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Peru: Reserve Requirements, GFC¹

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Yale Program on Financial Stability Case Study
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Abstract

Peru experienced the Global Financial Crisis of 2007–2009 (GFC) in two distinct phases. First, starting in the summer of 2007, record capital inflows to the Peru banking sector contributed to an overheating economy. The Banco Central de Reserva del Perú (BCRP) responded in September 2007 by removing reserve requirements on long-term external credit to promote long-term, rather than short-term, capital inflows. In February 2008, for similar reasons, it began to raise the ordinary minimum reserve requirement on bank liabilities and implemented new marginal reserve requirements on increases in those liabilities. Second, when the collapse of the US investment bank Lehman Brothers in September 2008 exacerbated worldwide liquidity strains, the BCRP reacted by lowering the ordinary reserve requirements to pre-crisis levels and lowering the marginal requirements. In total, the BCRP estimated that the reserve requirement changes injected 2.3 billion soles (USD 752 million) in liquidity, or 0.6% of GDP, between September 2008 and March 2009. Although scholars are divided on the BCRP's success at limiting credit growth during the first phase, they generally view the liquidity provision during the second phase as successful.

Keywords: Global Financial Crisis, liquidity rules, Peru, reserve ratio, reserve requirements

¹ This case study is part of the Yale Program on Financial Stability (YPFS) selection of New Bagehot Project modules considering the adjustment of reserve requirements. Cases are available from the *Journal of Financial Crises* at

<https://elischolar.library.yale.edu/journal-of-financial-crises/>.

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Overview

Peru's financial sector experienced and responded to the Global Financial Crisis of 2007–2009 (GFC) in two distinct phases. In the first phase, from mid-2007 until September 2008, Peru's economy—and emerging markets in general—saw record levels of capital inflows (see Figure 1). In the second phase, following the collapse of Lehman Brothers in September 2008, liquidity strains emerged in the Peru financial system, and interest rates spiked. As a dollarized economy, Peru faced limitations on the use of conventional monetary policy to address the capital inflows in the first stage and the need for liquidity provision in the second stage (Quispe and Rossini 2010).

In September 2007, the Banco Central de Reserva del Perú (BCRP), the central bank of Peru, tried to tamp short-term capital inflows by removing reserve requirements on long-term external credit. In February 2008, to strengthen the banking sector, the BCRP began raising reserve requirements on bank liabilities denominated in both Peruvian soles (PEN) and foreign currencies. Specifically, the BCRP raised the ordinary minimum reserve requirement on all bank liabilities, implemented a new marginal requirement on increases in sol-denominated liabilities, and raised the existing marginal reserve requirement on non-sol-denominated liabilities.

It applied very high marginal requirements on nonresidents and non-sol liabilities (Quispe and Rossini 2010). At the peak of the policy, the BCRP applied an ordinary reserve requirement of 9% on all bank liabilities; 25% and 49% marginal reserve requirements on increases in sol-denominated and non-sol-denominated

Key Terms

Purpose of Adjusting Reserve Requirement (RR):
The “liquid assets accumulated as reserve requirements were made immediately available in order to guarantee normal operations in the money market” (Quispe and Rossini 2010, 309)

Range of RR Ratio (RRR) Peak-to-Trough	Ordinary: 9%–6% Marginal: 120%–35% (local currency); 49%–30% (foreign currency)
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RRR Increase Period	Ordinary: February–July 2008 Marginal: February–October 2008 (local currency); February–December 2008 (foreign currency)
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RRR Decrease Period	Ordinary: December 2008–April 2009 Marginal: October–December 2008 (local currency); December 2008 (foreign currency)
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Legal Authority	Organic Law (1993) and Law No. 26702 (2008)
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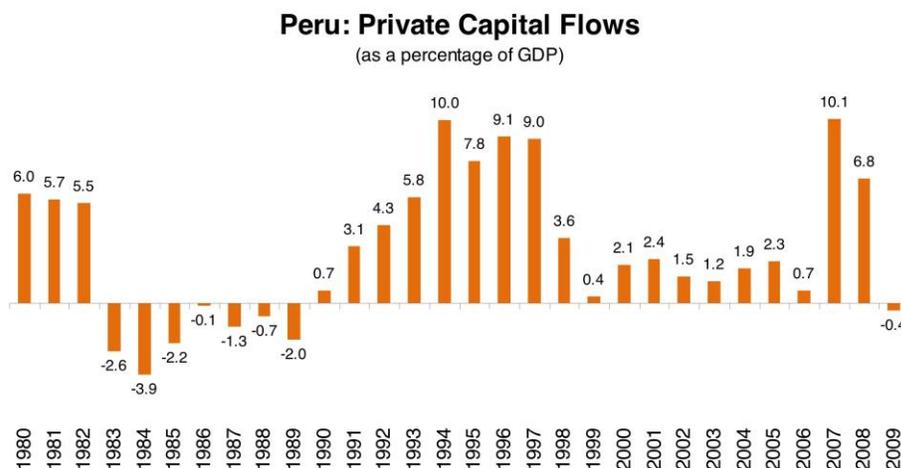
Interest/Remuneration on Reserves	On marginal reserves, not on ordinary reserves that met the requirement
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Notable Features	Temporarily exempted long-term foreign funding to tilt funding structures to longer terms
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Outcomes	Increased term of foreign liabilities
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liabilities, respectively; and a 120% marginal reserve requirement on increases in nonresident sol-denominated deposits (BCRP 2008t).

