1. Sovereign borrowing outlook for OECD countries

Impact of the COVID-19 pandemic - To tackle the health crisis caused by the COVID-19 pandemic and its massive impact on economies and financial markets, governments and central banks of the OECD countries have deployed a wide range of measures since March 2020. In addition to large discretionary fiscal stimulus packages, automatic fiscal stabilisers have also led to sudden and significant increases in cash requirements. As a result, sovereign borrowing needs have surged in many countries.

During the first five months of this year, OECD governments increased their issuance of debt securities significantly, in total surpassing the historical average by almost 70% with significant variation across countries. The total market borrowing is expected to reach an unprecedented level of USD 28.8 trillion in bonds and bills in 2020. With interest rates are at record lows reducing the cost of borrowing in most OECD countries, the primary challenge for many sovereign issuers is to increase debt issuance significantly without undermining the functioning of sovereign bond markets.

1.1. Introduction

Chapter 1 of the 2020 OECD Sovereign Borrowing Outlook was published in February before the COVID-19 outbreak. The main objective of this second edition is to provide an overview of recent developments concerning government borrowing needs, funding conditions and funding strategies in the OECD area, and an update of the 2020 estimates released prior to the COVID-19 outbreak. The key source of information is a special survey of debt management offices of OECD countries on the impact of the crisis on public debt management.

In addition to an overview of sovereign debt developments in the OECD area, this chapter also discusses near and medium-term policy considerations for sovereign debt management in view of increased global uncertainties and higher government refinancing needs.

Key findings

- In the OECD area, the fiscal stimulus packages that have been introduced to mitigate the economic and social impact of the COVID-19 outbreak, leading to a sudden and dramatic increase in government borrowing needs. In addition, automatic fiscal stabilisers as well as the differences in time and size of cash flow estimates have led to rapid rises in cash needs in many countries.
- Despite generally volatile market conditions, OECD governments raised a record amount of funds from the markets during the first five months of 2020. The total amount of government securities issued between January and May 2020 reached USD 11 trillion, which was almost 70% higher than the average amount issued in the same period over the past five years.
- In the context of highly uncertain economic outlook for the rest of the year, the survey results indicate that gross borrowing needs of OECD governments will increase by almost 30% in 2020 compared with the pre-COVID estimates. Sovereign debt managers have reported that the current challenge is to increase issuance without undermining the functioning of sovereign debt markets.
- For the OECD area as a whole, outstanding central government debt is expected to increase from USD 47 trillion in 2019 to USD 52.7 trillion at the end of 2020. This is USD 3.5 trillion higher than the pre-COVID estimate. As a result of both the rapid increase in borrowing needs and the decline in GDP across OECD economies, the central government marketable debt-to-GDP ratio for the OECD area is projected to increase by 13.4 percentage points to around 86% in 2020, the largest increase in a single year since 2007.
- The sovereign debt management offices have taken steps to adapt their borrowing operations to a rapidly changing environment with respect to funding needs and investor demand. Main changes in borrowing operations have so far included an increase in the size and frequency of auctions; a larger use of syndications and other issuance techniques; a higher issuance of short-term financing instruments compared to long-term bonds; and the introduction of new maturity lines.
- As circumstances evolve, debt management offices continue to adjust their rules and practices. However, some of the measures taken are short-term in nature and will not fundamentally change the principles of debt management. It is therefore of a significant importance to communicate clearly with investors and other market participants the expected duration of new measures to avoid potential misinterpretations.
- The pandemic has underscored the importance of emergency funding tools for sovereign issuers in addressing short-term funding needs and avoiding a temporary increase in borrowing costs from the market. In the medium and long-term, preparedness for higher refinancing risk is critical

for sovereign issuers with heavy debt repayment requirements. Policy makers should consider investor demand when adjusting their borrowing strategies to mitigate re-financing risk, and increase their financing capacity, such as by introducing new securities and diversifying the funding sources.

1.2. Surge in borrowing needs and outstanding debt

Across the OECD area, governments experienced sudden and dramatic increases in funding needs in the wake of the COVID-19 outbreak. Since mid-February, governments have stepped up their fiscal interventions (e.g. broad-based tax reliefs, wage subsidies, unemployment benefits, mortgage relief, lump-sum payments to households, loans and loan guarantees to businesses, as well as equity investments by governments in distressed companies) to weather the social and economic consequences of the pandemic (OECD, 2020[1]). During this period governments borrowing needs were revised upwards in most of the OECD countries as a result of the deterioration in the fiscal outlook posed by the COVID-19 outbreak. While upward revisions were largely driven by the second wave of fiscal measures by governments as the economic fallout from the pandemic proved more severe, changes in revenue streams also affected government cash needs.

Despite substantial fiscal policy support, global economic activity declined abruptly in the first quarter of 2020, and real GDP in the OECD area is projected to fall by 7.5% in 2020, provided that there is no second outbreak of the pandemic (OECD, 2020[1]). While large scale fiscal support programmes have been necessary to limit the economic and social damages of the pandemic, they have implications for the sovereign borrowing outlook. A combination of rising government borrowing requirements and collapsing economy is expected to propel debt-to-GDP ratios significantly higher.

1.2.1. Gross borrowings from the markets hit a record high level in the first five months of this year

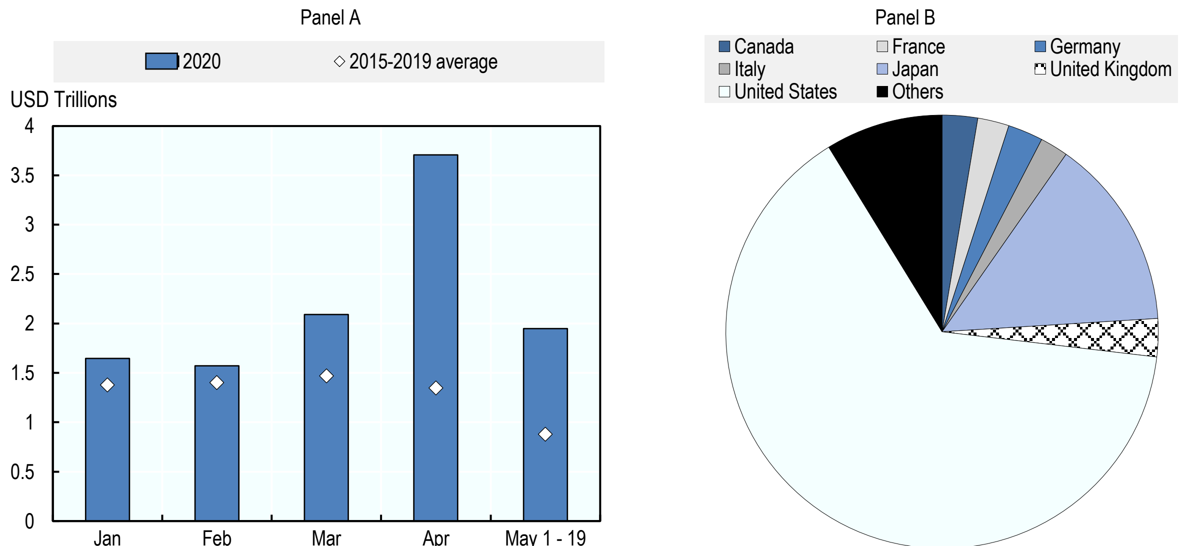
OECD governments raised a record amount of funds from the market to finance the fiscal policy responses to the outbreak. The total amount of government securities issued during the first five months of 2020 reached USD 11 trillion. This was 69% higher than average issuance in the same period over the past five years. Most of the increased sovereign issuance across the OECD area aimed to finance the COVID-19 rescue and the related recovery packages. In addition, increased precautionary financing and short-term cash needs for smoothing out cash flow disruptions have also contributed to the surge in sovereign issuance by several countries during this period.

