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ECB and Fed monetary policy measures against the economic effects of the coronavirus pandemic have little effect

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focus DIW

To cushion the economic effects of the coronavirus pandemic, central banks have taken far-reaching monetary policy measures. The US Federal Reserve has lowered its interest rates and, like the European Central Bank, has expanded its bond purchase programs. However, it is questionable whether these measures are having the desired effect of calming the markets and supporting the real economy. It is true that the macroeconomic effects cannot yet be quantified, but initial indications of their effectiveness can be seen in the short-term reactions of stock prices and bond yields. The following article shows how interest rates and prices have reacted directly to the central bank announcements and what conclusions can be drawn from this for future measures.

As the coronavirus pandemic worsened in March 2020, both the European Central Bank (ECB) and the US Federal Reserve (Fed) enacted far-reaching monetary policy measures. In several decisions in March 2020, including unscheduled ones, the central banks implemented key interest rate cuts, announced programs to provide liquidity for banks, and expanded existing bond purchase programs or set up new coronavirus-specific ones. The scope of these measures is enormous and comparable to the first rounds of bond purchases by the US following the outbreak of the global financial crisis in 2008/2009 and by the ECB during the European sovereign debt crisis that began in 2010. Although the current monetary policy reactions of the European and US central banks are quite similar in principle, there were noticeable differences in the respective monetary policy starting positions. Thus, the question arises to what extent these monetary policy impulses can counteract the economic consequences of the coronavirus pandemic in the respective economies.

Monetary policy effectiveness: event study with government bonds and equity prices

Due to the current data situation, it is not yet possible to quantify the impact of these expansionary measures on macroeconomic developments. However, it is possible to determine whether and how recent monetary policy measures have affected government bond yields and stock prices in various countries and economic sectors. This should provide initial information on monetary policy effectiveness.

Government bonds are generally considered to be virtually risk-free, liquid securities and serve the market as reference values for lending rates. Expansive conventional and unconventional measures are aimed at reducing market interest rates on loans, thus supporting lending and thereby aggregate demand. Therefore, the yield response of government bonds can be used to make an initial assessment of the effect of monetary policy measures. In addition, the development of stock prices following monetary policy stimuli should also provide information on whether the economic outlook for companies has changed significantly.[1]

