# IMF PRECAUTIONARY FACILITIES AND THEIR USE IN LATIN AMERICA

2022

BANCO DE ESPAÑA
Eurosistema

Documentos Ocasionales
N.º 2224

Sonsoles Gallego, Isabel Garrido
and Ignacio Hernando

# IMF PRECAUTIONARY FACILITIES AND THEIR USE IN LATIN AMERICA (*)

Sonsoles Gallego

BANCO DE ESPAÑA

Isabel Garrido

BANCO DE ESPAÑA

Ignacio Hernando

BANCO DE ESPAÑA

(*) The authors of this article are Sonsoles Gallego, Isabel Garrido and Ignacio Hernando of the Directorate General Economics, Statistics and Research. The authors are grateful to Juan Carlos Berganza, Fernando López Vicente, Paloma Marín, Luis Molina, Pablo Moreno, Xavier Serra and Javier Vallés for their comments. They would also like to thank the Banco de España copy editors and translators for their support.

https://doi.org/10.53479/29609

Documentos Ocasionales. N.º 2224

November 2022

The Occasional Paper Series seeks to disseminate work conducted at the Banco de España, in the performance of its functions, that may be of general interest.

The opinions and analyses in the Occasional Paper Series are the responsibility of the authors and, therefore, do not necessarily coincide with those of the Banco de España or the Eurosystem.

The Banco de España disseminates its main reports and most of its publications via the Internet on its website at: http://www.bde.es.

Reproduction for educational and non-commercial purposes is permitted provided that the source is acknowledged.

© BANCO DE ESPAÑA, Madrid, 2022

ISSN: 1696-2230 (on-line edition)

## Abstract

Between 2009 and 2010, in response to the global financial crisis, the International Monetary Fund created a number of lending tools to pre-empt and insure against crises. These pre-emptive facilities were intended for countries with sound economic fundamentals and policies, but with exposure to financial contagion risks. The use of these instruments (in terms of number of countries) was limited during the first ten years of their existence, but with the outbreak of the pandemic three Latin American countries applied to use them. An assessment of these lines suggests they have performed the insurance function for which they were conceived. In anticipation of the forthcoming review of these credit lines, and in the light of recent experience, possible reasons for the limited demand are analysed and relevant factors are suggested for the design of "exit strategies", the aspect of their use that has attracted most attention.



**Keywords:** IMF, insurance facilities, Flexible Credit Line, Short-term Liquidity Line, Latin America.

**JEL classification:** F30, F33.

## Resumen

Entre 2009 y 2010, el Fondo Monetario Internacional creó, en respuesta a la crisis financiera global, una serie de líneas de préstamo destinadas a la prevención y al aseguramiento frente a crisis. Estas líneas preventivas fueron dirigidas a países con fundamentos y políticas económicas sólidos, pero expuestos a riesgos de contagio financiero. La utilización de estos instrumentos —medida en número de países— fue reducida durante sus diez primeros años de existencia, y con la irrupción de la pandemia tres nuevos países de Latinoamérica solicitaron acogerse a ellos. La valoración de estas líneas sugiere que han cumplido la función de aseguramiento para la que fueron concebidas. De cara a la próxima revisión de estas líneas, y a la luz de la experiencia reciente, se analizan las posibles causas de su limitada demanda y se aportan elementos relevantes en el diseño de las «estrategias de salida», uno de los aspectos que más atención han suscitado en su utilización.



**Palabras clave:** FMI, líneas de aseguramiento, línea de crédito flexible, línea de liquidez a corto plazo, Latinoamérica.

**Códigos JEL:** F30, F33.

## Contents

Abstract 5

Resumen 6

1 Introduction 8

2 Description of the insurance and crisis prevention facilities 9

3 Changes in how the insurance facilities are used 11

4 Assessment of the use of the lines and the exit strategies 17

5 Concluding remarks 20

Box 1 The impact of access to flexible credit line (FCL) arrangements on sovereign spreads 21

References 23

Annex Approved insurance facilities 24

## 1 Introduction

In 2009-2010, in response to the global financial crisis, the International Monetary Fund (IMF) introduced new insurance facilities to provide liquidity with no, or very limited, ex-post conditionality[1] to countries with strong fundamentals and economic policies but that were exposed to contagion risks. Only five countries used these lines during the global financial crisis and the following decade, with some renewing them on an ongoing basis. During that time, the design of these facilities was adjusted to make them more flexible and ensure more transparent lending. Yet this did not spur demand, and it was not until the outbreak of the COVID-19 pandemic that a further three countries, all of them in Latin America, requested them.

Given the experience acquired in using these facilities since they were introduced over a decade ago, and in light of their upcoming review, it would be timely to reflect on the role they have played in protecting against contagion risks in settings of heightened volatility and to explore changes in their characteristics.

The introduction to this paper is followed by three sections, which analyse the main characteristics of the insurance facilities, describe how access has evolved since they were introduced and assess some aspects of their effectiveness.

1 The programme of measures, objectives and goals that typically accompanies the Fund's financial aid is dubbed ex-post conditionality. Ex-ante conditionality is understood as the set of criteria that a country must meet in order to access one of the Fund's lines.

## 2 Description of the insurance and crisis prevention facilities[2]

The Flexible Credit Line (FCL) and the Precautionary Credit Line (PCL) – and the latter's successor, the Precautionary and Liquidity Line (PLL) – were created in response to the global financial crisis.[3] Before then, the IMF's lending instruments had mostly been used to overcome balance of payment crises. The IMF uses these instruments to grant financing, subject to adherence to some conditionality geared to macroeconomic stabilisation. Some instruments are available on a precautionary basis, i.e. without any drawings necessarily being envisaged.

The global financial crisis exposed a gap in the global financial safety net: the absence of sufficiently effective preventive mechanisms for countries that had strong fundamentals but were exposed to external risks. Thus, as part of an extensive reform,[4] the IMF added two lines to its lending toolkit that were designed to prevent contagion from external financial crises. The preventive and signalling nature of these new lines was ensured in three ways: they were to be arranged only with countries with strong fundamentals and economic policies (as opposed to the Stand-by Arrangements, or SBAs,[5] which are available to all members); ample resources would be available (with no cap established for FCLs, unlike the IMF's other lending facilities) at a low cost;[6] and they would be renewable, providing the qualification criteria continued to be met (see Table 1).

For its part, the Short-term Liquidity Line (SLL) was only approved in 2020, as part of the IMF's response to the impact of the pandemic (see IMF (2020)). The SSL is a precautionary credit line with the same qualification criteria, in terms of strong fundamentals, as the FCL. However, the SSL envisages limited amounts and has a shorter duration and lower cost (see Table 1). While initially designed to address moderate, short-term liquidity problems that at most required an adjustment to monetary or exchange rate policies, it would go on to be used to facilitate the exit from an FCL as well. In this sense, the SLL can be understood as a transition from the FCL: the same fundamentals are required, but with a substantial reduction in access, owing to the lower risks.

2 This paper interchangeably refers to these lines as insurance, preventive and precautionary lines (or facilities).

3 For more details on the background, creation and use of these facilities in the early years, see IMF (2009a and 2009d) and Sánchez and Serra (2015).

4 Moreno (2013) describes the reforms that transformed the IMF during those years.

5 An SBA is a conditional IMF loan, with a duration of no more than three years, that is used by countries to overcome their balance of payments problems. Before the global financial crisis, SBAs could also be used on a precautionary basis.

6 The cost is low providing the facilities remain precautionary, i.e. with no fund drawings. If funds are drawn, the normal charge and surcharge structure is applied, with the same cost as for a normal programme, i.e. an SBA, for the same term and amount (see Table 1).

