

## The interaction of fiscal policy and asset purchase programs

Governments across the world have engaged in large and unexpected fiscal spending as a response to the economic fallout from the COVID-19 pandemic. Central banks have also deployed monetary easing at almost unprecedented size and speed since the beginning of the pandemic, with one of the tools being government bond purchases. The simultaneous response of both authorities in this way highlights the direct and important relationship between government spending and bond purchases by the central bank. But how much of the government issuance will ultimately end up on the central bank balance sheet? This note aims, through some simple calculations, to provide an approximate answer to this question over this and following year.

### Methodology

Our analysis concerns government spending and central bank purchases in the US, UK, Euro Area and Japan. This methodology gives a brief overview of how we form our forecasts for both government debt and government bond holdings for 2020 and 2021.

### Government debt

The starting point for our analysis is the 2020 and 2021 gross debt-GDP ratio forecasts in the most recent IMF Fiscal Monitor. Taking the IMF's GDP growth forecasts for 2020 and 2021, we can calculate the forecasted level of debt for each country, which will be useful in later calculations. We also amend some of the 2021 IMF forecasts according to our reading of the recent news flow around fiscal policy in each country in the following way, also summarised in Table 1 below.

**United States:** The IMF forecasts take only announced fiscal policy measures into consideration for 2020 and 2021, and hence do not account for potential changes to policy following the US presidential election results. Since most forecasting models and recent polls place a significant probability on Biden winning the US election, we assume a Biden victory and adjust the IMF's 2021 debt forecasts accordingly. Specifically, we take the estimates from analysis by the CRFB on the effect of Biden's fiscal policy plans on the 2021 US debt level (around \$760 billion) and add it to the IMF's 2021 forecasts.

Note that we do not take into account the fact that an increase in debt could lead to an increase in concurrent year GDP. Given the nature of Biden's proposed plans and the time-frame for full implementation, this assumption seems mild.

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**United Kingdom:** The IMF forecasts include projections from the 2020 Budget as well as supplementary policies announced since in response to the COVID-19 pandemic. The forecast also includes some assumed loosening in fiscal policy over the next two years to support the economic recovery. We therefore make no changes to their forecast.

**Euro Area:** The IMF debt forecasts for the Euro Area do not include the safety-nets and recovery packages that were proposed earlier this year. With the legal process of the EUR 540 billion safety-net nearly complete, it is very likely that disbursements will begin in 2021. The package will consist of a credit-line from the European Stability Mechanism (ESM) to member states. We assume that the ESM will fund the full EUR 540 billion through bond issuance, raising the Euro Area debt level. In addition, the EUR 673 billion Recovery and Resilience Fund – a large portion of the EUR 750 billion “Next Generation EU” fund to combat the effects of the pandemic – has recently been agreed by the European Council. Though it is yet to go through the extensive parliamentary process, we assume that half of these funds will be made available in 2021. The European Council will be authorised to raise funds through bond issuance on behalf of the EU. We therefore increase the IMF 2021 forecasts of the debt level by an additional EUR 337 billion. In total therefore, we make a EUR 877 billion adjustment to the 2021 level of debt for the Euro Area to take account of these two proposals.

**Japan:** IMF forecasts include all fiscal policy announced up until September 2020. Further details of Prime Minister Suga’s fiscal package will be revealed in December, and since a lot of Prime Minister Abe’s fiscal funds are still unused, it is possible that the majority of Suga’s fiscal policy will be a repackaging of already appropriated funds. Taking these into account, we make no changes to the IMF forecasts.

**Table 1. Amendments to IMF 2021 Gross Debt forecasts**

Country	Adjustment to 2021 debt level (local currency)	Notes
USA	+750bn	Assuming Joe Biden US election victory
UK	-	-
Euro Area	+877bn	Additional COVID-19 recovery packages close to being ratified by European Council
Japan	-	-

Source: Observatory Group, Goldman Sachs Research, Committee for a Responsible Federal Budget

### Central bank holdings of government debt

We source central bank current holdings of government debt from the various central bank websites. For the remainder of 2020 and 2021 we turn to monetary policy statements which contain information about the future length and pace of asset purchase programs.

**United States:** On June 10, the FOMC announced it would provide additional easing and

purchase \$80bn of Treasuries per month. We therefore add this monthly run rate to the central bank holdings until December 2021.

**United Kingdom:** At the end of 2019, the Bank of England's Gilt holdings stood at £435 billion. In March 2020, the MPC announced that it would increase its asset holdings by £200 billion by the end of the year – £190 billion of which were to be Gilts. In June 2020, the MPC announced it would purchase an additional £100 billion in Gilts by the end of the year. We therefore assume that the BoE's holdings rise by £290 billion by the end of 2020, and remain constant thereafter.