In the first two months of 2020, sovereign debt issuance in the OECD area was mostly in line with the historical averages. Following the spread of the outbreak across Europe and the United States which led to substantial fiscal policy support to cushion the economic blow, borrowing from the market started to accelerate towards the end of March and reached an unprecedented level in April. Although the total issuance decreased from USD 3.8 trillion in April to USD 2 trillion in May, this was still more than double the average amount of securities issued in the same month during the past five years (Figure 1.1, Panel A). The increase in issuance amounts was mainly driven by the United States (Figure 1.1, Panel B), where issuance was already higher than the historical average prior to the pandemic shock. Issuance by the euro area governments, which was lower than the historical averages in January and February, also increased sharply in April. Also, several sovereign issuers including Canada, Germany and the United Kingdom doubled their issuance amounts compared to the average over the same period of the past five years.

Figure 1.1. Sovereign debt issuance between January and May 2020, USD trillion

Panel A: Comparison of debt securities issued in 2020 and the previous 5 years' averages

Panel B: Issuer composition in total issuance between Jan-May 2020



Notes: Both charts are based on data consisting of new issues and re-opens. Panel A: Where applicable currency conversions were calculated on the day of issuance or re-open
Source: Refinitiv; OECD calculations.

1.2.2. The surge in annual borrowing needs results in fast pace debt accumulation

The recent survey on the impact of the pandemic on sovereign borrowing outlook reveals that gross borrowing needs of OECD governments for 2020 have increased by 30% compared to pre-COVID estimates (Table 1.1). Amid the exceptionally uncertain economic outlook, sovereign issuance might further increase, depending on the pace of economic recovery and need for additional stimulus packages.

Total annual issuance of government securities is expected to increase by USD 6.5 trillion to USD 28.8 trillion as of the end of 2020. It is important to note that the uncertainty in the economic conditions makes it difficult to estimate the amount of short-term debt that will be rolled-over by the end of 2020. Therefore, the 2020 estimates consider that the proportion of short and long-term debt issuances and redemptions will remain in line with the pre-COVID averages. Based on this assumption, the standardised gross borrowing requirements, excluding short-term borrowing to fund horizons of less than one year, point to a rise of USD 3.5 trillion to USD 15.4 trillion.[1] As a result, the outstanding central government marketable debt is expected to increase by 7.2% and reach USD 52.7 trillion at the end of 2020. It should be noted that there are considerable risks that the sovereign borrowing will be higher than currently expected.

The survey results revealed that all OECD governments have revised up their borrowing estimates for 2020 in the wake of the COVID-19 crisis, but to a varying degree mainly depending on the extent to which they were hit by the pandemic and their fiscal capacity to address the shock. While central government borrowing estimates have increased significantly in most advanced economies, changes in OECD emerging-market economies have been rather limited. In the United States, for example, the Congressional Budget Office (CBO) projects a USD 3.7 trillion deficit in 2020, which is nearly three time larger than the prior estimate. As a result of the expected large increase in the budget deficit, the US accounts for the bulk of the additional post-Covid borrowing needs in the OECD area. Both the significant rise in the US budget deficit due to the policy responses to the pandemic and the expected size of the cash

balance have led to a large and rapid increase in net supply of government securities (US Treasury, May 5, 2020[2]). In total, the US Treasury expects borrowing needs to amount to USD 4.5 trillion in 2020 based on estimates in May. Contrary to the recent years when the government's borrowing needs were quite stable, Germany has also seen a rapid surge in gross borrowing needs since March (German Finanzagentur, 2020[3]).[2] In addition, the annual borrowing needs have increased significantly in Canada, and the United Kingdom.

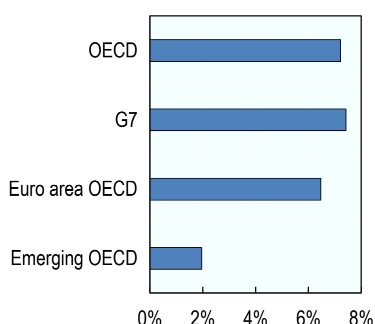
Estimated borrowing needs and debt stock in 2020, OECD (as of May 2020)

Table 1.1. Central government gross borrowing needs and outstanding debt for 2020

OECD	pre-COVID, trillions USD	post-COVID, trillions USD
Gross Borrowing	22.2	28.8
Standardised Gross Borrowing	11.8	15.4
Debt stock	49.1	52.7

Note: Central government marketable definition is used for government borrowing and debt estimates. Standardised Gross Borrowing subtracts the value of short-term redemptions in 2020 (i.e. within short-term borrowing it is the net issuance). For post-COVID estimates it is assumed that over the full year the proportion of short and long-term debt issuances and redemptions are the same as in the pre-COVID period.
Source: 2019 Survey on Central Government Marketable Debt and Borrowing; 2020 Survey on the impact of the pandemic on public debt management; *OECD Economic Outlook*, https://doi.org/10.1787/0d1d1e2e-en; Refinitiv; national authorities' websites; and OECD calculations.

Figure 1.2. Post-COVID increase in nominal debt stock.



Note: Central government marketable definition is used for government borrowing and debt estimates. For post-COVID estimates it is assumed that over the full year the proportion of short and long-term debt issuances and redemptions are the same as in the pre-COVID period.
Source: 2019 Survey on Central Government Marketable Debt and Borrowing; 2020 Survey on the impact of the pandemic on public debt management; *OECD Economic Outlook*, https://doi.org/10.1787/0d1d1e2e-en; Refinitiv; national authorities' websites; and OECD calculations

In some other advanced OECD economies, such as France and Ireland, changes in annual central government borrowing needs have – so far – been relatively limited. This can be explained to some extent by the differences in the design and implementation of fiscal measures. For example, some forms of fiscal measures taken against the pandemic, such as provision of government guarantees, have no direct impact on public finances. In some cases also a large portion of the social security benefits have been financed through existing social safety nets and automatic insurance mechanisms without a need for significant additional central governments funding (e.g. France).[3] In some cases, governments have also used other available resources such as wealth funds and contingency funds to finance fiscal measures (e.g. Chile, Ireland and Switzerland).