Table 1

## THE IMF'S INSURANCE FACILITIES: FEATURES AND MAIN DIFFERENCES

<table>
<tr><th>FCL</th><th>SLL</th><th>PLL</th></tr>
<tr><td colspan="3">Objectives</td></tr>
<tr><td>Ample financing, with no cap on access, to meet any type of balance of payment need of members with very strong economic fundamentals, institutions and policies.</td><td>Financing to meet potential, moderate balance of payment needs in countries that meet the qualification criteria for the FCL.</td><td>Ample financing to meet any type of balance of payment need of members with generally sound fundamentals, institutions and policies, but with some vulnerability that precludes them from using the FCL.</td></tr>
<tr><td colspan="3">Qualification, activation and conditionality</td></tr>
<tr><td colspan="2">Strict adherence to the following nine criteria (since 2017, this has been assessed on the basis of a set of indicators that provide more transparency):<br><br>1 A sustainable external position.<br>2 A capital account position dominated by private flows.<br>3 Steady sovereign access to capital markets.<br>4 Comfortable reserve position.<br>5 Sound public finances, including a debt sustainability analysis.<br>6 Low and stable inflation, and sound monetary and exchange rate policy frameworks.<br>7 Absence of solvency problems that may threaten systemic stability.<br>8 Effective financial sector supervision.<br>9 Data transparency and integrity.<br><br>If the country has difficulties in meeting one or several of these criteria, it will not qualify for accessing the FCL or the SLL.<br><br>Since 2014, the indicators of institutional strength have made the assessment more predictable.</td><td>Strong performance in at least three of the following five areas (with no substantial vulnerabilities in any of them):<br><br>1 External position and market access (equivalent to criteria 1, 2, 3 and 4 for the FCL).<br>2 Fiscal policy (5).<br>3 Monetary policy (6).<br>4 Financial sector supervision and soundness (7 and 8).<br>5 Data adequacy (9).<br><br>If the country faces any of the following circumstances, it will not qualify for accessing a PLL:<br><br>1 Sustained inability to access the markets.<br>2 Need to undertake large policy adjustments.<br>3 A public debt position that is not sustainable in the medium term with a high probability.<br>4 Widespread bank insolvencies.<br><br>Since 2014, the indicators of institutional strength have made the assessment more predictable.</td></tr>
<tr><td>Activation: through approval of the request by the Board.</td><td>Activation: through an offer by the Board to the country.</td><td>Activation: through approval of the request by the Board.</td></tr>
<tr><td colspan="2">Ex-ante conditionality only.</td><td>Ex-ante and ex-post conditionality.</td></tr>
<tr><td colspan="3">Access, duration and renewal</td></tr>
<tr><td>Access: no cap, flexible drawings with the possibility of augmenting or reducing access.<br>Not subject to the Exceptional Access Policy.</td><td>Access: capped at 145% of the quota, renewable.<br>Not subject to the Exceptional Access Policy.</td><td>Access: 250% of the quota in the first year and up to 500% in the second year, with the possibility of augmenting or reducing access within the limits established. Between 125% and 250% in the six-month window. Subject to the Exceptional Access Policy.</td></tr>
<tr><td colspan="3">The level of access has been informed by the assessment from an external economic stress index since 2014.</td></tr>
<tr><td>Duration: 1 or 2 years (with mid-term review after 1 year).</td><td>Duration: 1 year.</td><td>Duration: 1 or 2 years (6 months in the short-term window).</td></tr>
<tr><td>Repayment: Between 3.25 and 5 years.</td><td>Repayment: 1 year.</td><td>Repayment: Between 3.25 and 5 years.</td></tr>
<tr><td colspan="3">Renewal: Unlimited, providing the qualification criteria are met.</td></tr>
<tr><td colspan="3">Cost</td></tr>
<tr><td colspan="3">Commitment fee (on amounts not drawn)</td></tr>
<tr><td>15 bp for access up to 115% of quota.<br>30 bp for access between 115% and 575% of quota.<br>60 bp for access exceeding 575% of quota.<br>Refundable.</td><td>8 bp.<br>Non-refundable.</td><td>Same as for the FCL.</td></tr>
<tr><td colspan="3">Charges (on amounts drawn)</td></tr>
<tr><td>SDR interest rate + 100 bp.</td><td>SDR interest rate + 100 bp.</td><td>Same as for the FCL.</td></tr>
<tr><td>50 bp on each amount drawn.</td><td>21 bp on each amount drawn.</td><td>Same as for the FCL.</td></tr>
<tr><td colspan="3">Surcharges (on credit outstanding)</td></tr>
<tr><td colspan="3">200 bp on amounts above 187.5% of the quota.</td></tr>
<tr><td>Additional 100 bp if the amount exceeds 187.5% of the quota for more than 3 years.</td><td></td><td>Same as for the FCL.</td></tr>
</table>

**SOURCE:** Banco de España.

## 3 Changes in how the insurance facilities are used

A few months after the FCL was introduced, it was accessed, in a very short period of time, by three countries: Mexico, Poland and Colombia. This was something of a success compared with similar previous facilities that had either not passed the study phase or had been added to the IMF's toolkit but never used (see IMF (2017)).

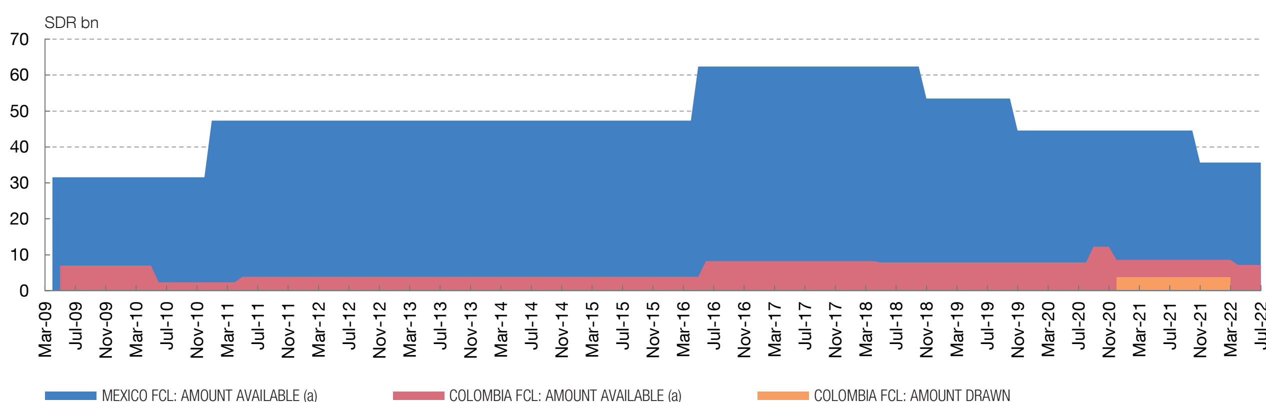
In 2009 Mexico became the first country to arrange an FCL, which it has since renewed on eight occasions. The initial arrangement was in an amount of 31.5 billion Special Drawing Rights (SDRs), equivalent to 1000% of its quota (see Chart 1 and the annex), and came about against a backdrop of close ties between the Mexican economy and that of

Chart 1

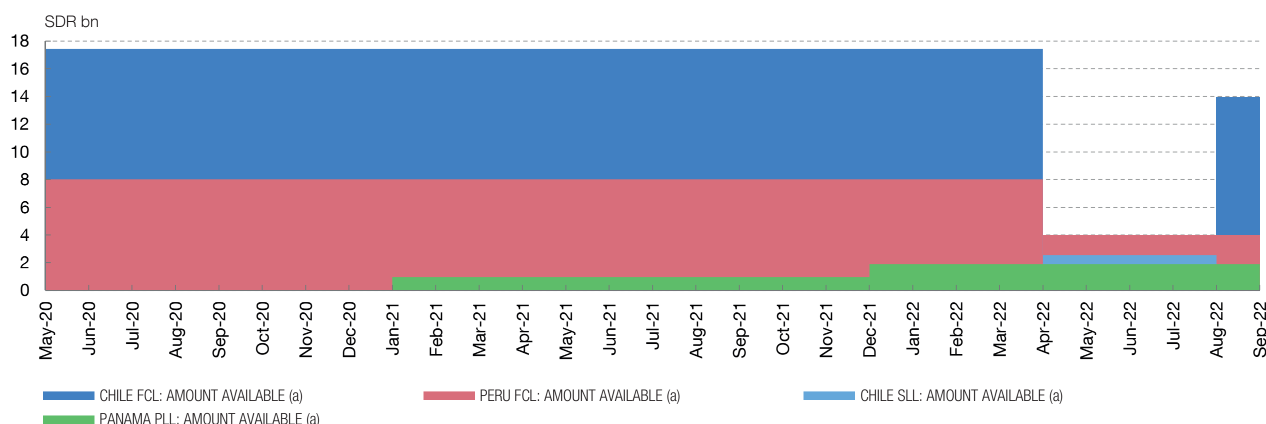
**USE OF INSURANCE FACILITIES IN LATIN AMERICA**

The five countries in the region that have used the IMF insurance facilities can be classified into two groups: Mexico and Colombia (significant amounts and ongoing access since 2009) and the rest (arranged as insurance against risks from the pandemic and for small amounts, with the exception of Chile).

