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Central Europe Economics

What drives swap curves in CEE?

OUR TAKE

In this note we summarize key facts about rates markets in CEE. We provide estimates how changes in key economic variables affect levels of swap rates and the slope of the curve.

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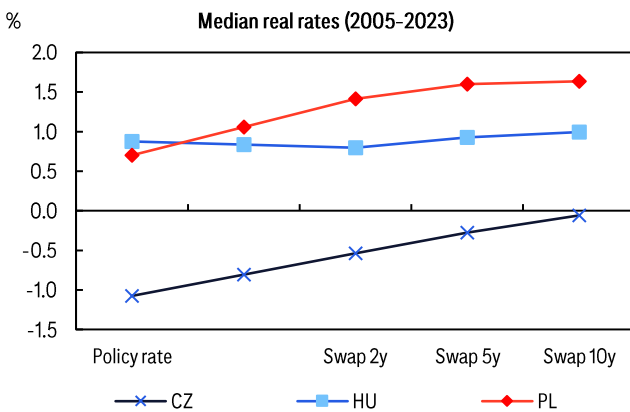
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CEE swap curve

How low are neutral rates? Policy rates tend to fluctuate significantly in response to changes in economic activity and inflation. This fact, coupled with the usually uncertain monetary policy lags, makes r^* difficult to estimate. However long term averages of real rates, which span several economic cycles, provide a convenient approximation of where neutral rates can be placed.

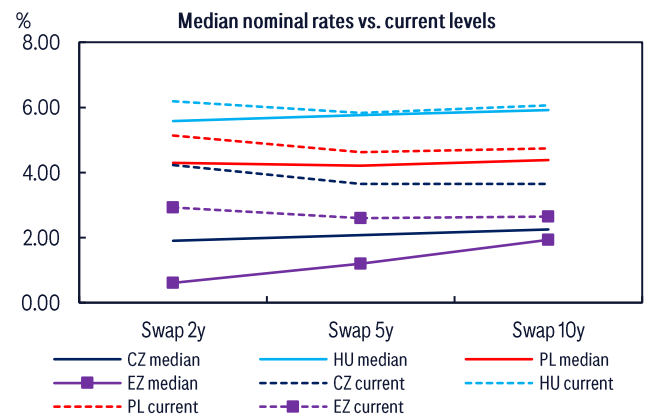
Looking at data covering past 19 years median real central bank rates¹ in Hungary and Poland are close to +1%, while in Czechia it is around -1% (Figure 1). Longer-term market rates are somewhat higher, in particular in Poland (1.6%) and Czechia (~0%). These numbers are below our own estimate for Czech neutral rate but relatively close to where we see r^* for remaining CEE countries. The regional difference might reflect a stronger real koruna appreciation trend compared to regional peers.

Figure 1. Median real rates suggest r^* in Hungary and Poland can be around 1-1.5% for 5-year tenor



Source: Citi Handlowy Estimates, Bloomberg

Figure 2. While current (as of 30th Jan) swap rates in Poland and Hungary are close to long term averages, Czech rates remain significantly higher



Source: Citi Handlowy Estimates, Bloomberg

Cheap borrowing vs. high growth. Average nominal swap rates in CEE are significantly lower than average nominal GDP growth (Figure 3) and the spread ranges from 2.1 pp in Hungary to 3.3 pp in Poland. In other words, the nominal GDP growth is higher than borrowing costs. Although our analysis uses swap rates and not bond yields, the phenomenon shows that the interest rate-growth differential ($r-g$) in Central Europe is one of factors that help lower the public debt trajectory, leaving space for mildly accommodative fiscal policy.

¹Real rate calculated as a difference between the respective swap rate in a period T and the current annual inflation rate in period T.

How is the curve responding to changes in other variables?

In our analysis we used simple regression models to measure sensitivity of various sectors of the swap curve to changes in central bank rates, euro area rates and domestic inflation.

