

Twenty years of inflation targeting in Peru: lessons and challenges ahead¹

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Abstract

In late 2001, the Central Reserve Bank of Peru (BCRP) embarked on the path of an inflation targeting (IT) regime, marking Peru as the first bi-monetary economy to adopt this monetary policy framework. In this undertaking, the BCRP considered the inclusion of other alternative tools such as FX intervention and reserve requirements, supplementing the conventional use of the interest rate. This range of tools has aided the BCRP in executing a counter-cyclical monetary policy. Simultaneously, it has helped moderate fluctuations in the credit cycle and alleviate risks emanating from excessive exchange rate volatility in a context of financial dollarisation.

Three pivotal episodes marked the initial two decades of IT implementation, each posing significant challenges for shaping monetary policy amidst pronounced macroeconomic volatility: the commodity super-cycle (2004–14), the Great Financial Crisis (2008–09) and the Covid-19 pandemic. Also significant was the launch of a de-dollarisation initiative in 2013, which has been instrumental in mitigating financial stability risks associated with financial dollarisation.

Looking ahead, the primary challenges for the BCRP include: controlling inflation in the post-pandemic era, navigating potential fiscal dominance risks on a global scale, adapting to digital innovations within the payment and monetary system (including central bank digital currencies, or CBDCs), gauging the impacts of monetary policy on income distribution, and discerning the role that central banks may assume in responding to climate change.

Introduction

At the turn of the century, after an episode of hyperinflation (1988–90) followed by a period of stabilisation (1990–2001), inflation in Peru converged to international levels. In this context, in December 2001 the Board of the Central Reserve Bank of Peru (BCRP) initiated formal procedures for adopting an inflation targeting (IT) framework with the purpose of keeping inflation expectations anchored to a target band, strengthening the interest rate transmission mechanism, and controlling risks

¹ Based on Chapters 14 and 15 of Vega and Zegarra (2022).

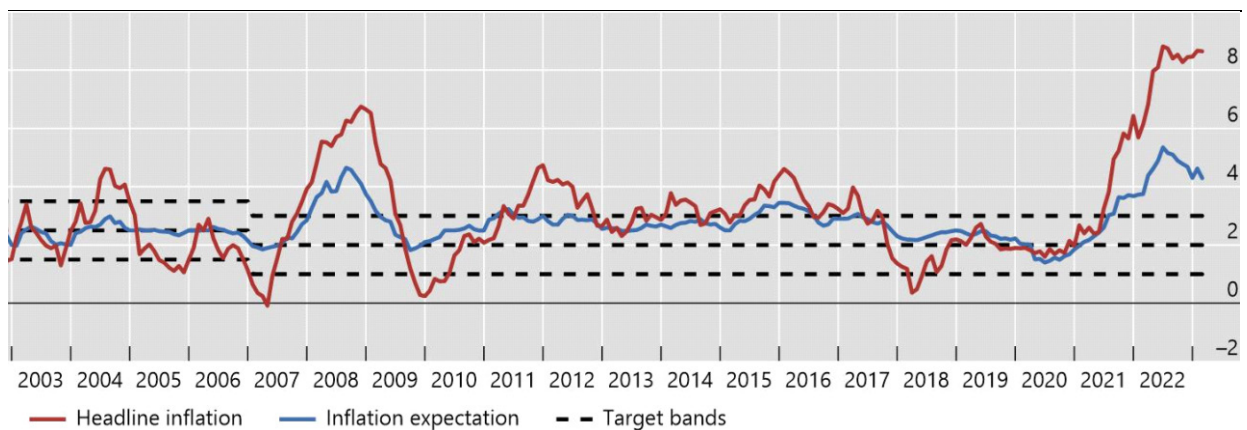
associated with financial dollarisation. In February 2002, the inflation target of 2.5% with a $\pm 1\%$ tolerance band was officially announced.^{2,3}

The current inflation target is a 1–3% band with a 2% midpoint. The band provides the BCRP with sufficient room for manoeuvre given the size and volatility of supply shocks affecting inflation. Since adopting IT, the BCRP has succeeded in keeping inflation expectations anchored, with some temporary deviations from the band. However, even though inflation has consistently stayed in the single digits, Peru is currently experiencing its longest and most persistent deviation episode, mainly associated with international food and energy supply shocks (initially generated by post-pandemic recovery).

Headline inflation and inflation expectations 12-months ahead

Year on year changes, in per cent

Graph 1



Note: Inflation (yoy, %) – December. 2002: 1.5%, 2003: 2.5%, 2004: 3.5%, 2005: 1.5%, 2006: 1.1%, 2007: 3.9%, 2008: 6.7%, 2009: 0.2%, 2010: 2.1%, 2011: 4.7%, 2012: 8.5%, 2013: 2.9%, 2014: 3.2%, 2015: 4.4%, 2016: 3.2%, 2017: 1.4%, 2018: 2.2%, 2019: 1.9%, 2020: 2.0%, 2021: 6.4% and 2022: 8.5%.

Source: Central Reserve Bank of Peru.

Together with the adoption of IT, the development of markets for central bank securities (BCRP Certificates of Deposit, or CDBCRPs) and domestic currency sovereign bonds (BTPs) increased the depth and liquidity of the fixed income market. In particular, the creation of a yield curve improved the transmission of monetary policy by providing a benchmark for credit and deposit operations at longer terms and creating the conditions for the issuance of private debt securities. Average BTP duration increased from 3.4 years in 2004 to 16.5 years in 2009 and 9.7 years in 2022. Private sector bonds are now issued with maturities of up to 30 years.

Given that the BCRP is not a lender of last resort in FX, the materialisation of risks from partial financial dollarisation (ie abrupt exchange rate fluctuations and volatile capital flows) could compromise financial stability and weaken confidence in the local currency. Moreover, in a dual-currency environment with shallow financial markets,

² The inflation target was initially set at 2.5% at year-end, with a tolerance margin of $\pm 1\%$. In January 2006, the BCRP established a year-on-year monthly rolling target. In February 2007, the target was reduced to 2%, with a tolerance margin of $\pm 1\%$, to further strengthen confidence in the domestic currency. Finally, in March 2014, the BCRP changed the inflation target to a 1–3% target band, which remains in force to date. For more details, see BCRP (2007; 2014).

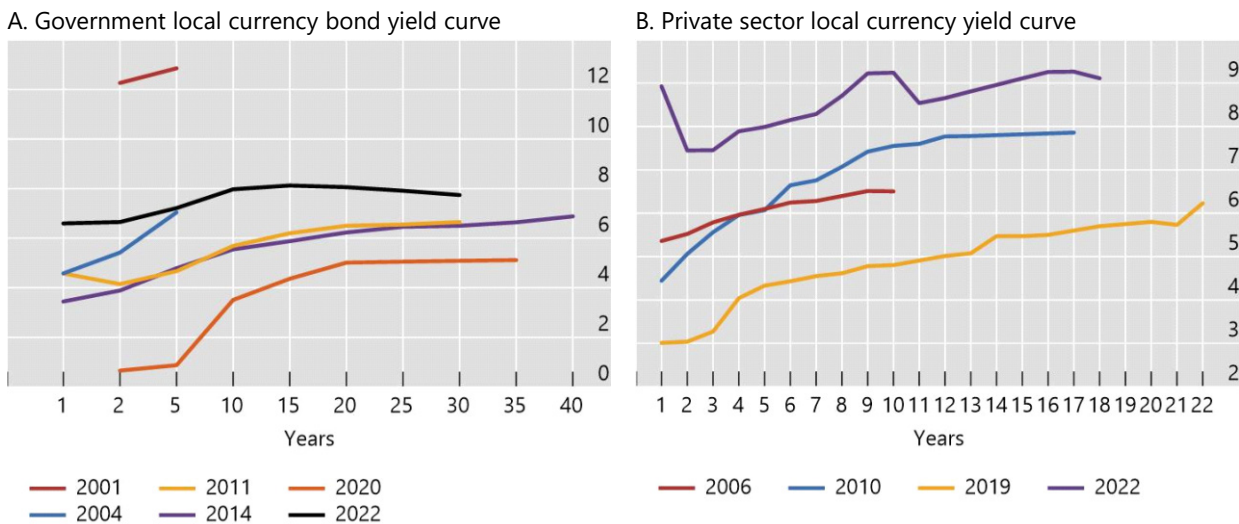
³ Prior to formal adoption of IT, the BCRP had announced target bands starting in 1994. These target bands narrowed each year to gradually bring inflation down to international levels (Armas et al (2001)).

