

## Central banks' response to Covid-19 in advanced economies: online appendix

This online appendix provides further details on the monetary policy measures announced by the Bank of Canada, the ECB, the Bank of Japan, the Bank of England and the Federal Reserve, and describes the assumptions underlying the projections in Graphs 2 and 3 in the Bulletin.

### Balance sheet projections

Table A1

Central bank	Main assumptions
Bank of Canada	<ul style="list-style-type: none"> <li>End-of-year amount of outstanding repos is C\$150bn.</li> <li>End-of-year holding of Treasury bills is 20–40% of outstanding amount (C\$183bn); and that of Government of Canada Bonds (GCBs) is 25–35% of outstanding amount (C\$734bn).</li> <li>End-of-year holding of mortgage bonds is 10% of GCB purchases; that of provincial bonds is C\$50bn; of corporate bonds, C\$10bn; of Bankers' Acceptances, C\$0bn; and of commercial paper, C\$0bn.</li> </ul>
Bank of England	<ul style="list-style-type: none"> <li>End-of-year outstanding TFS and TFSME loans are 5–15% of outstanding financial institutions' loans to private sector (£2.4trn).</li> <li>End-of-year holding of commercial paper is 30–70% of estimated eligible issuance (£54bn).</li> <li>APF purchases are £200bn (80%-90% of which are public sector assets).</li> </ul>
Bank of Japan	<ul style="list-style-type: none"> <li>End-of-year outstanding SOCF loans are 60–80% of total collateral (¥25trn); and outstanding SOSME loans are 30–70% of total collateral (¥30trn).</li> <li>End-of-year holding of JGBs is 50–55% of outstanding amount (¥1,038trn); that of commercial paper is ¥9.5trn; of corporate bonds, ¥10.5trn; of ETFs, ¥12trn; and of J-REITs (real estate investment trusts), ¥180bn.</li> </ul>
Eurosystem	<ul style="list-style-type: none"> <li>End-of-year outstanding TLTRO III loans are 40–60% of maximum available amount (€2.9trn); and outstanding LTROs loans are €0bn.</li> <li>Total APP purchases (over the whole year) are €240bn + €120bn; and total PEPP purchases are €900bn–€1.1tn until the end of the year (70%-90% of which are public sector assets).</li> </ul>
US Federal Reserve System	<ul style="list-style-type: none"> <li>End-of-year holding of Treasuries is 22–27% of outstanding amount (\$20.6trn); and that of commercial paper is 0–20% of outstanding amount (\$1.1trn).</li> <li>MBS purchases are 25% of Treasuries purchases.</li> <li>End-of-year utilisation of TALF, MSLP, PPPLF, PMCCF, SMCCF and MLF = 30–70% of announced size.</li> <li>End-of-year utilisation of PDCF and MMLF is 0% of announced size.</li> </ul>

For all central banks, we assume that maturing assets are fully reinvested and that all other items in their balance sheets return to their pre-crisis levels by the end of the year. Flows are distributed geometrically across weeks.

### Foreign exchange measures

Table A2

Central bank	Programme name	Acronym	First announcement	End date	Counterparties	Size
Bank of Japan	YEN swap line	YEN SL	31 Mar 2020		TH	¥800bn
Eurosystem	EUR swap line	EUR SL1	20 Mar 2020		DK	€24bn
	EUR swap line	EUR SL2	15 Apr 2020	31 Dec 2020	BG, HR	€2bn
US Federal Reserve System	USD swap line	USD SL1	15 Mar 2020		CA, CH, EA, GB, JP	\$30bn–60bn
	USD swap line	USD SL2	19 Mar 2020	30 Sep 2020	AU, BR, DK, KR, MX, NO, NZ, SG, SE	
	USD repo facility	FIMA RF	31 Mar 2020	30 Sep 2020	FIMA account holders	

Source: Central bank websites.