- Policy rates.** As one could expect, changes in policy rates have a disproportionately stronger impact on the short-end of the curve than on the long end. According to our estimates a rate cut by 100bps pushes 2-year swap rates in CEE by 40-80bps, depending on a country (Figure 5). Hungary stands out as a market with the highest sensitivity, which probably reflects historical high volatility of policy and market rates. Longer end of the curve is much less responsive to central bank moves, with sensitivity in the range 10-33 bps.
- Core rates.** Changes in euro area market rates (EUR IRS with respective tenors) tend to have significant impact on CEE swap curves, with the impact particularly strong for the back end of the curve. For both 5 and 10 year swaps the euro area curve seems to matter more than changes in domestic policy rates (Figure 6).
- Inflation.** In our analysis inflation plays a relatively small role as a driver of changes in swap rates. This is probably due to the fact that the impact attributed to CPI changes is already reflected in relatively strong sensitivity to central bank rates (as policy rates respond to changes in inflation forecasts).
- Slope of the curve.** Looking at a spread between 10y and 2y swap rates, the slope of CEE curves reacts strongly to changes in the slope of the euro area curve (Figure 7). According to our estimates, flattening of the euro curve by 100bps leads to curve flattening by more than 40bps in Czech and Hungarian case and by 26bps in Poland. In turn rate cuts by domestic central banks lead to steepening of the curve. The exception is Czech Republic where the policy rate does not seem to have statistically significant impact on the slope curve. The latter phenomenon does not change even if we control for the impact of the FX floor used by the CNB in Nov 2014 – Apr 2017.

Figure 3. Nominal GDP growth in CEE is significantly higher than market rates, implying favourable r-g differential

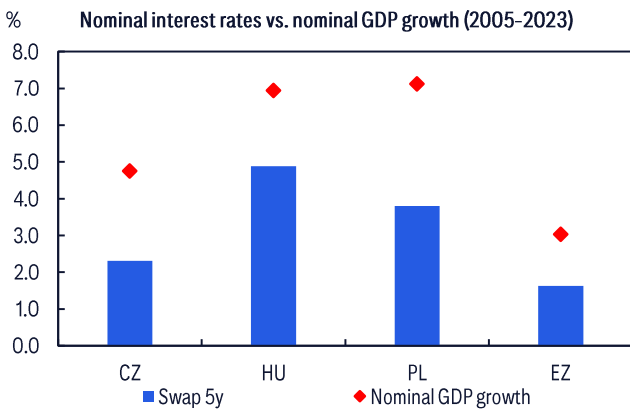
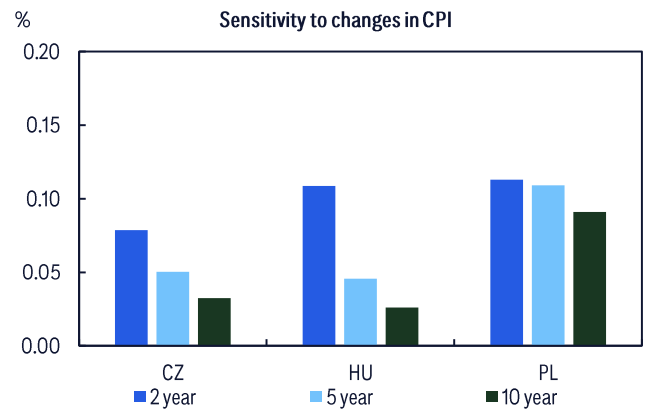


Figure 4. Swap rates in the region have relatively low sensitivity to changes in CPI

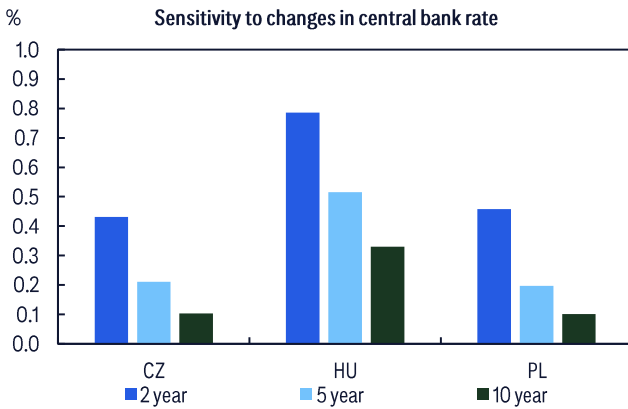


Estimates based on linear regression models where swap rates are explained by changes in policy rate, domestic inflation and core swap rates.