1 MEXICO AND COLOMBIA




2 CHILE, PERU AND PANAMA



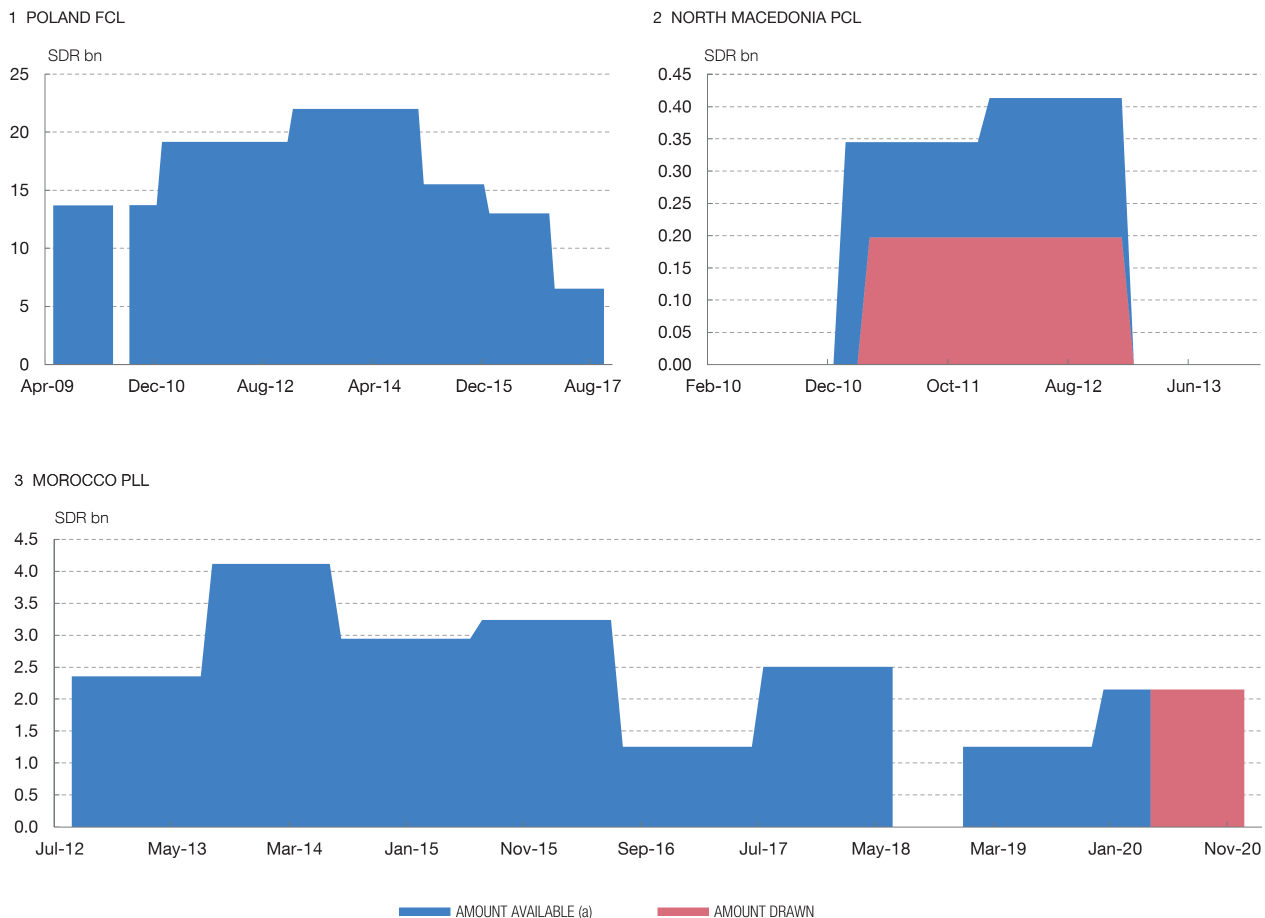

**SOURCE:** Banco de España, drawing on IMF data.

**a** Approved amount minus drawdowns.

Chart 2

**USE OF INSURANCE FACILITIES IN OTHER REGIONS**

Only three countries outside of Latin America have experience of these facilities, having used them in the early years after they were created, for varying terms ranging between two and ten years. Two of these countries have made drawings (full, in the case of Morocco, and partial, in the case of North Macedonia) on their respective facilities, which they subsequently cancelled.




**SOURCE:** Banco de España, drawing on IMF data.

**a** Approved amount minus drawdowns.

the United States (the epicentre of the global financial crisis). On account of the intensifying global risks and growing volatility in the international financial markets, the amount was gradually raised in the first renewals, standing at SDR 62.4 billion in May 2016. Since then, it has progressively declined, to SDR 35.6 billion in the 2021 arrangement,[7] and the authorities expect to continue reducing access, if the global risks so permit.

In the spring of 2009, Poland also arranged an FCL, which was renewed on five occasions. The initial arrangement, made in response to the risks of contagion of the global

7 The increases in Mexico's quota in 2011 and 2016 reduce the size of the FCL in quota terms, but not in terms of its amount. The maximum amount in quota terms was reached in the third arrangement (January 2011), when it stood at 1,500% (equivalent to 531% of Mexico's current quota). The amount available in the latest arrangement stands at 400% of the quota.

financial crisis, provided for an amount of SDR 13.7 billion, equivalent to 1000% of the quota (see Chart 2 and the annex). In the first renewals, which took place during the European sovereign debt crisis, this amount was raised, and stood at SDR 22 billion in January 2013. The improved fiscal position and greater build-up of international reserves enabled the country to reduce access in the subsequent renewals and to cancel the last arrangement early.

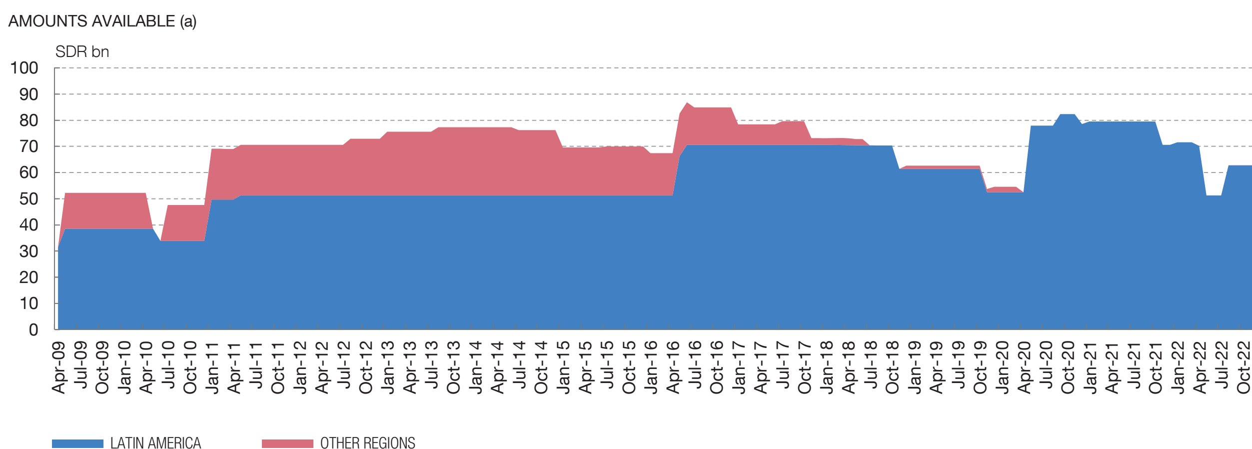
Colombia also requested an FCL at the onset of the global financial crisis, which, as in the case of Mexico, has been renewed on an ongoing basis on eight occasions. The first line was for an amount of SDR 7 billion, equivalent to 900% of its quota at the time of approval (see the annex), and was warranted by the contraction in the country's commodity exports during the global financial crisis. Following a sharp reduction – to SDR 2.3 billion – upon its first renewal in May 2010, the FCL was increased to SDR 8.2 billion in 2016. In the subsequent renewals, access was reduced, and stood at SDR 7.8 billion in May 2018. However, in September 2020, due to the pandemic hitting harder than expected, access was augmented to SDR 12.3 billion, and Colombia made a drawing of SDR 3.8 billion, the only drawdown on an FCL to date. In the latest renewal in April 2022, the amount was once again decreased, to SDR 7.2 billion (equivalent to 350% of the quota).

The PCL was first used shortly after it was introduced in 2009, as was its successor, the PLL. With a view to having additional protection against the risks stemming from the European crisis, the Republic of North Macedonia[8] accessed a PCL in January 2011, while Morocco accessed a PLL in August 2012.