the impact of the policy interest rate on domestic financial conditions is limited. In this light, the BCRP adapted IT to domestic conditions, including through additional instruments, such as FX intervention and reserve requirement rates (RRRs), to complement its policy rate.

Yield curves

In per cent

Graph 2



Note: It includes bonds with ratings of A, AA and AAA.

Source: Ministry of Economy and Finance (MEF) and Superintendence of Banking, Insurance and AFPs (SBS).

The BCRP's FX intervention aims to reduce exchange rate volatility – without affecting its long-term trend – to: (i) limit balance sheet effects associated with financial dollarisation; (ii) provide FX liquidity to the financial system in times of stress; (iii) moderate credit cycles associated with capital flow fluctuations; (iv) build FX reserves as insurance against episodes of financial turbulence; and (v) ensure the market functions smoothly.

Lower exchange rate volatility also enhances monetary policy transmission and reinforces confidence in the local currency, thereby contributing to low and stable inflation. Thus, FX intervention may become more frequent under heightened exchange rate volatility triggered by global or domestic developments such as the Great Financial Crisis (GFC) in 2008, China's financial turbulence episode (2015–16), the Covid-19 pandemic (2020–21), and Peru's period of political uncertainty (2021–22).

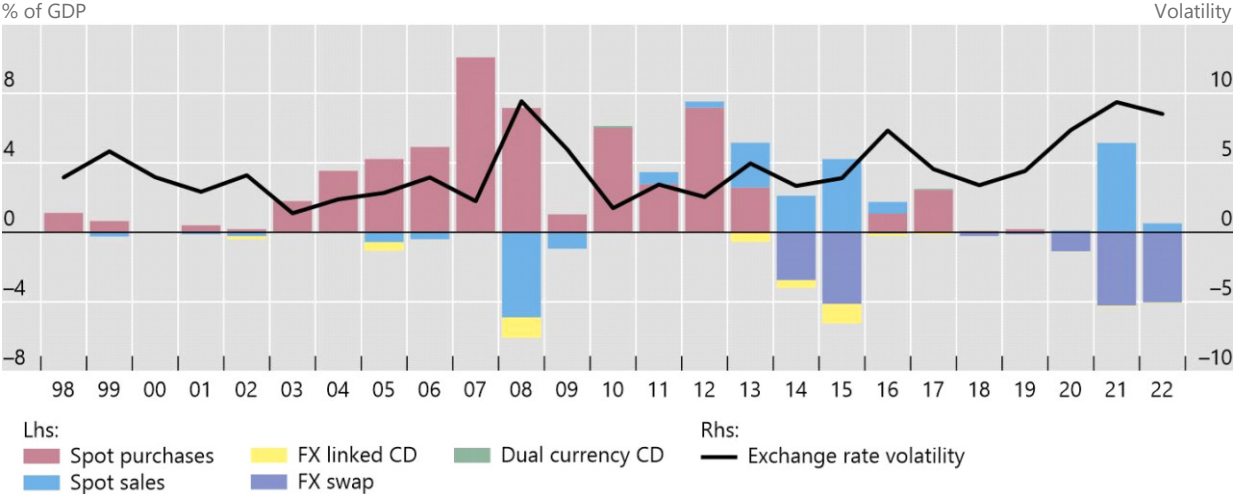
Since the early 1990s, FX interventions have been conducted through the purchase/sale of dollars (USD) in the spot market. At the same time, FX purchases expand the monetary base through the injection of domestic currency (PEN). In parallel with the development of the local FX derivatives market, FX interventions also began to be conducted through alternative instruments such as FX-indexed BCRP securities (CDR BCRPs) starting in 2002, FX swaps starting in 2014, and BCRP securities payable in USD (CDLDs) starting in 2016.

The BCRP uses RRRs on both domestic currency and FX liabilities to ensure adequate levels of liquidity in the financial system. In addition, the central bank sets RRRs countercyclically to moderate the credit cycle and discourage financial intermediation in USD. The BCRP also sets higher RRRs on FX liabilities so that

financial institutions internalise the risks associated with the absence of an FX lender of last resort. The BCRP has used this instrument (applying additional RRRs) to limit speculation on short-term capital flows, to promote the de-dollarisation of credit and limit speculation in the exchange market through derivatives.

BCRP intervention in the FX market

Graph 3



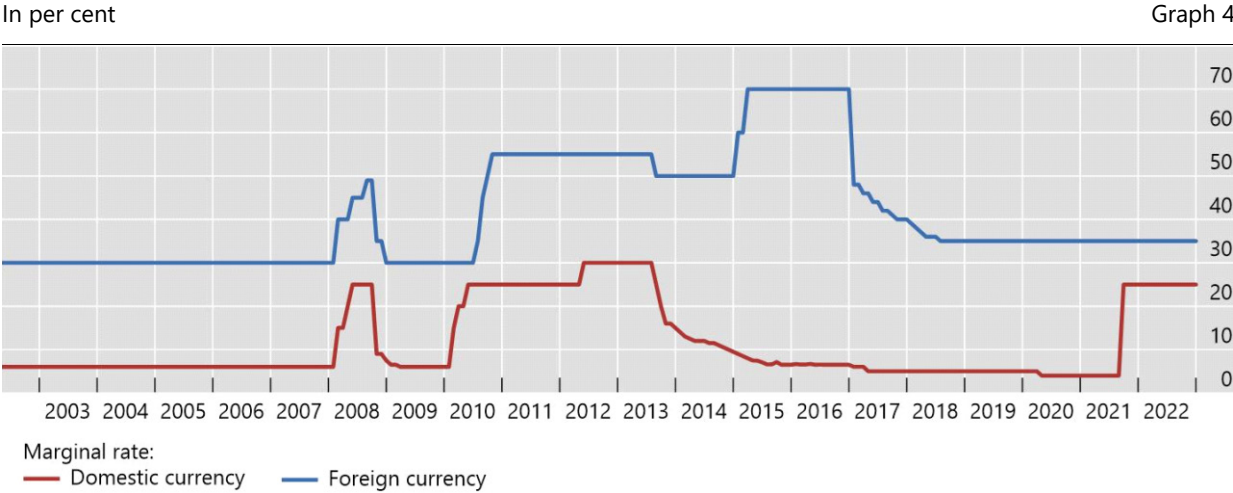
Note: Data as of December 2022 (end of period balances for derivative instruments).