Source: Citi Handlowy Estimates

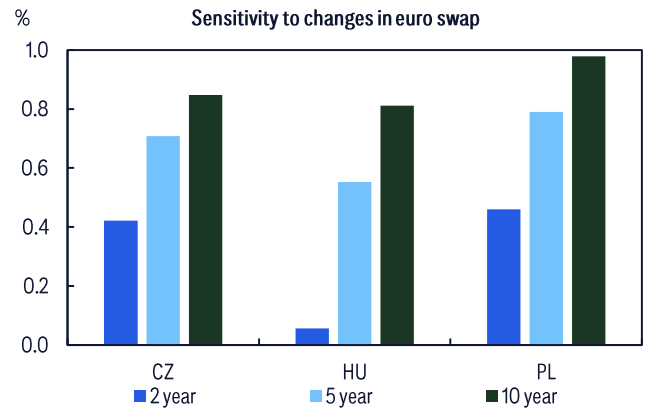
Source: Eurostat, Bloomberg, Citi Handlowy Estimates

Figure 5. Central bank decisions have strongest impact on swap rates in Hungary



Estimates based on linear regression models where swap rates are explained by changes in policy rate, domestic inflation and core swap rates
Source: Citi Handlowy Estimates

Figure 6. Changes in market rates in the euro area have strong impact on CEE rates, especially on the long end of the curve



Estimates based on linear regression models where swap rates are explained by changes in policy rate, domestic inflation and core swap rates.
Source: Citi Handlowy Estimates

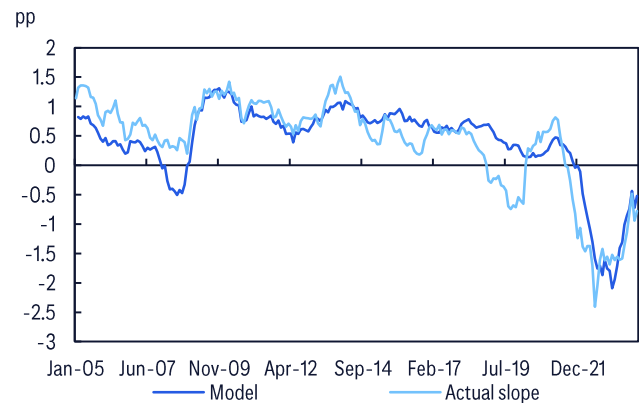
Figure 5. Impact of selected variables on the slope of the swap curve (10y-2y) in Central Europe

	CZ	HU	PL
Policy rate	0.02	-0.23	-0.14
CPI (lagged 1m in HU and CZ)	-0.14	-0.10	-0.06
Slope of EUR IRS curve	0.43	0.46	0.26
Akaike crit.	1.09	1.58	0.31
Adjusted R-squared	0.73	0.87	0.76

Note: All parameters in equations statistically significant (p values less than 0.01) with exception of the policy rate parameter in Czech equation.

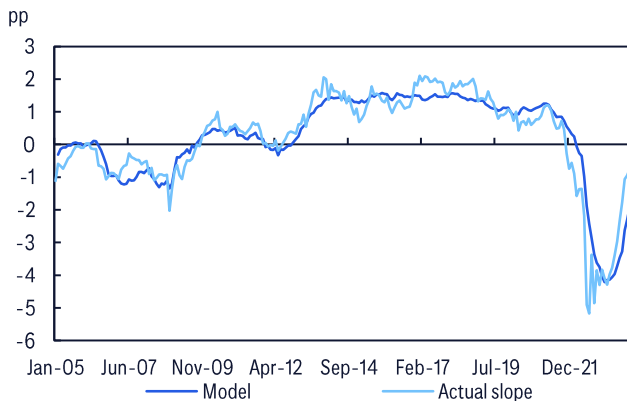
Source: Citi Handlowy Estimates

Figure 6. Czechia – Slope of the IRS curve (10y-2y)



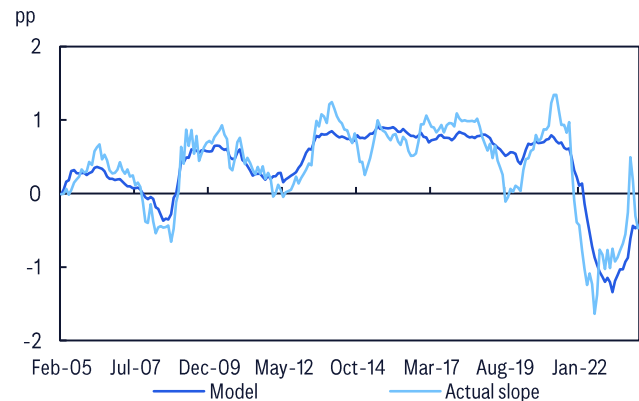
Source: Citi Handlowy Estimates, Bloomberg

Figure 7. Hungary – Slope of the IRS curve (10y-2y)



Source: Citi Handlowy Estimates, Bloomberg

Figure 8. Poland – Slope of the IRS curve (10y-2y)



Source: Citi Handlowy Estimates, Bloomberg

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