**Euro Area:** In November 2019, the ECB's Governing Council announced it would restart its asset purchase programme, buying EUR 20 billion of eligible assets per month. Then in March 2020, it introduced a temporary envelope of an additional EUR 120 billion to be purchased by the end of the year. In March 2020, it also introduced the PEPP, announcing it would buy EUR 750 billion euros of assets by the end of the year. This was increased by EUR 600 billion in June, to be bought by June 2021. Importantly, these amounts were for overall asset purchases, and not solely government bond purchases. So to input these amounts into our forecasts would be overestimating the ECB's holdings of government bonds. Therefore, we take appropriate averages of *actual* rates of buying of government securities from the ECB database and project them forward until the end of the 2021, taking into account the announced end dates for each of the programmes.

**Japan:** The Bank of Japan, under its yield curve control (YCC) policy, had previously announced that it would buy up to 80 trillion yen of JGBs per year. In response to the crisis, it announced that its purchases of JGBs would be unlimited in principle to ensure enforcement of its policy. In reality, the BoJ has had to buy much less than 80 trillion yen a year to maintain its YCC policy, so similar to our calculations for the Euro Area, we forecast the BoJ's holdings of JGB by taking averages of *actual* purchases rather than announcements to get a more accurate representation of its buying rate and project them forward until December 2021.

## Results

Table 2 shows the forecasts for 2020 and 2021 of government debt and central bank holding of that debt by implementing the methodology above.

**United States:** Our calculations suggest that in 2020, the government debt-GDP ratio will rise by 22.5 ppts, with 65% of being held by the Fed. In 2021, the government debt-GDP ratio will rise by 6.0 ppts, with 46% of that being held by the Fed. In both years combined, the government debt-GDP ratio will grow by 28.5 ppts with 58% of that being held by the Fed.

**UK:** Our calculations suggest that in 2020, the government debt-GDP ratio will rise by 22.6 ppts with more than all of it being held by the BoE. In 2021, the government debt-GDP

ratio will rise by 3.5 ppts, with none of that being held by the BoE. In both years combined, the government debt-GDP ratio will grow by 26 ppts with 62% of that being held by the BoE.

**Euro Area:** Our calculations suggest that in 2020, the government debt-GDP ratio will rise by 17 ppts with almost all of it being held by the ECB. In 2021, the government debt-GDP ratio will rise by 3.6 ppts, with 77% of it being held by the ECB. In both years combined, the government debt-GDP ratio will grow by 21 ppts with 87% of that being held by the ECB.

**Japan:** Our calculations suggest that in 2020, the government debt-GDP ratio will rise by 28 ppts with a quarter of it being held by the BoJ. In 2021, the government debt-GDP ratio will fall by 2.2 ppts (with the *level* of debt still rising). Of that increase in the level, more than all of it is to be held by the BoJ. In both years combined, the government debt-GDP ratio will grow by 26 ppts with 44% of it held by the BoJ.

**Total:** Our calculations suggest that in 2020, the government debt-GDP ratio will rise by 22 ppts with just under 70% of it being held by the 4 countries' central banks. In 2021, the government debt-GDP ratio will rise by 3.7 ppts with just over half of it being held by the 4 countries' central banks. In both years combined, the government debt-GDP ratio will grow by 26 ppts with 63% of it held by the 4 countries' central banks.

Source: IMF, Central bank statistics, Fulcrum calculations

**Table 2. Forecasts for Gross Government debt and Government bond holdings**

Country	Year	Govt debt (% GDP)	Δ (ppts)	Govt debt holdings by CB (% GDP)	Δ (ppts)	Δ debt level held by CB (%)
US	2019	108.7	-	10.9	-	-
	2020	131.2	22.5	22.8	12.0	65.2
	2021	137.2	6.0	26.7	3.9	45.8
	2020 and 2021	-	28.5	-	15.8	58.1
UK	2019	85.4	-	19.6	-	-
	2020	108.0	22.6	36.3	16.7	109.0
	2021	111.5	3.5	34.3	-2.0	0
	2020 and 2021	-	26.1	-	14.6	62.0
Euro Area	2019	84.0	-	14.1	-	-
	2020	101.1	17.1	24.6	10.5	97.1
	2021	107.6	6.5	30.0	5.4	57.4
	2020 and 2021	-	23.6	-	15.9	74.8
Japan	2019	238.0	-	83.3	-	-
	2020	266.2	28.2	91.8	8.5	25.9
	2021	264.0	-2.2	94.0	2.2	111.6
	2020 and 2021	-	26.0	-	10.7	43.6
Total	2019	114.8	-	21.1	-	-
	2020	136.9	22.2	32.5	11.4	68.1
	2021	140.7	3.7	36.2	3.7	55.4
	2020 and 2021	-	25.9	-	15.1	63.3