

# BIS Quarterly Review

International banking and financial  
market developments

June 2021

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Monetary and Economic Department

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## Notations used in this Review

billion	thousand million
e	estimated
lhs, rhs	left-hand scale, right-hand scale
\$	US dollar unless specified otherwise
...	not available
.	not applicable
–	nil or negligible

Differences in totals are due to rounding.

The term “country” as used in this publication also covers territorial entities that are not states as understood by international law and practice but for which data are separately and independently maintained.

## Abbreviations

### Currencies

ALL	Albanian lek	MXN	Mexican peso
ARS	Argentine peso	MXV	Mexican unidad de inversión (UDI)
AUD	Australian dollar	MYR	Malaysian ringgit
BGN	Bulgarian lev	NAD	Namibian dollar
BHD	Bahraini dinar	NGN	Nigerian naira
BRL	Brazilian real	NOK	Norwegian krone
CAD	Canadian dollar	NZD	New Zealand dollar
CHF	Swiss franc	OTH	All other currencies
CLP	Chilean peso	PEN	Peruvian sol
CNY (RMB)	Chinese yuan (renminbi)	PHP	Philippine peso
COP	Colombian peso	PLN	Polish zloty
CZK	Czech koruna	RON	Romanian leu
DKK	Danish krone	RUB	Russian rouble
EUR	euro	SAR	Saudi riyal
GBP	pound sterling	SEK	Swedish krona
HKD	Hong Kong dollar	SGD	Singapore dollar
HUF	Hungarian forint	THB	Thai baht
IDR	Indonesian rupiah	TRY	Turkish lira
ILS	Israeli new shekel	TWD	New Taiwan dollar
INR	Indian rupee	USD	US dollar
ISK	Icelandic króna	VES	bolívar soberano
JPY	Japanese yen	VND	Vietnamese dong
KRW	Korean won	XOF	CFA franc (BCEAO)
MAD	Moroccan dirham	ZAR	South African rand

## Countries

AE	United Arab Emirates	CY	Cyprus
AF	Afghanistan	CZ	Czech Republic
AL	Albania	DE	Germany
AM	Armenia	DJ	Djibouti
AO	Angola	DK	Denmark
AR	Argentina	DM	Dominica
AT	Austria	DO	Dominican Republic
AU	Australia	DZ	Algeria
AZ	Azerbaijan	EA	euro area
BA	Bosnia and Herzegovina	EC	Ecuador
BD	Bangladesh	EE	Estonia
BE	Belgium	EG	Egypt
BF	Burkina Faso	ER	Eritrea
BG	Bulgaria	ES	Spain
BH	Bahrain	ET	Ethiopia
BI	Burundi	FI	Finland
BJ	Benin	FJ	Fiji
BM	Bermuda	FO	Faeroe Islands
BN	Brunei	FR	France
BO	Bolivia	GA	Gabon
BR	Brazil	GB	United Kingdom
BS	The Bahamas	GD	Grenada
BT	Bhutan	GE	Georgia
BW	British West Indies	GH	Ghana
BY	Belarus	GN	Guinea
BZ	Belize	GQ	Equatorial Guinea
CA	Canada	GR	Greece
CD	Democratic Republic of the Congo	GT	Guatemala
CF	Central African Republic	GW	Guinea-Bissau
CG	Republic of Congo	GY	Guyana
CH	Switzerland	HN	Honduras
CI	Côte d'Ivoire	HK	Hong Kong SAR
CL	Chile	HR	Croatia
CM	Cameroon	HT	Haiti
CN	China	HU	Hungary
CO	Colombia	ID	Indonesia
CR	Costa Rica	IE	Ireland
CV	Cabo Verde	IL	Israel

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## Countries (cont)

IN	India	MX	Mexico
IO	International organisations	MY	Malaysia
IQ	Iraq	MZ	Mozambique
IR	Iran	NA	Namibia
IS	Iceland	NC	New Caledonia
IT	Italy	NG	Nigeria
JE	Jersey	NL	Netherlands
JM	Jamaica	NO	Norway
JO	Jordan	NR	Nauru
JP	Japan	NZ	New Zealand
KE	Kenya	OM	Oman
KG	Kyrgyz Republic	PA	Panama
KH	Cambodia	PE	Peru
KR	Korea	PG	Papua New Guinea
KW	Kuwait	PH	Philippines
KY	Cayman Islands	PK	Pakistan
KZ	Kazakhstan	PL	Poland
LA	Laos	PT	Portugal
LB	Lebanon	PY	Paraguay
LC	St Lucia	QA	Qatar
LK	Sri Lanka	RO	Romania
LR	Liberia	RS	Serbia
LS	Lesotho	RU	Russia
LT	Lithuania	RW	Rwanda
LU	Luxembourg	SA	Saudi Arabia
LV	Latvia	SC	Seychelles
LY	Libya	SD	Sudan
MA	Morocco	SE	Sweden
MD	Moldova	SG	Singapore
ME	Montenegro	SK	Slovakia
MH	Marshall Islands	SI	Slovenia
MK	North Macedonia	SR	Suriname
ML	Mali	SS	South Sudan
MM	Myanmar	ST	São Tomé and Príncipe
MN	Mongolia	SV	El Salvador
MO	Macao SAR	SZ	Eswatini
MR	Mauritania	TD	Chad
MT	Malta	TG	Togo
MU	Mauritius	TH	Thailand
MV	Maldives	TJ	Tajikistan
MW	Malawi	TL	East Timor

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Countries (cont)

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TM	Turkmenistan	UY	Uruguay
TO	Tonga	UZ	Uzbekistan
TR	Turkey	VC	St Vincent and the Grenadines
TT	Trinidad and Tobago	VE	Venezuela
TW	Chinese Taipei	VG	British Virgin Islands
TZ	Tanzania	VN	Vietnam
UA	Ukraine	ZA	South Africa
US	United States	ZM	Zambia

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## Corporate debt: post-GFC through the pandemic<sup>1</sup>

*Debt securities markets have grown globally. Exploring the BIS international debt securities statistics, we find that the offshore affiliates of non-financial corporates (NFCs) have played an important role since the Great Financial Crisis. For NFCs from emerging market economies (EMEs) in particular, debt issuance through such affiliates – mainly in US dollars – has been closely linked with global financial conditions. Against the backdrop of a temporary spike in credit risk premia after the pandemic's outbreak, issuance has been robust throughout the past year. Combining data on both international and domestic debt securities reveals that borrowing by advanced economy firms and by hard-hit EME industries has surged.*

*JEL classification: F30, G15.*

With the shift towards market-based finance after the Great Financial Crisis (GFC), debt securities assumed a greater role in the international financial system (Shin (2013); Aldasoro and Ehlers (2018); CGFS (2021)). Post-GFC, debt issuance grew faster than bank lending and its relationship with global financial conditions strengthened (Avdjiev et al (2020)). Most recently, the economic fallout of the Covid-19 shock and the attendant policy responses have further shaped these trends.

To assess the post-GFC market for non-financial corporate (NFC) debt, we draw on the BIS international debt securities (IDS) statistics and one of their more granular inputs, Dealogic.<sup>2</sup> Our focus is thus on the direct market-based provision of credit to the production side of the economy, which most recently bore the brunt of the pandemic. For the bulk of our analysis, we organise the data by borrowers' nationality – ie the country of the issuer's headquarters – rather than residence – as typically done in a capital flows context. Given the increasingly globalised structures of NFCs, our approach matches the perspective of decision-making entities (Avdjiev et al (2016); Bertaut et al (2019); Coppola et al (2021)). We maintain this perspective when we combine international and domestic debt issuance to study developments during the pandemic at the level of industrial sectors and credit ratings.

Over the past decade, NFCs' international debt has grown steadily and has responded to global financial conditions, with "offshore" affiliates – ie offices located

<sup>1</sup> The authors thank Stefan Avdjiev, Claudio Borio, Michael Chui, Stijn Claessens, Wenqian Huang, Branimir Gručić, Swapan-Kumar Pradhan, Patrick McGuire, Jose María Serena, Hyun Song Shin, Agustín Villar, Goetz von Peter and Philip Wooldridge for valuable comments and suggestions, and Kristina Mičić, Denis Pêtre and Jhuvesh Sobrun for excellent research assistance. The views expressed in this article are those of the authors and do not necessarily reflect those of the Bank for International Settlements.

<sup>2</sup> According to the BIS's definition, an IDS targets a market outside the country where the issuer resides. The BIS IDS statistics approach euro area countries individually.

## Key takeaways

- The international debt securities (IDS) of non-financial corporates (NFCs) have expanded since the Great Financial Crisis, rising from 3.9% to 6.8% of GDP in advanced economies (AEs) and from 1.2% to 2.2% in emerging market economies (EMEs) between 2009 and 2020.
- Offshore affiliates are particularly important for EME corporates, accounting for more than half of their outstanding IDS and contributing to a tight link between issuance and global financial conditions.
- Since the pandemic's outbreak, overall debt issuance by NFCs from AEs and hard-hit EME sectors has surged, while average credit spreads have been wider than over the preceding year.

outside the country of headquarters – playing a key role.<sup>3</sup> Outstanding amounts expanded from 3.9% of GDP in 2009 to 6.8% at end-2020 for borrowers in advanced economies (AEs), and from 1.2% to 2.2% of GDP for borrowers in emerging market economies (EMEs). The post-GFC link between global financial conditions and IDS issuance has been particularly strong for corporates headquartered in EMEs. To a large extent, this link has surfaced in US dollar-denominated issuance through these firms' offshore affiliates (Kim and Shin (2021)). At end-Q1 2021, the outstanding amounts in all currencies at such affiliates stood at 55% of overall IDS volumes for EME NFCs, compared with below 30% for AE NFCs.

Since the outbreak of the pandemic, NFCs' debt issuance has held up. Dollar issuance was generally strong for both AE and EME borrowers through Q1 2021 and so was euro issuance for AE borrowers, with a record surge in Q2 2020. From a sectoral perspective, we find that EME industries hard-hit by the pandemic stepped up their borrowing while the rise in AE issuance was evenly spread. This occurred on the back of credit spreads that were on average higher over the 12 months up to Q1 2021 than over the preceding year.

We proceed as follows. In the first section, we review long-term patterns in the outstanding amounts of NFCs' IDS and show the importance of accounting for offshore activity.<sup>4</sup> In the second section, we study NFCs' debt issuance since the start of the pandemic. Along the way, Box A reviews the criteria for classifying a security as an IDS and Box B investigates the post-GFC link between global financial conditions and NFCs' international debt issuance.

## International markets for NFC debt

NFCs stand out as a sector for the steady post-GFC growth in their IDS volumes. After reviewing long-term trends in outstanding amounts of NFC IDS from the commonly used residence perspective, we discuss the importance of organising the statistics from the perspective of borrowers' nationality. Doing so lets us identify substantial additional debt on the part of both AE and EME NFCs and provides us with more accurate measures of foreign currency borrowing.

<sup>3</sup> Throughout this article, "international debt" stands for IDS amounts outstanding. We also use the terms "NFC" and "corporate" interchangeably.

<sup>4</sup> The accompanying [online interactive graphs](#) allow for further exploration at the country/regional level.