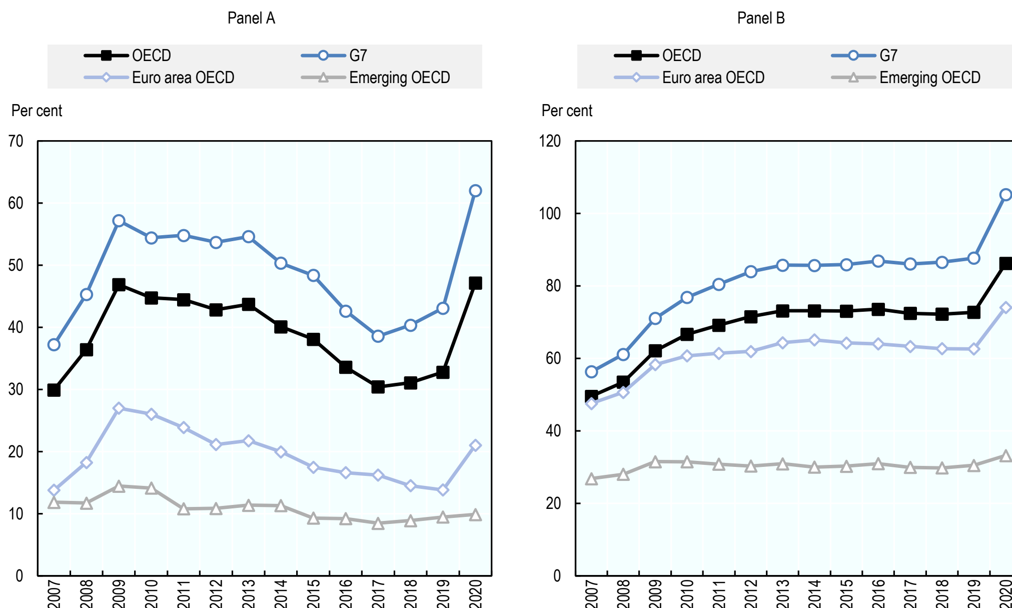
1.2.3. The combined effect of the increase in expenditure and the fall in GDP grounds an unprecedented jump in the debt to GDP ratio

Based on current budget projections, gross borrowing requirements as a percentage of GDP are expected to increase from around 33% in 2019 to 47% in 2020 (Figure 1.3. Panel A). This 14 percentage point jump in gross borrowing requirements to GDP ratio exceeds the rise that occurred between 2008 and 2009 during the global financial crisis (GFC).

As shown in Table 1.1 above, outstanding central government debt for the OECD area as a whole is expected to increase from USD 47 trillion in 2019 to USD 52.7 trillion at the end of 2020. As a result of the surge in outstanding debt and the contraction in economies, the survey estimates that the central government marketable debt-to-GDP ratio for the OECD area, broadly unchanged since 2014, will increase from 72.8%in 2019 to 86.2% in 2020 (Figure 1.3. Panel B). Since fiscal policy is expected to remain supportive across OECD economies, in particular for domestic demand, and some of the measures put in place have medium-term financing implications, central government debt is likely to remain high. It should be noted that the scope of the survey is limited to central governments, and given the widespread coverage of fiscal packages introduced by some OECD countries in response to the COVID-19 crisis, the rise in public debt might be higher than that in central government debt.[4]

Figure 1.3. Central government marketable gross borrowing and debt in OECD countries, 2007-2020, as a percentage of GDP

Panel A: Gross borrowing as a percentage of GDP, Panel B: Debt stock as a percentage of GDP



Note: Central government marketable debt

Source: 2019 Survey on Central Government Marketable Debt and Borrowing; 2020 Survey on the impact of the pandemic on public debt management; *OECD Economic Outlook*, https://doi.org/10.1787/0d1d1e2e-en; Refinitiv; national authorities' websites; and author calculations.

Total outstanding debt to GDP ratios are influenced by a combination of factors, including economic growth rates, governments' borrowing needs. Panel B of Figure 1.3 illustrates three periods of change in total central government debt stock of OECD countries since 2007. The first one is the GFC period, when the central government debt-to-GDP ratios were lifted to a higher level as a result of the increased borrowing needs. Between 2007 and 2009, the central government debt-to-GDP ratio for the OECD area increased

by 12.6 percentage points. In the second period from 2010 to 2013, the debt-to-GDP ratio for the OECD area increased by 11 percentage points mainly reflecting the euro area debt crisis. During the last period that started in 2014 and continued until the end of 2019, the ratio was broadly unchanged at around 70%. This was largely due to favourable interest rate-growth differentials in most OECD countries. After this fairly stable period, the debt-to-GDP level is expected to increase by 13.4 percentage points from 2019 to 2020 due to the impact of the pandemic on government spending and revenues. This is the largest rise in a single year since 2007.

The impact of the pandemic on government indebtedness differs widely among OECD countries depending on the social and economic impact of the crisis and the governments' fiscal capacity to address the shock. As a percentage of GDP, the increases in both the gross borrowing needs and debt ratios of G7 and euro area countries are expected to be significant, while those of OECD emerging-market economies are relatively small. At the same time, supported by central banks' government bond purchase programmes and short term interest rate set close to the zero lower bound, has contributed to flatten the sovereign bond yield curve across all maturities. Issuance of long-term debt at very low interest rates has helped alleviate debt sustainability concerns, particularly in major advanced economies.

The OECD Economic Outlook of June 2020 concluded that a one-off shock to the level of debt may not on its own endanger debt sustainability if economies recover. Nevertheless a lack of focus on ensuring debt sustainability once the recovery has firmed would be an important risk (OECD, 2020[1]). In the euro area, in addition to the national fiscal support, EU and euro area bodies have introduced several initiatives to help member states, especially those hard-hit by the pandemic and with less fiscal space, some of which would have no implications for national debt burdens.[5]

1.3. Adapting borrowing operations to rapidly changing circumstances

In response to the dramatic and sudden increases in borrowing needs and changing market conditions, sovereign debt management offices (DMOs) in several OECD countries have adjusted their borrowing strategies. Table 1.2 summaries the survey results with respect to the adaption of instrument choice, the auction specifics and the use of other issuance techniques in the new market environment.

Table 1.2. Survey results concerning the changes in borrowing operations

	In the last 4 months	For 2020 overall
Instruments		
Issuance of securities across the yield curve	24 higher, 3 lower, 6 no change	29 higher, 1 lower, 3 no change
Issuance of money market instruments (i.e. T-Bills and repos) compared to issuance of long-term bonds	26 higher, 1 lower, 5 no change	23 higher, 4 lower, 5 no change
Introducing new maturity lines	17 yes, 15 no	21 yes, 10 no
Issuing new types of securities (e.g. FRNs, Green bonds, Linkers)	0 yes, 31 no	2 yes, 24 no
Auctions		
Changes in auction calendar	22 yes, 11 no	23 yes, 10 no
Frequency of auctions	19 higher, 0 lower, 14 no change	21 higher, 0 lower, 12 no change
Post-auction option facility (non-competitive bids)	4 higher, 2 lower, 27 no change	5 higher, 2 lower, 26 no change
Other issuance techniques		
Use of syndications	12 higher, 1 lower, 20 no change	15 higher, 0 lower, 18 no change
Use of private placements	7 higher, 0 lower, 26 no change	6 higher, 0 lower, 27 no change

Source: 2020 Survey on the impact of the pandemic on public debt management.

More than two-thirds of OECD DMOs indicated an increased issuance of government securities across the yield curve, and a higher use of money market instruments compared to long-term bonds since the outbreak.[6] Furthermore, they introduced (or are planning to introduce) new maturity lines during the rest of the year. For example, German DMO (*Finanzagentur*) is adding 7- and 15- year maturity bonds to its new borrowing programme. Similarly, France and the United States launched a new 20- year bond in May, which appeals to investors looking for longer-duration securities such as pension funds and insurance companies.[7]

As discussed in the previous editions of this publication, sovereign issuers typically view money market instruments as shock-absorbers for any unexpected financing needs. Frequently, short-term financing is replaced by long-term instruments in the period following the shock. For example, during the GFC, several countries including France, Germany, the Netherlands and the United States, increased their T-Bill issuance temporarily. Consequently, more than 55% of the total funding requirement of OECD governments was raised through T-Bills in 2008. In the following years, while borrowing requirements remained elevated, maturity choices of most OECD countries have leaned towards long-dated securities in order to mitigate roll-over risk. The recent survey results indicate that DMOs are adapting a similar strategy in response to the pandemic shock.