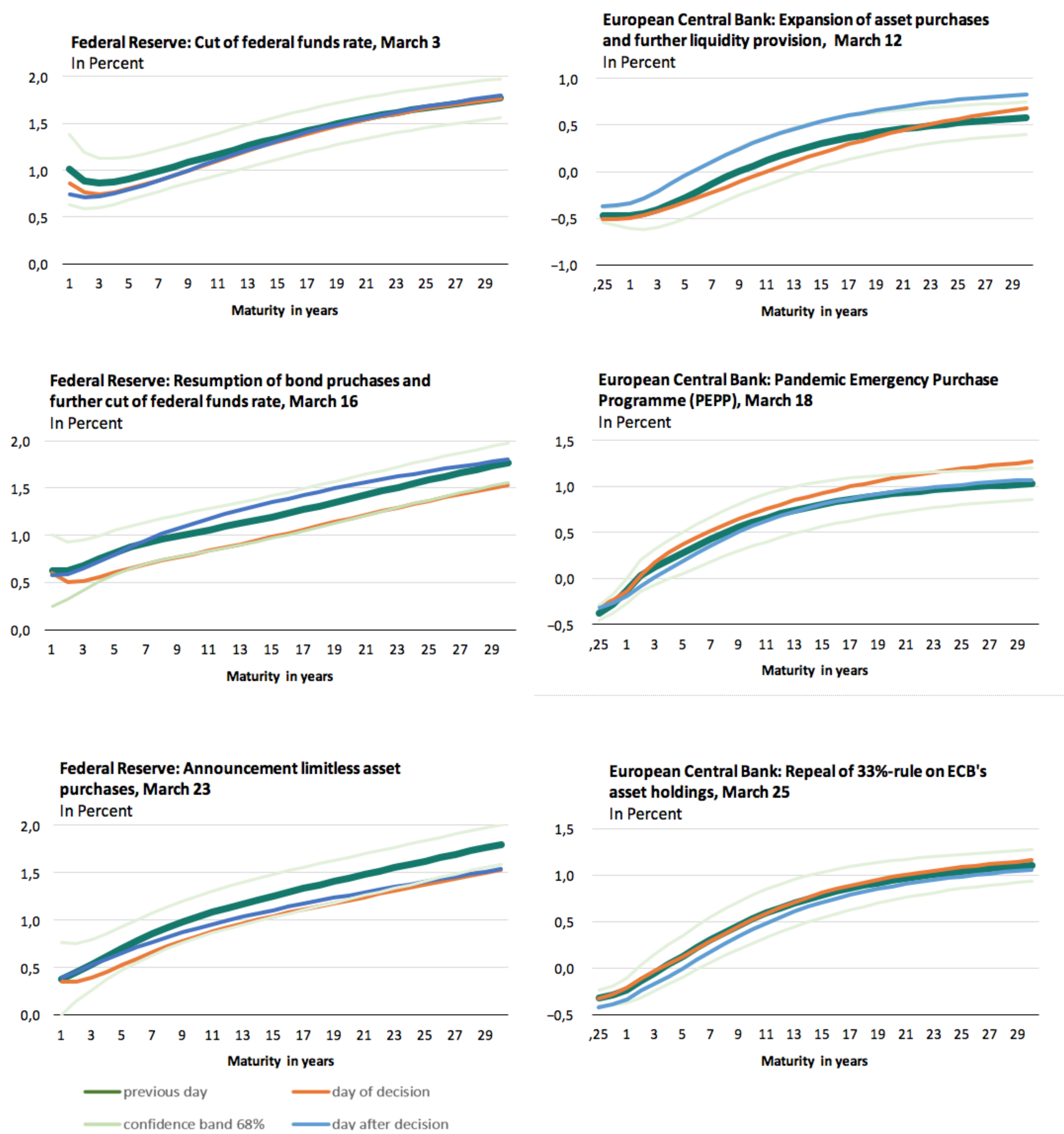
Fed bond purchase announcements lower US government bond yields

In view of the coronavirus pandemic, the Fed made three important monetary policy decisions in March 2020. The sudden rise in the number of people infected with the coronavirus at the end of February 2020, especially in South Korea and Italy, made a pandemic with far-reaching economic restrictions increasingly likely. Consequently, the Federal Open Market Committee (FOMC) decided during an unscheduled meeting on March 3 to cut the key interest rate by 50 basis points to 1.25 percent to counteract possible economic risks arising from further spread of the virus. The second, probably more comprehensive decision was taken on March 15, when the FOMC announced the resumption of bond purchases totaling $700 billion and cut the key interest rate by a further 100 basis points. This second extraordinary step was presumably prompted by the rapidly increasing spread of the coronavirus. On March 11, 2020, the World Health Organization declared a pandemic, and the United States began seeing an exponential increase in the number of people infected. Over the course of the month, the situation worsened further, with the US government announcing extensive fiscal policy measures supplemented by a statement by the Fed on March 23. In this last decision, the Fed announced that it would continue to buy assets indefinitely.

Yields on government bonds reacted differently to these three decisions (Figure 1). The first cut in the US key interest rate on March 3, 2020, had no significant effect on the yield curve. However, the situation was different for the March 16 announcement. On the day of the announcement, yields on government bonds of all maturities fell by around 0.2 percentage points. Compared to the observed volatility of yields on government bonds since the outbreak of the coronavirus, this decline is significant. Moreover, the promise made by the US Federal Reserve on March 23 also had a significant interest-rate lowering effect on long-term government bonds. It can thus be said that announcements of bond purchases in particular have had an expansive effect on US capital markets.

Figure 1
Daily changes in the par yield curves of government bonds in the euro area and the USA

[1] Yields on government bonds and share prices are determined using an event study. Changes in financial market prices are examined over a relatively narrow time interval after the central bank decisions are published. Assuming that the markets are efficient and no other event falls within the time interval, the effects of these decisions are likely to be immediately priced in and therefore reflected in the markets. In the following, a one-day window around a central bank decision at time t is used.



Note: The confidence band marks the area in which yields fluctuated with a 68 percent probability during the crisis period between February 22, 2020, and April 3, 2020. A shift in the yield curve outside this range must therefore be regarded as an extreme event, probably caused by the monetary policy announcement.