Chart 3

**USE OF INSURANCE FACILITIES. AGGREGATE AMOUNTS BY REGION**

Latin America is the largest recipient of approved amounts for such facilities (only Poland is comparable in quota terms), with five of the eight countries that have requested such lines since they were created being located in this region.




**SOURCE:** Banco de España, drawing on IMF data.

**a** Approved amount minus drawdowns.

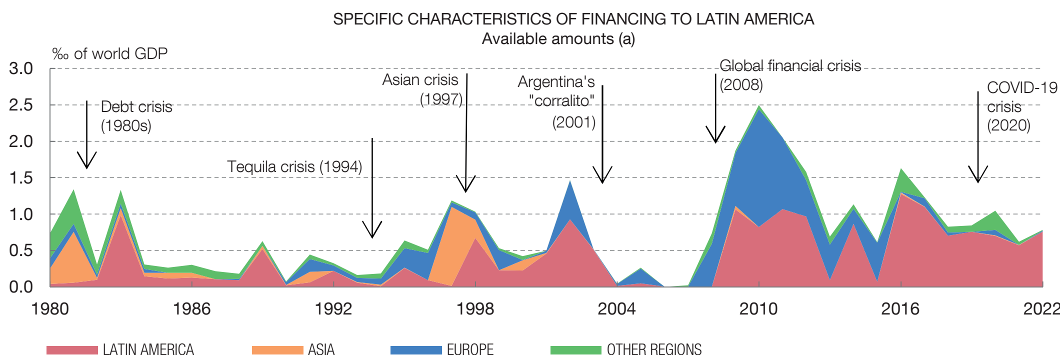
8 The Former Yugoslav Republic of Macedonia at the time.

Figure 1

**SINCE THE 1980s, LATIN AMERICA HAS FIGURED PROMINENTLY IN IMF FINANCING**

**Specific characteristics of IMF financing to Latin America**

From a historical perspective, financing to Latin America in the last four decades has been marked by different crisis periods but has had a very notable presence throughout:




**SOURCE:** Banco de España, drawing on IMF data.

a Approved amount minus drawdowns.

In crisis periods, it has prevailed over IMF financing to other regions, with a few exceptions: Asia in the early 1980s and during the Asian crisis of 1997, and Europe following the fall of the Iron Curtain and during the global financial crisis.

Since the global financial crisis, new precautionary lines have notably emerged. They have been granted to a small number of Latin American countries for very large amounts.

In recent years, in addition to the precautionary lines, Latin America has benefited from conventional programmes granted to a small number of countries for amounts that, in some cases, are very high (the highest on record for the IMF) and from emergency assistance in response to the pandemic granted to a larger number of countries, for smaller amounts.

**SOURCE:** Banco de España.

North Macedonia's experience of the PCL was brief. Access under the arrangement was equivalent to 500% of the country's quota in the first year, rising by a further 100% in the second year. Barely two months after obtaining the PCL, North Macedonia made a drawing equivalent to 286% of its quota. Following the facility's expiration, the country was subject to Post Program Monitoring (PPM), which establishes enhanced surveillance of members that have no active programme but high outstanding credit.

Morocco's first PLL was equivalent to 400% of its quota in the first year, rising by a further 300% in the second year. The country went on to arrange new PLLs on three occasions, in which the amounts were successively reduced. Access under Morocco's last arrangement was equivalent to 140% of its quota in the first year and a further 100% in the second year. These decreases were warranted by the country's lower fiscal and external vulnerabilities and by the implementation of key reforms. In April 2020 Morocco made a full drawing of the funds available (240% of its quota) to address the impact of COVID-19. Nine months later, the country made an early repayment of 30% of the amount drawn and thus avoided being subject to a PPM.

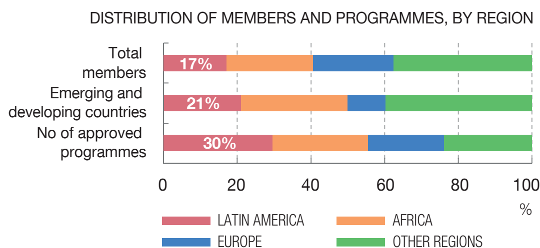
Figure 1

**SINCE THE 1980s, LATIN AMERICA HAS FIGURED PROMINENTLY IN IMF FINANCING** (cont'd)

## Scale of IMF financing to Latin America

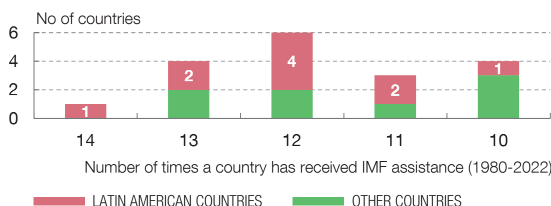
The region, which accounts for slightly less than 8% of global GDP…

... concentrates 17% of IMF members and 21% of emerging and developing countries, and has benefited from almost **one out of every three IMF programmes.**




**SOURCE:** Banco de España, drawing on IMF data.

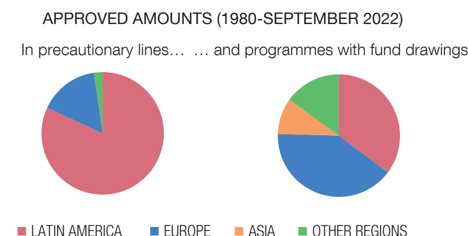
COUNTRIES WITH THE HIGHEST RECOURSE TO THE FUND




**SOURCE:** Banco de España, drawing on IMF data..

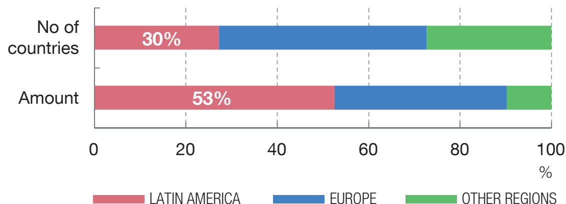
The region concentrates a **large number of countries which are frequent users of the Fund.** Specifically, 10 out of the 18 countries which have received more than nine IMF loans or precautionary lines are in Latin America.

The region **accumulates the bulk of IMF-approved financing,** accounting for a very substantial proportion of precautionary lines (more than 80%) and only very similar to Europe in conventional programmes with fund drawings.




**SOURCE:** Banco de España, drawing on IMF data.

THE TEN LARGEST BORROWERS IN IMF PROGRAMMES WITH FUND DRAWINGS: DISTRIBUTION BY REGION




**SOURCE:** Banco de España, drawing on IMF data.

The region accounts for a significant proportion of **large IMF loans.** Among the top ten IMF borrowers, Latin America is the region with the largest volume of financing, not only in the form of insurance facilities, but also of conventional programmes.

**SOURCE:** Banco de España.

Following several years in which there were no new applicants for these insurance facilities, demand was spurred by the swift downturn in the global economic situation and heightened uncertainty triggered by the pandemic.[9] Peru and Chile accessed FCLs almost simultaneously in May 2020, and Panama arranged a PLL in January 2021.

Peru's FCL was for an amount of SDR 8 billion (equivalent to 600% of its quota), while Chile's was for SDR 17.4 billion (equivalent to 1000% of its quota). It is interesting to note that, when these facilities expired in May 2022, and amid an improving economic situation, the two countries opted for different exit strategies. Peru arranged a new FCL, reducing its amount by half. Chile, meanwhile, decided not to renew its FCL and instead accepted the offer of a one-year SLL[10] in an amount of SDR 2.5 billion (equivalent to 145% of its quota, the maximum amount under this facility). Chile was the first country to use this facility, which had been created two years before. However, just three months later, and in response to the intensifying external risks, Chile cancelled the SLL and arranged a new FCL with the IMF in an amount equivalent to 800% of its quota, the highest in quota terms of the insurance facilities currently in place.

Lastly, the PLL arranged by Panama provides for an amount equivalent to 250% of its quota in the first year and a further 250% in the second (for a total of SDR 1.9 billion).

Since they were created, the crisis prevention and insurance facilities have accounted for a very large share of the IMF's global financing, with their main users being Latin American countries (see Chart 3). This is in line with Latin America's historical prevalence in the Fund's financing, specifically since the 1980s (see Figure 1).

9 It is possible that the genuinely exogenous nature of the shock of the pandemic facilitated such line requests, as it was less likely that the markets would have a negative view of applying for financial aid, and the stigma concerns were therefore of less importance.

