

Box 2.2

Effects of U.S. Treasury Yield Curve Movements on Turkey

US Treasury bonds are considered risk-free assets, hence they constitute a reference for all other financial assets on a global scale. While movements in the US Treasury yield curve directly affect the pricing of other risky assets, they also steer the circulation of global capital between high-return but risky emerging market (EM) assets and low-risk low-return developed market (DM) assets. In this respect, expectations for the US Treasury yield curve are important for emerging markets. This box examines the impact of rising 10-year US Treasury yields on Turkey's financial markets and presents evaluations for the upcoming period.

Long-term bond yields are shaped by the combination of future inflation and real monetary policy rate expectations. When inflation expectations increase, financial markets expect that the Fed will fight inflation by tightening its monetary policy in the future, hence long-term bond yields increase. Real interest rates are determined by factors such as potential growth, savings preferences and financial structure in the medium and long term, while in the short term they are influenced by growth outlook and monetary policy. The surge in US long-term bond yields since the last quarter of 2020 mostly stemmed from the increase in inflation expectations.

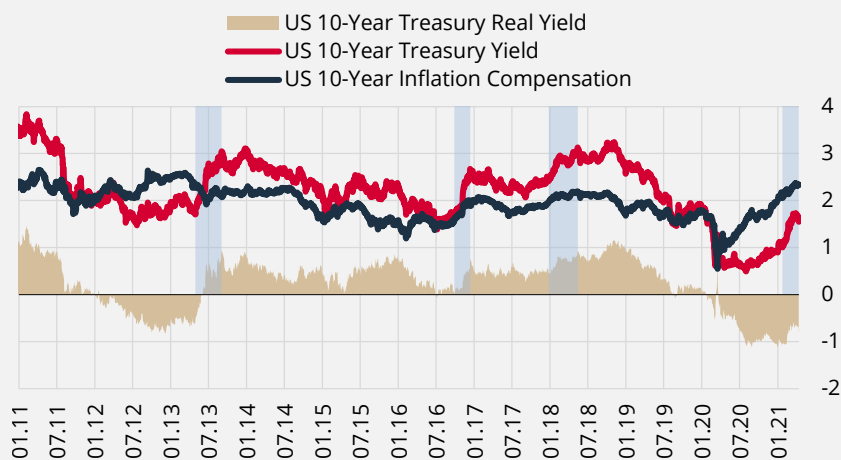
As it is well known, US Treasury yields are used in financial markets as a discount rate. Over the past one year, when US Treasury yields were very low, the demand for assets with high growth potential and high risk increased significantly. With the normalization of the discount rate, correction movements in the markets, while the investments that offer high-return with high-risk stand out as the assets that will be affected most adversely from this normalization.

In addition to EM stock markets, which are highly sensitive to US Treasury yields, EM bond markets also come under pressure in case of rising US Treasury yields. An increase in the risk-free rate, which is represented by the US Treasury yield, lowers the relative return of EM bonds, and makes EM bond markets less attractive.

Last 10 Years of US Treasury Yields

Sharp increases in US Treasury yields over the past decade have had a negative impact on EM financial markets, but risk appetite has returned to normal as interest rates stabilized. Over this decade, four sub-periods stand out as notable upsurges in US long-term yields (Chart 1).

Chart 1: US 10-Year Treasury Yield and Sub-Components (%)



Source: Bloomberg.