## Growth of NFCs' international debt securities

International debt issued by NFCs has expanded significantly over the past 30 years. Outstanding amounts grew from around \$0.5 trillion in 1990 to \$7.7 trillion at end-2020. This has increased the role of debt securities markets in the international financial landscape, as international bank lending has been subdued (CGFS (2021)).

In AEs, NFCs' international debt has been steadily growing relative to these countries' GDP since the late 1990s. From 1.7% in 1997, this ratio rose to 3.9% in 2009 – the peak of the GFC – and to 6.8% by end-2020. This contrasts with the evolution of the much larger IDS volume issued by the financial sector, which spiked at 36% of GDP in 2009 but has since lagged behind GDP growth, falling to 28% by end-2020.

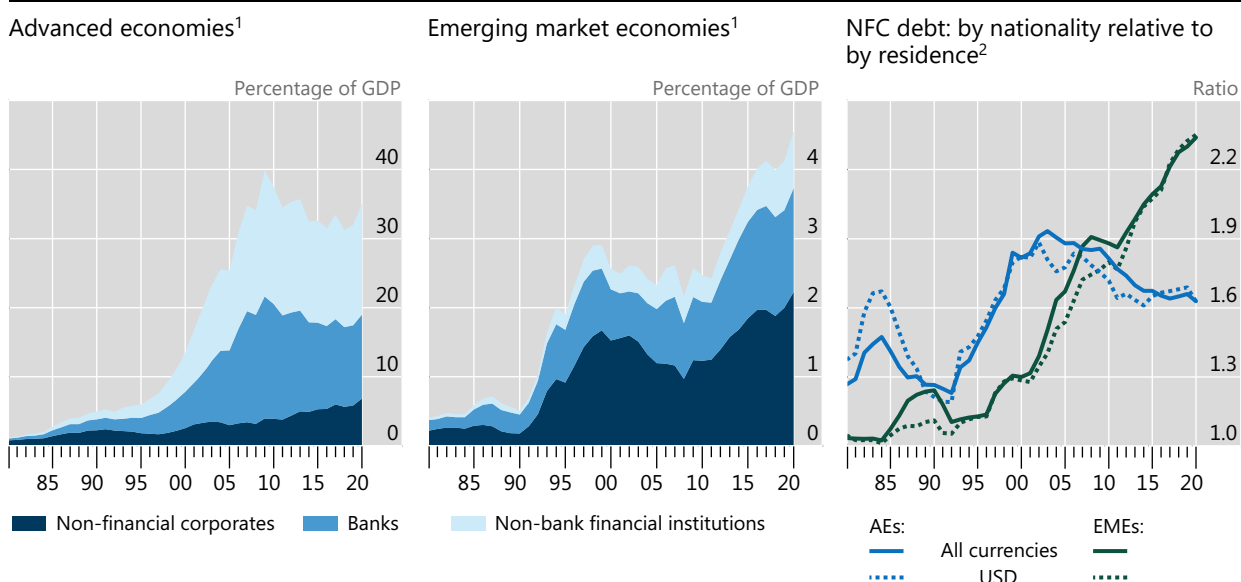
The international debt of corporates located in EMEs grew sharply in two phases. Strong issuance during the 1990s raised outstanding amounts from 0.2% of GDP in 1990 to 1.7% by 1999 (Graph 1, centre panel). While high GDP growth in the 2000s brought this ratio down, to 1.2% in 2009, a subsequent boost in issuance took it steadily up to 2.2% by end-2020. NFCs dominate non-sovereign issuance in EMEs, notwithstanding the growing amounts issued by financial firms in these countries.

Both supply and demand factors help explain the post-GFC growth in the international debt of EME-resident NFCs, especially in US dollars. For one, growing interest rate differentials vis-à-vis the United States made it attractive for borrowers in EMEs to issue long-dated dollar-denominated IDS (McCauley et al (2015)). And AEs' accommodative monetary policy drove investors to search for yield in EMEs. This demand was also bolstered by improved EME prospects on the back of institutional stability and successful growth-oriented macroeconomic policies (CGFS (2021)).

## IDS: divergent trends in advanced and emerging market economies

Amounts outstanding

Graph 1



<sup>1</sup> On a residence and immediate issuer sector basis. International debt securities (IDS) amounts outstanding for non-government issuers are aggregated by country group, and then normalised by the aggregate GDP of the country group. <sup>2</sup> Outstanding amounts of IDS issued by entities whose parent is an NFC headquartered in a particular country group, divided by the outstanding amounts of IDS for which the immediate issuer is an NFC residing in that country group.

Sources: IMF, *World Economic Outlook*; Dealogic; Euroclear; Thomson Reuters; Xtrakter Ltd; BIS debt securities statistics; authors' calculations.

## What constitutes an international debt security in BIS statistics?

*Iñaki Aldasoro, Bryan Hardy, Nikola Tarashev*

The BIS has published international debt securities (IDS) statistics since the 1980s, with coverage stretching back to the 1960s. They report outstanding amounts as well as both gross and net debt issuance, with the latter equal to the former minus repayments. These statistics include aggregates that can be grouped, for instance, by the country or sector of the immediate issuer's residence, the country or sector of the ultimate parent, or the currency of denomination. The definition of IDS has evolved over time to reflect changes in financial markets and to keep the statistics relevant for financial stability analysis.<sup>①</sup> The BIS currently treats a security as an IDS if its issuance targets a market outside the country of the immediate issuer's residence.<sup>②</sup>

Concretely, to include an issue in the IDS statistics, the BIS assesses (i) the residence of the immediate issuer; (ii) the location of the issue's registration;<sup>③</sup> (iii) the governing law; and (iv) the listing location (Table A). When *all four* characteristics refer to the same country, the issue is classified as a domestic debt security (DDS, column 1). When at least one points to a different country, the security is classified as international.<sup>④</sup> For example, if a resident of the United Kingdom issues a security governed by English law and listed on the London Stock Exchange *but* registered in the United States, then this is an IDS (column 2). The security would also be considered international if, say, the UK resident issued it under New York law or listed it on the New York Stock Exchange (columns 3 and 4).

The IDS classification does not refer to the issuer's nationality or the currency of the issue's denomination. Thus, an issue through an "offshore" affiliate – ie an office located outside the parent's country of nationality – might not be classified as IDS. For instance, this would happen if a Brazilian firm issues through its affiliate in the United States, provided that characteristics (ii)–(iv) all point to the United States (column 5). Likewise, if all-Brazilian debt is issued in US dollars, it would be a DDS (column 6). That said, such scenarios are rare: ie they account for 7.4% and 0.3%, respectively, of the raw data on gross issuance in Q1 2021. In the vast majority of cases, issuances through offshore affiliates or in foreign currencies satisfy the IDS selection criteria in scenarios such as those in columns 7 and 8.<sup>⑤</sup>

### Classifying debt securities as international in the BIS IDS

Table A

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	
IDS criteria	(i) Immediate issuer residence	GB	<b>GB</b>	<b>GB</b>	<b>GB</b>	US	BR	<b>BR</b>	<b>BR</b>
	(ii) Securities registration	GB	<b>US</b>	GB	GB	US	BR	US	<b>US</b>
	(iii) Governing law	GB	GB	<b>US</b>	GB	US	BR	<b>US</b>	BR
	(iv) Listing location	GB	GB	GB	<b>US</b>	US	BR	US	BR
(v) Parent nationality	GB	GB	GB	GB	<b>BR</b>	BR	<b>US</b>	BR	
(vi) Currency of issue	GBP	GBP	GBP	GBP	USD	<b>USD</b>	USD	<b>USD</b>	
Classification	<b>DDS</b>	<b>IDS</b>	<b>IDS</b>	<b>IDS</b>	<b>DDS</b>	<b>DDS</b>	<b>IDS</b>	<b>IDS</b>	

Two-letter acronyms refer to country ISO codes; GBP = pound sterling; USD = US dollar; DDS = domestic debt securities; IDS = international debt securities. Entries in **red** indicate characteristics that underpin an IDS classification; entries in **blue** indicate characteristics that do not lead to an IDS classification on their own.

Source: Authors' elaboration.

① For a comprehensive overview of the statistics see B Gruić and P Wooldridge, "Enhancements to the BIS debt securities statistics", *BIS Quarterly Review*, December 2012, pp 63–76. ② The IDS statistics approach euro area countries individually, ie if a company in France lists a bond issue in Frankfurt or on a euro area-wide exchange, then this issue would be an IDS. ③ This is the location of the authorities with administrative responsibilities for the issue and often of the relevant repository. The country of registration is indicated by the first two digits of the issue's ISIN number. ④ In practice, there are instances where no information on the location of listing, registration and governing law is available. In such cases, information on where the issue is sold is used. If the issue is classified as foreign on this basis, it is part of the IDS. Foreign issues are defined by a non-resident issuing in the local market of a given country in domestic currency, and are identified by market participants with specific names (ie "Yankee bonds" for USD or "Samurai bonds" for JPY). ⑤ Column (7), where residence and nationality differ, is an example of "offshore" IDS issuance. Column (8), where residence and nationality coincide, is in turn an example of "onshore" IDS issuance.

## NFCs' international debt securities issued through offshore affiliates

Indebtedness needs to be assessed at the level of the ultimate obligor. This obligor can incur debt issued either directly from its headquarters or through affiliates that reside in another country ("offshore"). Such affiliates are typically located in offshore financial centres (OFCs) or AEs with highly developed financial markets.<sup>5</sup> Since residence-based statistics miss borrowing through these affiliates, they may provide a misleading picture of firms' indebtedness (Avdjiev et al (2016); Coppola et al (2021)).

There are many reasons why debt is issued via offshore affiliates. First, a more secure legal environment in a foreign jurisdiction could encourage issuance there. Second, issuing abroad and transferring the funds back could generate tax or administrative-cost savings and face less demanding regulatory frameworks (McCauley et al (2013)). Third, firms may face less restrictive capital controls on intercompany lending – classified as direct investment in the balance of payments (BOP) – relative to other cross-border flows. Fourth, in EMEs with less developed domestic bond markets, issuing offshore allows NFCs to reach a deeper investor base, particularly for foreign currency borrowing, and hence reduce borrowing costs (Black and Munro (2010)). Additionally, an affiliate could issue debt to finance its own activities in its country of residence.<sup>6</sup>

NFCs do indeed issue a substantial amount of international debt through offshore affiliates. To illustrate this, we arrange the IDS in two alternative ways. We first focus on the location of the immediate issuer (as in the left-hand and centre panels of Graph 1) and keep only debt for which that issuer is an NFC ("residency basis"). We then shift focus to the parent company ("ultimate issuer"), keeping only the debt of entities whose ultimate parents are NFCs and grouping the data according to the nationality of these parents ("nationality basis"). The outstanding amount of IDS has been consistently larger on a nationality basis than on a residency basis, most recently by a factor of 1.6 for AE NFCs and 2.3 for EME NFCs (Graph 1, right-hand panel). Typical of such an outcome is eg a Brazilian corporate that has issued half of its international debt from Brazil and the rest through a UK affiliate.

Accounting for all debt securities is important for measuring not only the level of indebtedness but also for analysing firms' exposure to various risk factors. For instance, residence-based measures materially understate international debt in US dollars, (Graph 1, right-hand panel, dashed lines), playing down firms' vulnerability to exchange rate movements. More generally, abstracting from debt issued through international financial centres – which are at the core of global markets – can be misleading about exposures to global financial conditions. We expand on these points in Box B.