10 For an explanation of the creation and purpose of these lines, see the final paragraph of section 2.

## 4 Assessment of the use of the lines and the exit strategies

The economic developments of the eight countries that have requested these lines in the 13 years since they were introduced would suggest that they have fulfilled their preventive function. First, these countries have not had significant balance of payments difficulties. Second, the positive impact of a line request on the financial markets is, as a minimum, indicative of a lack of a "stigma" surrounding their use, and would even point to a slight "signalling" effect. As a result of this effect, countries with FCLs have benefited from narrower sovereign spreads (after controlling for other factors). This may be attributed to the IMF giving its "seal of approval" by approving such lines, as they are reserved for countries with strong fundamentals and policies (see Box 1). The qualification and enhanced surveillance requirements for these lines have also had a catalytic effect on non-private sources of financing.[11] Further, the markets have not interpreted limited drawings on these facilities (partial in the case of the Republic of North Macedonia and Colombia, and full in that of Morocco) as a sign of serious vulnerability, a circumstance which may have been helped by the communication strategy by the Fund and the authorities.[12]

One additional advantage of these lines is that they provide more effective insurance against external crises than the direct alternative, i.e. by accumulating foreign exchange reserves. Drawing on the indicator proposed in Birdsall et al. (2017),[13] a straightforward calculation would suggest the implicit cost of these lines is far below that of self-insurance through reserves[14] (see Table 2), implying that there may be other reasons[15] why demand for these lines has to date been relatively low. Included here are overly stringent qualification criteria, the presumption of a stigma associated with the IMF (more acute in some regions) and a lack of previous experience in IMF programmes on the part of some countries.

In terms of IMF resources, the main objection raised against these facilities is their ongoing use, given the large volume of funds that are set aside for them, potentially reducing their availability for other countries facing balance of payments needs. Although this is a major concern for the IMF, with its limited resources, their availability since the global financial crisis (coinciding with the period during which the volume of IMF lending reached historically high levels) debunks this argument, as shown in Chart 4.[16] In addition, it could

11 For example, concurrently to arranging its first lines during the global financial crisis, Poland increased its financing from the World Bank and the European Investment Bank and requested a swap arrangement from the European Central Bank (see IMF (2009b)). Mexico boosted its financing from the World Bank and Inter-American Development Bank and obtained a swap line with the Federal Reserve (see IMF (2009c)).

12 See IMF (2021).

13 Birdsall et al. (2017) uses the Emerging Markets Bond Index (EMBI) as a proxy of the social cost associated with reserves, as it measures the differential between the cost of external debt for a country and the yield on foreign exchange reserves.

14 Assessing the cost of access to central bank currency swap lines (which have benefited countries such as Mexico, Brazil and Chile) or of membership of a regional financing arrangement (for example, the EU arrangement, in the case of Poland, and the FLAR, in that of Colombia, Peru and Chile) is left for future papers.

15 See Essers and Ide (2018).

16 In this connection, a proposal was analysed for measuring IMF liquidity which excluded from the calculation the amounts committed under precautionary lines (broadly speaking, the FCL, PLL, SLL and precautionary SBAs). The IMF, however, takes them into account when assessing liquidity, but specifies the amount of undrawn balances that are treated as precautionary.

Table 2

**ANNUAL COST OF INSURANCE LINES CURRENTLY IN PLACE IN LATIN AMERICA, COMPARED WITH THE COST OF ACCUMULATING FOREIGN EXCHANGE RESERVES**

The cost of IMF lines is far lower than that of the direct alternative, foreign currency reserves.

| | Current line | Approval date | Duration (years) | Amount | | | Cost of FCL/ PLL/SLL (a) | Opportunity cost of reserves (b) |
|---|---|---|---|---|---|---|---|---|
| | | | | In $ bn | As % of quota | As % of reserves | | |
| Mexico | FCL | November 2021 | 2 | 50.0 | 400 | 25 | 0.26 | 2.18 |
| Colombia | FCL | April 2022 | 2 | 9.8 | 350 | 17 | 0.25 | 3.45 |
| Chile | FCL | August 2022 | 2 | 18.5 | 800 | 36 | 0.45 | 1.86 |
| Peru | FCL | May 2022 | 2 | 5.4 | 300 | 7 | 0.25 | 1.72 |
| Panama | PLL | January 2021 | 2 | 2.7 | 500 | 27 | 0.27 | 1.52 |

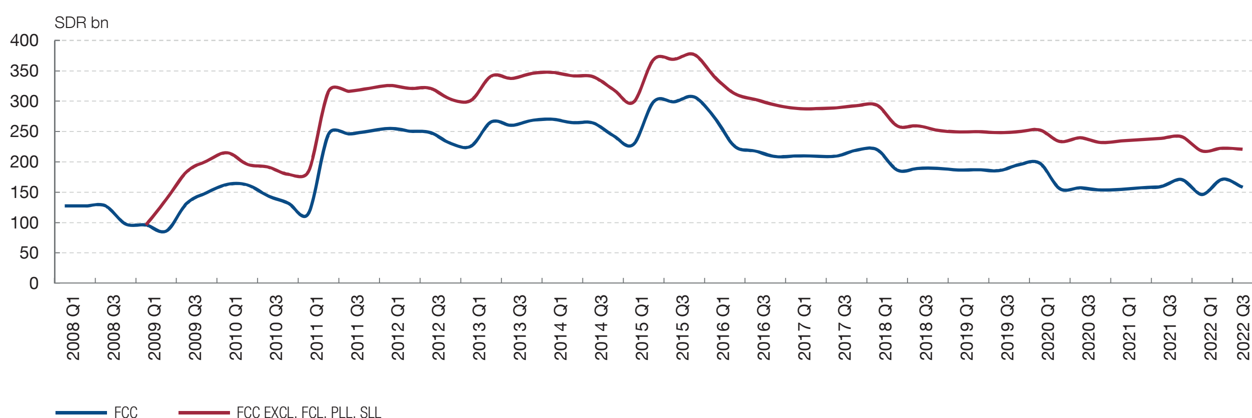
**SOURCE:** Banco de España.

a "Commitment fee" only, since none of the countries have drawn on the funds under the lines currently in place (from 2021). Colombia did draw on some of the funds available under the FCL arranged in 2020.
b Proxied by the country's EMBI. This cost could be reduced by the effects of foreign currency valuations in periods of local currency depreciation against the dollar or against reserve currencies.

Chart 4

**IMF INSURANCE FACILITIES AND LENDING CAPACITY**

The IMF's one-year-forward lending capacity — measured by the forward commitment capacity (FCC) (a) — has remained relatively comfortable since the first insurance facilities were approved and, although it has since decreased, it has not been compromised by them.




**SOURCE:** Banco de España, drawing on IMF data.

a The FCC measures the Fund's capacity for new lending one year forward. It calculates the volume available for lending as the sum of uncommitted usable resources and repayments to the IMF, less repayments of borrowings due one year forward and a 20% prudential balance.

be argued that the insurance and signalling role of these facilities reduces contagion risks.[17] None of the above, however, detracts from the importance of designing appropriate "exit strategies", considering the temporary nature of use of these resources.

17 Particularly if the recipient is of significant relevance for the region (see IMF (2009b)).

Moreover, the design of the strategy for exiting from these arrangements must take into account that the non-renewal of an FCL for a large amount not only leaves the country more exposed to external volatility and eliminates the positive signalling effect associated with the strong fundamentals required for access, but it might also sow doubts in the markets as to whether the non-renewal is due to the country failing to qualify for an FCL. In this regard, it is useful to analyse the different approaches adopted by national authorities to reduce their dependence on the FCL, PLL or SLL over the last three years. These include gradual reductions in access (Colombia, Mexico), more marked reductions (Peru) or recourse to an SLL on expiry of an FCL (Chile). On one hand, reducing their dependence on these lines through renewals for smaller amounts does not appear to have triggered any abrupt market corrections, even when countries have had to partly backtrack on reducing the amounts available under these lines as a result of heightened external risks. On the other, in the case of Chile, the use of the SLL to transition from the FCL was accompanied by a series of measures to strengthen its international liquidity position, along with confirmation that the risks which had prompted the line request had been mitigated, and an effective communication strategy coordinated between the national authorities and the IMF during the entire process. This comprehensive strategy enabled the country to significantly reduce its IMF insurance, without being penalised by the markets. However, heightened global risks and Chile's difficult political situation put a brake on the reduction in access, and the country had to request a substantial amount under a new FCL. The markets do not appear to have penalised Chile for changing to another facility or for the significant increase in the amount requested, suggesting that even when faced with heightened risks, the FCL's positive signalling effect prevails.[18]

18 The market appears to have taken the view that Chile remains an ideal candidate for this line, i.e., a country with strong economic fundamentals and policies, but exposed to financial market volatility (in this case, the sharp fall in copper prices during the summer and the subsequent depreciation of the peso against the dollar, amid rising interest rates in the United States).

