Management of Foreign Exchange Reserves at the Central Bank of Chile
2006

BANCO CENTRAL
DE CHILE

Management of Foreign Exchange Reserves at the Central Bank of Chile

Executive Summary

Foreign exchange reserves are liquid assets in foreign currency held by the Central Bank of Chile. They are an instrument supporting monetary and foreign exchange policies, in order to meet the Bank's objective of safeguarding currency stability and the normal functioning of domestic and external payment systems. Within Chile's current floating exchange regime, the main role of reserves is to ensure access to liquidity in foreign currency to permit intervention in the foreign exchange market under exceptional and well defined circumstances.

The purpose of foreign exchange reserves management is to guarantee secure and efficient access to international liquidity, and to safeguard Central Bank equity. The management of foreign exchange reserves is defined by the legal framework embedded in the Central Bank's Basic Constitutional Act, and follows best practices and policies in line with international recommendations in this field.

Investment policy governing foreign exchange reserves is restricted by legal and liquidity requirements. The Act establishes that foreign exchange reserves can only be invested in foreign currencies, gold or fixed income notes, bills or bonds, issued or guaranteed by foreign states, central banks or foreign or international banks or financial institutions. Moreover, by their nature, foreign exchange reserves can only be invested in liquid financial assets.

Subject to these restrictions, investment policy for foreign exchange reserves is designed taking into account its impact on financial results and associated risks within the Central Bank's balance sheet and potential foreign currency liquidity needs. In practice, this policy is defined using a benchmark or reference structure to guide and evaluate investments and set the parameters for decisions regarding market and credit risk.

Foreign exchange reserves are invested in assets under two portfolios. The Investment Portfolio is the largest, and includes short- and long-term foreign currency assets used to respond to unforeseen contingencies and long-term requirements. The benchmark for this portfolio in terms of currency composition is currently 60% US dollars and 40% euros, and has an average duration of 13 months. The Liquidity Portfolio, meanwhile, is designed to cover requirements foreseeable in the short term. The reference structure for this portfolio corresponds to the currencies and maturities of programmed disbursements.

Risk management policy defines a set of permissible deviations from the reference structure regarding duration, maturities, currency and limits applied to different types of investments. This policy limits liquidity, market and credit risk, including banking, sovereign, supranational, external financial institutions and counterparty risk. Operational risk, meanwhile, is controlled by segregating functions and responsibilities, and by internal and external controls and audits, carried out on a regular, ongoing basis.

To complement the internal management of foreign exchange reserves, since 1995 the Bank has also run an external management program for a small portion of reserves. This program provides a benchmark to evaluate internal reserve management, contributes to enhancing returns on the Investment Portfolio, and facilitates the transfer of knowledge and technology. Currently two programs of this nature exist, one involving management of a general fixed income investment portfolio with long-term maturities and the other a special mandate in Mortgage-Backed Securities (MBS), mortgage instruments issued by US financial agencies.

As of 30 June 2006, total foreign exchange reserves stood at US$17.57 billion, of which US$12.873 billion were held in the Investment Portfolio and US$4.479 billion in the Liquidity Portfolio. Of total foreign exchange reserves, 67.2% were held in US dollar instruments, 25.5% in euros and 7.3% in other foreign currencies.

Similarly, as of 30 June 2006, 45.3% of reserves were invested in securities with AAA credit rating, issued by sovereigns, US financial agencies, or supranational agencies. The remaining 54.7% was invested in securities with an A to AA+ rating, mainly in the banking sector.

In 2000-2005, annual average returns obtained from foreign exchange reserves management was 4.12% measured in foreign currency, that is, using the currency reference basket for the Investment Portfolio, evolving in line with relevant external interest rates. Measured in pesos, this average was 3.96%, taking into account shifts in foreign currency parities against the Chilean peso. The differential returns relative to the benchmark used to evaluate reserves investment management averaged 0.26% or 26 basis points per year.

The Central Bank's Board recently established as an institutional policy the disclosure of information on foreign exchange reserves management to the President of the Republic, the Senate, and the general public, through the Bank's website. This decision consolidates current Central Bank practices, which are consistent with transparency guidelines issued by the International Monetary Fund to ensure clarity and accountability of activities and results from foreign exchange reserves management.

Index

The Central Bank of Chile's management of foreign exchange reserves

Foreign exchange reserves are liquid assets in foreign currency held by the Central Bank of Chile to support monetary and foreign exchange policies. They constitute one of the instruments the Board can use to meet its objective of safeguarding the stability of the currency and the normal functioning of internal and external payments. Within the current floating exchange regime, the main role of reserves is to ensure access to liquidity in foreign currency to permit intervention in the foreign exchange market under exceptional and well defined circumstances. As of 30 June 2006, foreign exchange reserves stood at US$17.57 billion.

This paper explains the objectives behind foreign exchange reserves management, the institutional framework in which this occurs, investment policies applied when making decisions, the composition and basic characteristics of these reserves, external portfolio management programs, and risk management and returns obtained by the Bank. It also reports on transparency practices adopted by the Central Bank in recent years relative to international standards. Finally, it provides a glossary of terms associated with reserve management.