Sources: European Central Bank; Federal Reserve; authors' own calculations.

Fed measures not bringing about a turnaround on the stock market

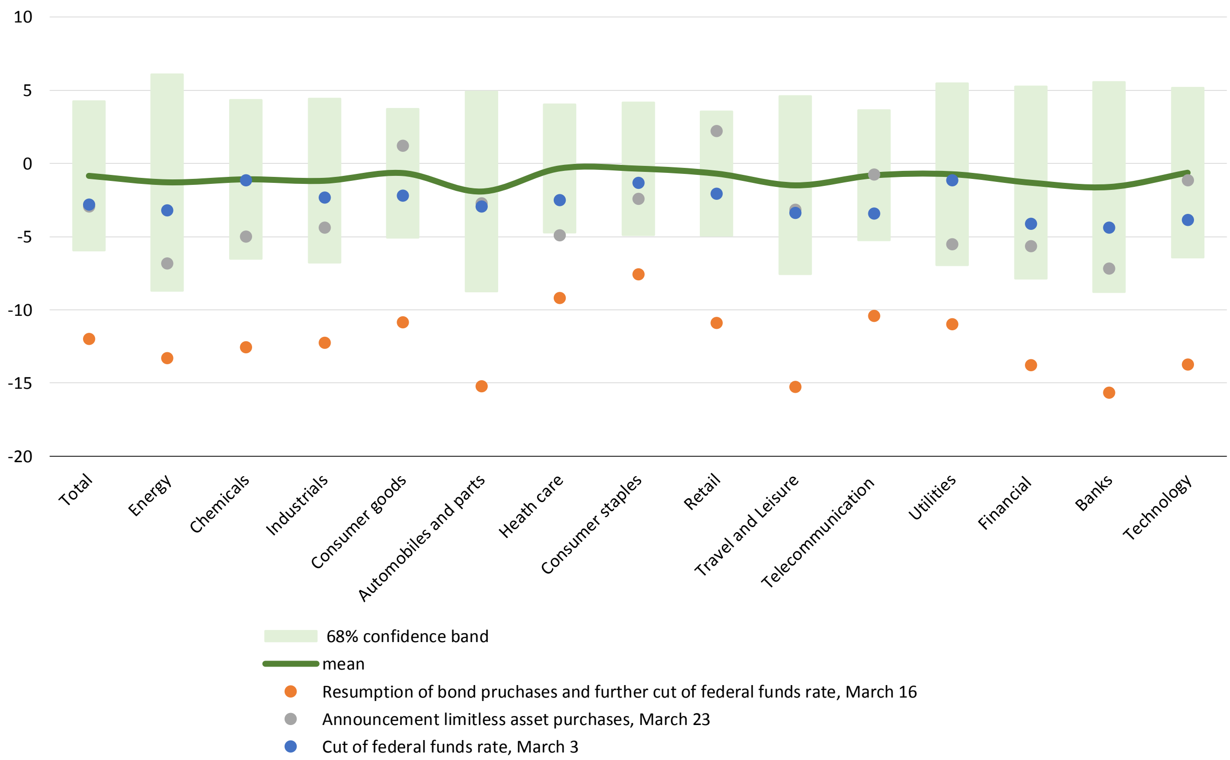
In general, a successful expansionary measure should cause stock prices to rise, as the positive economic impulse will increase profit and thus dividend expectations. Moreover, the lower yields on safe government bonds should make equities more attractive. If, however, we look at the reaction of the US equity market to the Fed's monetary policy impulses, no positive price effects can be seen (Figure 2).

Generally, the US stock market has been displaying high volatility during the coronavirus pandemic, as can be seen from the size of the confidence bands. In view of this general turbulence, the effects of the Fed's policy announcements cannot be considered significant in the S&P 500 stock market index. An exception is the March 16 announcement to set the target range for US key interest rates at zero. Share prices in all economic sectors are falling significantly by eight to 15 percentage points. Especially large price losses have been recorded in the car industry, the hotel and leisure industry, and the banks. In these sectors, the coronavirus-induced decline in demand is likely to be particularly pronounced. In contrast, the food retail and health care sectors are showing the smallest losses.