Aggregate trends mask significant heterogeneity in NFCs' reliance on offshore affiliates for their international debt. Among AEs, the highest share of IDS issued offshore is by Swiss NFCs, at 90% (Graph 2, left-hand panel). German NFCs have the largest offshore IDS volume (red triangles), accounting for about 60% of their overall IDS. Across these and other euro area corporates, 80% of the outstanding amounts stem from offshore affiliates within the euro area. In turn, US NFCs stand out both for their large volume of IDS issued offshore, as well as their relatively large reliance on

<sup>5</sup> The IDS will capture the activity of these offshore affiliates to the extent that they issue an international bond relative to where they reside (Box A). See Avdjiev et al (2014) for further discussion of how firms may use the proceeds of debt raised by offshore affiliates.

<sup>6</sup> This is more likely the case for non-financial affiliates. As of end-Q1 2021, around 19% and 15% of AE and EME NFCs' offshore IDS was respectively issued through non-financial affiliates.

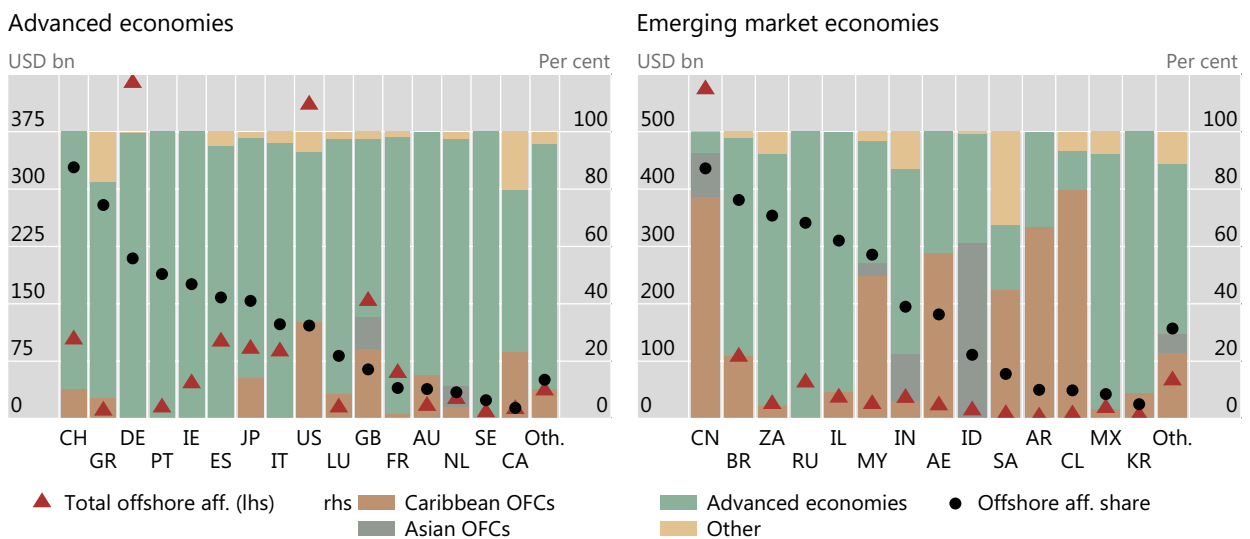
(mostly Caribbean) offshore financial centres. Other NFCs that are prone to tapping offshore financial centres, such as UK and Canadian corporates, are less reliant on foreign affiliates overall.

Offshore affiliates are particularly important for EME corporates – accounting for 55% of international debt at end-Q1 2021,<sup>7</sup> compared with less than 30% for AE NFCs. Six EME nationalities have more than half of their international debt at such affiliates (Graph 2, right-hand panel). At the top of the list is China, whose NFCs have more offshore debt than those of all other EMEs combined (red triangles), mainly in the Cayman Islands and the British Virgin Islands.<sup>8</sup> The other heavy users of affiliates outside the country of headquarters – ie Brazilian, Russian, South African and Israeli NFCs – borrow offshore primarily in AEs, notably the Netherlands and Luxembourg. At the same time, offshore debt is negligible for NFC nationals of some large EMEs, such as Korea.

## Offshore debt of non-financial corporations

Amounts outstanding at end-Q1 2021, by nationality and location of offshore affiliates<sup>1</sup>

Graph 2



Asian OFCs = Hong Kong SAR and Singapore; Caribbean OFCs = The Bahamas, Bermuda, British Virgin Islands, Cayman Islands, Curaçao, Netherlands Antilles and Panama.

<sup>1</sup> International debt securities issued by offshore affiliates, by nationality of the non-financial corporation (x-axis) and location of the affiliate (bars).

Sources: Dealogic; Euroclear; Thomson Reuters; Xtrakter Ltd; BIS debt securities statistics; authors' calculations.

<sup>7</sup> See Chui et al (2014) for an account of how this share grew post-GFC.

<sup>8</sup> These affiliates are likely to be shell companies through which Chinese firms access other financial centres, such as Hong Kong SAR. Indeed, issuance-level data from Dealogic reveals that over 76% of the debt issued by Chinese NFCs' Caribbean affiliates over the past decade was either listed in Hong Kong or subject to Hong Kong governing law.

## International corporate debt and global financial conditions: a strengthening link for emerging market economies

*Iñaki Aldasoro, Bryan Hardy, Nikola Tarashev*<sup>①</sup>

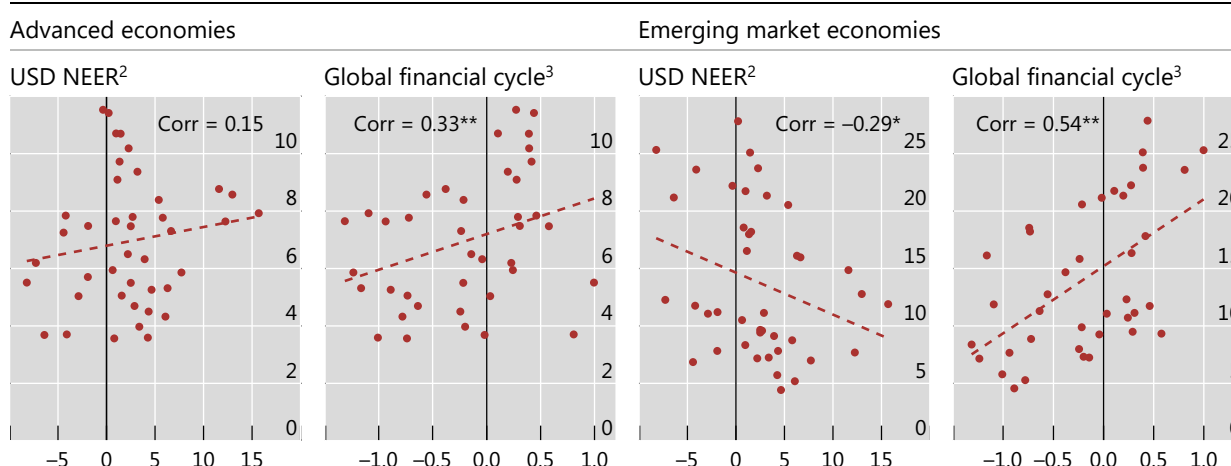
Bond markets have driven the “second phase of global liquidity” after the Great Financial Crisis (GFC). This phase was most visible in the market for the debt of non-financial corporates (NFCs), especially those from emerging market economies (EMEs) (Shin (2013)). In parallel, bond markets became more sensitive to global financial conditions (Avdjiev et al (2020)). In this box, we analyse the post-GFC link between NFCs’ issuance of international debt securities (IDS), on a nationality basis, and two commonly used indicators of global financial conditions: the US dollar nominal effective exchange rate (NEER) and an indicator of the “global financial cycle” (GFCy).<sup>②</sup>

Evidence about the post-GFC link between IDS issuance by AE NFCs and global financial conditions is mixed. Using the dollar’s strength as an indicator suggests that this link has been weak (Graph B, first panel). The relationship with the GFCy indicator is somewhat stronger, indicating that a loosening of financial conditions (a rise in the GFCy) goes hand in hand with higher IDS issuance (Graph B, second panel).

### Global financial conditions affect mostly EME corporates’ issuance of IDS

Growth rate in IDS issuance (y-axes, in per cent) vs selected indicators (x-axes)<sup>1</sup>

Graph B



<sup>1</sup> Issuance by non-financial corporate parents, by nationality. Growth rates are computed as the four-quarter moving sum of net issuance (gross issuance net of repayments) divided by amounts outstanding four quarters before. The sample runs from Q1 2011 to Q1 2021 for the first and third panels, and from Q1 2011 to Q3 2020 for the second and fourth panels. Each dot represents a quarter. \*\*\*/\*\*/\* indicate statistical significance of the slope coefficient at the 1/5/10% level, respectively. <sup>2</sup> Year-on-year growth rate of the US dollar nominal effective exchange rate, in percent. <sup>3</sup> Year-on-year change in the global financial cycle indicator from Miranda-Agrippino and Rey (2020), extended for the period Q2 2019–Q3 2020 using the first principal component of capital flows for a sample of 19 AEs and EMEs.

Sources: Miranda-Agrippino and Rey (2020); Federal Reserve Bank of St Louis, FRED; IMF; Dealogic; Euroclear; Thomson Reuters; Xtrakter Ltd; BIS debt securities statistics; authors’ calculations.

The corresponding relationships have been almost twice as strong for EME NFCs. Nominal US dollar appreciations have been systematically linked with lower IDS issuance by these entities (Graph B, third panel). This is in line with recent research highlighting the financial channel of exchange rates, whereby a depreciation (appreciation) of the global reserve currency has expansionary (contractionary) implications.<sup>③</sup> Likewise, upswings in the GFCy indicator have been tightly linked with higher IDS issuance by EME corporates post-GFC (Graph B, fourth panel).<sup>④</sup>

The role of “offshore” affiliates (ie those located outside the country of headquarters) in driving these relationships was small for AE NFCs but large for EME NFCs (Table B, first two rows).<sup>⑤</sup> Such affiliates actually generate a positive relationship between IDS issuance by AE NFCs and USD strength. For non-US NFCs in particular, this is consistent with the trade channel of exchange rates, whereby an appreciation of the dollar increases the competitiveness of the parent



company, leading it to finance its expansion by issuing debt through an offshore affiliate. In turn, it is debt issuance from the country of nationality (“onshore”) that accounts for the positive relationship between AE NFCs’ international borrowing and the GFCy indicator. For EME NFCs, by contrast, offshore affiliates have driven the strong links with both the USD NEER (negative) and the GFCy (positive). Most of these patterns are more pronounced if we zoom in on issuance denominated in US dollars (third and fourth rows).