Reflecting the changes in borrowing operations, the majority of the DMOs reported adjustments in quarterly and annual auction calendars. Most of the adjustments involve the size and frequency of auctions, as well as instrument choices. Other changes include a post-auction option facility.[8] For example, the UK DMO (which introduced a post-auction option facility in 2009) increased the additional amount that successful bidders can purchase through the facility from 10% to 25% of the nominal amount allocated as of April 2020 (The UK DMO, 2020[4]).

In terms of other issuance techniques, the use of syndications and private placements has expanded among the OECD DMOs since the outbreak. A number of countries including Australia, Austria, Germany, Ireland and the United Kingdom have reported a wider use of syndications, which are particularly used for inaugural issuance as an attempt to mitigate potential difficulties that investors face during the price discovery process. Some countries including Finland, Israel and Poland find it useful to supplement their regular auctions with private placements in an attempt to meet different investor preferences. Private placements, in general, are designed to meet the needs of a specific group of investors and enable issuers to raise funds through a private sale of securities to a limited number of qualified investors without a prior announcement.

Several sovereign debt managers noted that a key driving factor for funding strategies will be the change in investors' demand for a range of instruments with different maturity and interest-rate characteristics. In addition, they emphasised that the pandemic has required them to adapt borrowing operations to rapidly changing circumstances, but it has not fundamentally changed their approach to debt management. In this regard, they stressed that the temporary nature of some modifications should be communicated clearly with investors to avoid potential misinterpretations. It was also highlighted that the uncertainty around the epidemiological outlook - along with its potential impact on the economies and investor confidence - have an important bearing on the future course of government measures and the resilience of the financial sector.

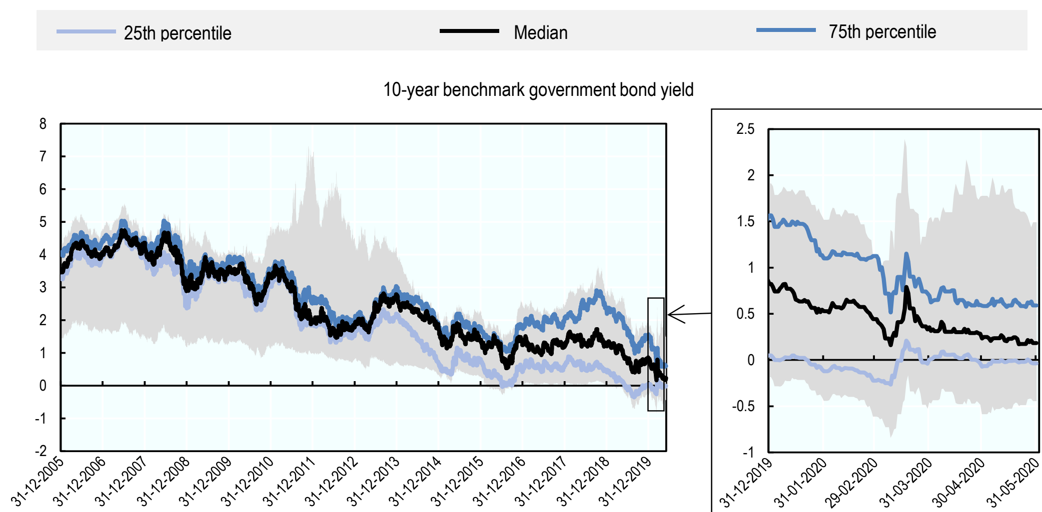
1.4. Funding conditions have improved, but are still fragile

1.4.1. The turmoil in March

Sovereign debt managers of OECD countries reported that risk aversion in financial markets rose substantially at the beginning of the COVID-19 outbreak, and as investors' preference shifted towards cash (and cash-like instruments), selling pressure put strains on primary dealers' balance sheets. A few countries also highlighted the impact of widespread remote working practices in financial markets, which slowed dealer quotes and trades and contributed to low liquidity and relatively high volatility in the second half of March. The volatility manifested itself in various secondary market indicators including spikes in

yields, maturity spreads, and bid- ask spreads in cash and derivative markets. While liquidity conditions in both on-the-run and off-the-run securities have deteriorated, off-the-run securities in particular were affected more strongly.

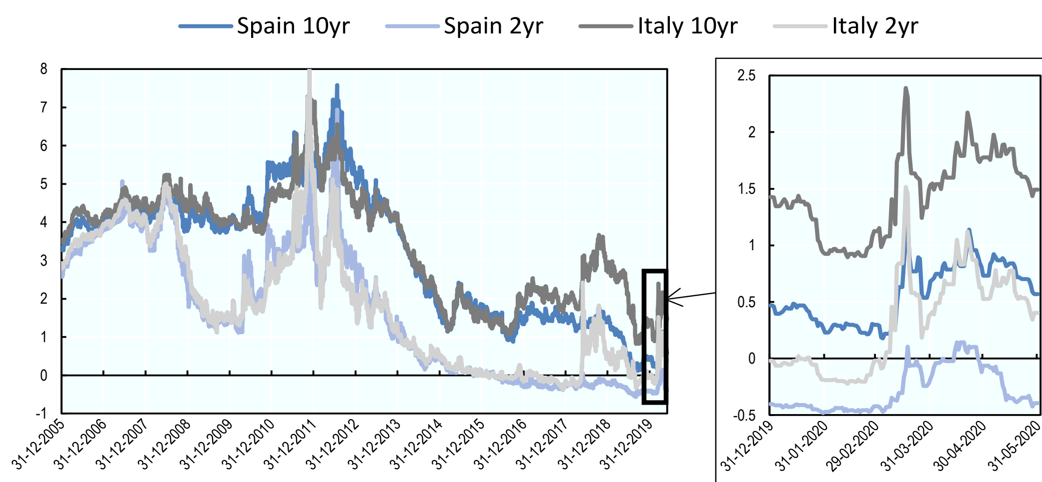
Figure 1.4. Evolution of yields on 10- year benchmark government bonds, G7



Note: Interest rates in percentages. Charts show the evolution of several metrics (grey area is difference between minimum and maximum, 25th percentile, 75th percentile, median) of 10 year benchmark government bond yields, calculated for G7 countries.
Source: Refinitiv; OECD calculations.

Following announcements by major central banks, in particular the Federal Reserve and the ECB, that they would support financial markets, including via buying large amounts of debt securities, stress in financial markets eased (Figure 1.4). However, market conditions have remained relatively challenging in a few countries, especially those hard-hit by the pandemic and with less fiscal leeway (e.g. Italy and Spain) (Figure 1.5).

Figure 1.5. 10- and 2- year benchmark government bond yields in Italy and Spain



Note: Interest rates in percentages.
Source: Refinitiv; OECD calculations.