Source: Central Reserve Bank of Peru.

RRRs indirectly influence the cost of financial intermediation by widening the margin between lending and borrowing rates and reducing the money multiplier. Thus, higher RRRs imply a lower lending capacity for the same level of funding, ie banks opt for higher lending rates, lower borrowing rates, narrower financial margins, or any combination of these in order to comply with higher RRRs. Additionally, RRRs on FX liabilities help secure adequate FX bank liquidity for addressing sudden capital outflows or domestic liquidity shocks.

Reserve requirement rates

Graph 4



Source: Central Reserve Bank of Peru.

Other countries in Latin America and the Caribbean (LAC), like Colombia and Brazil, have also used RRRs countercyclically as a complement to the interest rate, particularly in the face of significant capital flow movements. Montoro and Moreno (2011) argue that the reasons behind RRR use are: (i) unlike interest rates, RRR increases can tighten financial conditions without attracting capital flows; (ii) RRRs can strengthen the effectiveness of the interest rate as a monetary policy instrument; and (iii) RRRs can be used to meet financial stability and/or macroprudential policy objectives.

During Peru's two-decade experience with the IT framework, the BCRP has adapted it in sync with evolving conditions by creating new instruments and introducing improvements in communication. BIS-BCRP relations have been key to this process. The BCRP was initially invited to attend BIS meetings with central bank peers in the aftermath of the Asian and Russian crises of the late 1990s.⁴ After gaining full membership in 2012, the BCRP stepped up its participation in BIS research networks, conferences and working groups (including activities organised by the BIS Americas Office in Mexico City).

In particular, BIS research has provided valuable input to international discussions on the monetary policy frameworks adopted by emerging market economies (EMEs) such as Peru. As discussed in BIS (2019), instead of following textbook prescriptions advocating free floating, EMEs have adapted IT implementation to include FX intervention in view of significant challenges due to excessive capital flow (and associated exchange rate) volatility. Recently, the International Monetary Fund (IMF) incorporated this new standard into its Integrated Policy Framework,⁵ recognising the need for a policy toolbox for addressing the impact of external macroeconomic and financial shocks on EMEs.

IT implementation in Peru

The first two decades of IT implementation in Peru entailed considerable challenges in monetary policy design amidst multiple episodes of significant macroeconomic volatility, such as the commodity super-cycle (2004–14), the GFC (2008–09) and the Covid-19 pandemic. These events prompted the BCRP to create new instruments and change the size and composition of its balance sheet to enhance the transmission of monetary policy to the financial system. The BCRP also implemented new monetary strategies such as the de-dollarisation programme started in 2013, which has helped to mitigate financial stability risks associated with financial dollarisation.

The commodity super-cycle, the GFC and the BCRP response

Pre-crisis exuberance

The 1990s reforms and a favourable external environment for commodity-exporting countries were the pillars of Peru's high growth between 2001 and 2009 (5.4% per year on average). High commodity prices and large capital inflows propelled growth

⁴ Chief Economist Renzo Rossini first represented the BCRP as a guest at the BIS Working Party on Monetary Policy in Latin America in 1998, and General Manager Javier de la Rocha attended the BIS Emerging Markets Deputy Governors Meeting the following year.

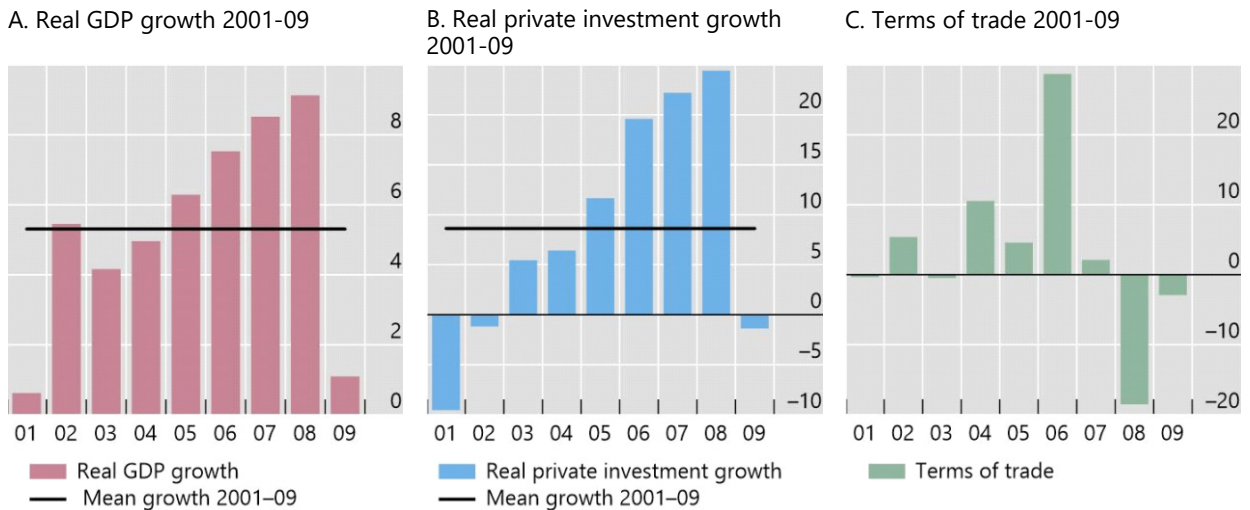
⁵ See IMF (2020) and Adrian and Gopinath (2020).

and private investment. Capital inflows facilitated low-cost financing, which in turn boosted aggregate demand, appreciated the currency and further reduced financing costs. Against this backdrop, the credit-to-GDP ratio increased from 20% to 29% between 2004 and 2008. In 2008, even though economic activity in the fourth quarter of the year was affected by the impending GFC, GDP and private investment grew by 9.8% and 25.8% in real terms, respectively.

Pre crisis local conditions

In per cent

Graph 5



Source: Central Reserve Bank of Peru.

In a context of mounting food and energy prices and a surge in aggregate demand fuelled by external factors, inflation began to accelerate in mid-2007. In response, the BCRP increased the reference rate from 4.5% to 6.5% between June 2007 and September 2008 and raised RRRs on both domestic currency (from 15% to 25% between March and April 2008) and FX (from 30% to 49% between February and July 2008) to moderate credit growth.

At the same time, the reference rate hikes and the appreciation of the currency created incentives for carry trade operations. In early 2008, strong capital inflows from non-resident investors poured into CDBCRPs, generating further appreciation pressures and boosting aggregate demand.

In these circumstances, the BCRP established measures to limit non-resident investors' speculative activities. This was done via BCRP instruments (designed solely for monetary management purposes) that were geared toward reducing interest rate pressures that distorted the yield curve. In January 2008, CDBCRPs were replaced by securities issued in primary auctions restricted to domestic financial institutions (CDBCRP-NRs). In the same month, the BCRP established a fee (4% of transaction values) for the registration of transfers of ownership of BCRP securities to limit the participation of non-resident investors in monetary instrument markets. In April 2008, the BCRP established a 120% RRR on non-resident deposits in domestic currency.

The BCRP also carried out FX interventions in the spot market to reduce excessive exchange rate volatility. Between 2005 and August 2008, increased FX intervention in the spot market boosted net international reserves (NIRs) by around USD 25.4 billion (from USD 12.6 billion to USD 34.7 billion).