## Offshore issuance by EME NFCs is more responsive to global financial conditions

### Pairwise correlations

Table B

	Advanced economies			Emerging market economies		
	Total	Onshore	Offshore	Total	Onshore	Offshore
By currency of issuance:						
All currencies						
USD NEER	0.15	0.02	0.32**	-0.29*	-0.24	-0.32**
Global financial cycle	0.33**	0.35**	0.15	0.54**	0.40**	0.63***
US dollar						
USD NEER	0.13	-0.06	0.52***	-0.38**	-0.31**	-0.39**
Global financial cycle	0.30*	0.42***	-0.04	0.62***	0.40**	0.71***

Pairwise correlations between global financial conditions indicators (four-quarter growth rate in the USD NEER, fourth-quarter change in the global financial cycle indicator) versus IDS issuance in columns. Issuance is by non-financial corporates as ultimate sector by nationality and location (onshore/offshore) of issuance. Growth rates are computed as the four-quarter moving sum of net issuance (gross issuance net of repayments) divided by amounts outstanding four quarters before. Onshore issuance refers to that done in the country of NFC headquarters. Offshore issuance refers to that done by affiliates located outside the country of headquarters. \*\*\*/\*\*/\* indicate statistical significance at the 1/5/10% level, respectively. The sample runs from Q1 2011 to Q1 2021 (Q3 2020) for the USD NEER (GFCy).

Sources: Miranda-Agrippino and Rey (2020); IMF; Federal Reserve Bank of St Louis, FRED; Dealogic; Euroclear; Thomson Reuters; Xtrakter Ltd; BIS debt securities statistics; authors’ calculations.

① The views expressed are those of the authors and do not necessarily reflect the views of the Bank for International Settlements. ② The strength of the dollar can reflect shifts in the monetary policy stance. The “global financial cycle” refers to the common factor in global asset prices – itself affected by global risk aversion and US monetary policy – that reflects financial activity on a global scale (Miranda-Agrippino and Rey (2020)). Using the VIX as an alternative indicator of financial conditions delivers similar results. ③ The financial channel of the US dollar exchange rate can operate through credit demand and/or supply. A dollar appreciation can negatively affect credit demand by weakening the balance sheets of currency-mismatched dollar borrowers. It can also reduce credit supply by increasing the risk faced by financial intermediaries with exposures to borrowers with dollar mismatches. To the extent that the higher risk tightens intermediaries’ capital constraints, it would reduce the financial system’s lending capacity (Avdjiev et al (2019)). ④ Because of the higher costs of hedging EME risks, local borrowers tend to have greater currency mismatches and the unhedged portions of EME bonds on international investors’ portfolios tend to be larger. This makes EMEs structurally more vulnerable to global financial conditions (BIS (2019)). ⑤ The first columns in the “All currencies” part of this table report the correlations in Graph B.

## NFCs’ debt issuance through the Covid-19 pandemic

The Covid-19 pandemic increased firms’ financing needs around the globe and tested their access to credit. To explore the market for credit to NFC parents over the past year, we consider quarterly net issuance (gross issuance net of repayments) with a currency breakdown in the IDS statistics and investigate to what extent it originates from offshore affiliates. Since the effect of the pandemic has differed starkly across industries and has led to an increase in downgrades, we also examine the more granular Dealogic data at the level of issuer industries and by credit ratings.



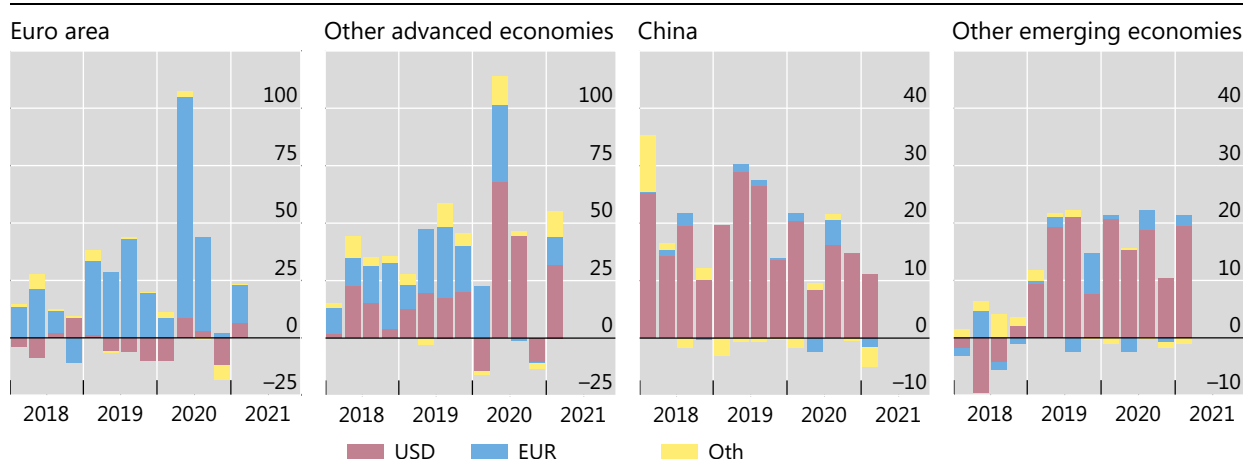
## International issuance since the pandemic's outbreak

AE NFCs issued IDS in record amounts to address their financing and liquidity needs after the start of the pandemic. The second quarter of last year saw their net issuance<sup>9</sup> rise to \$221 billion, nearly double the next largest quarterly volume on record (\$122 billion in Q4 2012) (Graph 3, first and second panels). While the issuance of US dollar-denominated securities was certainly notable, the surge in euro-denominated issuance was particularly large. NFCs headquartered in the United States accounted for more than half of the dollar issuance in Q2 2020. Those headquartered in euro area countries drove the euro issuance, led by German and Dutch NFCs, and joined by Swiss NFCs in particular. NFC funding through debt markets remained strong thereafter, except for Q4 2020, when repayments by German, US and French firms drove the aggregate net issuance numbers into negative territory.

### International debt issuance by non-financial corporations through Covid-19

Net issuance, in billions of US dollars<sup>1</sup>

Graph 3



<sup>1</sup> Net issuance is gross issuance net of repayments.

Sources: Dealogic; Euroclear; Thomson Reuters; Xtrakter Ltd; BIS debt securities statistics; authors' calculations.

EME NFCs generated steady IDS flows throughout 2020, denominated largely in US dollars (Graph 3, third and fourth panels). This was the case both for Chinese corporates – which account for 37% of EME NFCs' total international debt, the highest share by nationality – and for all other EME corporates as a group. Such steady borrowing may seem at odds with the dramatic retrenchment in portfolio investment flows to EMEs over the same period, as revealed by BOP data (BIS (2020)). In contrast to our nationality perspective on the IDS statistics, BOP data are collected on a residency basis, thereby allocating portfolio debt (bond) inflows to the country of the issuer (eg an offshore centre) rather than that of the issuer's parent (eg an EME).<sup>10</sup> In addition, portfolio flows in BOP data can arise when the ownership of securities changes between resident and non-resident investors on the secondary market, whereas IDS statistics capture primary market activity only. Importantly, the 2020 retrenchment in bond flows was driven mainly by less demand for local currency EME

<sup>9</sup> Throughout this subsection, "issuance" stands for net issuance.

<sup>10</sup> The BOP data indicate robust direct investment debt flows into EMEs since the pandemic outbreak, consistent with offshore affiliates repatriating funds to their parents (Avdjiev et al (2014)).

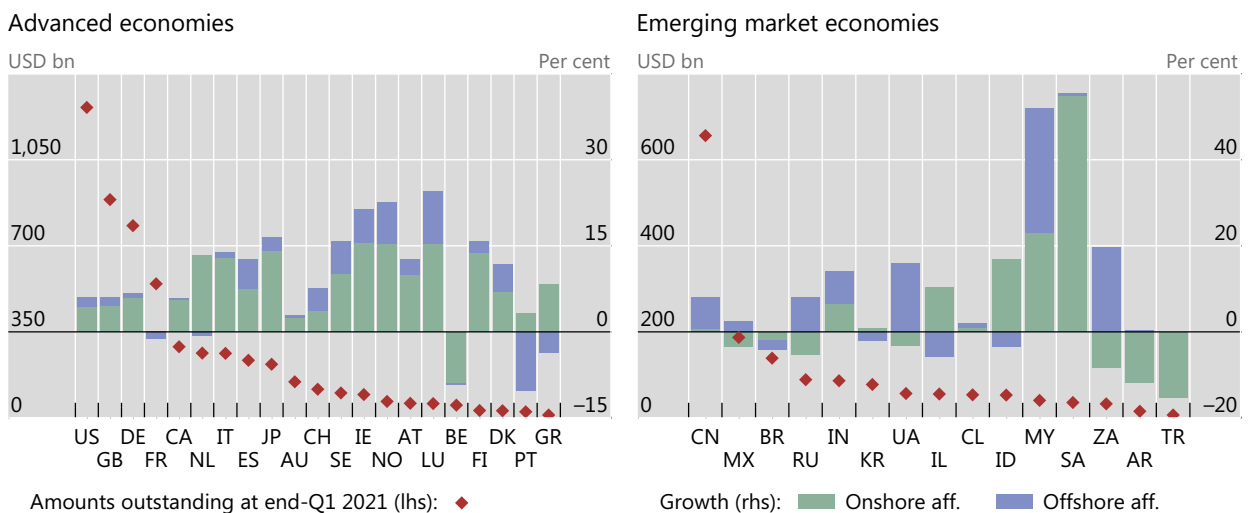
debt (CGFS (2021)), which is typically issued domestically and thus excluded from IDS statistics (as explained in Box A).

Offshore affiliates maintained their different roles for EME and AE NFCs after the onset of the pandemic (Graph 4). For US, UK and German NFCs, the largest AE issuers, most of the year-on-year growth as of end-Q1 2021 was accounted for by issuance from the country of headquarters (left-hand panel, red diamonds and green bars). The picture reverses for EME NFCs: their offshore affiliates have played a dominant role during the pandemic (right-hand panel, purple bars).<sup>11</sup> For instance, such affiliates led the increase in issuance in the case of China and India, offset the contractions in issuance from the country of headquarters in the case of Mexico and Russia, and drove the overall contraction in the case of Brazil.

### Strong issuance during the pandemic: onshore by AE and offshore by EME NFCs

Year-on-year growth and amounts outstanding at end-Q1 2021, by nationality<sup>1</sup>

Graph 4



<sup>1</sup> Growth computed as the four-quarter sum (Q2 2020–Q1 2021) of net issuances by affiliates located in the home country (“onshore”) or a foreign country (“offshore”), expressed as a percentage of outstanding amounts at end-Q1 2020.

Sources: Dealogic; Euroclear; Thomson Reuters; Xtrakter Ltd; BIS debt securities statistics; authors’ calculations.

### Industry-level overall debt issuance, credit ratings and spreads

The aggregation in the IDS statistics may mask important pandemic-related developments stemming from differences in NFCs’ borrowing needs and creditworthiness (Aramonte and Avalos (2020)). We thus turn to Dealogic data and consider *gross* issuance of both domestic and international debt securities by

<sup>11</sup> Admittedly, this growth stemmed from domestic affiliates (onshore) in the case of NFC nationalities that do not regularly tap international bond markets, such as Argentina, Saudi Arabia and Turkey.

individual private NFC parents.<sup>12</sup> For consistency with the above analysis, we again organise the data by parents' nationality.<sup>13</sup>

After the pandemic's outbreak, debt issuance picked up materially and ubiquitously in AEs but only for strongly hit sectors in EMEs. We distinguish three industry categories: "business and social services" (eg healthcare, telecoms) that received a boost from the pandemic; "goods" (eg manufacturing, construction) where the effect of the pandemic has been neutral; and "customer services" (eg restaurants, transportation) that were adversely affected. The issuance volume of AE corporates in the former two categories increased by more than 40% over the 12 months up to end-March 2021. NFCs in "customer services" industries also expanded issuance, by about 30% in AEs and 25% in EMEs,<sup>14</sup> probably seeking to compensate for cash-flow shortfalls. In the background, the number of issues remained generally flat, but amounts raised *per issue* spiked (Graph 5, left-hand panel).