Figure 1: Capital Inflows from 1980–2009

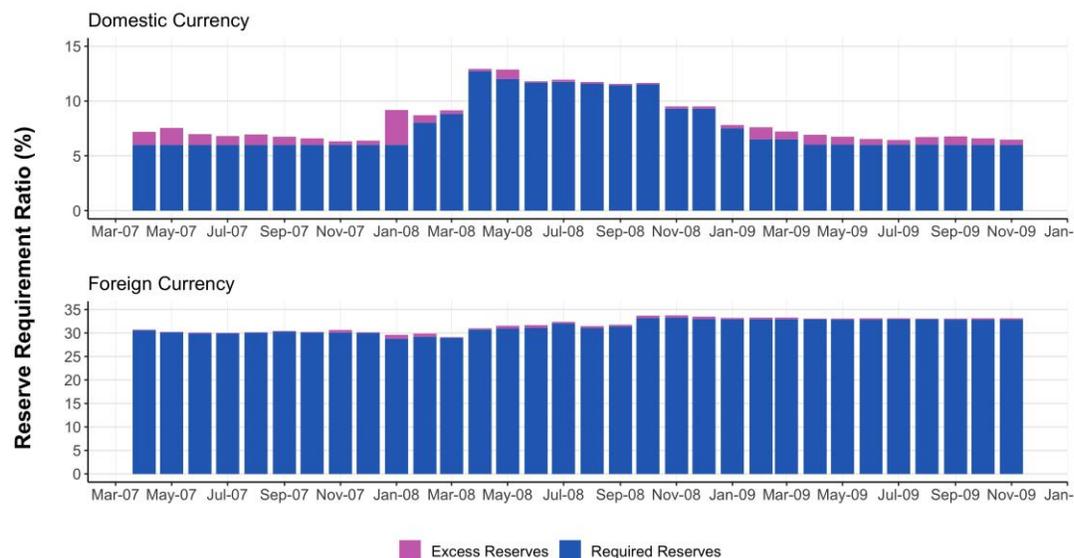


Source: Quispe and Rossini 2010, 306.

After the collapse of Lehman Brothers on September 15, 2008, the BCRP reacted to worldwide liquidity strains by reversing the reserve requirement hikes implemented in the previous year. This allowed the BCRP to provide liquidity in both soles and US dollars (Quispe and Rossini 2010, 308–9). In October, the BCRP eliminated the marginal reserve requirement on sol-denominated liabilities and began lowering the marginal requirement for non-sol-denominated liabilities (BCRP 2008t). In December, the BCRP also began to lower the ordinary minimum reserve requirements from its 9% peak; it returned the requirement to its pre-crisis level of 6% in April 2009 (BCRP 2009c).

The BCRP estimated that, between September 2008 and March 2009, the reduction in reserve requirements provided about PEN 2.3 billion (USD 752 million⁴) in liquidity, or 0.6% of GDP. In addition to reserve requirement policy, the BCRP also conducted swaps, expanded repurchase agreement (repo) operations, and issued central bank certificates indexed to the US dollar. Altogether, the BCRP estimated that it injected 9.6% of GDP in liquidity between September 2008 and March 2009 through these programs (Quispe and Rossini 2010). See Figure 2 for an overview of Peru bank reserves in 2007–2009.

⁴ Per OFX, USD 1 = PEN 3.06 on September 30, 2008.

Figure 2: Reserves in the Peru Banking System, Required and Excess

Source: BCRP 2022.

Summary Evaluation

Researchers are divided on whether the BCRP's actions in the first phase of the GFC succeeded in limiting the credit boom. Céspedes, Chang, and Velasco (2012) notes that credit was still growing at an annualized 30% rate when Lehman collapsed (IMF 2009). On the other hand, Montoro and Moreno (2011) finds evidence that credit would have grown even more if the BCRP had not taken these actions. The authors run a simulation of credit growth in the absence of the reserve requirement changes and find that the reserve requirement increases in the first phase may have reduced credit by 4% of GDP, while the reversal in the second phase may have increased credit by 3–4% of GDP. That is, they find the BCRP's policies both slowed credit expansion before the crisis and stimulated credit growth during the crisis (Montoro and Moreno 2011).

Researchers generally agree that the BCRP's actions protected the Peru banking system from significant negative effects during the GFC. According to two BCRP officials:

Supported with appropriate levels of international liquidity which had been built up as a preemptive measure during the pre-Lehman Brothers phase of the crisis, the unconventional policy actions of the BCRP prevented the global financial crisis from having any major impact on the Peruvian financial system, thereby preserving its domestic liquidity levels. (Quispe and Rossini 2010).

Montoro and Moreno (2011) argues that the first phase of the BCRP's response to the GFC may have helped moderate capital flows; it coincided with a decline in the spread between the deposit rate and the policy rate, potentially indicating a decline in demand for deposits.

This dynamic flipped when the BCRP began reducing reserve requirements (Montoro and Moreno 2011).

Researchers also agree that the BCRP's action in September 2007 to remove reserve requirements for external credit with terms longer than two years had the intended effect of increasing the maturity of external credit overall (Quispe and Rossini 2010). Quispe and Rossini notes that banks' longer-term funding expanded from 17% to 50% of external funding from the implementation of this measure to the end of December 2007 (2010). According to Céspedes, Chang, and Velasco, the portion of the banking system's foreign debts that were long term rose from 22% in September 2007 to 58% a year later (2012).

Context: Peru 2008–2009	
GDP (SAAR, nominal GDP in LCU converted to USD)	\$120.6 billion in 2008
	\$120.8 billion in 2009
GDP per capita (SAAR, nominal GDP in LCU converted to USD)	\$4,221 in 2008
	\$4,196 in 2009
Sovereign credit rating (five-year senior debt)	2008
	Moody's: Baa3
	S&P: BBB+
	Fitch: BBB
	2009
	Moody's: Baa3
S&P: BBB+	
Fitch: BBB	
Size of banking system	\$33.6 billion in 2008
	\$34.0 billion in 2009
Size of banking system as a % of GDP	27.8% in 2008
	28.1% in 2009
Size of banking system as a % of financial system	99.2% in 2008
	99.2% in 2009
Five-bank concentration of banking system	92.4% in 2008
	91.4% in 2009
Foreign involvement in banking system	51% in 2008
	49% in 2009
Existence of deposit insurance	Yes in 2008
	Yes in 2009
<i>Sources: Bloomberg; World Bank Global Financial Development Database; World Bank Deposit Insurance Dataset.</i>	