Monetary policy response to the GFC

In September 2008, the bankruptcy of US investment bank Lehman Brothers unleashed the most serious global disruption since the Great Depression of 1929. Amidst the collapse of international financial markets, both emerging and industrialised economies experienced a sharp slowdown. The crisis also triggered massive capital outflows away from EMEs and contracted the prices of Peru's main exports, leading to a 12% depreciation between September 2008 and February 2009.

Despite this crisis context, Peru's growth in 2008 reached 9.8% (the highest in 14 years), completing 10 consecutive years of expansion. However, growth slowed to 0.9% in 2009 as the crisis set in. Inflation surged to 6.65% in 2008, mainly reflecting a 9.7% increase in food prices caused by domestic and imported supply shocks. Inflation pressures associated with imported food prices began to subside in the last months of 2008 due to a rapid correction of international commodity prices in a context of global economic deterioration.

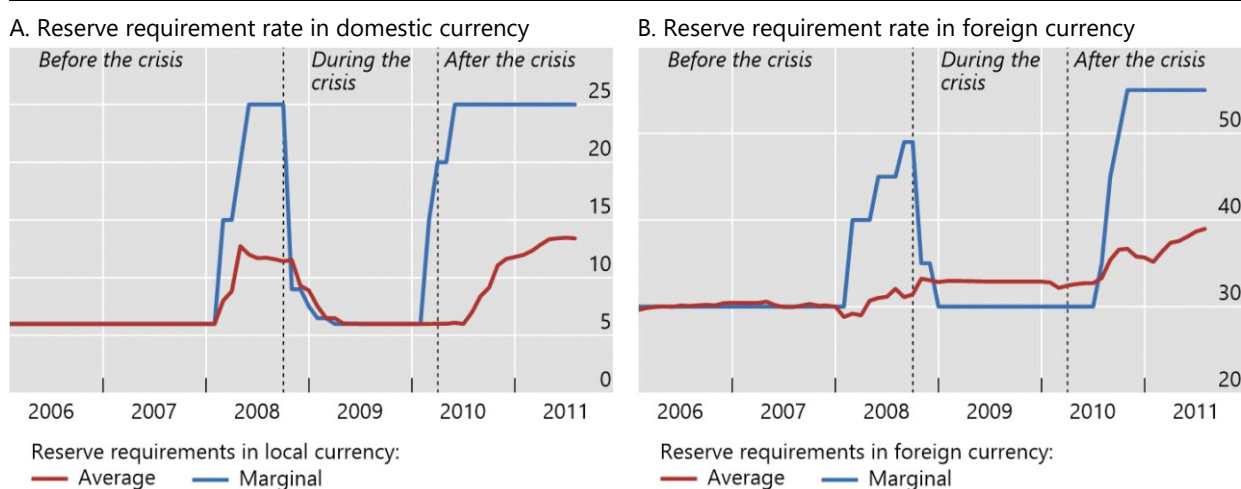
In the thick of the GFC, BCRP policies aimed at keeping monetary and financial markets (especially credit operations) running smoothly. This implied preventing: (i) liquidity shortages (in both domestic currency and FX) that could hamper financial intermediation; (ii) adverse effects on firms and household balance sheets as a result of sharp depreciation, which in turn could potentially generate recessionary pressures; and (iii) an excessive steepening of the yield curve in the money market (unrelated to the expected evolution of the reference rate), which could weaken the interest rate channel of monetary policy.

Along these lines, monetary policy initially focused on preventing spillovers from external conditions to local financial markets. Thus, between September 2008 and February 2009, the BCRP aimed at maintaining credit flows by securing adequate liquidity and reducing volatility in financial and FX markets. During this period, the BCRP injected liquidity into the economy by conducting repo operations of up to one year and cutting the marginal RRR on domestic liabilities from 25% to 6.5%, in addition to further liquidity created as BCRP securities matured. In all, the BCRP provided liquidity amounting to 9.3% of GDP (PEN 34.8 billion).

RRR adjustments in response to the crisis

% of obligations subject to reserve requirements

Graph 6



Source: Central Reserve Bank of Peru.

In addition, the BCRP provided FX liquidity by exempting long-term (two years or more) external debt from RRRs; reducing the marginal RRR on FX obligations from 49% to 30%, thereby reversing RRR increases made over the previous months; and creating repo operations to provide further FX liquidity. In addition, the RRR on non-resident deposits established in April 2008 was reduced from 120% to 35%.

To reduce exchange rate volatility, the BCRP conducted net FX sales amounting to USD 6.8 billion between September 2008 and February 2009 and issued FX instruments (exchange rate-indexed certificates of deposit, or CDR BCRPs) for USD 3.2 billion. This response was made possible by the BCRP's precautionary build-up of international reserves over the previous four years.

After normalising local financial conditions, in February 2009 the BCRP began to reduce its policy rate (from 6.5% to a historic low of 1.25% in August 2009) with a view to facilitating firms' access to financing and encouraging private spending, thereby supporting the reversal of the weak economic cycle that began in 2008 and deepened during the GFC.

In July 2009, inflation returned within the target band in a context of weak economic activity, subsiding inflation expectations, lower imported inflation and a reversal of food price shocks. Year-on-year inflation declined from 6.7% in December 2008 to 1.9% in August 2009.

The BCRP's de-dollarisation programme

Since 2013, the BCRP has aimed to accelerate credit de-dollarisation to reduce risks from sudden depreciation pressures through FX-indebted firms and households. Along these lines, the BCRP established additional RRRs on FX liabilities, aimed at (i) moderating the expansion of USD credit and (ii) encouraging a shift from USD- to PEN-denominated debt. These additional RRRs were applied according to how mortgage and car loans and total USD credit evolved, and came into effect when financial entities failed to reach predetermined targets for FX loans established by the BCRP. They were intended to align incentives for financial entities by favouring domestic-currency loans and facilitating coordination among financial entities seeking to de-dollarise credit. These RRRs made USD credit more expensive for financial institutions, thereby breaking inertial credit practices determined by habit patterns or by borrowers' mistaken perception that USD loans carry a lower credit exchange risk.

These measures helped to reduce dollarisation across credit categories. Total credit dollarisation fell from 49% in September 2013 to 24% in December 2022. During the same period, household credit dollarisation declined significantly. Mortgage and car loan dollarisation fell from 49% to 9% and from 82% to 11%, respectively, as of December 2022.

Several studies – including Castillo et al (2016), Infante (2018) and Contreras et al (2019) – assess the impact of the BCRP's de-dollarisation measures. These works calculate the decline in credit dollarisation at 6–14 percentage points (isolating the effect of other factors such as exchange risk variations) and conclude that the de-dollarisation programme contributed significantly to reinforcing financial stability and the transmission channel of monetary policy. These macroprudential measures are currently still in force, but since the dollarisation rate has decreased significantly, their marginal contribution is now lower.

Dollarisation of credit to the private sector (%)¹

Table 1

	Sep-13	Dec-18	Dec-19	Dec-20	Gap
	(i)			(ii)	(iii)
Household	29.2	11.7	10.1	7.1	-22.0
Consumption	13.3	7.2	6.8	5.9	-7.3
<i>Car loans</i>	82.0	15.7	16.6	11.0	-71.1
<i>Credit cards</i>	9.5	8.1	8.0	11.6	2.1
<i>Rest</i>	7.8	6.4	5.7	4.5	-3.3
Mortgage	48.6	18.3	15.0	9.0	-39.7
Firms	59.4	41.9	40.3	33.7	-25.7
Corporate	69.7	52.2	48.6	48.8	-21.0
Large Companies	76.1	58.8	60.2	54.8	-21.3
Medium-sized enterprises	70.7	43.5	41.9	26.1	-44.6
Small business	20.8	7.1	6.5	3.2	-17.6
Micro-business	8.3	6.8	6.3	4.1	-4.2
Total	49.1	30.5	28.5	23.5	-25.6

¹ Ratios calculated as the exchange rate of December 2022 (PEN 3.81 per USD).