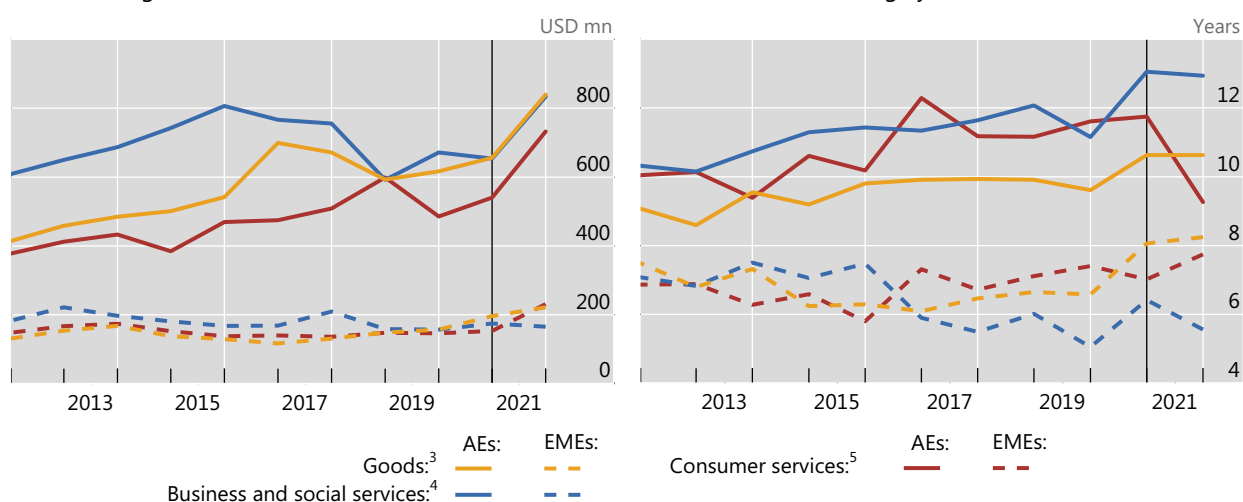
## Debt securities issuance through the pandemic, by industrial sector

Average gross issuance, by nationality of private non-financial corporate parent

Graph 5

Volumes surged in AEs and hard-hit EME industries<sup>1</sup>

Maturities remained largely stable<sup>2</sup>



Each observation refers to the 12-month period ending with the first quarter of the indicated year, eg 2021 refers to April 2020 to March 2021. AE = advanced economy, EME = emerging market economy. The black lines mark the start of the global pandemic outbreak.

<sup>1</sup> Sum of gross issuance divided by the number of deals. <sup>2</sup> Volume-weighted averages. To provide a "representative" picture, the raw maturities data have been censored at 30 years (affecting 5% of the deals). Using volume-weighted medians, without censoring, delivers the same message. <sup>3</sup> Aerospace, agribusiness, auto/truck, chemicals, computer and electronics, construction/building, consumer products, defence, food and beverage, forestry and paper, machinery, metal and steel, mining, oil and gas, textile, utility and energy. <sup>4</sup> Healthcare, professional services, publishing, real estate/property, telecommunications. <sup>5</sup> Dining and lodging, leisure and recreation, retail, transportation.

Sources: Dealogic; authors' calculations.

<sup>12</sup> Throughout this subsection, "issuance" means gross issuance. Working only with international issues in Dealogic materially reduces the size of the cross sections, thus precluding meaningful analyses, especially on credit ratings. In turn, our focus on private entities allows us to differentiate issuers according to the general impact of the pandemic on their industries.

<sup>13</sup> With domestic debt securities included, parents' nationality now coincides to a larger extent with the issuance location than in the IDS statistics. For our sample period, the coincidence in Dealogic is about 80% for AEs and more than 90% for EMEs.

<sup>14</sup> Issuance by private NFCs headquartered in Latin America and the Caribbean drove this increase.

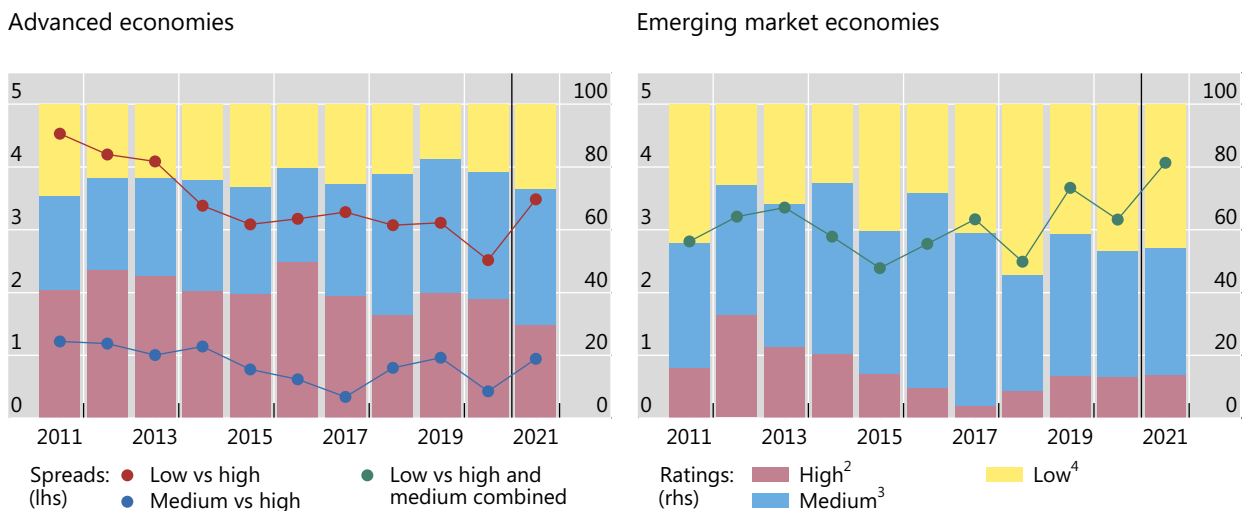
NFCs generally secured their new funding at longer maturities (Graph 5, right-hand panel). For four out of the six industry-nationality groups, the volume-weighted average maturity over the 12 months to end-March 2021 was at least as long as at any point over the previous decade. The notable exception is the hard-hit AE “customer services”, where maturities dropped by 2.5 years on average.

During the pandemic, the distribution of issuer credit ratings has evolved differently between AEs and EMEs (Graph 6, stacked bars). For AEs, the share of debt issued by highly rated NFCs (with a rating of A– or better) has fallen by 8 percentage points. By contrast, the shares of the different rating categories have been stable in the case of aggregate debt issuance by EME NFCs.<sup>15</sup> Overall, while downgrades rose after the pandemic’s outbreak (BIS (2020)), forceful policy measures have probably contributed to smoother developments across rating categories than might have been expected from the scale of the Covid-19 shock.

### Rating distributions continue recent trends but yield spreads spike<sup>1</sup>

By nationality of private non-financial corporate parent, in per cent

Graph 6



Each observation refers to the 12-month period ending with the first quarter of the indicated year, eg 2021 refers to April 2020 to March 2021. Based on issuer ratings assigned by S&P, Moody’s and Fitch. The black vertical lines indicate Q1 2020.

<sup>1</sup> Bars plot shares of rating categories and lines plot average yield spreads between the indicated rating categories. All measures are weighted by debt amounts. <sup>2</sup> AAA to A–. <sup>3</sup> BBB+ to BBB–. <sup>4</sup> BB+ to CC.

Sources: Dealogic; authors’ calculations.

The pandemic’s outbreak led to a spike in credit spreads, amidst a general rise in uncertainty and risk aversion. Even though spreads have recently declined to pre-pandemic levels in response to forceful policy measures and a brightening health outlook in many jurisdictions, they were higher on average over the 12 months up to Q1 2021 than over the preceding year. Graph 6 (solid lines) illustrates this by comparing yields at issuance between rating categories. In the case of AE issuers, the widening – of 0.5 or 1 percentage point, depending on the comparator categories – reversed a previous trend but the spread still stayed within historical norms. For EME issuers, the spread between high-yield (low-rated) and investment-grade (high- and

<sup>15</sup> A decrease in the share of low-rated (high-yield) Asia-Pacific issuers has been offset by an increase in this share for issuers headquartered in Latin America and the Caribbean and emerging Europe.

medium-rated) issuers spiked to above 4%, about 40 basis points higher than its maximum over the preceding decade.<sup>16</sup>

## Conclusion

The market for NFC international debt securities has grown substantially in recent decades, expanding further during the pandemic. As regards EME corporates, a salient finding of our analysis is that their IDS issuance – much of which is in US dollars and conducted through offshore affiliates – responds strongly to global financial conditions. Nevertheless, while these conditions deteriorated with the pandemic, forceful policy measures supported strong debt issuance by both EME and AE corporates.

Our analysis would need to be extended to study potential vulnerabilities, but it still carries important lessons for the monitoring of international debt markets. To investigate whether the pandemic-related issuance has created imbalances, it is necessary to explore data that are richer than the IDS statistics and provide information on borrowers' balance sheets and business models as well as on the terms of recent debt. Such data would shed useful light on whether funds have been efficiently allocated across sectors and firms, whether the increased borrowing has generated pockets of excessive indebtedness and whether credit risk has been properly priced. As regards monitoring the funding needs of corporates, especially those from EMEs, our analysis suggests that it is important to pay close attention to their offshore activity. Such activity may be particularly sensitive to potential changes in global financial conditions as support measures are phased out.

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<sup>16</sup> These results are robust to conditioning on the currency of denomination or on debt maturity – as far as the data allow it – and to excluding Chinese corporates.

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## Enhancing the BIS government bond statistics<sup>1</sup>

*This statistical feature presents a new data set on long-term debt securities issued by central and general governments in domestic and foreign currencies. It combines national aggregates with data on international issuance and BIS estimates, for improved coverage across all markets of issue. The annual series cover 54 countries, including 28 advanced economies and 26 emerging market economies (EMEs) from the early 2000s in most cases. These series reveal that the issuance of government bonds accelerated over the past decade and surged with the onset of the pandemic in 2020. With major EMEs increasingly tapping bond markets in their domestic currency, the foreign currency share in EME government bonds has continued to decline.*

*JEL classification: G15, H63.*

The sharp rise in government debt issuance during the pandemic has focused renewed attention on comprehensive debt statistics. Governments borrow by issuing debt securities in both domestic and international markets. Published national aggregates cover mainly the larger domestic market. The BIS international debt securities statistics (IDS), compiled using security-by-security information from commercial sources, provide complementary information on international issuance.<sup>2</sup> A combination of different sources is necessary to complete the picture.