Key Design Decisions

- 1. Purpose: The BCRP raised reserve requirements in the first half of 2008 to ward off potentially destabilizing capital inflows and tamp credit growth, and it reversed course to provide liquidity to the Peru banking system after the Lehman Brothers failure.**

The GFC in Peru consisted of two relatively distinct phases. In the first phase, considerable capital inflows led the BCRP to raise reserve requirements as a countercyclical measure (Quispe and Rossini 2010). Then, the second phase (starting in September 2008) featured a liquidity freeze that caused the BCRP to lower reserve requirements to release liquidity to the banking system (Quispe and Rossini 2010). According to Quispe and Rossini, two BCRP officials:

During the first stage of the global financial crisis, the increases implemented in the reserve requirement rates in soles and US dollars allowed financial entities to accumulate liquid assets in both currencies in a context of important capital inflows. Given the severe constraints of international financial liquidity characterising the second stage of the global crisis (after the failure of Lehman Brothers), these liquid assets accumulated as reserve requirements were made immediately available in order to guarantee normal operations in the money market. (Quispe and Rossini 2010, 309)

Before and during the GFC, Peru maintained a largely dollarized economy. Fifty percent of credit in 2009 was held in US dollars. In an economy materially reliant on a foreign currency, there are serious consequences that accompany capital outflows, from credit contraction to weakened monetary policy tools. To ward off these possible issues, the BCRP had, for many years, kept reserve requirements at a much higher rate for foreign currency-denominated liabilities than sol-denominated liabilities (Quispe and Rossini 2010).

In 2007, capital flows to Peru increased by an “unprecedented” 10.1% of GDP. In February 2008, the BCRP raised reserve requirements on both domestic and foreign deposits to limit credit growth in the face of the sharp capital inflows. Also, however, the BCRP had in September 2007 removed reserve requirements on external loans with at least a two-year term. The intent was to tamp short-term external credit (Quispe and Rossini 2010).

After Lehman Brothers, a credit crunch led the BCRP to reverse the reserve requirement hikes to provide liquidity to the domestic banking sector (Quispe and Rossini 2010). The BCRP chose this tool in part because it had limited ability to use conventional monetary policy (Quispe and Rossini 2010). Quispe and Rossini (2010, 309) states that “the financial stress and higher risk aversion block the policy rate transmission channels, significantly reducing its signaling power.”

Quispe and Rossini (2010, 300–301) states that the BCRP had learned from the 1998 ruble crisis in Russia, which resulted in many banks failing, a credit crunch, currency depreciation, and capital outflows: “Using the experience gained from various external shocks, especially

the Russian crisis of 1998, the BCRP designed an action plan to prevent a credit contraction during crisis events,” which included the reserve requirement policy.

2. Part of a Package: The BCRP conducted several liquidity-providing programs after the collapse of Lehman Brothers, totaling almost 10% of GDP.

Before the failure of Lehman Brothers in September 2008, the BCRP mainly focused on capital inflows risking financial excesses. While reserve requirements served as the “first line of defence,” the BCRP also conducted conventional monetary tightening, raising the policy rate by 200 basis points (bps) to 6.5%. The BCRP also purchased USD 8.4 billion in assets, at a quicker pace than usual, to prevent exchange rate volatility (Quispe and Rossini 2010).

After Lehman Brothers failed, the BCRP shifted its policy toward providing liquidity in domestic and foreign currencies (Quispe and Rossini 2010, 308). In addition to reducing reserve requirements, the BCRP introduced other liquidity measures. This included expanding the size and maturity of repo operations to one year, introducing a new swap facility for those counterparties that did not have the collateral to participate in repo operations, repurchasing its certificates of deposits (CDs) from banks, and issuing central certificates indexed to the US dollar (Céspedes, Chang, and Velasco 2012; Quispe and Rossini 2010). In total, the BCRP provided 9.6% of GDP through liquidity operations from September 2008 to March 2009; see Figure 3 (Quispe and Rossini 2010).

Figure 3: Liquidity Operations Conducted by the BCRP

Liquidity operation	Flows in PEN millions (Sep. 2008–Mar. 2009)	% of GDP
Repo facility	5,989	1.6
CD purchases	26,688	7.2
Swap facility	735	0.2
Reserve requirements	2,334	0.6
Total	35,746	9.6

Source: Quispe and Rossini 2010, 310.

Beyond liquidity provision, the BCRP also took measures to stabilize the currency—selling USD 6.8 billion of foreign currency and issuing USD 3.3 billion in dollar-indexed certificates—and to ease monetary policy, by reducing the policy rate by 525 bps to 1.25% (Quispe and Rossini 2010).

3. Legal Authority: The BCRP used the Organic Law and Law No. 26702 for its legal authority to set reserve requirements.

The BCRP relied on both the Organic Law, the foundational law establishing the structure of the BCRP, and Law No. 26702 for its authority to set reserve requirements. Law No. 26702 grants the BCRP the authority to establish minimum ordinary reserve requirements, as well as additional or marginal reserve requirements (Law No. 26702 2008, art. 164). This law also allows the BCRP to determine reserve periods, to identify which obligations are subject to reserves, and to impose fines on noncompliant institutions (Law No. 26702 2008, art.

164). Many of the BCRP's circulars refer to Articles 53–55 of the Organic Law and Articles 161–166 of Law No. 26702 for legal authority (BCRP 2008q, 1).

4. Administration: The board of directors of the BCRP set reserve requirements on a contemporaneous, monthly basis.

The BCRP set an ordinary minimum reserve requirement and separate marginal reserve requirements for liabilities denominated in soles and foreign currencies. Required reserves were calculated on an averaged, monthly, and contemporaneous basis (Montoro and Moreno 2011).

The board of directors of the BCRP had the authority to change reserve requirement policy (Organic Law 1995, art. 19). The board comprised four members selected by the president of Peru, including the president of the BCRP, and three members selected by Congress (Organic Law 1995, art. 9).