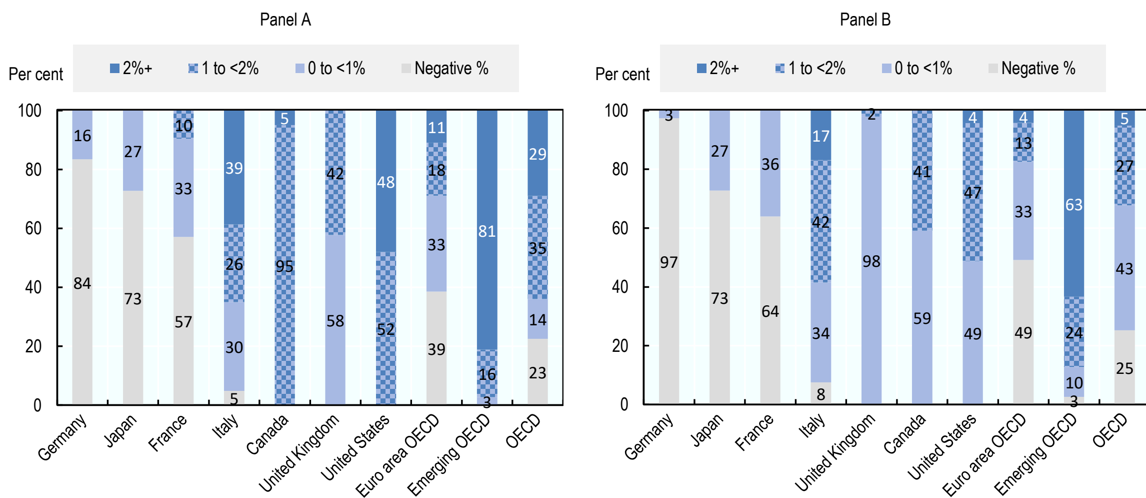
1.4.2. Interest rates on government debt remained at record lows

After the initial shock in March, interest rates on government debt returned to pre-crisis levels in many countries, reducing financing pressures on sovereign issuers, and helping them facilitate debt service. Low interest rates reflect a confluence of factors including stronger demand for safe assets and more accommodative monetary policies in most major advanced and emerging-market economies. They help lower debt servicing costs.

Despite the surge in debt issuance, government yield curves in many countries have shifted down in recent months. For example, average 10-year government bond yields in large advanced economies have fallen by more than 0.5 percentage point since January 2020, despite a temporary increase in March (Figure 1.4). In the first five months of 2020, about 70%of the total government bonds were sold with interest rates below 1% (Figure 1.6 Panel B), and 27% of the total bonds issued with interest rates between 1% and 2%, and only 5% of total issuance with higher than 2% interest rates. Compared to 2019, major changes took place in Canada, the United Kingdom and the United States, where the cost of borrowing across the maturities has declined significantly (Figure 1.6 Panel A).

Figure 1.6. Volume share of fixed-rate bond issuance by yield category

Panel A: full year 2019; Panel B: 2020 Jan-May

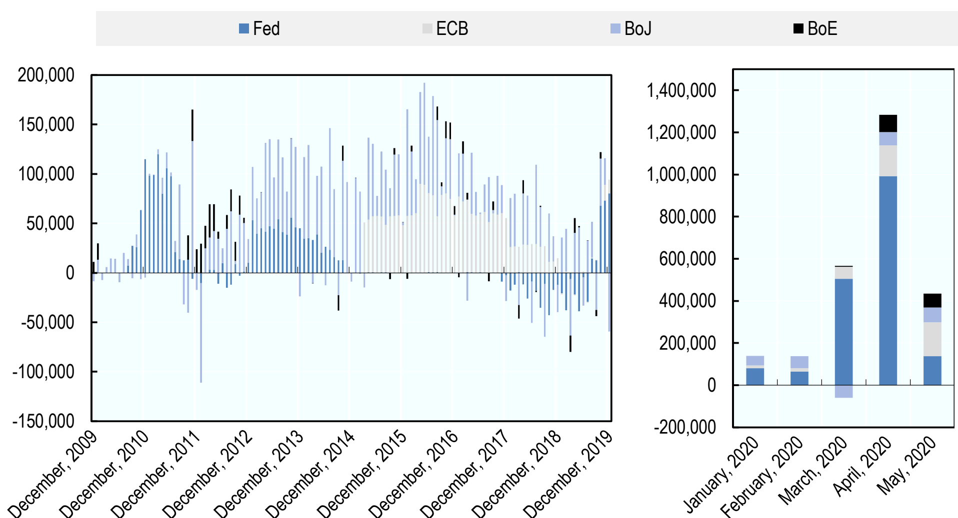


Notes: Fixed-rate bond issuances and re-opens categorised by yield at issuance.
Source: Refinitiv; OECD calculations.

1.4.3. Central banks have become the single largest holder of government bonds in many countries

Since the GFC, monetary policy stances in major advanced economies has been accommodative with the aim of bringing inflation towards target levels. To cope with the economic impact of the pandemic and ensuing financial market panic, major central banks have cut policy interest rates further and committed to buying large amounts of sovereign and private assets to keep longer-term interest rates low (Figure 1.8, Panel B). In particular, net purchases of government bonds by the Federal Reserve and the ECB have increased significantly, which in turn has helped sovereign issuers to manage funding pressures in recent months (Figure 1. 7).

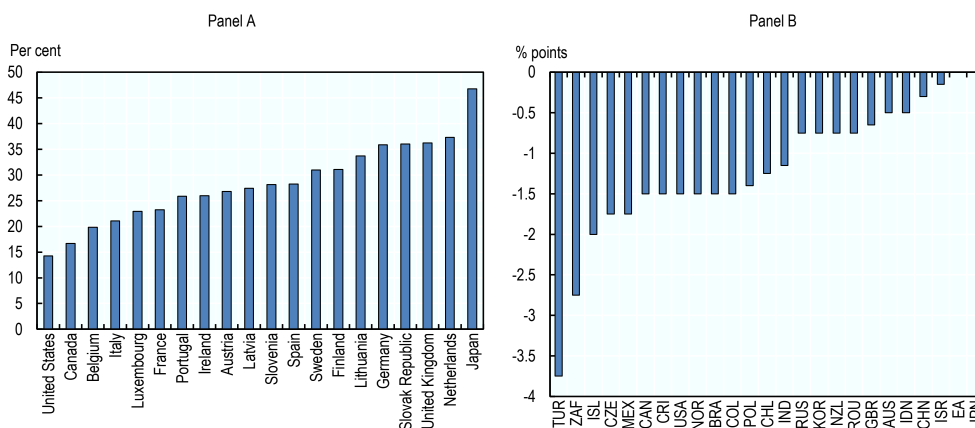
Figure 1.7. Net purchases of government securities by major central banks (monthly), millions USD



Note: Converted into USD at the end of each month. Calculated from data on security holdings for the Federal Reserve and the BoJ. For the BoE these data are calculated from holdings of gilts by the Bank of England's asset purchase facility. Data for ECB are net purchases for the PSPP and the PEPP.
Source: Central banks.

Figure 1.8.Several central banks have become dominant holders of domestic government bonds

Panel A: Central bank holdings of domestic government bonds as a % of total outstanding marketable bonds.
Panel B: Change in policy interest rates since end-2019 and 4 June 2020.



Note: See Annex 1.A.
Source: Panel A: OECD Economic Outlook 107 database; Board of Governors of the Federal Reserve System; US Department of the Treasury, Bureau of Fiscal Services; Bank of Canada; Bank of Japan; Ministry of Finance Japan; Sveriges Riksbank; Swedish central government debt statistics; UK Debt Management Office; Bank of England; European Central Bank; and OECD calculations. Panel B: OECD Economic Outlook 107 database; Refinitiv; and OECD calculations.