## 5 Concluding remarks

As part of the periodic review of its lending toolkit, the IMF will, in the coming months, assess the use of these crisis prevention and insurance lines and explore ways to improve them. Past experience points to an absence of stigma surrounding their use, acknowledgement of the IMF's "seal of approval" and the effective strengthening from such insurance, all without compromising the availability of liquidity to meet the financial needs of other IMF members. The reasons for the limited use of these facilities (particularly the PLL and SLL) should be analysed in the next review, exploring areas for reform and the possible continuation or overhaul of each line. Given their smooth functioning, their scant use could be due to supply factors (such as the application of overly stringent criteria for the FCL) or to demand factors. Such demand factors may include the perceived stigma associated with using IMF facilities in some regions, misgivings about possible adverse market reactions to countries qualifying "only" for the PLL, caution on account of the uncertainty as to whether the country will continue to qualify in the mid-term reviews and the availability of alternative non-IMF insurance mechanisms. From a supply standpoint, the Fund could consider the need to better communicate the advantages of these instruments, or to target countries that are potential candidates for access to these lines but which do not normally recur to the IMF in difficult times. As for the exit strategies, the review of the FCL's design could explore mechanisms to encourage reducing access levels in line with the reduction of risks and the country's level of insurance. Additionally, if the SLL is considered a means of exiting from the FCL, broader access to the SLL might bolster countries' confidence when designing their FCL exit strategies, under scenarios in which a probability of risk and incentives to extend the use of the facilities will always exist.

Box 1

## THE IMPACT OF ACCESS TO FLEXIBLE CREDIT LINE (FCL) ARRANGEMENTS ON SOVEREIGN SPREADS

To assess the impact of access to these facilities on markets' perception of the strength of countries' fundamentals, a panel data model has been estimated for sovereign spreads.[1] The sample used is made up of the countries which have, or have had, access to an FCL (Mexico, Colombia, Poland, Chile and Peru), and of other countries which currently have similar credit ratings and could be expected to qualify for access to this type of facility (Bulgaria, Hungary, Indonesia, Thailand and Uruguay).[2]

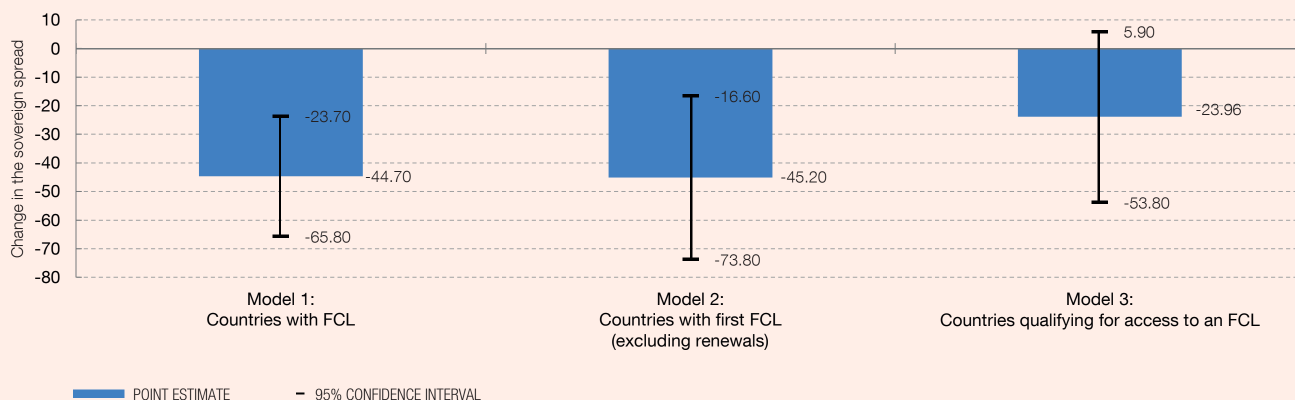
Specifically, in the estimated model, the EMBI spread[3] is explained by its lagged value, by a set of control variables (regional EMBI spread, GDP growth, reserves-to-GDP ratio, public debt-to-GDP ratio, current account balance as a percentage of GDP) and by different versions of a dummy variable indicating the existence of an FCL.[4] The model is estimated using quarterly data for the period 2001 Q1 to 2022 Q1.

In general, the results suggest that the countries which have been granted these crisis prevention facilities have benefited from narrower sovereign spreads, after controlling for other factors. Specifically, if a dummy variable which takes the value of 1 for countries and dates with an FCL in place, and a value of 0 for all other cases (see Chart 1, model 1) is used, the sovereign spreads for this sub-sample are reduced by 45 basis points (bp). This effect is statistically significant.[5, 6]

If the model is estimated using a dummy variable which takes the value of 1 for countries with an FCL, but only for the dates of their first request, the sovereign spreads are also reduced by 45 bp (see Chart 1, model 2). Comparing this with the previous result, which measures the impact on spreads of the duration of an FCL (regardless of whether it is a first request), appears to suggest that the narrowing of spreads obtained upon the first line request is maintained in subsequent renewals.

The model estimation for countries which, a priori, qualify for access to an FCL, but have not requested one (in this case, the dummy variable takes the value of 1 for these countries from the date of the first FCL), does not show a significant impact on spreads

Chart 1
IMPACT OF ACCESS TO THE FCL ON SOVEREIGN SPREADS (a)




**SOURCE:** Banco de España.

**a** The chart shows the point estimate and the 95% confidence interval of the impact on sovereign spreads of: availability of an FCL (left-hand bar), firsttime access to an FCL (central bar) or qualifying for, but not having requested, access to an FCL (right-hand bar). The results were obtained using a quarterly model of fixed effects and robust errors in which the sovereign spread can be explained by its lagged value, regional sovereign spread, GDP growth, reserves-to-GDP ratio, public debt-to-GDP ratio and the current account balance as a percentage of GDP.

---

1 See IMF (2014) for a similar analysis based on information about the first IMF crisis prevention lines granted to Mexico, Colombia, Poland and Morocco, and IMF (2017) for an assessment of the impact on financial markets of reducing access to these facilities.

2 In the absence of a more thorough assessment of the degree to which the second group of countries meet the requirements for access to the FCL during the period examined, the results of the analysis must be regarded with caution.

3 The EMBI spread is the difference between the interest rate paid on a country's sovereign bonds issued in dollars and the interest rate paid on US Treasury bonds.

4 The results are robust to including variables which measure the degree of global liquidity.

5 This effect has been estimated excluding Poland from the sample (i.e. considering only Latin American countries with an FCL). If Poland is included, the estimated effect is lower (18 bp) and not statistically significant. This result can be explained by the marked rise in Poland's sovereign spread in late 2011, in the context of the European sovereign debt crisis, despite having an FCL (see IMF (2014)).

6 This effect is consistent with the results obtained by Díaz-Cassou et al. (2006), which show that the IMF's crisis prevention programmes are particularly effective for catalysing private flows.

Box 1

**THE IMPACT OF ACCESS TO FLEXIBLE CREDIT LINE (FCL) ARRANGEMENTS ON SOVEREIGN SPREADS** (cont'd)

(see Chart 1, model 3). Contrary to what has sometimes been argued, this result suggests that the possibility of obtaining access to these facilities does not, in itself, have a favourable impact on countries which would in principle qualify for access, and that, in any event, the impact is lower than that observed in countries which have had access to this type of facility.

## References

Birdsall, N., L. Rojas-Suárez and A. Diofasi (2017). *Expanding Global Liquidity Insurance: Myths and Realities of the IMF´s Precautionary Credit Lines*, WP 449, Center for Global Development. https://doi.org/10.2139/ssrn.2951790

Díaz-Cassou, J., A. García-Herrero and L. Molina (2006). "El efecto catalítico del FMI sobre los flujos de capital privado hacia las economías emergentes", *Economic Bulletin,* July-August, Banco de España.

Essers, D., and S. Ide (2018). "The IMF and precautionary lending: An empirical evaluation of the selectivity and effectiveness of the Flexible Credit Line", *Journal of International Money and Finance,* December. https://doi.org/10.1016/j.jimonfin.2018.12.007

IMF (2009a). *GRA lending toolkit and Conditionality: Reform Proposals,* March.