5. Governance: There does not appear to have been additional external oversight on reserve requirement policy.

There does not appear to have been additional external oversight on reserve requirement policy.

6. Communication: The BCRP characterized reserve requirement increases as monetary stability measures in the context of inflation and foreign capital inflows. The BCRP characterized reserve requirement reductions as measures that would give entities greater flexibility in their liquidity management.

The BCRP announced the changes to the reserve requirement system through detailed circulars, as well as informational notes that provided a more general overview of the changes.

The circular on September 28, 2007—eliminating reserve requirements on loans extended by foreign institutions with terms longer than two years—stated that such changes would “[preserve] monetary stability” by “[complementing]” internal resources with those from abroad “for medium and long-term financing by local financial institutions” (BCRP 2007a).

In early 2008, the BCRP said that it raised minimum ordinary and marginal reserve requirements to sterilize “a recent significant inflow of foreign capital of a speculative nature” and strengthen liquidity levels (BCRP 2008e; BCRP 2008b).

As the BCRP began to lower reserve requirements, it characterized these changes as measures that would give entities greater flexibility in their liquidity management (BCRP 2008k; BCRP 2008m).

In a circular on November 30, 2008, the BCRP estimated that reserve requirement exemptions and reductions would release about PEN 200 million into the financial system (BCRP 2008o).

In a circular on December 31, 2008, the BCRP estimated that the minimum ordinary reserve requirement reduction in soles and foreign currencies would release about PEN 650 million into the financial system (BCRP 2008r). On March 12, 2009, the BCRP estimated that reductions in the minimum ordinary reserve requirement from 6.5% to 6.0% and the current account requirement from 1.5% to 1.0% would release about PEN 250 million into the financial system, thus promoting credit to the private sector (BCRP 2009c).

7. Assets Qualifying as Reserves: Financial institutions had to hold sol and US dollar reserves, with some held in vault cash at the financial institution and some at the BCRP in a current account.

To satisfy the sol reserve requirement, financial institutions held vault cash at their institutions and in current accounts at the BCRP (BCRP 2008d). For non-sol reserves, financial institutions held foreign currency at their institutions and in USD-denominated current accounts at the BCRP (BCRP 2008c). Marginal reserves had to be kept entirely at the BCRP (BCRP 2008d).

For both sol and non-sol liabilities eligible for reserve requirements, financial institutions had to hold at least 1% of liabilities subject to reserve requirements in the current account at the BCRP, starting in January 2008 (BCRP 2008a). This was then raised in the next month to 2% (BCRP 2008d). Later, while it was lowering reserve requirements, the BCRP also lowered the current account requirement to 1.5% in February 2009 and 1% in April 2009 (BCRP 2009b; BCRP 2009c).

8. Reservable Liabilities: The BCRP released a list of liabilities subject to reserve requirements.

In July 2008, the BCRP released a list of liabilities subject to reserve requirements, which included deposits and most other short-term obligations. It excluded subordinated debt, other bonds, and shareholders' funds (BCRP 2008i). The BCRP issued occasional circulars adding new forms of debt to the list (BCRP 2007a; BCRP 2007b; BCRP 2008a; BCRP 2008c; BCRP 2008d; BCRP 2008g; BCRP 2008h; BCRP 2008i; BCRP 2008j).

External liabilities with at least a two-year term faced no reserve requirement from October 2007 until August 2008 (BCRP 2007a; BCRP 2007b; BCRP 2008i; BCRP 2008j).

9. Computation: The minimum ordinary reserve requirement applied to entities' total eligible liabilities, calculated on an averaged, contemporaneous, monthly basis; the marginal requirement applied to the increase in banks' eligible liabilities relative to their average level in December 2007.

The minimum ordinary reserve requirement applied to entities' total eligible liabilities, calculated on an averaged, contemporaneous, monthly basis. In a contemporaneous framework, the period for calculating a bank's requirement has the same end date as the period for calculating its reserves to meet that requirement. The lag in data collection creates an incentive for banks to set aside more reserves than necessary to make sure they don't fall below their requirement (Montoro and Moreno 2011).

The BCRP applied its first marginal reserve requirement to the increase in banks' eligible liabilities over their average level in December 2007 (BCRP 2008d). When it raised the margin reserve requirement in April 2008, it used April 2008 liability levels for the calculations (BCRP 2008t).

10. Eligible Institutions: The reserve requirement changes applied to all private financial institutions and some state-owned banks.

Reserve requirements in Peru applied to private financial institutions, including banking companies, financial companies, municipal savings and credit funds, municipal funds for popular credit, small and micro-enterprise development entities, savings and credit cooperatives, and rural savings and credit funds (Law No. 26702 2008, art. 16). They also applied to three state-owned financial entities: Banco de la Nación, Corporación Financiera de Desarrollo (COFIDE, a development bank), and Banco Agropecuario (an agricultural bank) (BCRP 2008d, 1).

11. Timing: Until the collapse of Lehman Brothers, the BCRP raised reserve requirements, then it reversed course.

According to BCRP officials, there were two main phases in the GFC. In the first phase (up to September 2008), the BCRP raised reserve requirements to prevent speculative capital inflows and tamp credit growth. After the collapse of Lehman Brothers, the BCRP reversed this path and provided liquidity to the banking system by gradually lowering reserve requirements to pre-crisis levels. BCRP officials specifically state that the actions during the first phase of the GFC “provided greater credibility for the second stage of policy intervention” (Quispe and Rossini 2010, 309–10).

12. Changes in Reserve Requirements: The BCRP changed the ordinary minimum reserve requirement, implemented a new marginal reserve requirement, and eliminated reserve requirements for longer-term external credit.