Large-scale asset purchases by central banks since the GFC have significantly changed the investor base for sovereign debt. This trend has accelerated with increasing net purchases in recent months and further strengthened the position of central banks as the single largest investor in sovereign debt in several OECD economies. Importantly, this trend has also been coupled with a marked increase in outstanding government debt in recent years. For instance, the central bank holds more than 45% of national

government debt in Japan, around 30% in Germany, the Netherlands and the United Kingdom and above 20% in France, Ireland and Austria (Figure 1.8).

1.5. Near and medium-term policy considerations for sovereign debt management

1.5.1. Greater need for emergency cash management tools

The pandemic has underscored the importance of emergency funding tools for sovereign DMOs. While large uncertainties surrounding the outlook persist (e.g. a second wave of the pandemic or lower-than-expected economic recovery), market volatility might increase, governments might need to extend the scope and duration of support programmes, introduce new fiscal packages later in 2020. Against this background, having access to emergency funding tools has become more crucial for flexibility in issuance plans (e.g. uncovered auctions) and to avoid interruption in funding government expenses. If not already available, sovereign issuers, in particular the ones with heavy debt repayments in the near term might benefit from establishing an emerging funding mechanism, such as emergency cash buffers, credit lines with commercial banks and a short-term cash advance facility from the central bank.

Cash buffers have proven to be effective in addressing short-term funding needs and avoiding a temporary increase in borrowing costs from the market. The survey reveals that a few DMOs, noting the benefit of keeping a cash buffer in times of turmoil in March, have increased the size of cash buffers (e.g. Canada, Portugal and the United States). For example, the US Treasury is planning to increase the expected cash balance to USD 800 billion by the end of September. The desire to run a higher cash balance over the next few quarters reflects prudent risk management, given the larger size and greater uncertainty of cash outflows. Another example of contingency option for managing cash flows came from the United Kingdom, where the Bank of England has temporarily extended the use of the government's 'Ways and Means (W&M) facility' to manage liquidity and the short-term volatility of cash forecasts.

1.5.2. Preparedness for higher refinancing risk

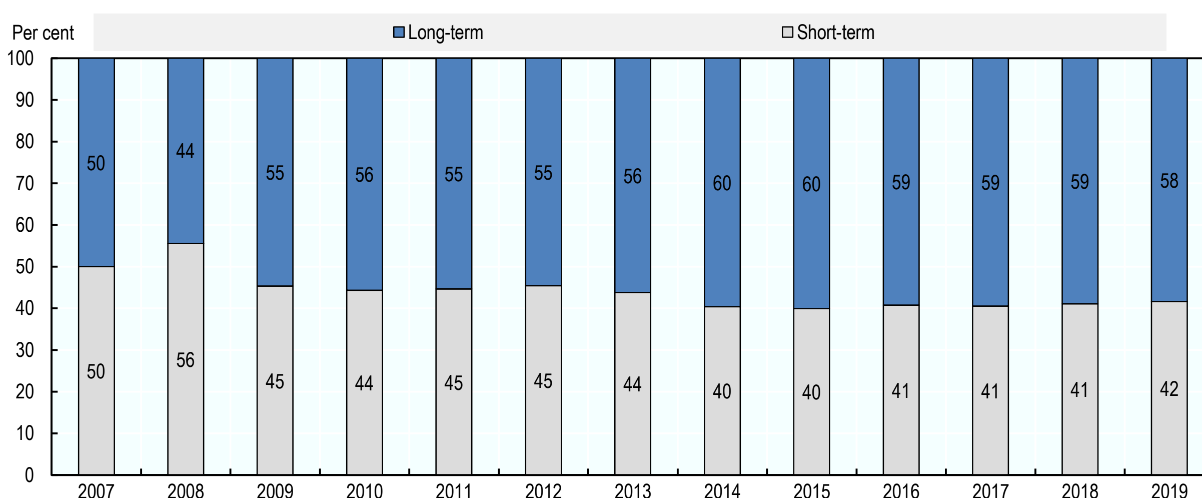
The projected high level of new borrowing needs in 2020, in combination with amounts to be refinanced, will increase future debt repayments and might exacerbate pre-crisis public finance challenges with respect to heavy refinancing requirements. While some of the fiscal measures entail one-off cash transfers, most of them have medium-term financing implications. Even though monetary policy has been accommodative and low interest rates have reduced government debt servicing costs, substantial debt accumulation has resulted in larger debt repayments.[9] The increased central banks holdings of government marketable debt play an important role in the assessment of sovereign refinancing risk. If they continue to roll over the stock of public debt in their balance sheets, the refinancing risk would remain unchanged. Looking forward, the economic recovery might require additional fiscal support resulting in a further increase in sovereign debt stock. Against this background, preparedness for higher refinancing risk in the medium and long-term, is of critical importance for sovereign issuers facing heavy debt repayments.

An important development in recent months has been the shortening of average maturity of borrowing in the OECD area. The objective of sovereign debt management is often defined as "to ensure that the government's financing needs and its payment obligations are met at the lowest possible cost over the medium- to long-run, consistent with a prudent degree of risk". In order to achieve this goal, sovereign issuers set funding strategies in a way that strikes a balance between minimising interest expenses and refinancing risks, considering market conditions. In times of crisis, sovereign issuers prioritise ensuring funding without deteriorating the functioning of government securities markets over refinancing risk concerns. While short-term securities cost less than long-term securities –in a positive (normal) yield curve environment- they must be rolled over in short periods, which in turn increases issuers' exposure to market

developments. This policy, while is effective in short-term, would lead higher roll-over ratios if it continues for longer periods.

As discussed in the previous section, sovereign issuers in many OECD countries have expanded their short-term borrowing programmes to manage unexpected surges in financing needs following the COVID-19 outbreak. The share of short-term instruments in total issuance by OECD governments in the first 20 weeks of 2020 is 73%. Even though this amount includes short-term borrowing needs that will unlikely be rolled-over, it is quite high compared with historical figures (Figure 1.9). In order to reduce rollover risks, maturity choices could lean towards longer-dated securities, taking into account the trade-off between expected cost and risk of short and long-term borrowing choices.

Figure 1.9. Maturity composition of central government marketable debt issuance



Notes: These are based on standardised gross borrowing figures.
Source: Data between 2007 and 2019 are from the 2019 Survey on Central Government Marketable Debt and Borrowing; *OECD Economic Outlook*, https://doi.org/10.1787/0d1d1e2e-en; Refinitiv; national authorities' websites; and OECD calculations.

In the OECD area, the medium and long-term debt redemption profile increased dramatically in the post-GFC period, but has stabilised around 7.5% of GDP in recent years (Figure 1.10, Panel A). In the next three years, governments will need to refinance around 40% of their outstanding marketable debt (Figure 1.10, Panel B). Given the surge in borrowing needs in response to the pandemic, redemptions will also further increase. This call for vigilance for sovereign issuers, in particular in the countries where increasing new funding requirements coincides with heavy repayments, on the global risks in the coming periods.

In countries where the increase in borrowing requirements has been substantial, sovereign issuers may benefit from increasing their financing capacity by introducing new securities, or adjusting existing products. Introducing new securities with long-term maturities, in particular, would not only help mitigate refinancing risks in the medium and long-term, but also generate additional demand from available domestic and international savings pools. Also, the diversification of funding sources reduces the reliance on any one group of investors.