The negative reactions of US share prices to the March 16 resolutions could be explained by what is known as a signal channel: Expansionary monetary policy measures can have unintended counterproductive effects because they signal that the economic situation is worse than originally assumed.

Figure 2

Daily changes in stock prices in the S&P 500 (by sector in percent)



Note: The confidence band marks the area in which yields fluctuated with a 68 percent probability during the crisis period between February 22, 2020, and April 3, 2020. A shift in the yield curve outside this range must therefore be regarded as an extreme event, probably caused by the monetary policy announcement.

Source: Macrobond; authors' own calculations.

Nearly no impact on euro area government bond yields

The ECB also reacted with three important monetary policy decisions in March to stabilize the real economy, which was suffering from the economic effects of the coronavirus pandemic. On March 12, 2020, when the situation in Italy worsened and the coronavirus was spreading rapidly to other member states, the ECB announced during its regular meeting that it would expand the existing bond purchase program on a moderate scale. In addition, the targeted provision of liquidity via existing programs was extended or further facilitated. The second important decision followed on March 18 with the announcement of a coronavirus-specific bond purchase program (Pandemic Emergency Purchase Programme, PEPP) that is intended to increase the volume of bonds held by the ECB by around 30 percent. The final important monetary policy decision concerned the change in the maximum share limit for the bonds held by the central bank. In the past, for example, the ECB had committed itself to not holding more than one third of a country's government bonds, in part to avoid suspicion of public-sector financing. This limit was abolished on March 25, 2020.

Overall, the expansion of bond purchases by the ECB has failed to have an impact on bond yields in the euro area, at least in the weighted average of the monetary union (Figure 1, right-hand column). In particular, the first announcement on March 12 and the second announcement of the PEPP on March 18 did not have the desired effect of lowering interest rates. On the contrary, the yield curve of euro area bonds moved upwards around the days of these announcements, although this rise in yields is only significant for government bonds with long maturities. The situation has changed, however, following the March 15 announcement that the limit on asset purchases would be lifted. This has shifted the yield curve downwards as desired. In light of the already high volatility on the bond markets during the coronavirus pandemic, even this decline cannot be considered significant.

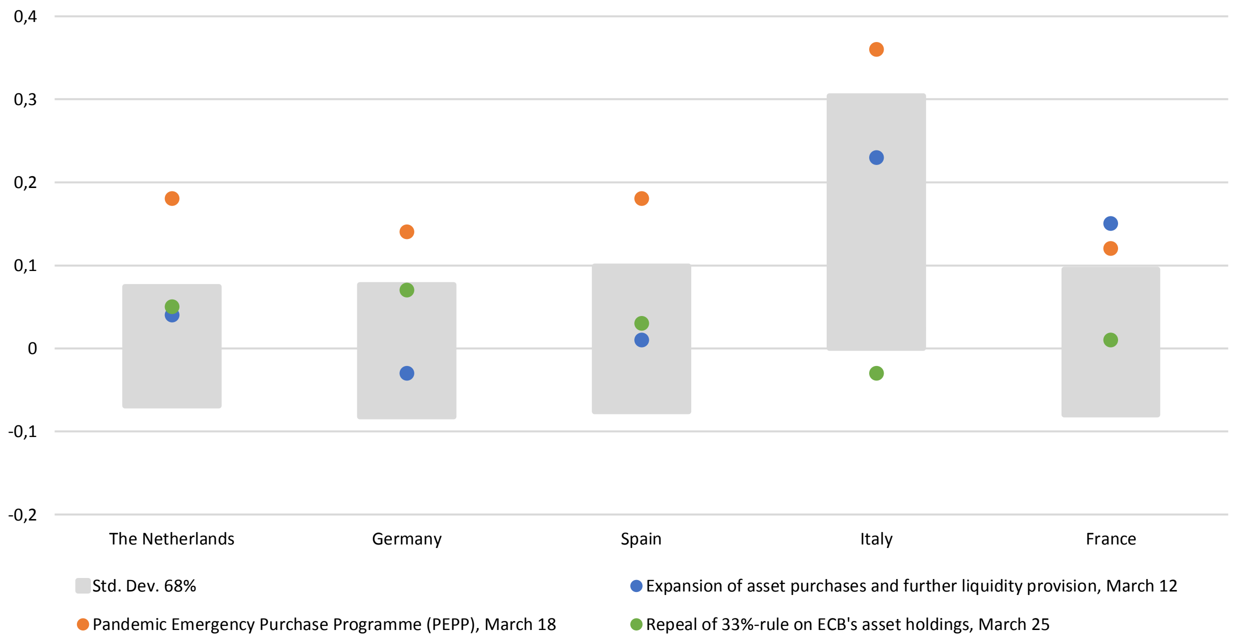
Italy benefits from third ECB intervention