Effective in October 2007, the BCRP eliminated reserve requirements on loans extended by foreign institutions with terms longer than two years—an “unconventional measure” (BCRP 2007a, 1; BCRP 2007b, 1; Quispe and Rossini 2010, 307). This policy attempted to fortify the domestic banking system by transforming the foreign currency funding from short term to longer term (Quispe and Rossini 2010). Quispe and Rossini states that banks' longer-term funding expanded from 17% to 50% of external funding from the implementation of this measure to the end of December 2007 (2010). According to Céspedes, Chang, and Velasco, the portion of the banking system's foreign debts that was long term rose from 22% in September 2007 to 58% a year later (2012). The BCRP reversed this policy starting in August 2008 by placing a 9% reserve requirement on these loans (BCRP 2008i; BCRP 2008j).

Ordinary Minimum Reserve Requirement

The BCRP applied a single ordinary minimum reserve requirement to both sol- and non-sol-denominated liabilities. Throughout 2008 until the collapse of Lehman Brothers, the BCRP steadily raised this rate from 6% to 9% (BCRP 2008d; BCRP 2008e; BCRP 2008g; BCRP

2008i). The final increase to reserve requirements during the GFC came on July 25, 2008, when the BCRP raised the ordinary minimum reserve requirement to 9% (BCRP 2008i).

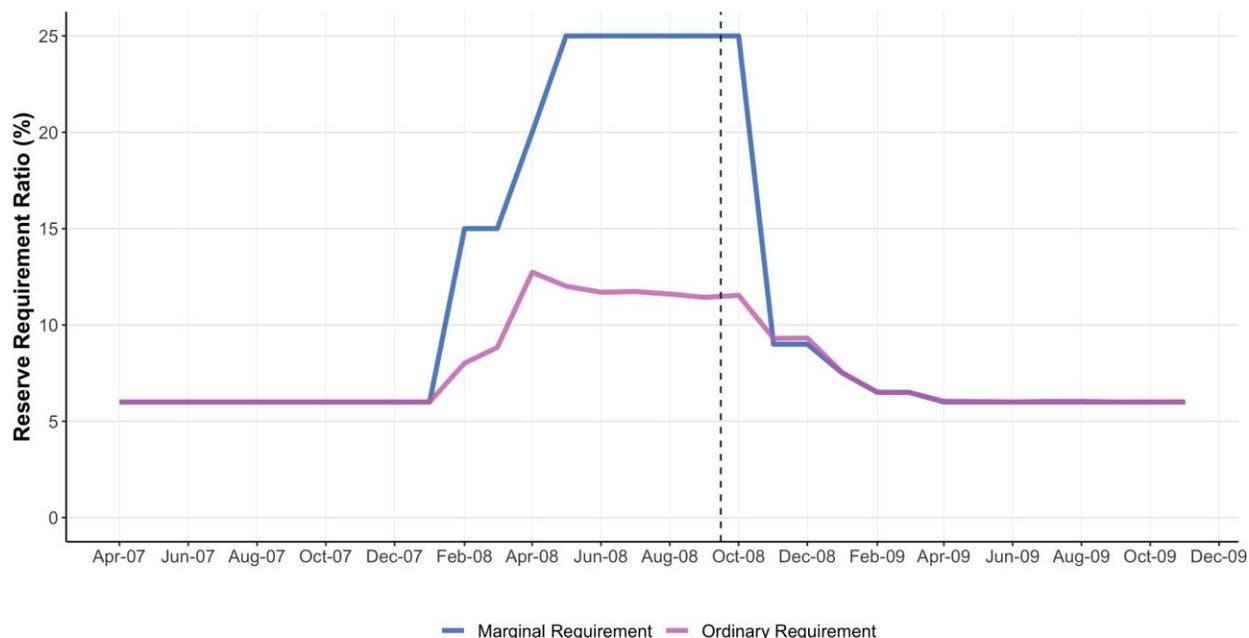
The BCRP first reduced the ordinary minimum reserve requirement in December 2008 (effective January 2009), lowering it to 7.5% (BCRP 2008p). The BCRP estimated this would free up PEN 650 million in liquidity (BCRP 2008r). In February 2009, the BCRP further reduced the ordinary minimum reserve requirement to 6.5% (BCRP 2009a). The BCRP lowered the requirement in April 2009 to 6%, its pre-GFC level (BCRP 2009c).

Specific Domestic Currency Reserves

On February 1, 2008, the BCRP implemented a 15% marginal reserve requirement on sol-denominated liabilities (BCRP 2008d). This marginal reserve requirement applied to eligible liabilities in excess of their average level in December 2007 (BCRP 2008d). On March 25, the BCRP raised the marginal reserve requirements from 15% to 20% (BCRP 2008e). The BCRP also implemented a 40% marginal reserve requirement on liabilities held by nonresident financial entities (BCRP 2008e). This measure attempted to stop speculative capital inflows (BCRP 2008t). The BCRP again raised marginal reserve requirements on April 28, 2008, to 25% (BCRP 2008g). This time, the BCRP used April 2008 liability levels for marginal reserve calculations (BCRP 2008t). The BCRP also raised the marginal reserve requirement on nonresident financial entities to 120% (BCRP 2008g).

In November 2008, the BCRP began to reduce reserve requirements. First, it eliminated the marginal reserve requirement for sol-denominated liabilities (BCRP 2008k). The BCRP estimated that this measure released PEN 967 million in liquidity (BCRP 2009d). Starting in December 2009, the BCRP exempted 33% of deposits held by financial institutions from reserve requirements, up to a limit of PEN 100 million. At the same time, the BCRP lowered the 120% reserve requirement on nonresident financial entities to 35% (BCRP 2008o). In December 2008 (effective January 2009), at the same time that it lowered the ordinary minimum reserve requirement, the BCRP lowered the maximum exemption of deposits to 16.5% (BCRP 2008p). See Figure 4 for a depiction of the path of ordinary minimum and marginal reserve requirements for sol-denominated liabilities.

Figure 4: Ordinary Weighted Reserve Requirements and Marginal Reserve Requirements for Domestic Currency Liabilities



Note: Dotted line represents the collapse of Lehman Brothers on September 15, 2008.