This statistical feature introduces a new data set that focuses on government bonds. The data set provides broad country coverage and a consistent currency breakdown across domestic and international markets. These enhancements improve on other BIS debt securities statistics that cover additional issuer sectors and provide complementary information on maturity, currency and debt instruments. The new data set includes 54 countries, 28 advanced economies and 26 EMEs, and extends back to the early 2000s for most countries. It comprises long-term debt securities – with original maturities longer than one year – issued in all markets by the central and general government, where the latter includes central, state and local government and social security funds. The outstanding amounts are broken down by

<sup>1</sup> The authors thank Hyun Song Shin and Bruno Tissot for their encouragement and support for this project. We are grateful to the national central banks that participated in the consultation process. We also thank Claudio Borio, Stijn Claessens, José María Serena, Marjorie Santos, Jimmy Shek, Hyun Song Shin, Nikola Tarashev, Bruno Tissot and Phil Wooldridge for helpful comments. The views expressed in this article are those of the authors and do not necessarily reflect those of the Bank for International Settlements.

<sup>2</sup> The IDS include international debt securities statistics issued outside the domestic market of the country where the borrower resides (see Box A in the Highlights in this issue).

## Key takeaways

- The BIS is publishing a new data set on bonds issued by central and general governments, in domestic and foreign currencies.
- The issuance of government bonds has accelerated over the past decade, driving amounts outstanding to 72% of GDP at end-2020, with emerging market economy (EME) governments accounting for a quarter of the total.
- The foreign currency share of government bonds issued by EMEs has continued to decline as major EMEs have been tapping bond markets in their domestic currencies.

currency of denomination: domestic and foreign. The statistics will be updated and extended as revisions and new data become available.

The new data set is useful for analyses of government debt that require comprehensive information on bonds outstanding and need to distinguish between borrowing in domestic and foreign currencies. It reveals, for instance, that government bond issuance has accelerated over the past decade, driving amounts outstanding to \$58 trillion (72% of GDP) at end-2020, with EMEs accounting for a quarter of this total. In parallel, the foreign currency share in EME government bonds has trended downwards as major EMEs have tapped bond markets in their domestic currencies. A related use of the new data set, the subject of ongoing work, is to assess how changes in foreign investors' holdings of government bonds (collected from national sources) compare with the total amounts outstanding. But the new statistics are not sufficient by themselves for analysing debt sustainability, as they exclude loans and short-term instruments.<sup>3</sup>

The first section of this feature compares the sources, scope and coverage of the new series with those of other BIS statistics on debt securities. The second section discusses trends in the evolution of government bonds outstanding and the attendant foreign currency share. The table at the end – Table C4 in the BIS statistics – reports a snapshot of the data set at end-2020.<sup>4</sup>

## Data characteristics

The new statistics provide harmonised series on government bonds issued in domestic and foreign currency in all markets, building on existing BIS statistics (Table 1). The starting point is the data behind Table C2, which reports the aggregate value of central government bonds issued in domestic markets, split by currency.<sup>5</sup> Table C3 provides broader coverage across issuer sectors and markets, but lacks a currency breakdown for all but the international bonds captured in the IDS. Additional data became available through the G20-endorsed Data Gaps Initiative and submissions from central banks.<sup>6</sup> The new Table C4 draws on all these sources to

<sup>3</sup> In recent years, most governments have issued the bulk of debt securities in the long-term segment.

<sup>4</sup> Table C4 is published along with historical data on the BIS website on debt securities statistics: [www.bis.org/statistics/secstats.htm](http://www.bis.org/statistics/secstats.htm).

<sup>5</sup> Table C2 also provides information on the types and average maturities of central government bonds.

<sup>6</sup> As part of the Data Gaps Initiative (DGI), the BIS, with the assistance of the Working Group on Securities Databases, monitors the regular collection and consistency of debt securities data. The new Table C4 draws on selected DGI series, and breakdowns reported in this collection.



provide a consistent currency breakdown across *all* markets, without distinguishing between domestic and international issuance. Furthermore, it differentiates between central and general government.<sup>7</sup>

Overview of statistical tables on BIS debt securities data<sup>1</sup>

Table 1

Data	Table C2	Table C3			Table C4
	Central government debt securities <sup>2</sup>	Domestic debt securities (DDS) <sup>3</sup>	International debt securities (IDS) <sup>4</sup>	Total debt securities (TDS) <sup>5</sup>	Government debt securities
Issuer sector					
General government		✓	✓	✓	✓
Central government	✓				✓
Financial corporations		✓	✓	✓	
Non-financial corporations		✓	✓	✓	
Issue currency type					
All currencies		✓		✓	
Domestic currency	✓		✓		✓
Foreign currency	✓		✓		✓
Issue market					
All markets				✓	✓
Domestic market	✓	✓			
International market			✓		
Original maturity					
All maturities				✓	
Short-term (≤ 1 year)		✓	✓		
Long-term (> 1 year)	✓	✓	✓		✓
Valuation	Nominal	Nominal/face	Face	Nominal/face	Nominal
Frequency	Annual	Quarterly	Quarterly	Quarterly	Annual
Country coverage	30	32	All	45	54
Source	National data (aggregates)	National data (aggregates)	Commercial data (security-by-security database)	National data (aggregates)	National data, commercial data, BIS estimates

<sup>1</sup> The statistical tables can be found at [www.bis.org/statistics/secstats.htm](http://www.bis.org/statistics/secstats.htm). Table C1 is omitted here, as it presents a summary of the information in Table C3. Individual country observations may differ from the dimensions listed. The online documentation (metadata and reporting practices) provides further detail. <sup>2</sup> Data collected as part of the survey designed by the Committee on the Global Financial System (CGFS) working group on financial stability and local currency bond markets. <sup>3</sup> Debt securities issued by residents in their respective domestic market. <sup>4</sup> Debt securities issued by non-residents in all markets. <sup>5</sup> Debt securities issued by residents in all markets.

The main data source is the national aggregates that central banks report to the BIS, augmented by estimates to extend the scope and country coverage. In producing Table C4, the BIS splices reported series to match the target characteristics of the new

<sup>7</sup> General government includes social security funds but excludes public corporations. All classifications follow the *Handbook on Securities Statistics* (HSS) and are thus consistent with the 2008 System of National Accounts (SNA) and the Balance of Payments Manual 6.

table.<sup>8</sup> When no matching series is reported, the BIS approximates the target using other national data or IDS. For instance, for countries reporting only a domestic market aggregate, the missing part is inferred from international bonds in the IDS.<sup>9</sup> It is for this reason that the new statistics include estimates alongside official statistics.

Table C4 extends the country coverage of earlier BIS tables (Table 1). The latest cross section covers 54 countries totalling \$58 trillion in government bonds. The amounts outstanding are nominal values reported in US dollars, using end-of-period BIS exchange rates. Nominal values represent issuers' repayment obligation (face value plus accrued interest) vis-à-vis bond holders.<sup>10</sup> By comparison, Table C3 covers 45 countries on total debt securities, for general government only. Table C2 covers 30 economies accounting for \$25 trillion in central government bonds at end-2019, notably leaving out China, Japan and several large euro area sovereigns.

As coverage improves over time, users of the new statistics need to take account of compositional effects when forming aggregates. Graph 1 marks the periods over which the new series are available for individual countries. The top panels refer to general government bonds, the bottom panels to central government bonds. For most countries, the new series start before the Great Financial Crisis of 2007–09, often dating back to the early 2000s. However, recent additions also include major issuers. For example, Japan's series (BIS estimates) start in 2012 (left-hand panels). China has reported yuan-denominated bonds issued by the general government since 2011 (thick line, top right-hand panel) but not by the central government in particular (bottom right-hand panel).

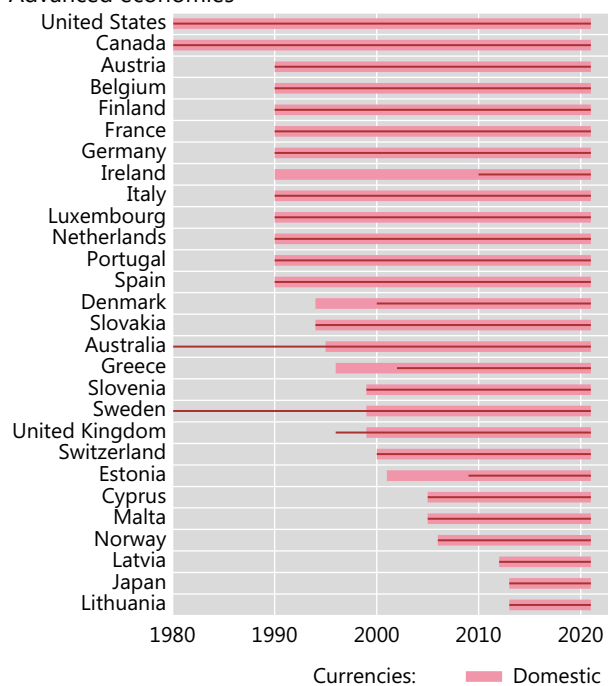
<sup>8</sup> The target characteristics are as follows. Issuer sector: general government and central government; issue currency type: domestic and foreign currency; issue market: all markets (domestic and international); maturity: long-term maturities (original maturity above one year); valuation: nominal value (face value plus accrued interest).

<sup>9</sup> An accompanying metadata table documents the data sources and indicates where estimates deviate from the target definition. In addition to the example above, common substitutions are as follows. If long-term maturity is not available, all maturities is used. Face value is used when nominal value is not available. The central government subsector replaces the general government sector where admissible.

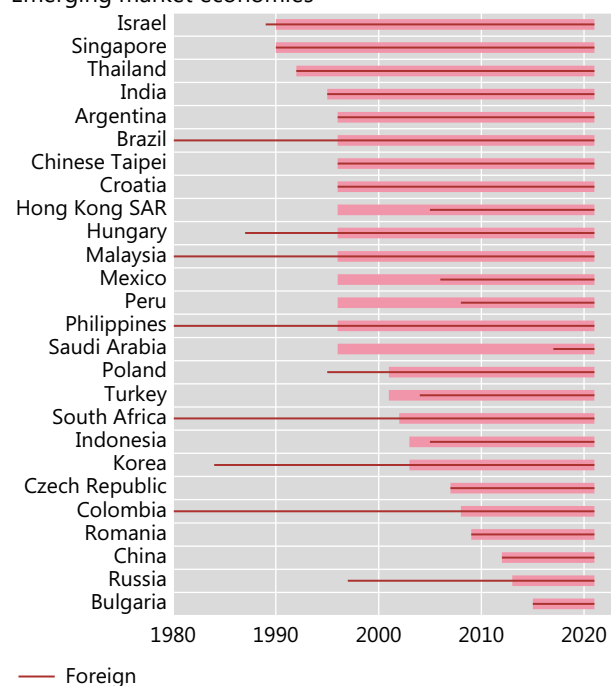
<sup>10</sup> The HSS recommends that debt securities issues should be recorded at both market and nominal value as both provide useful information.