Source: Central Reserve Bank of Peru.

Monetary policy response to the Covid-19 pandemic (2020–21)

At the onset of the Covid-19 pandemic, the confinement measures implemented by the Peruvian authorities were among the most rigorous worldwide. On 16 March 2020, the government introduced strict public health measures, including mandatory social isolation at the national level and a lockdown of multiple activities deemed non-essential, including public works and e-commerce, resulting in a 17.3% contraction in GDP during the first half of the year (and a 30% contraction in the second quarter).

From the beginning of the pandemic, monetary policy adopted an unprecedented expansionary stance – a record low policy rate (0.25%) and massive repo operations with a horizon of up to four years – which was feasible due to the credibility built by the BCRP over 30 years. The authorities implemented fiscal stimulus via a range of policies, including cash transfers to households (2.0% of GDP) and – starting in October 2020 – higher public investment. Increased pandemic-related expenses and lower tax collections due to a contraction in local economic activity resulted in a fiscal deficit of 8.9% of GDP in 2020 (7.3 percentage points more than in 2019 and the largest since 1990). These expansionary monetary and fiscal policies led to greater-than-expected recovery in the last quarter of 2020 (a 1.5% contraction in GDP) and brought economic activity closer to pre-pandemic levels.

As a result of this uneven quarterly performance, 2020 GDP growth was –11.1%, the most pronounced contraction since 1989 (–12.3%), following 21 years of continuous expansion.

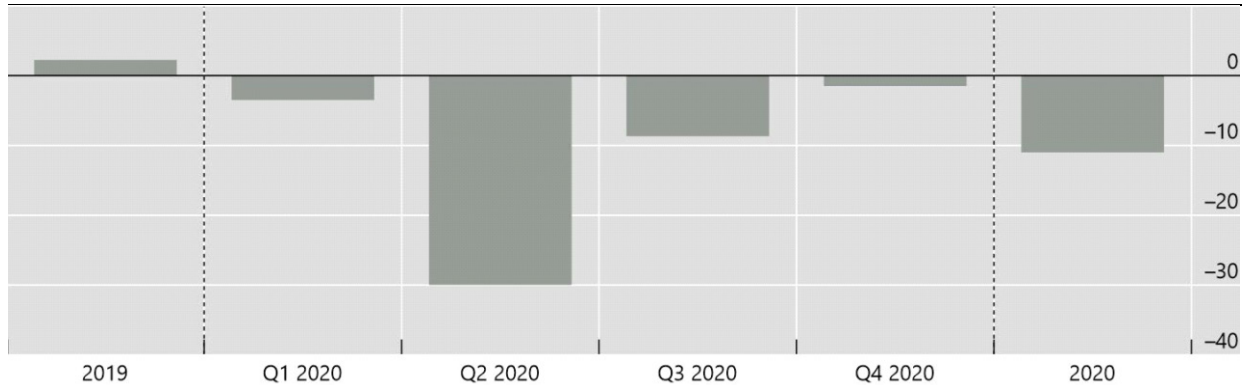
Monetary policy aimed at preserving the payments chain and supporting the recovery of economic activity, mainly by reducing financing costs, providing adequate liquidity to the financial system, and moderating exchange rate and long-term

interest rate volatility. To this end, monetary policy adopted an unprecedented expansionary stance. Given the size of the shock and its impact on the economy, the monetary impulse was amplified via additional quantitative measures.

GDP 2019-20

In per cent

Graph 7



Source: Central Reserve Bank of Peru.

The Reactiva Perú programme

The main challenge during the first half of 2020 was to preserve the payments and credit chains. The Covid-19 breakout was a sudden, transitory and large shock. On the demand side, it triggered a contraction in global demand, which reduced Peru's exports and caused widespread uncertainty among consumers and firms. Moreover, the stringent measures introduced to contain the spread of Covid-19 seriously disrupted the supply chain. This affected household incomes and firms' cash flows, thereby limiting their capacity to meet obligations such as payment of salaries, rents and debts owed to suppliers. This vicious circle of shrinking demand and supply risked prolonging the initial shock and potentially dragging the economy into a depression (ie a long and deep recession with negative inflation rates). If allowed to expand, the ripple effect across the payments chain had the potential to cause massive bankruptcies, in turn leading to an abrupt drop in production, employment and incomes.

Additionally, certain externalities could exacerbate the credit risk associated with a disruption of the payments chain, eg risk-averse financial entities' concerns about their capacity to meet their own obligations could become a self-fulfilling prophecy if they reacted by contracting credit out of fear that debtors might not be able to repay loans. Therefore, government intervention became necessary to prevent a disruption of the payments chain by providing adequate liquidity to the financial system.

In this context, marked by an abrupt drop in economic activity, the authorities introduced a government-guaranteed loan programme (known as Reactiva Perú). Under this programme, the BCRP provided liquidity through repo operations to financial entities that granted these loans and received high-quality assets as collateral, ie the government-guaranteed loan portfolio. The initial horizon for these loans was three years, including a one-year grace period. The programme sought to partially absorb pandemic-enhanced risks by creating incentives for financial entities

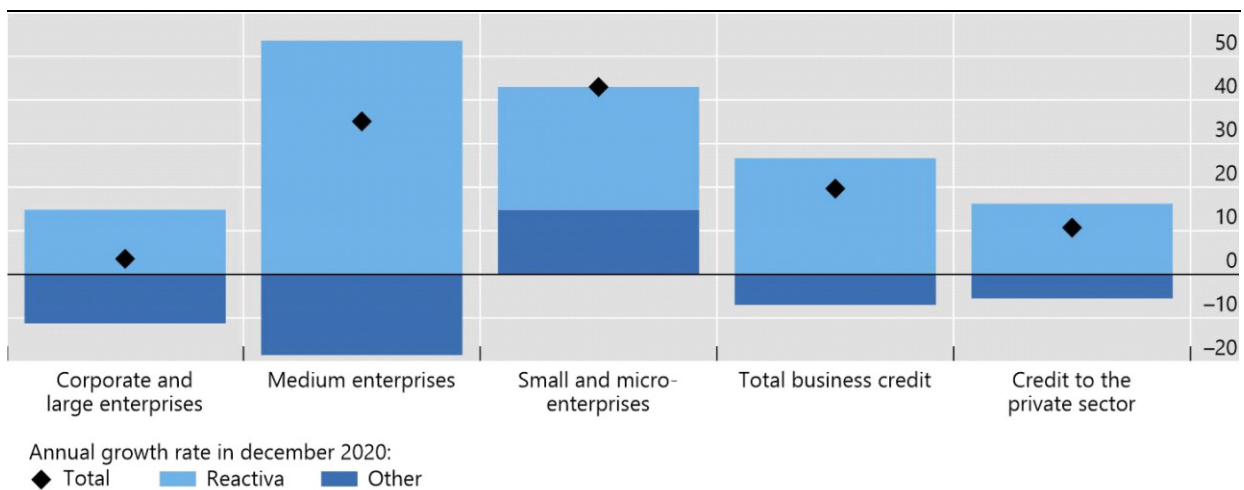
to provide companies with the necessary working capital to cover their obligations during the lockdown, thereby improving their viability and reducing market uncertainty.