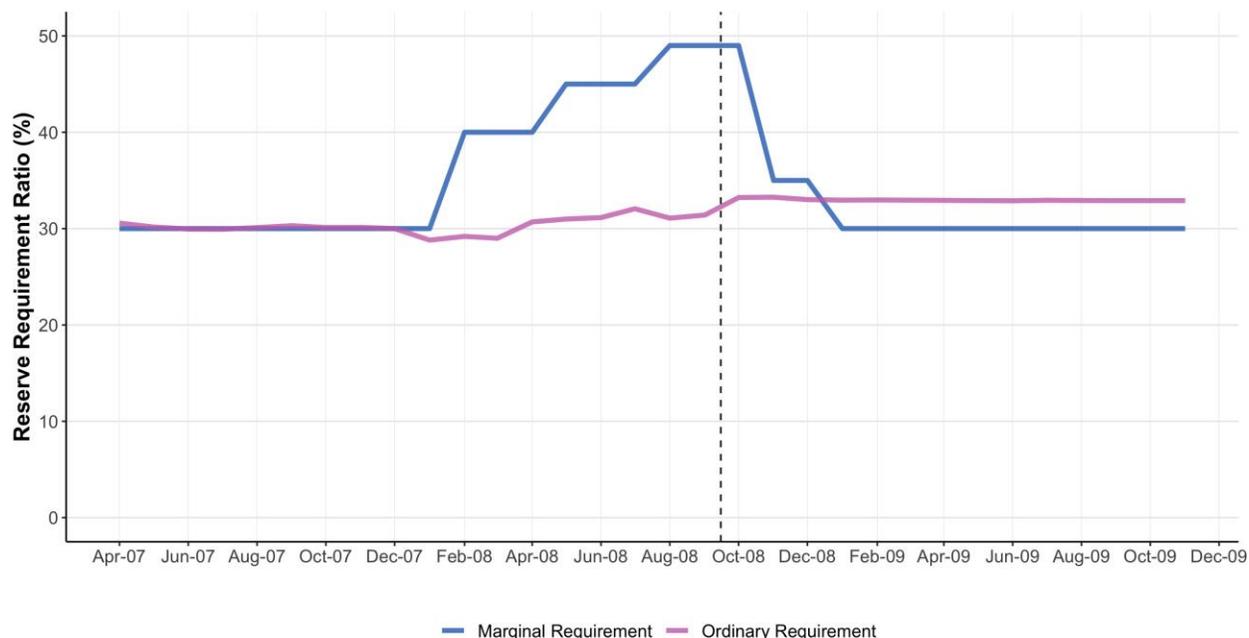
Source: BCRP 2022.

Foreign Currency Liabilities

Before the GFC, the BCRP applied a 30% marginal reserve requirement to non-sol-denominated liabilities. On February 1, 2008, the BCRP implemented a 40% marginal reserve requirement on non-sol-denominated liabilities. This marginal reserve requirement applied to eligible liabilities in excess of the financial institution's average level in December 2007 (BCRP 2008c). The BCRP again raised the marginal reserve requirement on April 28, 2008, to 45% (BCRP 2008h). This time, the marginal reserve requirement used April 2008 liability levels for marginal reserve calculations (BCRP 2008t). On July 25, 2008, the BCRP raised the marginal reserve requirement to 49% (BCRP 2008j).

In November 2008, the BCRP lowered the marginal US dollar reserve requirement to 35% (BCRP 2008l). In December 2008, the BCRP announced a maximum reserve requirement of 35% for foreign loans (BCRP 2008n). In January 2009, it lowered the marginal US dollar reserve requirement to 30% (BCRP 2008r). See Figure 5 for an overview of how marginal requirements and actual levels changed during the GFC for foreign currency liabilities.

Figure 5: Ordinary and Marginal Reserve Requirements for Foreign Currency Liabilities



Note: Dotted line represents the collapse of Lehman Brothers on September 15, 2008.

Source: BCRP 2022.

13. Changes in Interest/Remuneration: The BCRP remunerated marginal and excess reserves at different rates for sol and US dollar reserves.

For reserve requirements held in soles, the BCRP remunerated marginal reserves and excess reserves (reserves that exceeded the regulatory requirement) at the overnight deposit rate minus 100 bps, starting in February 2008 (BCRP 2008d; Montoro and Moreno 2011). This naturally went away for marginal reserves when the BCRP eliminated the marginal reserve requirement in soles in October 2008. Beginning in February 2008, the BCRP remunerated non-sol marginal and excess reserves at the London Interbank Offered Rate (LIBOR) minus 7/8 percentage point (BCRP 2008t). This changed in January 2009, when the BCRP began remunerating marginal reserves at 50% of the one-month LIBOR. The BCRP implemented this change because the previous rate of LIBOR minus 7/8 percentage point turned negative in the month of December (BCRP 2008s).

14. Other Restrictions: Since the BCRP operated a contemporaneous reserve system, the BCRP maintained a system of fines if financial institutions were in reserve deficit.

If banks did not provision enough reserves to meet reserve requirements, the BCRP applied a penalty rate of 1.5 times the active market interest rate in either soles or foreign currency, depending on the currency of the reserve deposit (BCRP 2008c; BCRP 2008d).

15. Impact on Monetary Policy Transmission: The BCRP discussed estimates of the monetary policy effect of raising reserve requirements.

In the first phase of the GFC, the BCRP occasionally estimated the effective interest rate hike caused by raising reserve requirements. For example, when announcing the reserve requirement increases in April 2008, the BCRP estimated that these changes effectively increased the reference rate by 50 bps. The BCRP also stated that the changes in February 2008 resulted in an effective hike of 59 bps in the reference rate (BCRP 2008f).

Quispe and Rossini (2010, 309) state that, during crises, “the financial stress and higher risk aversion block the policy rate transmission channels, significantly reducing its signalling power.” They go on to note that, in such a context following the failure of Lehman Brothers, the BCRP had to shift from gradual monetary policy adjustments to more unconventional policies, including easing reserve requirements.