**General government**

**Advanced economies**

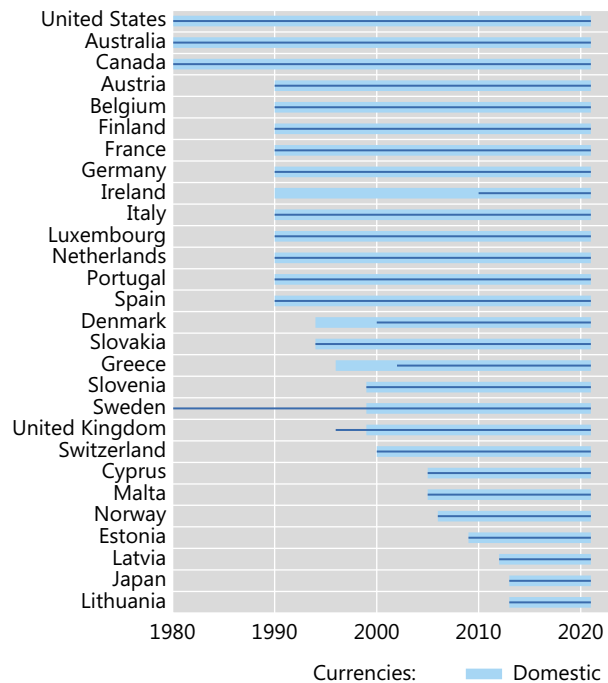


**Emerging market economies**

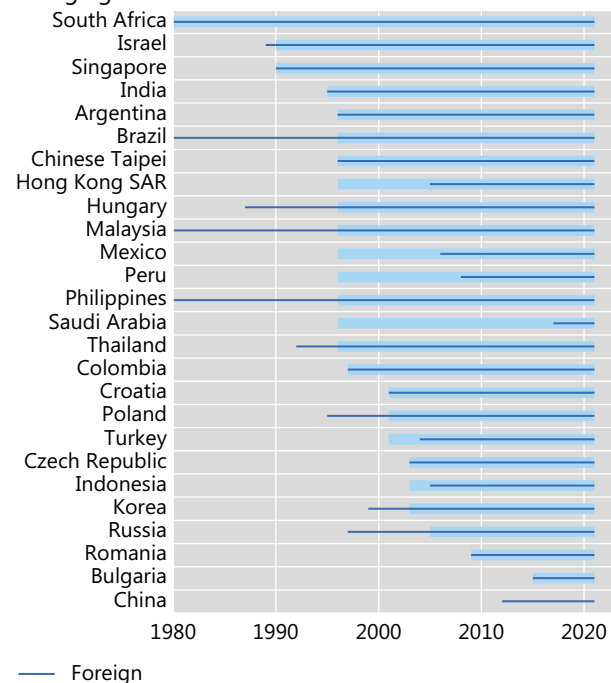


**Central government**

**Advanced economies**



**Emerging market economies**



<sup>1</sup> For Australia, Brazil, Canada, Colombia, Malaysia, the Philippines, South Africa, Sweden and the United States, series start prior to 1980. For more details, see the accompanying metadata file.

Sources: ECB securities issues statistics (SEC); Dealogic; Euroclear; Thomson Reuters; Xtrakter Ltd; national data; BIS calculations.

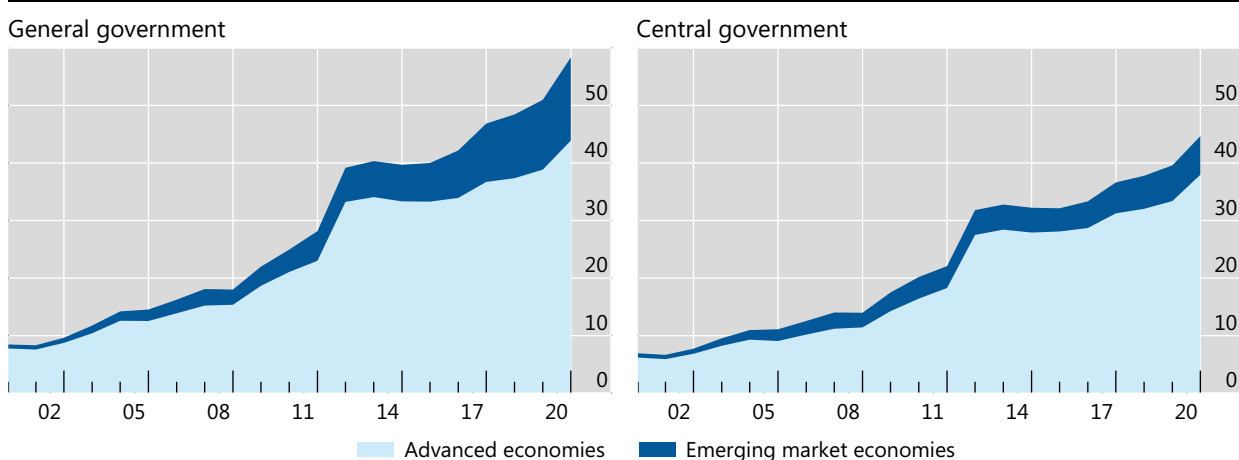
## Observations and trends

Central governments of advanced economies account for the bulk of long-term government bonds (Graph 2). Overall, AE governments account for \$44 trillion of the amounts outstanding at end-2020, three times the EME total of \$14 trillion (left-hand panel). In both country groups, the central government issued the lion's share of the bonds outstanding: 87% among the countries that report data on both levels of government. That said, state and local governments contribute substantially to the outstanding amounts in some countries, notably in Australia, Canada, Germany, India, Norway, Switzerland and the United States.<sup>11</sup>

### Government bonds outstanding, by issuer sector<sup>1</sup>

Nominal values at year-end, in trillions of US dollars

Graph 2



<sup>1</sup> See Graph 1 for the sample of countries included in the aggregates.

Sources: ECB securities issues statistics (SEC); Dealogic; Euroclear; Thomson Reuters; Xtrakter Ltd; national data; BIS calculations.

Graph 2 overstates the rise in government borrowing, as new countries have been incorporated into the total over time. For instance, Japan's inclusion in 2012 contributed \$8 trillion (or 25%) to the advanced economy aggregate in that year. Similarly, China's inclusion added \$1.2 trillion to general government bonds in 2011, accounting for 23% of the EME aggregate.

Yet government borrowing in bond markets has indeed been growing rapidly, as is revealed if the cross section of countries is held fixed over time. For the set of countries with data since 2012, general government bonds outstanding have increased by \$19 trillion (or 49%) since that year. Similarly, holding the 2007 sample fixed shows a 129% rise in borrowing, representing an annualised growth rate of 7%.

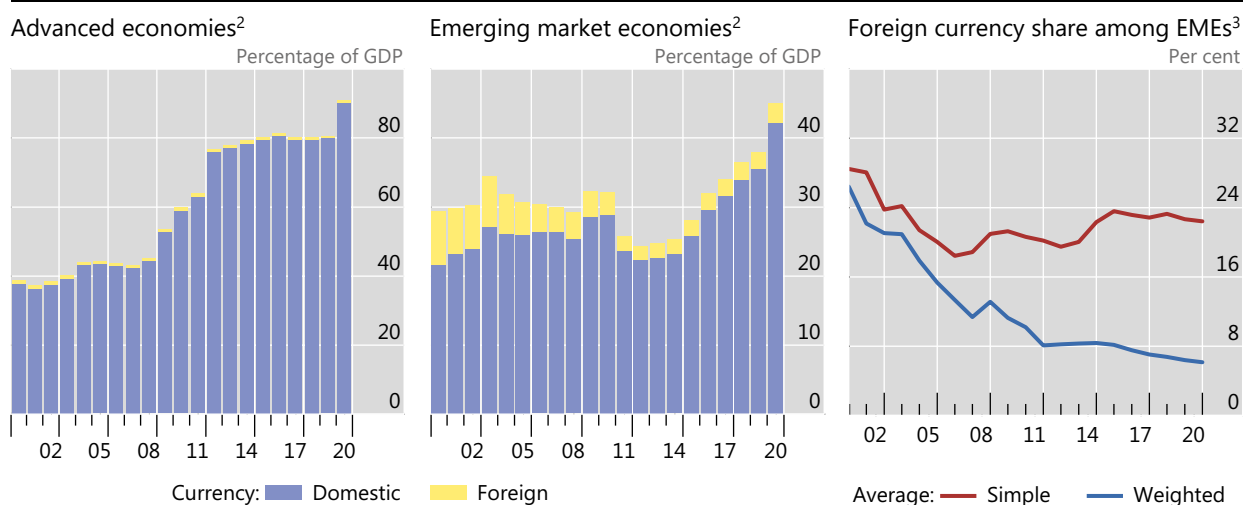
Government bond issuance has in fact outpaced GDP over the past decade (Graph 3). For all countries combined (without holding cross sections fixed), the ratio of long-term debt securities to GDP nearly doubled in aggregate, from 38% in 2000 to 64% in 2019. In 2020 alone, the ratio jumped by 9 percentage points as GDP plummeted and governments around the world provided fiscal support to cushion the impact of the pandemic. Advanced economies saw their government-bonds-to-

<sup>11</sup> Another reason for the difference between the amounts outstanding in the left- and right-hand panels of Graph 2 is missing series on central government bonds for China (Graph 1).

GDP ratio breach 90%, up from 39% in 2000. Starting from a lower base, EMEs' combined ratio doubled after 2012, to reach 45% in 2020 (centre panel).

## Government borrowing and foreign currency shares<sup>1</sup>

Graph 3



<sup>1</sup> See Graph 1 for the sample of countries included in the aggregates. <sup>2</sup> General government bonds outstanding aggregated across the countries in the panel headings, as a ratio to their combined GDP. <sup>3</sup> Foreign currency-denominated government bonds as a percentage of general government bonds in all currencies. The simple average is the mean across individual country shares. The weighted average expresses EMEs' combined foreign currency bonds as a percentage of government bonds in all currencies, calculated over those EMEs reporting both constituents.

Sources: ECB Securities Issues Statistics (SEC); Dealogic; Euroclear; Thomson Reuters; Xtrakter Ltd; national data; IMF WEO; BIS calculations.

The bulk of government bonds has been issued in domestic currency over the past two decades. On the back of deep domestic bond markets, the foreign currency share of AEs' total government debt has been below 3% since the early 2000s. While the corresponding EME share stood at 26% in 2000, it has been trending down since, although at a slower pace in the most recent decade (Graph 3, right-hand panel).

While EMEs have generally reduced their reliance on foreign currency debt issuance, there are some exceptions. The general trend stems from several major EMEs, including Brazil, Korea and Mexico, increasingly tapping bond markets in their domestic currency, and from China and India stepping up their issuance, which has been exclusively in domestic currency. The weighted average foreign currency share has extended its decline as a result (Graph 3, blue line). At the same time, greater reliance on hard currency bonds by other EMEs has resulted in a rise in the simple average (red line). Yet only five EMEs in the new data set saw a significant rise in their foreign currency share.<sup>12</sup> Notably, Turkey's share steadily increased over the past decade, from 18% in 2010 to 49% by 2020.