The programme provided liquidity quickly to sustain credit flows, thus avoiding a credit crunch and a breakdown in the payments chain. Moreover, the monetary boost promoted a recovery starting in the second half of 2020. Unlike other crisis episodes, such as the September 1998 sudden halt in capital flows induced by the Russian crisis, credit evolved countercyclically. Business credit grew by 22% year on year in 2020, instead of the likely negative growth had the programme not been put in place. This programme was one of the largest of its kind in LAC (around 8.5% of GDP) and had the highest implementation rate – defined as actual execution relative to the initial announcement of the programme (around 90%) – among both advanced economies and EMEs.

Contribution to credit growth

In per cent

Graph 8



Source: Central Reserve Bank of Peru.

The three elements that contributed to the programme's success are simplicity, scope and competition.

- **Simplicity:** The conditions for accessing the programme were simple and easy to verify, eg loan amounts were proportional to the sales declared to the tax authority (SUNAT) the previous year, and there were no pre-qualification conditions (apart from not appearing on a list of certain prohibited or unlawful activities).⁶
- **Scope:** Informal businesses were able to participate in the programme. Peru has one of the highest informality rates worldwide (about two thirds of the labour force are informal workers), above economies with similar per capita income levels. Micro-enterprises without sales declarations had access to the programme, with the size of their loans linked to the amount of debt they owed to the financial system (with a ceiling of up to PEN 40,000, equivalent to USD

⁶ For more details about the Reactiva Perú programme, see Montoro (2020).

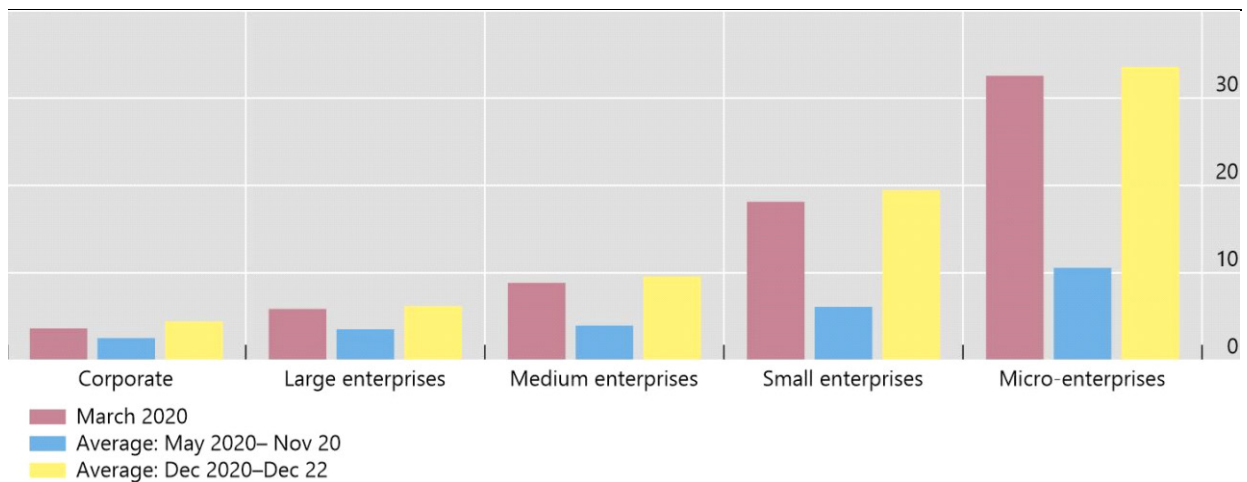
12,000). Out of the half a million companies that received a loan from *Reactiva Perú*, 98% were micro- or small enterprises and 77% did not have sales records.

- **Competition:** To induce competition among financial entities, the BCRP offered a 0.5% repo rate for a three-year term, allocating resources to the financial entities that charged the lowest interest rates to borrowers. This helped accelerate the pass-through of a policy rate reduction to other interest rates. The latter fell to historic lows, especially for smaller companies with the highest credit risk premia.

Interest rates in domestic currency¹

In per cent

Graph 9



¹ Annual lending interest rates charged by banks in the last 30 business days.

Source: Central Reserve Bank of Peru.

The BCRP also created two additional liquidity facilities: repo operations conditioned on loan portfolio rescheduling and operations conditioned on long-term credit expansion. The former, created in June 2020, aimed to promote loan rescheduling at lower interest rates and longer maturities. The latter, created at end-2020, aimed to strengthen the transmission of the monetary impulse to long-term interest rates, while expanding long-term credit such as mortgages.

Between March and December 2020, the balance of liquidity operations reached historic highs, from 2.1% of GDP (PEN 14.8 billion) at end-February to 9.1% of GDP (PEN 64.8 billion) as of 31 December. Of the latter, PEN 50.7 billion corresponded to repo operations with government-guaranteed loans. Long-run repo operations were not unprecedented for the BCRP, but their magnitude, the range of collaterals used and the financial features (conditionality on extending new loans or reprogramming) were a new experience. The total balance of liquidity operations as of end-2020 was eight times higher than under the GFC (PEN 7.9 billion) and twice as much as during the 2013–16 commodity price drop and under the de-dollarisation programme (PEN 31.8 billion). One of the advantages of using repo operations is that the withdrawal of monetary stimulus is automatic and determined by the maturities built into such operations.

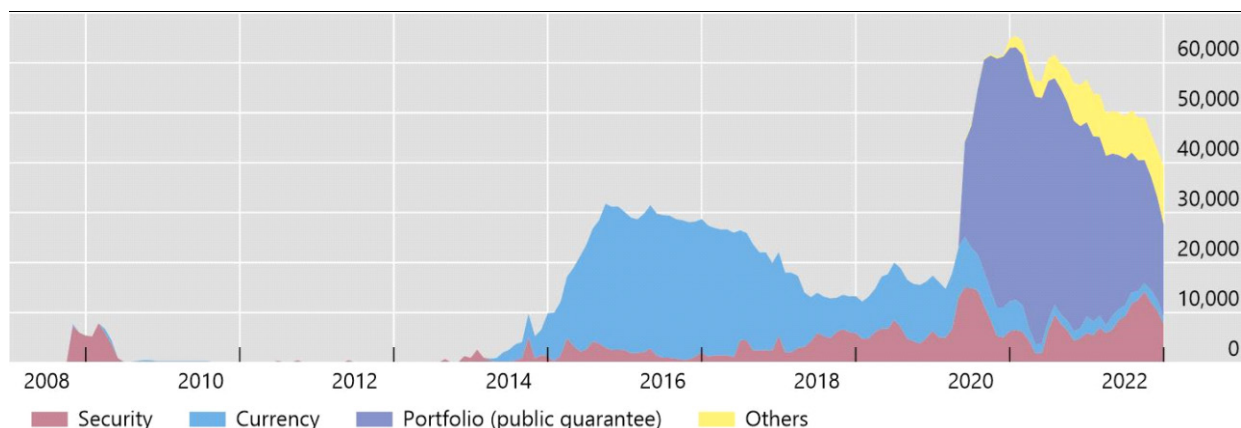
As a result of the BCRP's expansionary monetary policy and liquidity operations associated with the government-guaranteed loan programme, growth of credit to the private sector accelerated from 6.9% in 2019 to 11.8% in 2020. As a percentage of

GDP, the balance of credit to the private sector rose from 43.1% in 2019 to 52.9% in 2020.