The BCRP did not lower the policy rate until February 2009, after the major changes to the reserve requirements had been made.

16. Duration: The BCRP did not establish set end dates, instead updating circulars on a near-monthly basis.

The BCRP announced changes to reserve requirements without providing guidance on how long these would last. By March 2009, the BCRP had returned reserve requirements to approximately pre-crisis levels (BCRP 2009c; Quispe and Rossini 2010).

References and Key Program Documents

Documents cited in the text are introduced with a parenthetical author-date citation. Documents that are relevant to this case but have not been cited in text do not include this parenthetical reference.

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Press Releases/Announcements

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(BCRP 2007b) Banco Central de Reserva del Perú (BCRP). 2007b. "Circular No. 020-2007," September 28, 2007.

Circular announcing forms of debt as reservable liabilities (in Spanish).

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Circular announcing that financial institutions had to hold at least 1% of liabilities subject to reserve requirements in the current account at the BCRP (in Spanish).

<https://ypfs.som.yale.edu/library/circular-no-003-2008-banco-central-de-reserva-del-peru-bcrp-dated-january-4-2008>

(BCRP 2008b) Banco Central de Reserva del Perú (BCRP). 2008b. "Nota Informativa No. 007-2008," January 16, 2008.

Note from the BCRP announcing increases in the minimum ordinary reserve requirement from 6% to 7% and in the marginal reserve rate in foreign currency from 30% to 40% (in Spanish).

<https://ypfs.som.yale.edu/library/nota-informativa-no-007-2008-banco-central-de-reserva-del-peru-bcrp-dated-january-16-2008>

(BCRP 2008c) Banco Central de Reserva del Perú (BCRP). 2008c. "Circular No. 010-2008," February 1, 2008.

Circular announcing a 40% marginal reserve requirement on non-sol-denominated liabilities (in Spanish).

<https://ypfs.som.yale.edu/library/circular-no-010-2008-banco-central-de-reserva-del-peru-bcrp-dated-february-1-2008>

(BCRP 2008d) Banco Central de Reserva del Perú (BCRP). 2008d. "Circular No. 011-2008," February 1, 2008.

Circular announcing a 15% marginal reserve requirement on sol-denominated liabilities (in Spanish).

<https://ypfs.som.yale.edu/library/circular-no-011-2008-banco-central-de-reserva-del-peru-bcrp-dated-february-1-2008>

(BCRP 2008e) Banco Central de Reserva del Perú (BCRP). 2008e. "Circular No. 014-2008," March 25, 2008.

Circular announcing that the BCRP raised the marginal reserve requirement from 15% to 20% (in Spanish).

<https://ypfs.som.yale.edu/library/circular-no-014-2008-banco-central-de-reserva-del-peru-bcrp-dated-march-25-2008>

(BCRP 2008f) Banco Central de Reserva del Perú (BCRP). 2008f. "Nota Informativa No. 026-2008," March 26, 2008.

Note from the BCRP containing estimates on the impact on monetary policy transmission from reserve requirement changes (in Spanish).

<https://ypfs.som.yale.edu/library/nota-informativa-no-026-2008-banco-central-de-reserva-del-peru-bcrp-dated-march-26-2008>

(BCRP 2008g) Banco Central de Reserva del Perú (BCRP). 2008g. "Circular No. 020-2008," April 28, 2008.

Circular announcing an increase in marginal reserve requirements to 25%; for non-resident financial entities, an increase to 120% (in Spanish).

<https://ypfs.som.yale.edu/library/circular-no-020-2008-banco-central-de-reserva-del-peru-bcrp-dated-april-28-2008>

(BCRP 2008h) Banco Central de Reserva del Perú (BCRP). 2008h. "Circular No. 021-2008," April 28, 2008.

Circular announcing an increase in the ordinary minimum reserve requirement from 8 to

85% and in the marginal reserve requirement from 40 to 45% (in Spanish).

<https://ypfs.som.yale.edu/library/circular-no-021-2008-banco-central-de-reserva-del-peru-bcrp-dated-april-28-2008>

(BCRP 2008i) Banco Central de Reserva del Perú (BCRP). 2008i. "Circular No. 030-2008," July 25, 2008.

Circular announcing the final increase during the GFC to the ordinary minimum reserve requirement to 9% (in Spanish).

<https://ypfs.som.yale.edu/library/circular-no-030-2008-banco-central-de-reserva-del-peru-bcrp-dated-july-25-2008>

(BCRP 2008j) Banco Central de Reserva del Perú (BCRP). 2008j. "Circular No. 031-2008," July 25, 2008.

Circular announcing an increase in the marginal reserve requirement to 49% (in Spanish).

<https://ypfs.som.yale.edu/library/circular-no-031-2008-banco-central-de-reserva-del-peru-bcrp-dated-july-25-2008>

(BCRP 2008k) Banco Central de Reserva del Perú (BCRP). 2008k. "Circular No. 042-2008," October 20, 2008.

Circular announcing the elimination of the marginal reserve requirement for sol-denominated liabilities (in Spanish).

<https://ypfs.som.yale.edu/library/circular-no-042-2008-banco-central-de-reserva-del-peru-bcrp-dated-october-20-2008>

(BCRP 2008l) Banco Central de Reserva del Perú (BCRP). 2008l. "Circular No. 043-2008," October 20, 2008.

Circular announcing that the BCRP lowered marginal US dollar reserve requirements to 35% (in Spanish).

<https://ypfs.som.yale.edu/library/circular-no-043-2008-banco-central-de-reserva-del-peru-bcrp-dated-october-20-2008>

(BCRP 2008m) Banco Central de Reserva del Perú (BCRP). 2008m. "Nota Informativa No. 104-2008," October 21, 2008.

Note characterizing reserve requirement changes as measure that would give entities greater flexibility in liquidity management (in Spanish).