IMF (2009b). *Republic of Poland: Arrangement Under the Flexible Credit Line: Staff Report; Staff Supplement; Press Release on the Executive Board Discussion; and Statement by the Executive Director for the Republic of Poland,* May.

IMF (2009c). *Mexico: Review Under the Flexible Credit Line Arrangement: Staff Report and Press Release on the Executive Board Discussion,* July.

IMF (2009d). *The Flexible Credit Line – Guidance on Operational Issues,* November.

IMF (2014). *Review of the Flexible Credit Line, the Precautionary and Liquidity Line, and the Rapid Financing Instrument,* January. https://doi.org/10.5089/9781498343800.007

IMF (2017). *Adequacy of the Global Financial Safety Net – Review of the Flexible Credit Line and Precautionary and Liquidity Line, and proposals for Toolkit Reform*. https://doi.org/10.5089/9781498346153.007

IMF (2020). *IMF COVID-19 Response – A New Short-Term Liquidity Line to Enhance The Adequacy Of The Global Financial Safety Net,* April.

IMF (2021). *Colombia: Review Under the Flexible Credit Line Arrangement-Press Release; Staff Report; and Statement by the Executive Director for Colombia,* May. https://doi.org/10.5089/9781513572932.002

Moreno, P. (2013). *The metamorphosis of the IMF (2009-2011),* Economic Studies, No 78, Banco de España.

Sánchez, P., and X. Serra (2015). "Las nuevas líneas protectoras del FMI", *Economic Bulletin,* June, Banco de España.

## Annex Approved insurance facilities

Table A1.1

**APPROVED INSURANCE FACILITIES (a)**

| | | Line | Approval date *(Review date)* | Duration (years) | Amount (b) | | | % of GDP at approval date | Drawdowns | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | In SDR million | As % of quota (c) | As % of current quota | | Amount (SDR) million | Date |
| Latin America | Mexico | FCL | April 2009 | 1 | 31,528 | 1,000 | 354 | 5.5 | | |
| | | FCL | March 2010 | 1 | 31,528 | 1,000 | 354 | 4.7 | | |
| | | FCL | January 2011 | 2 | 47,292 | 1,500 | 531 | 7.0 | | |
| | | FCL | November 2012 | 2 | 47,292 | 1,304 | 531 | 6.3 | | |
| | | FCL | November 2014 | 2 | 47,292 | 1,304 | 531 | 5.5 | | |
| | | FCL | May 2016 | 2 | 62,389 | 700 | | 8.0 | | |
| | | FCL | November 2017 | 2 | 62,389 | 700 | | 8.0 | | |
| | | | *(November 2018)* | | 53,476 | 600 | | 6.1 | | |
| | | FCL | November 2019 | 2 | 44,564 | 500 | | 4.9 | | |
| | | FCL | November 2021 | 2 | 35,651 | 400 | | 3.6 | | |
| | Colombia | FCL | May 2009 | 1 | 6,966 | 900 | 341 | 4.6 | | |
| | | FCL | May 2010 | 1 | 2,322 | 300 | 114 | 1.3 | | |
| | | FCL | May 2011 | 2 | 3,870 | 500 | 189 | 1.9 | | |
| | | FCL | June 2013 | 2 | 3,870 | 500 | 189 | 1.5 | | |
| | | FCL | June 2015 | 2 | 3,870 | 500 | 189 | 1.7 | | |
| | | FCL | June 2016 | 2 | 8,180 | 400 | | 4.5 | | |
| | | FCL | May 2018 | 2 | 7,848 | 384 | | 3.5 | | |
| | | FCL | May 2020 | 2 | 7,850 | 384 | | 4.1 | | |
| | | | *(September 2020)* | | 12,267 | 600 | | 6.3 | 3,750 | December 2020 |
| | | FCL | April 2022 | 2 | 7,156 | 350 | | 2.7 | | |
| | Chile | FCL | May 2020 | 2 | 17,442 | 1,000 | | 11.4 | | |
| | | SLL | May 2022 *(early cancellation in August 2022)* | 1 | 2,529 | 145 | | 1.1 | | |
| | | FCL | August 2022 | 2 | 13,954 | 800 | | 5.8 | | |
| | Peru | FCL | May 2020 | 2 | 8,007 | 600 | | 5.7 | | |
| | | FCL | May 2022 | 2 | 4,004 | 300 | | 2.5 | | |
| | Panama | PLL | January 2021 | 2 | 942 | 250 | | 2.2 | | |
| | | | *(January 2022)* | | 1,884 | 500 | | 4.1 | | |
| Other regions | Poland | FCL | May 2009 | 1 | 13,690 | 1,000 | 334 | 4.9 | | |
| | | FCL | July 2010 | 1 | 13,690 | 1,000 | 334 | 4.5 | | |
| | | FCL | January 2011 | 2 | 19,166 | 1,400 | 468 | 6.3 | | |
| | | FCL | January 2013 | 2 | 22,000 | 1,303 | 537 | 6.6 | | |
| | | FCL | January 2015 | 2 | 15,500 | 918 | 379 | 4.0 | | |
| | | | *(January 2016)* | | 13,000 | 770 | 317 | 4.0 | | |
| | | FCL | January 2017 *(early cancellation in November 2017)* | 2 | 6,500 | 159 | | 1.0 | | |
| | Republic of North Macedonia | PCL | January 2011 | 2 | 345 | 500 | 246 | 5.3 | 197 | March 2011 |
| | | | *(January 2012)* | | 413 | 600 | 294 | 6.3 | | |
| | Morocco | PLL | August 2012 | 2 | 2,353 | 400 | 262 | 3.6 | | |
| | | | *(August 2013)* | | 4,117 | 700 | 460 | 6.5 | | |
| | | PLL | July 2014 | 2 | 2,941 | 500 | 329 | 4.1 | | |
| | | | *(July 2015)* | | 3,235 | 550 | 362 | 4.2 | | |
| | | PLL | July 2016 | 2 | 1,252 | 140 | | 1.8 | | |
| | | | *(July 2017)* | | 2,504 | 280 | | 3.5 | | |
| | | PLL | December 2018 | 2 | 1,251 | 140 | | 1.5 | | |
| | | | *(December 2019)* | | 2,151 | 240 | | 2.5 | 2,151 | April 2020 |

**SOURCE:** Banco de España, drawing on IMF data.

a Lines in place as of mid-November are shaded.
b Cases where two values are presented depict the maximum amounts available in the first and second years.
c Relative to the quota at the time of approval.

## BANCO DE ESPAÑA PUBLICATIONS

### OCCASIONAL PAPERS

2110 DMITRY KHAMETSHIN: High-yield bond markets during the COVID-19 crisis: the role of monetary policy.

2111 IRMA ALONSO and LUIS MOLINA: A GPS navigator to monitor risks in emerging economies: the vulnerability dashboard.

2112 JOSÉ MANUEL CARBÓ and ESTHER DIEZ GARCÍA: El interés por la innovación financiera en España. Un análisis con Google Trends.

2113 CRISTINA BARCELÓ, MARIO IZQUIERDO, AITOR LACUESTA, SERGIO PUENTE, ANA REGIL and ERNESTO VILLANUEVA: Los efectos del salario mínimo interprofesional en el empleo: nueva evidencia para España.

2114 ERIK ANDRES-ESCAYOLA, JUAN CARLOS BERGANZA, RODOLFO CAMPOS and LUIS MOLINA: A BVAR toolkit to assess macrofinancial risks in Brazil and Mexico.

2115 ÁNGEL LUIS GÓMEZ and ANA DEL RÍO: The uneven impact of the health crisis on the euro area economies in 2020. (There is a Spanish version of this edition with the same number).

2116 FRUCTUOSO BORRALLO EGEA and PEDRO DEL RÍO LÓPEZ: Monetary policy strategy and inflation in Japan. (There is a Spanish version of this edition with the same number).

2117 MARÍA J. NIETO and DALVINDER SINGH: Incentive compatible relationship between the ERM II and close cooperation in the Banking Union: the cases of Bulgaria and Croatia.

2118 DANIEL ALONSO, ALEJANDRO BUESA, CARLOS MORENO, SUSANA PÁRRAGA and FRANCESCA VIANI: Fiscal policy measures adopted since the second wave of the health crisis: the euro area, the United States and the United Kingdom. (There is a Spanish version of this edition with the same number).