Balance of liquidity operations¹

In millions of soles

Graph 10



¹ As of 30 December 2022.

Source: Central Reserve Bank of Peru.

Inflation rose slightly between 2019 and 2020, from 1.90% to 1.97%, closer to the centre of the BCRP's inflation target band (1–3%), and inflation expectations remained at around 2%. Higher inflation was caused by increasing costs as a result of sanitary measures, supply-side factors affecting certain food prices, and a depreciation of the currency. At the same time, economic performance below potential was reflected in lower core inflation (headline inflation excluding food and energy), which decreased from 2.30% in 2019 to 1.76% in 2020.

Policies for moderating exchange rate and long-term interest rate volatility

The Covid-19 pandemic exacerbated EME currency fluctuations via capital flow volatility in 2020 and the increase in US Treasury bond interest rates in the first quarter of 2021. Additionally, domestic factors, such as political uncertainty associated with the November 2020 presidential impeachment and the 2021 election, put pressure on the exchange rate.

Monetary policy transmission channels weaken when FX and financial markets experience high exchange and interest rate volatility. In addition, given that financial dollarisation still persists in the Peruvian economy, reducing excessive exchange rate volatility helps prevent risks associated with dollarisation (such as FX liquidity risks or credit risks induced by currency mismatches).

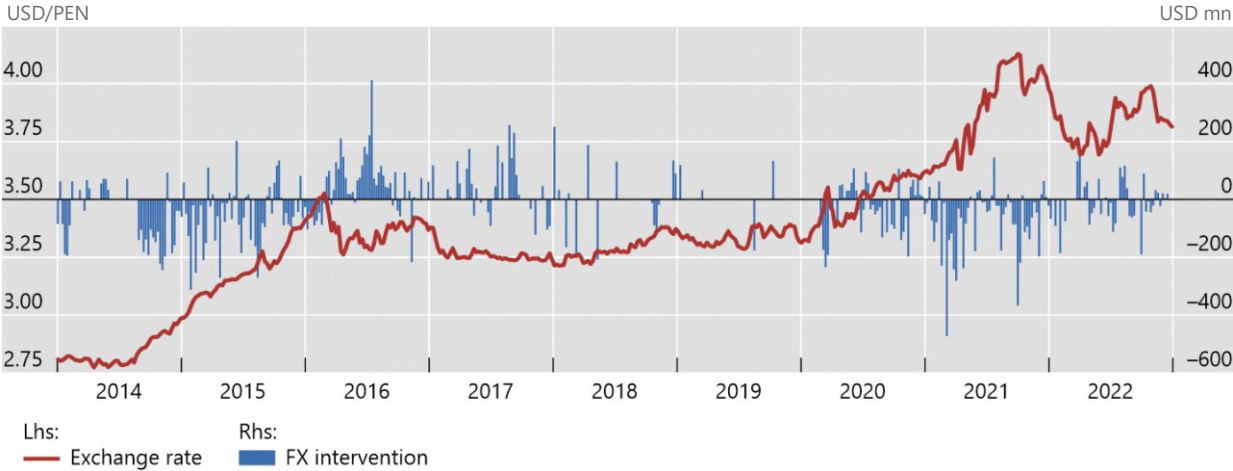
Given Peru's exchange rate performance, the BCRP participated in the FX market using the instruments at its disposal to moderate excessive volatility. Thus, between March 2020 and December 2020, the BCRP sold USD 160 million in the FX market to offset pressures on the currency. The BCRP also placed FX sale derivative instruments (exchange rate swaps and adjustable certificates of deposit) on the market, equivalent to USD 3.7 billion.

In 2021, in a context of great political uncertainty, Peru experienced the largest capital outflow in its history, amounting to 7.4% of GDP (USD 16.6 billion). Although the BCRP carried out FX intervention operations totalling USD 17.5 billion – mainly

through spot market operations (USD 11.6 billion) – to reduce exchange rate volatility, the PEN depreciated by 10% over the year.

Exchange rate and FX intervention¹

Graph 11



¹ Includes net purchases/sales of dollars in the spot market and net maturity of instruments (CDBCRPs, CDLD BCRPs and FX swaps).

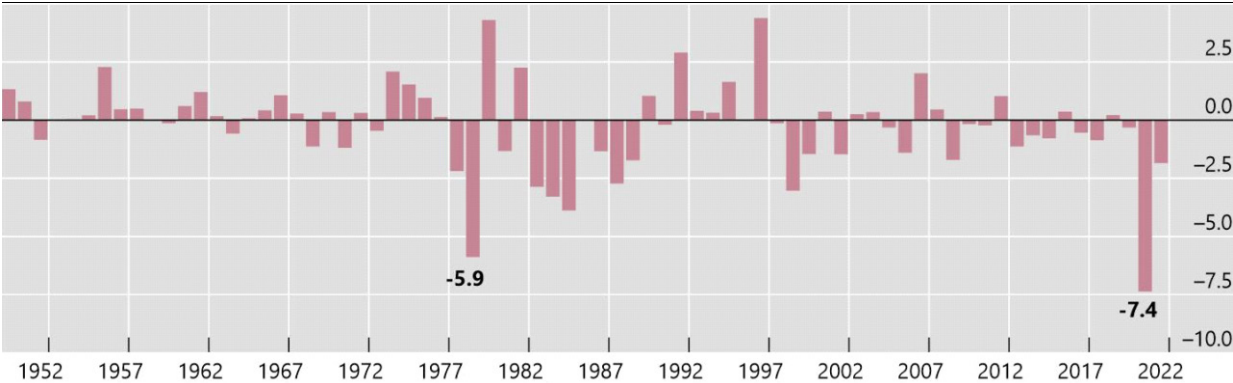
Source: Central Reserve Bank of Peru.

During this period, Congress approved withdrawals from private pension fund managers (AFPs) to attenuate the impact of the pandemic on households. AFPs covered such withdrawals, amounting to 9.4% of GDP (PEN 88 billion) between 2020 and 2022, mainly by selling external assets and BTPs. In response, the BCRP implemented monetary operations with AFPs to ensure financial markets functioned normally and prevent upward pressures on BTP interest rates and the exchange rate, as the hasty sale of BTPs to meet withdrawal requests had the potential to depress BTP prices (ie push interest rates up, with detrimental implications for economic recovery). In this context, repo operations with AFPs, carried out in three stages, amounted to 1.9% of GDP (PEN 17.2 billion).

Short-term capital flows

As a percentage of GDP

Graph 12



Source: Central Reserve Bank of Peru.

The BCRP’s response to Covid-19 preserved credit flows, thereby avoiding a breakdown in the payments chain that would have aggravated the economic impact

of the pandemic. Additionally, the BCRP provided the necessary monetary boost to spur an economic recovery starting in mid-2020.