<https://ypfs.som.yale.edu/library/nota-informativa-no-104-2008-banco-central-de-reserva-del-peru-bcrp-dated-october-21-2008>

(BCRP 2008n) Banco Central de Reserva del Perú (BCRP). 2008n. "Circular No. 051-2008," November 28, 2008.

Circular announcing a maximum reserve requirement of 35% for foreign loans (in Spanish).

<https://ypfs.som.yale.edu/library/circular-no-051-2008-banco-central-de-reserva-del-peru-bcrp-dated-november-28-2008>

(BCRP 2008o) Banco Central de Reserva del Perú (BCRP). 2008o. "Nota Informativa No. 116-2008," November 30, 2008.

Note announcing exemptions on deposits held by financial institutions; the BCRP lowered the

reserve requirement on non-resident financial entities from 120% to 35% (in Spanish).
<https://ypfs.som.yale.edu/library/nota-informativa-no-116-2008-banco-central-de-reserva-del-peru-bcrp-dated-november-30-2008>

(BCRP 2008p) Banco Central de Reserva del Perú (BCRP). 2008p. "Circular No. 054-2008," December 30, 2008.

Circular announcing the lowering of the ordinary minimum reserve requirement to 75% (in Spanish).

<https://ypfs.som.yale.edu/library/circular-no-054-2008-banco-central-de-reserva-del-peru-bcrp-dated-december-30-2008>

(BCRP 2008q) Banco Central de Reserva del Perú (BCRP). 2008q. "Circular No. 055-2008," December 30, 2008.

Circular referring to the Organic Law, Articles 53-55 and Law No 26702, Articles 161-166 for legal authority (in Spanish).

<https://ypfs.som.yale.edu/library/circular-no-055-2008-banco-central-de-reserva-del-peru-bcrp-dated-december-30-2008>

(BCRP 2008r) Banco Central de Reserva del Perú (BCRP). 2008r. "Nota Informativa No. 122-2008," December 31, 2008.

Circular estimating liquidity released into the financial system from the reductions in the ordinary minimum reserve requirement in soles and foreign currencies (in Spanish).

<https://ypfs.som.yale.edu/library/nota-informativa-no-122-2008-banco-central-de-reserva-del-peru-bcrp-dated-december-31-2008>

(BCRP 2008s) Banco Central de Reserva del Perú (BCRP). 2008s. "Nota Informativa No. 123-2008," December 31, 2008.

Note announcing remuneration for marginal reserves at 50% of the one-month LIBOR (in Spanish).

<https://ypfs.som.yale.edu/library/nota-informativa-no-123-2008-banco-central-de-reserva-del-peru-bcrp-dated-december-31-2008>

(BCRP 2009a) Banco Central de Reserva del Perú (BCRP). 2009a. "Nota Informativa No. 007-2009," January 8, 2009.

Note announcing the lowering of the ordinary minimum reserve requirement to 65% (in Spanish).

<https://ypfs.som.yale.edu/library/nota-informativa-no-007-2009-banco-central-de-reserva-del-peru-bcrp-dated-january-8-2009>

(BCRP 2009b) Banco Central de Reserva del Perú (BCRP). 2009b. "Circular No. 002-2009," January 30, 2009.

Circular announcing a reduction to the current account requirement to 15% (in Spanish).

<https://ypfs.som.yale.edu/library/circular-no-002-2009-banco-central-de-reserva-del-peru-bcrp-dated-january-30-2009>

(BCRP 2009c) Banco Central de Reserva del Perú (BCRP). 2009c. "Nota Informativa No. 012-2009," March 12, 2009.

Note announcing the lowering of the ordinary minimum reserve requirement to its pre-GFC level of 6% (in Spanish).

<https://ypfs.som.yale.edu/library/nota-informativa-no-012-2009-banco-central-de-reserva-del-peru-bcrp-dated-march-12-2009>

Reports/Assessments

(BCRP 2008t) Banco Central de Reserva del Perú (BCRP). 2008t. “Annual Report 2008,” December 31, 2008.

Annual Report from the BCRP.

<https://ypfs.som.yale.edu/library/annual-report-2008-0>

(BCRP 2009d) Banco Central de Reserva del Perú (BCRP). 2009d. “Reporte de Inflación,” March 2009.

Report containing estimates on liquidity released by changes to reserve requirements (in Spanish).

<https://ypfs.som.yale.edu/library/reporte-de-inflacion>

(IMF 2009) International Monetary Fund (IMF). 2009. “Peru: Staff Report for the 2008 Article IV Consultation.” 09/40. Article IV Consultation, February 3, 2009.

Report by the IMF for the Article IV consultation in 2008 (in Spanish).

<https://www.imf.org/external/pubs/ft/scr/2009/cr0940.pdf>

Key Academic Papers

(Céspedes, Chang, and Velasco 2012) Céspedes, Luis Felipe, Roberto Chang, and Andrés Velasco. 2012. “Is Inflation Targeting Still On Target?” National Bureau of Economic Research Working Paper No. 18570, November 2012.

Paper providing an overview of reserve requirement changes by the BCRP and showing that tightening reserve requirements had the desired effects on interest rates and credit levels.

<https://ypfs.som.yale.edu/library/inflation-targeting-still-target>

(Montoro and Moreno 2011) Montoro, Carlos, and Ramon Moreno. 2011. “The Use of Reserve Requirements as a Policy Instrument in Latin America.” Bank for International Settlements, BIS Quarterly Review, March 2011.

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<https://ypfs.som.yale.edu/library/use-reserve-requirements-policy-instrument-latin-america>

(Quispe and Rossini 2010) Quispe, Zenon, and Renzo Rossini. 2010. “Monetary Policy during the Global Financial Crisis of 2007-2009: The Case of Peru.” In BIS Papers No. 54, The Global Financial Crisis and Financial Intermediation in Emerging Market Economies, 2010.

Study on Peru’s monetary policy during the GFC.

<https://ypfs.som.yale.edu/library/monetary-policy-during-global-financial-crisis-2007-2009-case-peru>

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