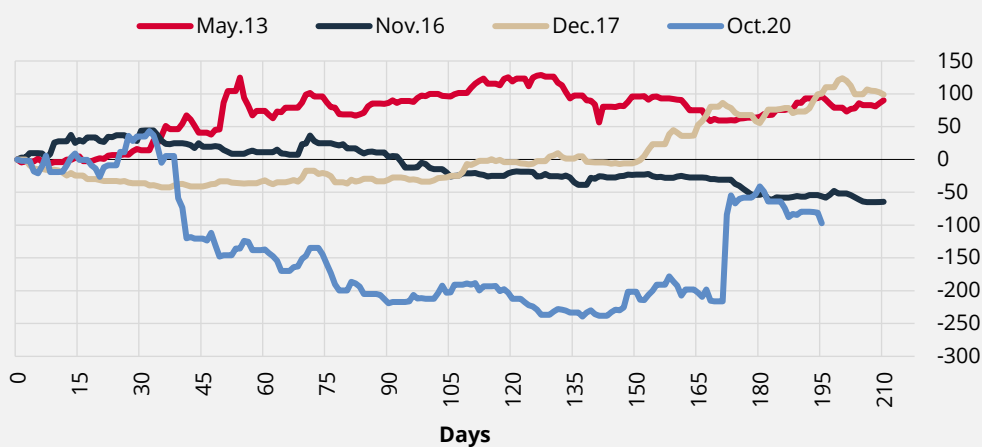
In the wake of the 2008 Global Financial Crisis, with the rapid balance sheet growth of the Fed, US Treasury yields declined rapidly and fell below the inflation expectations that started to increase in 2012. Then, in May 2013, when normalization started in the US monetary policy, 10-year Treasury yields reached 3 percent from just below 2 percent within a few weeks. As a result, risk perceptions towards Turkey, and other EMs deteriorated (Chart 2). Heavy portfolio outflows from Turkey were observed while the Turkish lira lost about 20 percent of its value between early May 2013 and the end of the year.

US Treasury yields, which had been in a downward trend since the end of 2013, jumped from 1.8 percent to 2.6 percent in a very short period after the US elections in 2016. The Trump Administration's rhetoric on global trade and many developed and emerging countries have reduced the global risk appetite and led to portfolio outflows from EMs. Although the risk appetite recovered rapidly after the upward trend in Treasury yields ended in December 2016, the Turkish lira diverged significantly from other EM currencies due to the impact of domestic developments.

At the end of 2017, US bond yields started to increase again, this time with the expectations of tightening in the Fed's monetary policy, which had been accommodative for a very long period. However, unlike those in previous episodes, the increase in US Treasury yields was smooth and took a longer time. Hence its effect on EMs and Turkey was relatively limited.

Finally, the US 10-year Treasury yield, which fell to historically low levels in 2020 due to the measures taken in response to the coronavirus pandemic, remained low until the last quarter of the year, despite the increase in inflation expectations. The Fed adjusted its policy framework and began targeting the "average" inflation rate in the long term. This has provided the Fed flexibility not to act against high inflation for one or a few years. As the increase in the inflation compensation exceeded 1 percentage point in the last quarter of 2020, the US 10-year Treasury yield started to rise. As the uptrend in inflation compensation continued, surge in the US Treasury yields gained momentum in February 2021 and an atmosphere of panic prevailed in the markets. In this period, due to risk aversion, EM assets and currencies suffered significant losses, while TL-denominated assets diverged negatively. The increases observed in Treasury yields in 2021 stemmed from inflation and economic activity as in the increase period in 2013 rather than the increase periods in 2016 and 2017. Hence, the likelihood of the Fed responding to inflation earlier than previously predicted has increased. With the current level of inflation compensation, 10-year Treasury yields could surpass 3% if the US real interest rates, which are currently at negative levels, reach a reasonable positive level. In the upcoming period, the course of US Treasury yields will be shaped by inflation and employment figures and the sensitivity of global markets to these data is expected to be high. Turkish financial assets and indicators will likely exhibit high volatility due to global risk appetite.

Chart 2: Turkey CDS Premium (basis points, $t_0 = 0$)*



Source: Bloomberg.

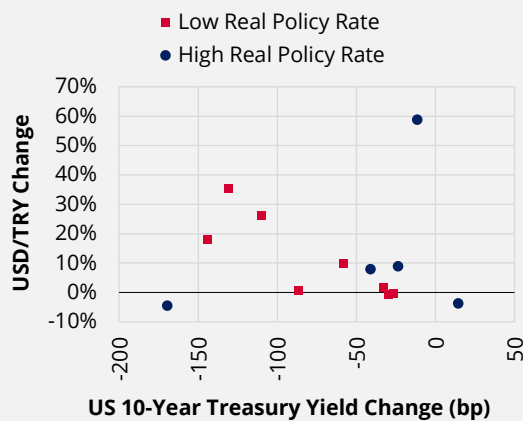
* In each Treasury yield increase period, the first day of the relevant month is chosen as the t_0 point.