At end-2020, the foreign currency share of government debt varied considerably across countries (Graph 4). Japan, Switzerland, the United Kingdom and the United States, all traditional reserve currency issuers, denominate all government debt in their own currency – as do China and India. At the other extreme among AEs are Canada and Sweden, whose foreign currency bonds make up 10% and 18% of their respective totals. Among EMEs, Argentina stands out with a foreign currency share of

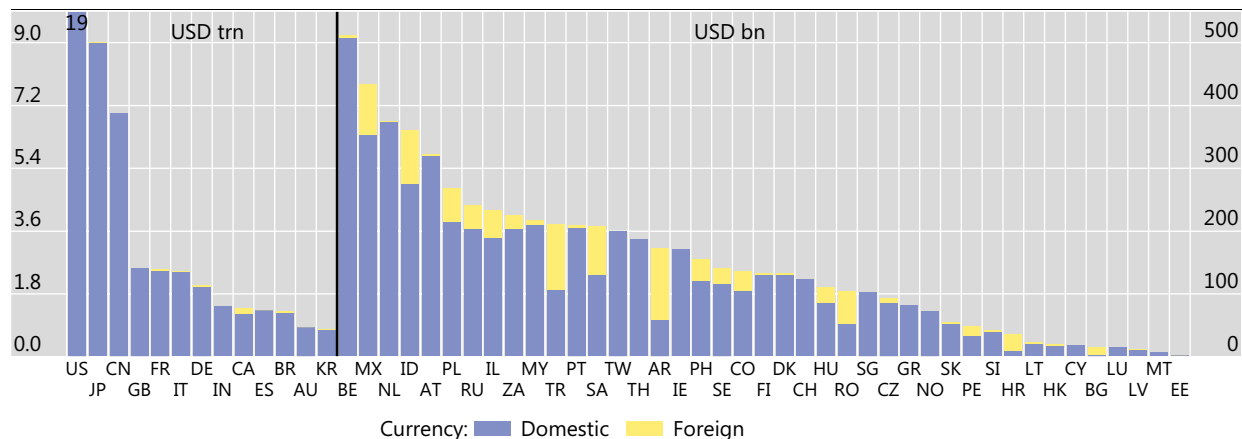
<sup>12</sup> The count only includes countries for which the estimated linear trend in the foreign currency share is statistically significant over their respective reporting horizons: Argentina, Bulgaria, Indonesia, Saudi Arabia and Turkey.

around 70%. Bulgaria and Croatia, with their domestic currencies being pegged to the euro, also meet the bulk of their long-term financing needs in foreign currency.

## General government bonds, by currency of denomination

Amounts outstanding, issued on all markets, end-December 2020

Graph 4



AR = Argentina; AU = Australia; AT = Austria; BE = Belgium; BR = Brazil; BG = Bulgaria; CA = Canada; CH = Switzerland; CN = China; CO = Colombia; CY = Cyprus; CZ = Czech Republic; DE = Germany; DK = Denmark; EE = Estonia; ES = Spain; FI = Finland; FR = France; GB = United Kingdom; GR = Greece; HK = Hong Kong SAR; HR = Croatia; HU = Hungary; ID = Indonesia; IE = Ireland; IL = Israel; IN = India; IT = Italy; JP = Japan; KR = Korea; LT = Lithuania; LU = Luxembourg; LV = Latvia; MT = Malta; MX = Mexico; MY = Malaysia; NL = Netherlands; NO = Norway; PE = Peru; PH = Philippines; PL = Poland; PT = Portugal; RO = Romania; RU = Russia; SA = Saudi Arabia; SE = Sweden; SG = Singapore; SI = Slovenia ; SK = Slovakia; TH = Thailand; TR = Turkey; TW = Chinese Taipei; US = United States; ZA = South Africa.

Sources: ECB securities issues statistics (SEC); Dealogic; Euroclear; Thomson Reuters; Xtrakter Ltd; national data; BIS calculations.

## Government debt securities

Long-term, all markets, amounts outstanding in billions of US dollars at end-2020

Table C4

	Central government		General government	
	Domestic currency <sup>1</sup>	Foreign currency <sup>2</sup>	Domestic currency <sup>3</sup>	Foreign currency <sup>4</sup>
All countries	43,680.9	988.3	57,145.1	1,189.1
Argentina	46.8	113.1	58.8	113.1
Australia	588.0	1.0	864.7	1.5
Austria	313.4	2.1	319.9	3.4
Belgium	461.4	3.6	508.6	3.6
Brazil	1,214.4	44.2	1,282.4	46.5
Bulgaria	3.1	11.7	3.1	11.7
Canada	663.7	9.3	1,265.9	144.7
China	...	0.0	7,056.1	0.0
Chinese Taipei	196.6	0.0	200.2	0.0
Colombia	103.4	31.4	105.5	31.4
Croatia	10.7	25.5	10.7	25.5
Cyprus	18.5	0.0	18.5	0.0
Czech Republic	85.2	7.7	85.6	8.0
Denmark	130.6	2.1	130.6	2.1
Estonia	1.9	0.0	2.0	0.0
Finland	129.0	1.9	131.2	1.9
France	2,285.9	8.6	2,486.0	33.4
Germany	1,493.5	26.1	2,018.3	49.4
Greece	82.1	0.0	82.1	0.0
Hong Kong SAR	18.3	2.0	18.3	2.0
Hungary	86.3	24.3	86.3	24.3
India	940.8	0.0	1,450.2	0.0
Indonesia	271.5	85.1	275.5	85.1
Ireland	170.2	0.0	170.2	0.0
Israel	190.2	43.7	190.2	43.7
Italy	2,446.7	18.1	2,464.4	18.4
Japan	8,377.5	0.0	9,079.6	7.7
Korea	772.5	9.4	794.8	9.4
Latvia	12.5	0.4	12.5	0.4
Lithuania	21.0	2.8	21.0	2.8
Luxembourg	14.4	0.0	14.4	0.0
Malaysia	209.5	5.7	209.9	6.5
Malta	6.9	0.0	6.9	0.0
Mexico	349.5	80.7	352.9	80.7
Netherlands	368.8	0.7	374.4	0.7

See next page for sources and notes.

## Government debt securities (cont'd)

Long-term, all markets, amounts outstanding in billions of US dollars at end-2020

Table C4

	Central government		General government	
	Domestic currency <sup>1</sup>	Foreign currency <sup>2</sup>	Domestic currency <sup>3</sup>	Foreign currency <sup>4</sup>
Norway	57.5	0.0	73.1	0.0
Peru	34.0	15.8	34.0	15.8
Philippines	121.3	34.9	121.3	34.9
Poland	205.9	53.9	214.1	53.9
Portugal	200.2	4.8	205.0	4.8
Romania	52.3	52.0	52.8	52.0
Russia	183.3	37.9	202.9	37.9
Saudi Arabia	131.1	77.4	131.1	77.4
Singapore	103.1	0.0	103.1	0.0
Slovakia	53.3	2.3	53.3	2.3
Slovenia	39.9	1.7	39.9	1.7
South Africa	202.9	20.9	204.1	20.9
Spain	1,282.1	0.8	1,334.1	1.1
Sweden	95.6	21.3	115.9	24.6
Switzerland	75.5	0.0	122.7	0.0
Thailand	157.1	0.0	186.5	0.0
Turkey	106.7	103.2	106.7	103.8
United Kingdom	2,490.8	0.0	2,571.9	0.0
United States	16,003.3	0.0	19,121.1	0.0

Long-term refers to original maturity above one year. Converted to US dollars using end-period BIS exchange rates. For international debt securities (IDS) face value at long-term maturity where available otherwise all maturities. For AT, BE, CY, DE (central government pre-1995 and general government pre-2018), EE, ES, FI, FR, GR, ID, IE, IT, LT, LU, LV, MT, NL, NO, PL, PT, SE, SI and SK face value.

<sup>1</sup> For GB, pre-2009 gross of DMO's own holdings; for IN, fiscal year pre-2011; for SA, face value; for AR, HK, HU, ID, KR (face value), MY and PE, domestic market; for JP, all maturities less all currencies short-term maturities; for DK, domestic market, pre-1999 domestic market all maturities; for IL market value after 2004, pre-2004 domestic market, pre-1995 domestic market all maturities; for PL, pre-2008 general government; for CO and RU, sum of domestic market and IDS; for PH, sum of domestic market and IDS growth rates are applied pre-2015; for MX, domestic market growth rates are applied pre-2018; for TR, domestic market growth rates are applied pre-2005; for AU, sum of domestic market (all maturities growth rates are applied pre-1995) and IDS; for BR, sum of domestic market (remaining maturity pre-2018) and general government growth rates are applied to international market pre-2018, IDS growth rates are applied to international market pre-2009. <sup>2</sup> For GB, pre-2009 gross of DMO's own holdings; for HK and JP, all maturities; for TH, general government; for AR, all maturities, pre-2018 general government all maturities; for IL, all maturities, pre-1998, international markets all maturities pre-1995; for AU, CO, HU and MY, sum of domestic market and IDS; for DK, all currencies less domestic market, domestic currency; for PH, sum of domestic market and IDS growth rates are applied pre-2015; for ID, sum of domestic market and international markets, all maturities; for PE, general government, all currencies, all maturities less domestic currency estimate; for KR, all maturities, IDS growth rates are applied pre-2018; for PL, general government pre-2008, IDS growth rates are applied pre-2000; for SE, IDS growth rates are applied pre-2003; for MX, general government all maturities growth rates are applied pre-2018; for TR, general government all maturities growth rates are applied pre-2005; for RU, sum of domestic market and international markets, all maturities IDS growth rates are applied pre-2005; for BR, sum of domestic market (remaining maturity pre-2018) and general government growth rates are applied to international market pre-2018, IDS growth rates are applied to international market pre-2009. <sup>3</sup> For SA, face value; for AR, all maturities; for JP, all maturities less all currencies short-term maturities; for DK, HK, HU and PE, central government; for IL market value after 2004, pre-2004 domestic market, pre-1995 domestic market all maturities; for KR (face value), domestic market; for MY, domestic market pre-2005 central government; for AU, CO and RU, sum of domestic market and IDS; for CN, sum of domestic market, all maturities and IDS; for PH, sum of central government domestic market and IDS growth rates are applied pre-2015; for BR and GB, all maturities, central government growth rates are applied pre-2018; for ID, all maturities, central government growth rates are applied pre-2006; for MX, domestic market growth rates are applied pre-2018 and central government growth rates are applied pre-2009; for TR, central government domestic market growth rates are applied pre-2005; for IN, central government growth rates are applied pre-2015. <sup>4</sup> For AR and JP, all maturities; for DK and HK, central government; for GB, all maturities, pre-2018 central government; for IL, all maturities, pre-1998, international markets all maturities pre-1995; for CO and MY, sum of domestic market and IDS; for AU and HU, sum of central government domestic market and IDS; for PE, all currencies, all maturities less domestic currency estimate; for BR, all maturities, central government growth rates are applied pre-2018; for KR, all maturities IDS growth rates are applied pre-2018; for PL, IDS growth rates are applied pre-2000; for SE, IDS growth rates are applied pre-2003; for PH, sum of central government domestic market and IDS growth rates are applied pre-2015; for ID, all maturities, central government growth rates are applied pre-2006; for MX, all maturities growth rates are applied pre-2018; for TR, all maturities growth rates are applied pre-2005; for RU, sum of domestic market and international markets, all maturities central government growth rates are applied pre-2011.

Sources: ECB securities issues statistics (SEC); Dealogic; Euroclear; Thomson Reuters; Xtrakter Ltd; national data; BIS calculations.



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