## Lending operations

Table A3

Central bank	Programme name	Acronym	First announcement	Counterparties	Maturity <sup>1</sup>	Size	Fiscal backing	Link to lending	Changes if active pre-crisis				
									Mat.	Coll.	Freq.	Size	Price
Bank of Canada	Term Repo operations	TROs	12 Mar	Primary dealers	S, L				✓	✓	✓		
	Standing Term Liquidity Facility	STLF	19 Mar	Fin'l institutions	S								
	Contingent Term Repo Facility	CTRF	20 Mar	Eligible c'parties	S								
Bank of England	Term Funding Scheme with additional incentives for SMEs	TFSME	11 Mar	Banks	L			✓					
	Contingent Term Repo Facility	CTRF	24 Mar	Banks	S	Full allot.							
	Ways and Means facility	W&MF	09 Apr	Government	S							✓	
Bank of Japan	Funds-supplying and repo operations	FSOs-ROs	13 Mar	Fin'l institutions	S				✓			✓	
	Securities Lending Facility	SLF	13 Mar	Fin'l institutions	S						✓	✓	
	Special Funds-Supplying Operations to Facilitate Corporate Financing	SOCF	16 Mar	Fin'l institutions	L	¥25tn <sup>2</sup>		✓					
	New Fund-Provisioning Measure to Support Financing Mainly of SMEs	SOSME	27 Apr	Fin'l institutions	L	¥30tn <sup>2</sup>		✓					
Euro-system	Targeted Longer-Term Refinancing Operation III	TLTRO III	12 Mar	Banks	L	€1.2tn <sup>2</sup>		✓				✓	✓
	Longer-Term Refinancing Operations	LTROs	12 Mar	Banks	S	Full allot.						✓	✓
	Pandemic Emergency Longer-Term Refinancing Operations	PELTROs	30 Apr	Banks	L	Full allot.							
US Federal Reserve System	Repurchase agreement	ROs	09 Mar	Primary dealers	S				✓		✓	✓	
	Discount window	DW	15 Mar	Depository inst's	S				✓				✓
	Primary Dealer Credit Facility	PDCF	17 Mar	Primary dealers	S								
	Money Market Mutual Fund Liquidity Facility	MMLF	18 Mar	Depository inst's	S								
	Term Asset-Backed Securities Loan Facility	TALF	23 Mar	Companies with collateral	L	\$100bn	\$10bn	✓					
	Main Street Lending Program	MSLP	23 Mar	Depository inst's	L	\$600bn	\$75bn	✓					
	Paycheck Protection Program Liquidity Facility	PPPLF	06 Apr	PPP loan issuers	L	\$659bn <sup>2</sup>	✓	✓					

<sup>1</sup> S = maturity of less than 12 months; L = maturity of 12 months or more. <sup>2</sup> Size of eligible collateral (for TLTRO III, the number refers to the change from its pre-crisis level).

Source: Central bank websites.

## Asset purchases

Table A4

Central bank	Programme name	Acronym	First announcement	Maturity <sup>1</sup>	Size	Fiscal backing	Public assets			Private assets					
							Sovereign debt	Local gov't debt	PA debt	CP	Cov'd bonds	ABS/MBS	CBs	Equities	Other
Bank of Canada	Bankers' Acceptance Purchase Facility	BAPF	13 Mar	S											✓
	Canada Mortgage Bonds Purchase Program <sup>2</sup>	CMBP	16 Mar	L	C\$0.5bn/wk					✓					
	Provincial Money Market Purchase	PMMP	24 Mar	S	max 40% offerings			✓							
	Government of Canada Securities Purchases	GCSPs	27 Mar	L	C\$5bn/wk		✓								
	Commercial Paper Purchase Program	CPPP	27 Mar	S					✓						
	Treasury purchases	TPs	15 Apr	S	max 40% offerings		✓								
	Provincial Bond Purchase Program	PBPP	15 Apr	L	C\$50bn						✓				
Bank of England	Corporate Bond Purchase Program	CBPP	15 Apr	L	C\$10bn								✓		
	Covid Corporate Financing Facility	CCFF	17 Mar	S		100%			✓						
Bank of Japan	Asset Purchase Facility	APF	19 Mar	L	£200bn		✓						✓		
	Japanese government bond purchases	JGBPs	13 Mar	L	unlimited		✓								
	CP and corporate bond purchases	CPPs-CBPs	16 Mar	S	¥15tn				✓				✓		
Euro-system	ETFs and J-REITs purchases	ETFPs-JREITPs	16 Mar	L	¥6.2tn									✓	
	Asset Purchase Programme	APP	12 Mar	L	€120bn		✓		✓	✓	✓	✓	✓		
	Pandemic Emergency Purchase Programme	PEPP	18 Mar	L	€1.35tn		✓		✓	✓	✓	✓	✓		
US Federal Reserve System <sup>3</sup>	System Open Market Account holdings	SOMA	15 Mar	L	unlimited		✓					✓			
	Commercial Paper Funding Facility	CPFF	17 Mar	S		\$10bn			✓						
	Primary Market Corporate Credit Facility	PMCCF	23 Mar	L	\$500bn	\$50bn							✓		
	Secondary Market Corporate Credit Facility	SMCCF	23 Mar	L	\$250bn	\$25bn							✓	✓	
	Municipal Liquidity Facility	MLF	09 Apr	S	\$500bn	\$35bn			✓						

<sup>1</sup> S = maturity of less than 12 months; L = maturity of 12 months or more. <sup>2</sup> On 12 March 2020, the Bank of Canada modified its Bond Buyback Program by increasing its size and the maturity of the purchases. The CMBP replaces these changes. <sup>3</sup> On 12 March 2020, the Fed increased the maturity of its reserve management purchases to match the maturity composition of Treasury securities outstanding.

Source: Central bank websites.