The challenges ahead

Post-pandemic inflation control

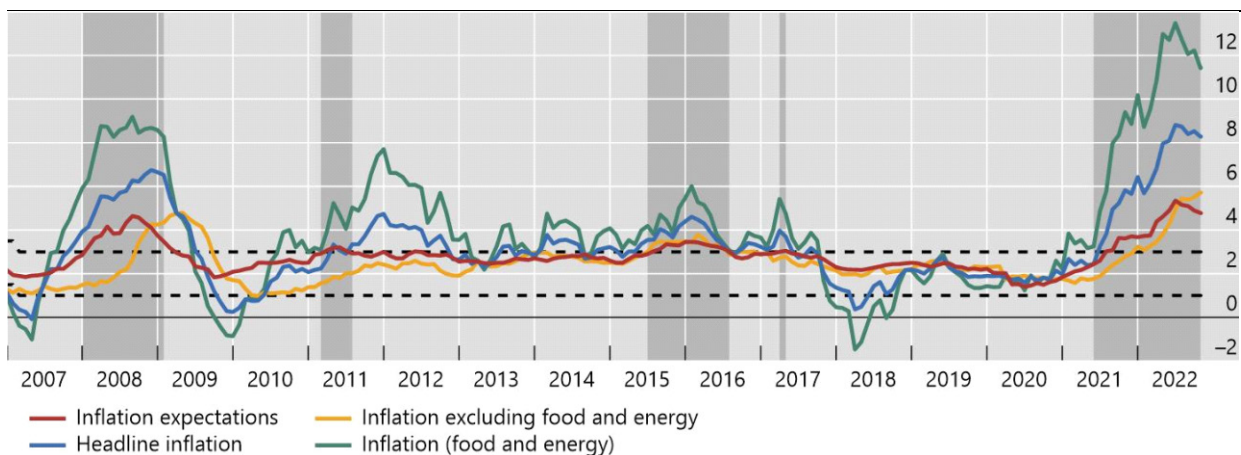
The great immediate challenge for central banks is to control high inflation in the wake of the Covid-19 pandemic. Supply restrictions and a rapid recovery in aggregate demand (after most confinement measures were lifted worldwide) led to a global surge in prices, especially for food and energy. Starting with the onset of the pandemic, maritime transport costs showed a sustained upward trend, which directly affected international prices. There is a risk that inflation expectations may become unanchored and create a 1970s-style inflationary spiral in some developed economies like Japan, Germany, the United Kingdom and the United States.

Graph 13 shows the five episodes in which inflation expectations in Peru deviated from the target band during the last two decades. Most of them had a short-to-medium duration, the current one being the longest since the adoption of IT. The evidence shows that deviations of inflation expectations from the target have generally been temporary and, in the long run, credibility has prevailed, with inflation expectations returning to the target band within the policy horizon (18–24 months).

Episodes of inflation expectations outside the inflation target band (2002–22)

Year on year changes, in per cent

Graph 13



Note: Gray areas represent the periods in which inflation expectations are above the target band.

Source: Central Reserve Bank of Peru.

Episodes of inflation expectations outside the inflation target band (2002-22)

Table 2

Episode	Dates	Duration	Max. Inflation Expectations	Max. Total Inflation	Max. Inflation without food and energy	Max. Inflation Food and Energy	Max. Exchange Rate	Max. Depreciation months
Episode 1	Jan 08 – Feb 09	14 months (21 months)	4.6	6.7	4.6	9.2	3.2	11.4
Episode 2	Mar 11 – Jun 11	4 months (16 months)	3.2	4.7	2.6	7.7	2.8	-0.9
Episode 3	Jul 15 – Jul 16	13 months (16 months)	3.5	4.6	3.8	6.0	3.5	15.1
Episode 4	Mar 17 – Apr 17	2 months (9 months)	3.1	4.0	2.8	5.4	3.3	-1.6
Episode 5	Jul 21 – Dec 22	18 months (18 months)	5.4	8.8	5.7	13.5	4.1	15.5

¹ The time for which total inflation remains outside the target band is shown in parenthesis.

Source: Central Reserve Bank of Peru.

In this context, the BCRP's communication policy plays an increasingly important role in reinforcing credibility and underpinning monetary policy transmission.

Fiscal dominance

Higher pandemic-related indebtedness may create fiscal dominance pressures in the coming years. Potential interest rate increases to control inflation may create fiscal pressures through higher debt service costs. Like in the past, fiscal dominance may push inflation upward, accentuate cycles, and deteriorate public services. Experience shows that public education and healthcare deteriorate during fiscal shortfalls, ie the latter imply adjustments in the quality of spending.

Although indebtedness is lower in Peru than in other LAC countries, it is important to remain vigilant regarding this risk due to the magnitude of lingering pandemic-induced deficits and the eventual emergence of spending pressures going forward.

Central bank digital currency (CBDC) and digital payments

In some economies, the volume of cryptocurrency operations exceeds that of domestic currency-denominated transactions. However, cryptocurrency prices are much more volatile, so their use as a means of payment may affect the transmission power of monetary policy. Of particular concern is the case of stablecoins, which are pegged against a hard currency, and can be issued by big tech companies. As extensive cryptocurrency use may put monetary sovereignty at risk, many countries are assessing the issuance of central bank digital currencies (CBDCs; see BIS (2021a)). Additional challenges include securing the proper use and governance of private data, as well as guaranteeing the integrity of payment systems to prevent their use in illegal activities such as money laundering and cyberattacks.

Meanwhile, prior to CBDC issuance, central banks can ride the digital wave created by the pandemic to update their retail payment platforms. In particular, the

BCRP is currently working on a project to improve the interconnection of retail payments, taking note of successful experiences in countries like India and Brazil (Duarte et al (2022)). Such enhancements promote financial inclusion and broaden the transmission mechanism of monetary policy.

Inequality and monetary policy

Central banks help reduce inequality mainly through inflation control. Peru's hyperinflation episode in the late 1980s, caused by fiscal financing via money issuance, hit lower-income segments of the population the hardest, thereby exacerbating inequality.

The debate on the role of monetary policy in this regard has grown more important in recent years. Although the empirical literature on the impact of conventional and unconventional monetary policy on income and wealth inequality yields mixed conclusions, there is a consensus that inequality grows as inflation increases, since the poorest feel the greatest impact.

However, monetary policy alone cannot address long-term inequality trends associated with structural forces like technological innovation and globalisation (which increase the relative demand for skilled workers, to the detriment of those who lose their comparative advantage). Therefore, the power to diminish inequality gaps also lies with structural policies geared towards enhancing productivity, such as education and healthcare (BIS (2021b)).

Climate change and central banks

Climate change is a global phenomenon with multiple consequences. In particular, central banks must follow up on its implications for the economy and the financial system. For example, the frequency and magnitude of adverse natural phenomena affect food production, in turn influencing inflation and central bank decisions. Financial stability may also be compromised, eg if debtors' ability to pay is negatively affected.

This concern motivated the creation of the Network of Central Banks and Supervisors for Greening the Financial System (NGFS) in December 2017, with an aim to contribute, from the financial front to the global response to meet the objectives of the Paris Agreement on environmentally sustainable development. Specifically, the NGFS promotes financial sector best practices to pave the way for developing a climate change-related risk management framework and mobilising capital for green and low-carbon investments.

In this context, a main challenge is incorporating climate change risks into central banks' operations and assessing their implications for monetary policy decisions.

Conclusions

Peru's IT framework, which is geared towards achieving an inflation target and controlling risks associated with financial dollarisation, has secured monetary and financial stability over the last 20 years. During that time, multiple domestic and external events have put it to the test and created opportunities to enhance its capacity to underpin the credibility of the local currency and contribute to financial stability. Moreover, the conduct of monetary policy, together with multiple instruments and measures aimed at reducing financial vulnerabilities (such as the de-dollarisation programme and the response to the Covid-19 pandemic), has kept market expectations anchored to the target band. The fact that BCRP autonomy has been key to this outcome shows that institutional stability is crucial for achieving high long-term growth.

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