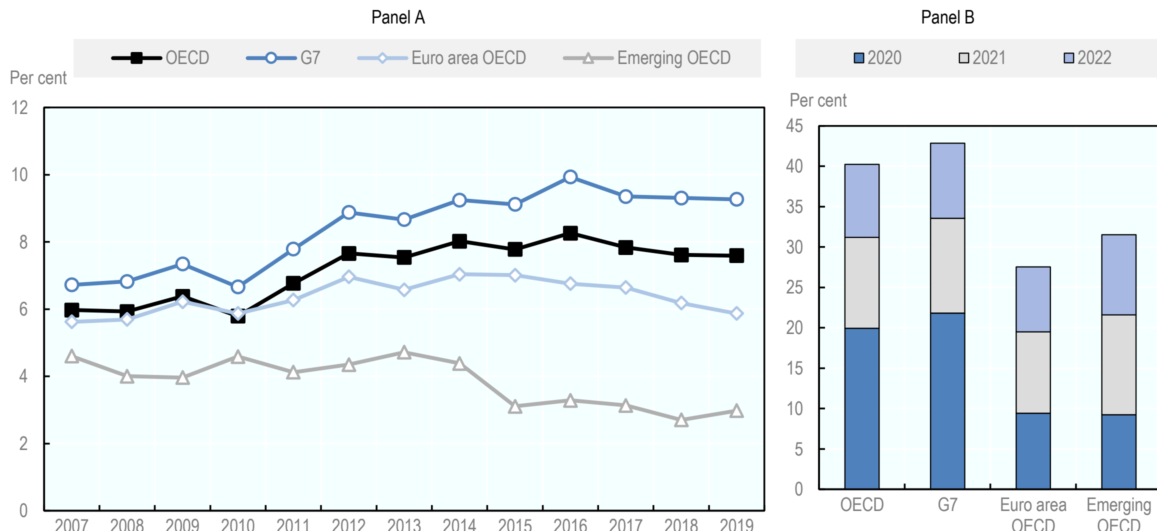
In deciding on a new maturity line, or a new security type, a critical issue to assess is the presence of strong and sustainable investor demand for such debt. From the debt managers' perspective, it can be extremely difficult and costly to develop a market for a new instrument and also continue to implement a predictable government financing programme in the absence of a robust and viable investor demand (OECD, 2018[5]). In addition, sovereign issuers should consider the potential "cannibalisation" of liquidity in existing bonds with similar maturities.[10] When a large group of investors shifts from an existing maturity

segment to a new one, this development can undermine market liquidity for the existing segment. However, when borrowing needs increase substantially and are expected to remain so in medium to long-term, it is possible to issue new instruments without harming the liquidity of existing ones with similar characteristics.

Increased budget deficits may further encourage some sovereigns, who had planned to issue new instruments prior to the COVID-19 outbreak, to increase the volume of such issuance. For example, a few sovereign issuers including Denmark, Germany and Sweden, have announced their plans to issue debut green bonds in 2020. Similarly, the US Treasury decided to introduce the secured overnight financing rate (SOFR)-linked bond in 2019. Inaugural issuances of such new instruments might offer higher volumes as total funding needs have risen substantially. It should be noted that providing adequate supply of new securities can help to enhance secondary market liquidity, and thereby lower liquidity premia and cost of borrowing.

Figure 1.10. Redemptions of central government marketable debt in OECD country groupings

Panel A: Redemption of central government marketable debt, as a percentage of GDP (2007-2019), Panel B: Debt due in the next three years as a percentage of debt stock



Notes: Panel A is medium and long-term redemptions as a percentage of GDP, Panel B also includes short-term debt with data as of 8 June 2020.
Source: Panel A, 2019 Survey on Central Government Marketable Debt and Borrowing; *OECD Economic Outlook*, https://doi.org/10.1787/0d1d1e2e-en; Refinitiv; national authorities' websites; and OECD calculations. Panel B, Refinitiv

1.5.3. Reviewing and adapting business continuity plans for pandemics

Similar to other businesses, the COVID-19 pandemic affects business operations of sovereign DMOs in terms of health and safety of workers, while the fiscal response to the pandemic weighed on funding needs in most OECD countries. Against this background, ensuring the continuity of the funding and cash management activities of DMOs has become critical for the continuity of governments' fight against the pandemic.

As discussed in detail in Chapter 3, many DMOs have activated their business continuity plans (BCPs) at early stages of the outbreak to ensure that their critical functions (government financing and debt repayments) are resilient during the crisis. Most DMOs have been carrying out operations including auctions, payments and transactions, and cash management partly or completely remotely since end-March. Also, split operations have been conducted to limit the risk of contagion. OECD DMOs reported

that teleworking has functioned unexpectedly well, albeit some initial challenges (e.g. lack of technical equipment).

Looking forward, identification of gaps in business continuity plans would help to improve preparedness for potential future virus outbreaks (e.g. a second wave of COVID-19). Once the crisis is over or has subsided, sovereign DMOs should review their business continuity and recovery plans in light of the lessons learned during the COVID-19 pandemic. Identification of gaps in BCPs or necessary equipment to be acquired would help to improve their preparedness for potential future virus outbreaks. Furthermore, the use and priority of secondary sites might be worth reviewing as the recent experience of wide-scale remote working experience has proved to be effective in managing certain type of stress scenarios.

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Annex 1.A. Methods and sources

Definitions

- *Standardised Gross borrowing requirement* (GBR) for a year is equal to net borrowing requirement during that year plus the redemptions on the capital market at the beginning of the same year. Also, the (estimated) cash balance may affect the funding needs. In other words, the size of GBR in calendar year amounts to how much the DMO needs to issue in nominal terms so as to fully pay back maturing debt plus the net cash borrowing requirement through any issuance mechanism.
- *Net* borrowing *requirement (NBR)* is the amount to be raised for current budget deficit. While refinancing of redemptions is a matter of rolling over the same exposure as before, NBR refers to new exposure in the market.
- *The* funding *strategy* involves the choice of i) money market instruments for financing short-term GBR and ii) capital market instruments for funding long-term GBR. The strategy entails information on how borrowing needs are going to be financed using different instruments such as long-term, short-term, nominal, variable-rate, indexed bonds and FX-denominated debt.
- Gross *debt* corresponds to the outstanding debt issuance at the end of calendar years. This measure does not take the valuation effects from inflation and exchange rate movements, thus it is equal to the total nominal amount that needs to be paid back to the holders of the debt.
- Redemptions refers to the total amount of the principal repayments of the corresponding debt including the principal payments paid through buy-back operations in a calendar year.

Regional aggregates

- Total OECD area denotes the following 36 countries: Australia, Austria, Belgium, Canada, Chile, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Japan, Korea, Latvia, Lithuania, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovak Republic, Slovenia, Spain, Sweden, Switzerland, Turkey, the United Kingdom and the United States. As most data in this chapter come from the 2019 survey all results which use the survey data exclude Colombia which only became the 37th member of the OECD on 28 April 2020.
- The G7 includes seven countries: Canada, France, Germany, Italy, Japan, United Kingdom and the United States.
- The OECD euro area includes 17 members: Austria, Belgium, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Portugal, Slovak Republic, Slovenia and Spain.
- In this publication, the Emerging OECD group (i.e. OECD emerging-market economies) is defined as including five countries: Chile, Hungary, Mexico, Poland and Turkey.
- The euro (€) is the official currency of 19 out of 28 EU member countries. These countries are collectively known as the euro area. The euro area countries are Austria, Belgium, Cyprus, Estonia, Finland, France, Germany, Greece, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Portugal, Slovakia, Slovenia, and Spain.