The Effects of Increases in the US Treasury Yields on the Turkish Lira

An analysis of the course of US Treasury yields in the last decade reveals that in addition to the 4 significant increase periods discussed previously in this note, there have been 9 more increase periods. Thus, the 10-year course of 10-year US Treasury yields can be divided into 13 periods of increase and 13 periods of calm in between these periods of increase. Charts 3 and 4 depict the reaction of US dollar/Turkish lira exchange rates to represent the reaction of Turkish financial assets, to the variations in the US Treasury yields in each sub-period. In each chart, the square shaped dots represent the observations when Turkish real interest rates were relatively low compared to EM real interest rates, while round shaped dots represent the observations when Turkish real interest rates were relatively higher. With this representation, it is examined whether the real interest level affects the Turkish lira's response to US bond yield developments.

There is no clear relationship between the US dollar / TL exchange rate and the US Treasury yield in "calm" periods when there is no stress in the markets due to US Treasury yields. During these periods, the Turkish lira is mostly affected by the domestic news flow (Chart 3). In periods when the US Treasury yields surge, it is observed that the Turkish lira depreciates in proportion to the increase in the US Treasury yields (Chart 4). In both scatter plots, the Turkish lira seems to depreciate more in "low real interest" regimes. It is noteworthy that in relatively "high real interest" periods, the Turkish lira generally preserves its value or suffers very limited losses. This protection provided by the real interest rates becomes crucial especially in times of deteriorating global risk appetite. In Chart 4, the round shaped dots that represent the high real interest rate observations, are clustered around the zero line, and the Turkish lira does not display significant losses despite the negative risk appetite. On the other hand, when the real policy rate is low, the Turkish lira becomes more sensitive to US Treasury yields and hence it depreciates more. This differentiation reveals the importance of price stability-oriented tight monetary policy for exchange rate and inflation in times of global panic marked by external shocks.

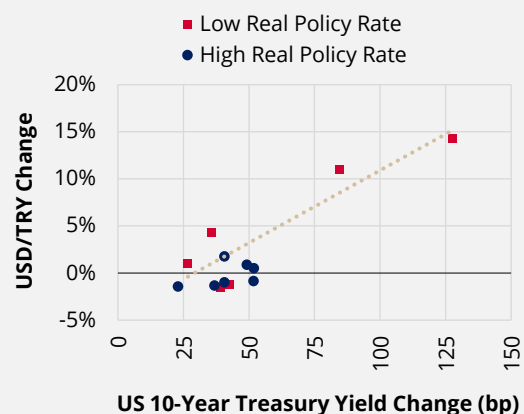
Chart 3: Scatterplot of US Dollar/TL Exchange Rate and US 10-Year Treasury Yield* (Calm Periods of US Treasury Yields)



Source: Bloomberg.

* Calculated by subtracting the average real policy rate of EMs from the real policy rate of Turkey. EMs: Brazil, Indonesia, S. Africa, Colombia, Mexico, Malaysia, Russia, Poland, Hungary, Romania, Chile.

Chart 4: Scatterplot of US Dollar/TL Exchange Rate and US 10-Year Treasury Yield* (Periods when US Treasury Yields Surge)



Source: Bloomberg.

Since November of 2020, Turkish financial assets have significantly overperformed EM assets due to positive expectations for its economic policy and in this process, Turkey benefited from the favorable global conditions to the maximum extent. The likely fluctuations due to the rise in US Treasury yields stand out as an important risk factor for Turkey. With the disinflation process going on, determining the monetary tightness in a way to counter the upside risks on the inflation outlook will increase Turkey's resilience against external shocks.