2119 ROBERTO BLANCO, SERGIO MAYORDOMO, ÁLVARO MENÉNDEZ and MARISTELA MULINO: Impact of the COVID-19 crisis on Spanish firms' financial vulnerability. (There is a Spanish version of this edition with the same number).

2120 MATÍAS PACCE, ISABEL SÁNCHEZ and MARTA SUÁREZ-VARELA: Recent developments in Spanish retail electricity prices: the role played by the cost of $CO_2$ emission allowances and higher gas prices. (There is a Spanish version of this edition with the same number).

2121 MARIO ALLOZA, JAVIER ANDRÉS, PABLO BURRIEL, IVÁN KATARYNIUK, JAVIER J. PÉREZ and JUAN LUIS VEGA: The reform of the European Union's fiscal governance framework in a new macroeconomic environment. (There is a Spanish version of this edition with the same number).

2122 MARIO ALLOZA, VÍCTOR GONZÁLEZ-DÍEZ, ENRIQUE MORAL-BENITO and PATROCINIO TELLO-CASAS: Access to services in rural Spain. (There is a Spanish version of this edition with the same number).

2123 CARLOS GONZÁLEZ PEDRAZ and ADRIAN VAN RIXTEL: The role of derivatives in market strains during the COVID-19 crisis. (There is a Spanish version of this edition with the same number).

2124 IVÁN KATARYNIUK, JAVIER PÉREZ and FRANCESCA VIANI: (De-)Globalisation of trade and regionalisation: a survey of the facts and arguments.

2125 BANCO DE ESPAÑA STRATEGIC PLAN 2024: RISK IDENTIFICATION FOR THE FINANCIAL AND MACROECONOMIC STABILITY: How do central banks identify risks? A survey of indicators.

2126 CLARA I. GONZÁLEZ and SOLEDAD NÚÑEZ: Markets, financial institutions and central banks in the face of climate change: challenges and opportunities.

2127 ISABEL GARRIDO: The International Monetary Fund's view of social equity throughout its 75 years of existence. (There is a Spanish version of this edition with the same number).

2128 JORGE ESCOLAR and JOSÉ RAMÓN YRIBARREN: European Central Bank and Banco de España measures against the effects of COVID-19 on the monetary policy collateral framework, and their impact on Spanish counterparties. (There is a Spanish version of this edition with the same number).

2129 BRINDUSA ANGHEL, AITOR LACUESTA and FEDERICO TAGLIATI: 2021 Survey of Small Enterprises' Financial Literacy: Main Results. (There is a Spanish version of this edition with the same number).

2130 PABLO HERNÁNDEZ DE COS: Testimony before the Congress of Deputies Budget Committee on 25 October 2021 and before the Senate Budget Committee on 30 November 2021 in relation to the Draft State Budget for 2022. (There is a Spanish version of this edition with the same number).

2131 LAURA AURIA, MARKUS BINGMER, CARLOS MATEO CAICEDO GRACIANO, CLÉMENCE CHARAVEL, SERGIO GAVILÁ, ALESSANDRA IANNAMORELLI, AVIRAM LEVY, ALFREDO MALDONADO, FLORIAN RESCH, ANNA MARIA ROSSI and STEPHAN SAUER: Overview of central banks' in-house credit assessment systems in the euro area.

2132 JORGE E. GALÁN: CREWS: a CAMELS-based early warning system of systemic risk in the banking sector.

2133 ALEJANDRO FERNÁNDEZ CEREZO and JOSÉ MANUEL MONTERO: A sectoral analysis of the future challenges facing the Spanish economy. (There is a Spanish version of this edition with the same number).

2201 MANUEL A. PÉREZ ÁLVAREZ: New allocation of special drawing rights. (There is a Spanish version of this edition with the same number).

2202 PILUCA ALVARGONZÁLEZ, MARINA GÓMEZ, CARMEN MARTÍNEZ-CARRASCAL, MYROSLAV PIDKUYKO and ERNESTO VILLANUEVA: Analysis of labor flows and consumption in Spain during COVID-19.

2203 MATÍAS LAMAS and SARA ROMANIEGA: Designing a price index for the Spanish commercial real estate market. (There is a Spanish version of this edition with the same number).

2204 ÁNGEL IVÁN MORENO BERNAL and TERESA CAMINERO GARCÍA: Analysis of ESG disclosures in Pillar 3 reports. A text mining approach.

2205 OLYMPIA BOVER, LAURA CRESPO and SANDRA GARCÍA-URIBE: Household indebtedness according to the Spanish Survey of Household Finances and the Central Credit Register: a comparative analysis. (There is a Spanish version of this edition with the same number).

2206 EDUARDO GUTIÉRREZ, ENRIQUE MORAL-BENITO and ROBERTO RAMOS: Population dynamics during the COVID-19 pandemic. (There is a Spanish version of this edition with the same number).

2207 JULIO GÁLVEZ: Measuring the equity risk premium with dividend discount models.

2208 PILAR CUADRADO, MARIO IZQUIERDO, JOSÉ MANUEL MONTERO, ENRIQUE MORAL-BENITO and JAVIER QUINTANA: El crecimiento potencial de la economía española tras la pandemia. (There is a Spanish version of this edition with the same number).

2209 PANA ALVES, SERGIO MAYORDOMO and MANUEL RUIZ-GARCÍA: Corporate financing in fixed-income markets: the contribution of monetary policy to lowering the size barrier. (There is a Spanish version of this edition with the same number).

2210 PABLO BURRIEL, IVÁN KATARYNIUK and JAVIER J. PÉREZ: Computing the EU's SURE interest savings using an extended debt sustainability assessment tool.

2211 LAURA ÁLVAREZ, ALBERTO FUERTES, LUIS MOLINA and EMILIO MUÑOZ DE LA PEÑA: Fund raising in the international capital markets in 2021. (There is a Spanish version of this edition with the same number).

2212 CARLOS SANZ: El peso del sector público en la economía: resumen de la literatura y aplicación al caso español.

2213 LEONOR DORMIDO, ISABEL GARRIDO, PILAR L'HOTELLERIE-FALLOIS and JAVIER SANTILLÁN: Climate change and sustainable growth: international initiatives and European policies. (There is a Spanish version of this edition with the same number).

2214 CARMEN SÁNCHEZ and JARA QUINTANERO: Las empresas *fintech:* panorama, retos e iniciativas.

2215 MARÍA ALONSO, EDUARDO GUTIÉRREZ, ENRIQUE MORAL-BENITO, DIANA POSADA, PATROCINIO TELLO-CASAS and CARLOS TRUCHARTE: In-person access to banking services in Spain: a comparison with other countries and other types of services. (There is a Spanish version of this edition with the same number).

2216 BEATRIZ GONZÁLEZ, ENRIQUE MORAL-BENITO and ISABEL SOLER: Schumpeter Meets Goldilocks: the Scarring Effects of Firm Destruction.

2217 MARIO ALLOZA, JÚLIA BRUNET, VICTOR FORTE-CAMPOS, ENRIQUE MORAL-BENITO and JAVIER J. PÉREZ: Government spending in spain from a european perspective. (There is a Spanish version of this edition with the same number).

2218 PABLO AGUILAR, BEATRIZ GONZÁLEZ and SAMUEL HURTADO: Carbon tax sectoral (CATS) model: a sectoral model for energy transition stress test scenarios.

2219 ALEJANDRO MUÑOZ-JULVE and ROBERTO RAMOS: Estimación del impacto de variaciones en el período de cálculo de la base reguladora sobre la cuantía de las nuevas pensiones de jubilación. (There is a Spanish version of this edition with the same number).

2220 LUIS ÁNGEL MAZA: Una estimación de la huella de carbono en la cartera de préstamos a empresas de las entidades de crédito en España. (There is a Spanish version of this edition with the same number).

2221 SUSANA MORENO SÁNCHEZ: The EU-UK relationship: regulatory divergence and the level playing field.

2222 ANDRÉS ALONSO-ROBISCO and JOSÉ MANUEL CARBÓ: Inteligencia artificial y finanzas: una alianza estratégica.

2223 LUIS FERNÁNDEZ LAFUERZA, MATÍAS LAMAS, JAVIER MENCÍA, IRENE PABLOS and RAQUEL VEGAS: Análisis de la capacidad de uso de los colchones de capital durante la crisis generada por el COVID-19. (There is a Spanish version of this edition with the same number).

2224 SONSOLES GALLEGO, ISABEL GARRIDO and IGNACIO HERNANDO: IMF precautionary facilities and their use in Latin America. (There is a Spanish version of this edition with the same number).