I have not been able to fulfil this vision. When I became Governor, our cumulative loss from previous periods was 7% of GDP. Last year, we made a profit of 0.8% of GDP. To accomplish my vision, we first need to make up for past losses and be profitable in the long term.

Central bank losses means profits for market participants at the same time. It is not just an imaginary accounting problem, and it can have a real impact on the national economy (see

Mandel and Zelenka, 2009).

I will describe our balance sheet to explain how we arrive at a profit.

On the liability side, the largest component is the liquidity held by commercial banks, including their minimum reserves. We pay interest on excess reserves. That is one of our major costs. These costs are determined by monetary policy. On the other hand, we stopped paying interest on minimum reserves to lower the cost of implementing monetary policy while keeping its effectiveness in September last year.

On the asset side, 98% is foreign exchange reserves. At the end of 2023, we had reserves worth 134 billion euros. This corresponded to 49% of GDP. We do not hold any domestic assets, we have not bought any Czech bonds, so we can rebalance the asset side without affecting monetary conditions in the Czech economy.

Before my appointment, our portfolio was made up as follows: 84% bonds and deposits, 16% equities, 0.3% gold and others.

The problem was that the expected return on assets was lower than the expected cost of liabilities, and the bank was doomed to make losses for decades to come.

So my colleagues and I wrote a paper on how to increase the expected return on assets (Adam et al., 2023). The paper is titled "Balancing Volatility and Returns in the Czech National Bank's Foreign Exchange Portfolio".

We have made two recommendations:

- » Firstly, to increase the proportion of gold: This is for asset diversification, as gold is not correlated with equities and is suitable for a large portfolio. When I joined the CNB, we had the lowest gold holdings in history at 8 tonnes. Now we have 40 tonnes, and our goal is to hold 100 tonnes of gold, which would be the highest volume in the CNB's history. That would correspond to about 5% of our assets. We are buying gradually, steadily and for the long term.
- » Our second recommendation from the paper was to increase the proportion of equities: We plan to increase the proportion of equities to almost 30%. We will do this gradually over the next few years.

I believe we will recover from this loss. It may not happen during my term, but probably during that of the next governor. My goal is to create the right conditions. I want to make sure that the expected return on assets is higher than the expected cost of liabilities in the long term.

In my opinion, profitability and potential dividends for the state are the most important ways for the central bank to help finance ESG investments or the other investments that our country needs.

It is key that the central bank remains independent. Our mandate is to keep inflation low. If the bank generates profits in the long term, it can pay dividends to the state budget. The politicians will decide how to use this money. I will be happy if they invest it in our future.

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