Calculations and data sources

- Estimates that are presented as a percentage of GDP are calculated using nominal GDP data from the *OECD Economic Outlook,* June 2020.
- Debt is measured as the face value of current outstanding central government debt. Face value, the undiscounted amount of principal to be repaid, does not change except when there is a new issue of an existing instrument. This coincides with the original promise (and therefore contractual obligation) of the issuer. DMOs often use face value when they report how much nominal debt will mature in future periods. One important reason for using face value is that it is the standard market practice for quoting and trading specific volumes of a particular instrument.
- To facilitate comparisons with previous versions of the Outlook, figures are converted into US dollars using exchange rates from 1 December 2009, unless indicated otherwise. Where currency are converted into US dollars using flexible exchange rates, notes in figures and tables refer explicitly to that approach. Source: Refinitiv. The effects of using alternative exchange rate assumptions (in particular, fixing the exchange rate versus using flexible exchange rates) are illustrated in Figures 1.3 and 1.4 of Chapter 1 of the *Sovereign Borrowing Outlook, 2016*.
- All figures refer to calendar years unless specified otherwise.
- Aggregate figures for gross borrowing requirements (GBR), net borrowing requirements (NBR), central government marketable debt, redemptions, and debt maturing are compiled from answers to the Borrowing Survey. The OECD Secretariat inserted its own estimates/projections in cases of missing information for 2019 and/or 2020, using publicly available official information on redemptions and central government budget balances.
- Negative-yielding debt calculations in Figure 1.6 (Panel B) are based on all issuances and re-openings of fixed-rate bonds (i.e. data excludes: short-term instruments, indexed linked, floating rate instruments and strips). Data is sourced from Refinitiv.
- For Figure 1.8: Several central banks have become dominant holders of domestic government bonds, it should be noted that for Panel A, the United States, marketable treasury securities, excluding treasury bills, held by the Federal Reserve as a share of outstanding marketable treasury securities, excluding treasury bills, at market value. For the United Kingdom, Asset Purchase Facility holdings as a share of outstanding (conventional) gilts, at market value. For Canada, government bonds, excluding treasury bills, held by the Bank of Canada as a share of outstanding Canadian government bonds. For Japan, government bonds held by the Bank of Japan as a share of outstanding treasury securities, excluding treasury discount bills and including FILP bonds, at nominal value. For the euro area countries, cumulative net purchases of government bonds in the Eurosystem Public Sector Purchase Programme and the Pandemic Emergency Purchase Programme at book value as of end-May 2020 as a share of outstanding general government bonds at face value as of end-April 2020. For Sweden, the purchases of government bonds (355.4 billion SEK as of15 May 2020) as a share of outstanding government bonds as of end-April 2020, at face value.

Notes

[1] This publication would normally standardise gross borrowing needs for short-term borrowing short-term operations, in order to make meaningful estimates that are comparable across the OECD area and also include comparable refinancing operations with corrections for artificially inflated (OECD, 2014[6]). In standardised gross borrowing needs, short-term gross borrowing requirements are calculated as the total of short-term debt stock at the end of the previous year and short-term net borrowing over the calendar year. This methodology aims to exclude funding needs (usually for cash management operations) for less than one year. However on this occasion gross borrowing figures are also presented as economies continue to issue debt in response to the ongoing COVID-19 pandemic.

[2] In Germany, the clause for exceptional circumstances in the public debt break was triggered on 25 March to allow debt financing of a supplementary budget of EUR 156 billion (4.5% of GDP) to cope with the coronavirus pandemic. An additional package for 2020 and 2021 of EUR 130 billion (3.8% of GDP) announced in early June is aimed at stimulating demand during the recovery (OECD, 2020[1]). Further off-balance liquidity support has been provided to firms, such as credit programmes through the national development bank (KfW), credit guarantees and equity injections. This contributed to increase in the 2020 financing and liquidity requirements of the Federal government's budget and its special funds.

[3] Sometimes, the institutions providing social transfers have issued bonds with state guarantees (e.g. UNEDIC in France). In other cases, extra expenses for social transfers were covered by changing the composition of expenditure, using emergency funds already attributed (e.g. Japan, South Korea).

[4] OECD Economic outlook assessed the impact of the fiscal responses on public debt levels under two different scenarios, namely single-hit and double-hit scenarios. Between 2019 and 2021, public debt relative to GDP in the OECD area is projected to increase by 18 percent under single hit scenario. The ratio increase by another 8 percentage points under double hit scenario (OECD, 2020[1]).

[5] EU initiatives in response to the crisis include the following: i) 'European Stability Mechanism (ESM) Pandemic Crisis Support' which is a low conditionality credit line that euro area countries can access to receive loans of up to 2% of their 2019 GDP and at a maturity of up to ten years; ii) 'The European Investment Bank's pan-European guarantee fund' amounts to EUR 25 billion to facilitate up to EUR 200 billion of loans primarily to SMEs; iii) 'A temporary Support to mitigate Unemployment Risk in an Emergency (SURE) programme', aiming to fight unemployment in the Union; iv) 'The European Commission recovery fund' plan to reinforce the EU budget with an exceptional and temporary EUR 750

billion fund, comprising around EUR 450 billion of grants, EUR 50 billion of guarantees and EUR 250 billion of loans, distribution of which are expected in early 2021.

[6] While majority of OECD sovereign issuers are anticipating changes in issuance size, a few countries including Lithuania, Poland, and Slovenia have reported no change in issuance strategies.

[7] The US Treasury, facing increasing funding needs already before the COVID-19 outbreak, consulted with a broad range of market participants regarding a set of instruments, including 20-year bonds, 50-year bonds and a SOFR index floating rate note in 2019. Their outreach suggested that there was stronger appetite for a potential 20-year bond, than for an ultra-long bond, as evidenced by their decision in to proceed with a new 20-year offering in 2020.

[8] A post-auction option is a facility whereby all successful direct bidders – mostly primary dealers – are offered the right to purchase up to an additional percentage of the securities they bought at the relevant auction, at the published average accepted price in multiple price format auctions.

[9] For example, 10-year bond yields dropped by 220 basis points on average in the OECD area between 2012 and 2019. Even though sovereign debt levels remained high in the OECD area, interest payments in relation to GDP have decreased due to issuance of debt at low interest rates during this period. On average interest expenses on general government debt as a percentage of GDP fell from 2.5% in 2012 to 1.8% in 2017 and further to 1.5% in 2019

[10] A 2017 survey of OECD Working Party on Debt Management (WPDM) members on alternative approaches to sovereign borrowing reveals that, when an alternative borrowing instrument is introduced, sovereign issuers consider a list of parameters: i) potential impact on existing instruments; ii) additional costs due to novelty and liquidity premia; iii) strength and sustainability of investor demand across interest rate cycles; iv) expanding investor base; v) complications around pricing of a new instrument; vi) portfolio diversification and risk reduction; vii) governmental decisions; viii) playing a leading role in developing a market segment (OECD, 2018[5])

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