Looking at selected European countries, long-term government bond yields show a very varied response to ECB decisions (Figure 3). Accordingly, the ECB's first monetary policy announcement on March 12 only had a minor impact on German, Dutch, and Spanish bonds. By contrast, yields on Italian and French government bonds rose significantly by 0.2 and 0.15 percentage points, respectively. However, this increase is not significant for all countries, not least due to the high volatility of the bond markets during the observed period. With the announcement of the PEPP, the yields on government bonds of all the countries considered have once again risen sharply. For Germany, the Netherlands, and Spain, this increase of between 0.1 and 0.2 percentage points was even significant this time. In contrast, the ECB's third announcement on March 25 had a pleasingly mild interest-rate lowering effect on Italian bonds. At the same time, no significant effect can be seen on the yields of the other government bonds.

One explanation for the limited effect of the ECB's monetary policy measures is that the ECB decision of March 12, 2020, had disappointed the financial markets; they had expected a much stronger monetary policy impulse. It is remarkable, however, that the announcement of the very expansive PEPP also had a restrictive effect on the bond markets. One conceivable explanation is that, given the already very low interest rate level, investors no longer felt the need to realign their asset portfolios. Furthermore, the announcement of the ECB's very extensive catalogue of measures probably sent out a negative signal, so that investors have revised their assessments of the economic outlook further downwards and risk premiums have risen accordingly.

Figure 3

Daily change in ten-year government bond yields of selected euro area countries (in percentage points)



Note: The confidence band marks the area in which yields fluctuated with a 68 percent probability during the crisis period between February 22, 2020, and April 3, 2020. A shift in the yield curve outside this range must therefore be regarded as an extreme event, probably caused by the monetary policy announcement.

Source: Macrobond; authors' own calculations.

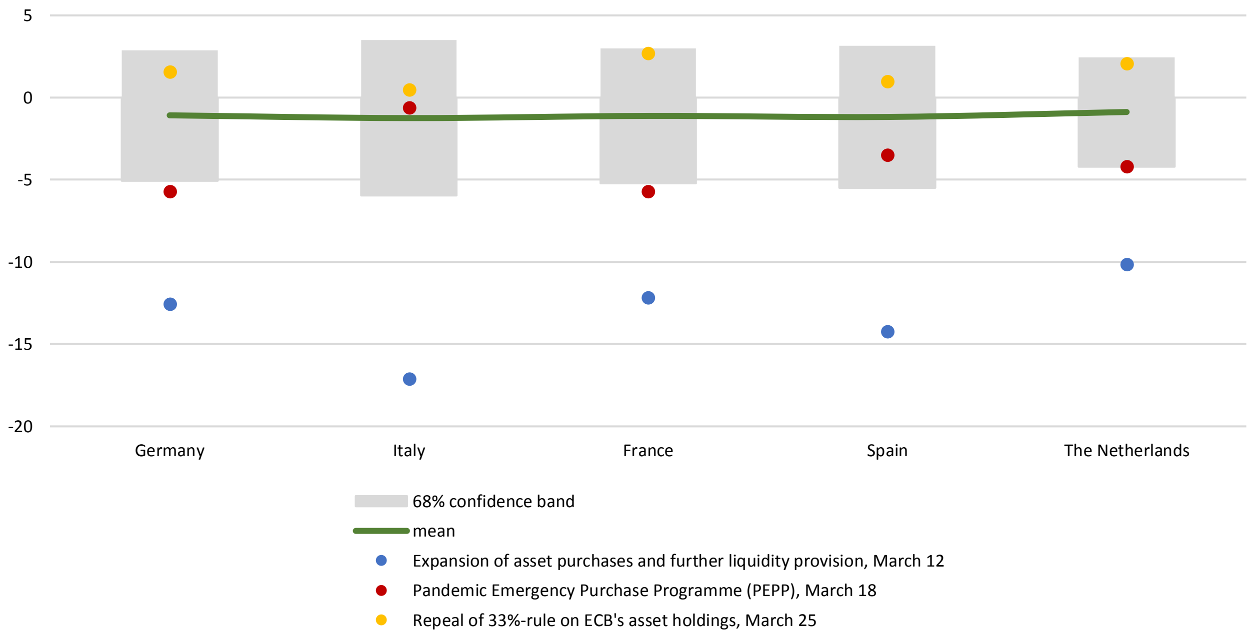
Stock markets continue to fall despite ECB measures

Contrary to expectations, the first two monetary policy announcements on March 12 and 18 had a largely negative impact on the stock markets of all countries under review (France, Germany, Italy, the Netherlands, and Spain; see Figure 4). The stock indices fell by a remarkable ten to 15 percent on March 12 and by a further five percentage points on March 18 (except in Italy). The sectors most affected by the price fall on March 12 were the automobile, utilities, and finance and banking sectors, while the healthcare and the technology sectors as well as the food and drugstore products trade were only moderately affected. The oil and gas, industrial production, and automobile and technology sectors were particularly affected on March 18: Equity prices fell by between five and ten percentage points. However, a recovery in equity prices of between two and five percentage points was seen on March 25. In view of the generally high volatility of the stock indices in the weeks since the outbreak of the coronavirus pandemic, however, it is not possible to speak of a significant price movement on March 25, 2020.

The ECB's expansive monetary policy measures have thus far had little stabilizing effect on the financial markets. On the contrary, the sharp decline in stock prices following the first two monetary policy decisions again suggests that they have sent a negative signal to market players regarding the economic outlook in the euro area.

Figure 4

Daily changes in the FTSE stock indices in selected euro area countries (in percent)



Note: The confidence band marks the area in which yields fluctuated with a 68 percent probability during the crisis period between February 22, 2020, and April 3, 2020. A shift in the yield curve outside this range must therefore be regarded as an extreme event, probably caused by the monetary policy announcement.

Source: Macrobond; authors' own calculations.

Conclusion: Minor effects of monetary policy measures call for active fiscal policy

The far-reaching monetary policy measures taken by both the ECB and the Fed were unable to reverse the fall in stock prices since February 2020. However, the Fed has, at the very least, succeeded in significantly lowering yields on US government bonds by relaunching its bond purchase program and announcing unlimited bond purchases. In contrast, the ECB's monetary policy impulses had almost no effect on the markets for European government bonds, despite the coronavirus-specific bond program.

On the one hand, this is probably due to the fact that the measures taken by the ECB initially disappointed the expectations of market players because they were too hesitant. On the other hand, the ECB is struggling with a difficult monetary starting position. In view of the persistently low interest rate level, the expansion of securities purchases was unable to induce investors to realign their asset portfolios accordingly. It also appeared problematic that at the time of the announcement of the PEPP, the ECB still insisted on holding a maximum of one third of a country's government bonds. This is likely to have dampened the effectiveness of the PEPP, as for some countries this limit had already been reached before the outbreak of the coronavirus. Following the rejection of this regulation, government bonds, especially Italian and Spanish bonds, did indeed fall. However, the desired overall effect could not be achieved.

Nevertheless, it can be assumed that the adequate provision of liquidity for the banking sector in the near future will help cope with the second-round effects of the pandemic, such as a large number of non-performing loans. In view of the already very expansive monetary policy, however, the central banks' room for maneuver is generally very limited. This makes it all the more important that monetary policy steps are flanked by targeted fiscal policy measures that stabilize aggregate demand. In the euro area, solutions must be found quickly, especially for distressed crisis countries such as Italy and Spain. Instead of wasting valuable time with lengthy political debates and introducing Eurobonds/corona bonds as a European response to the economic consequences of the coronavirus pandemic, we should consider rapid financial support in the form of direct transfers, which is explicitly allowed under Article 103a of the Maastricht Treaty in the case of exceptional events beyond the countries' control.

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