I. Foreign exchange reserves and management objectives

The floating exchange rate is one distinguishing policy feature of the Central Bank to fulfill its mission of safeguarding currency stability and the normal functioning of internal and external payments. This foreign exchange regime, along with the inflation targeting approach, solid fiscal policies, prudent financial regulation and supervision, and full financial integration between Chile and the world, offer a coherent framework for maintaining essential macroeconomic balances and absorbing shocks affecting the economy.

Nonetheless, the Central Bank holds the right to intervene in the domestic foreign exchange market under exceptional and well defined circumstances. Lack of liquidity in international financial markets important to Chile, for example, could lead to peso depreciation out of line with fundamentals and entail significant real costs to the Chilean economy. Foreign exchange reserves are liquid external assets available to the Central Bank to use on the foreign exchange market under such circumstances, to bolster its monetary and foreign exchange policies.

Holding foreign exchange reserves involves benefits and costs that the Central Bank must consider. On one hand, the availability of liquidity in foreign currency contributes to reducing the likelihood and cost of specific shocks and improves markets' perceptions of the country's ability to overcome risky situations, thus reducing country risk. On the other hand, the return on investment in foreign exchange reserves is generally less than the cost of the liabilities that finance it, due to differences in instrument risk, liquidity, maturity and denomination. These differences tend to have a negative effect on the Central Bank's financial capital and, moreover, they constitute the sources of risk for its balance sheet.

In recent years, the benefits to Chile of maintaining substantial foreign exchange reserves have decreased thanks to the growing solidity of economic fundamentals. Consolidating the policy framework for the floating exchange rate and inflation targeting has contributed. In this context, since December 2003, the Central Bank has developed a program for reducing the financial costs of its net position in foreign currency, which consists of exchanging and renewing US-denominated securities, which were being paid off in pesos, for securities payable in US dollars. Upon maturity, these are being paid off using foreign exchange reserves. Thanks to this program, from December 2003 to June 2006, the Central Bank is estimated to have sold US dollar and other currency assets worth about US$5.054 billion, thereby reducing its debt in US dollar-denominated securities by a similar amount. The decline in foreign exchange reserves generated by this program was offset by an increase in foreign currency deposits captured from the financial system and the public sector.

In line with the function of foreign exchange reserves, and their associated benefits and costs, the purpose of the Central Bank's foreign exchange reserves management is to provide secure, efficient access to international liquidity, and to safeguard the Bank's financial capital. Providing secure access involves managing reserves to ensure they are available to act diligently and opportunely whenever deemed necessary. Efficient access to international liquidity seeks to optimize the returns on foreign exchange reserves. Finally, safeguarding financial capital involves limiting risk to the Central Bank's balance sheet arising from the reserves portfolio and its management.

To achieve these objectives, the Central Bank acts within the institutional framework established by its Basic Constitutional Act (see below). Thus, based on these objectives, the institution has established a series of general principles to guide Central Bank reserves portfolio management and internal governance, which are presented in the next section.

II. Institutional and organizational framework

The Central Bank's Basic Constitutional Act (*Ley Orgánica Constitucional del Banco Central de Chile, LOC*, article one of Law 18,840, published in the *Official Gazette*, 10 October 1989) establishes that the "Central Bank of Chile is an autonomous entity, of technical nature created in accordance with constitutional provisions, has full legal capacity, possesses its own assets and has an indefinite duration." Section 38 defines how it should manage, maintain and dispose of its foreign exchange reserves.

This Section states that "With regard to international transactions, the Bank will have authority as follows: 6. To receive deposits from, or open checking accounts both in Chilean and foreign currency to foreign central banks or banking institutions or international financial entities, and foreign States; 7. To keep, manage and use its international reserves, both within the country and abroad. Such reserves may be composed of foreign currency, gold or debt securities, equity or other commercial paper issued or guaranteed by foreign States, foreign central banks or banking institutions or international financial entities. The Bank shall have the authority to pledge such reserves as security of compliance with its obligations."

Based on the mandate established in its Basic Constitutional Act and a set of practices and policies consistent with international recommendations on this matter, responsibilities for managing reserves are distributed across different positions within the Bank's hierarchy. Thus, the processes for decision-making and management evaluation are well defined.

At the top is the Central Bank's Board, which is responsible for defining the objectives of reserves management and approving investment parameters. These are included in the Investment Policy Manual, which establishes the guidelines for investing foreign exchange reserves, including currency composition and duration, and credit risk management. The Board also regularly evaluates the performance of foreign exchange reserves management, based on monthly reports and quarterly presentations.

The next level involves the Financial Operations Division Management, which acts on behalf of the Board. This Division Management proposes to the Board a general policy for investment and risk management, and the benchmark (reference structure) for foreign exchange reserves management, which is reviewed annually. Likewise, the Manager of this Division approves specific limits to investment exposure, based on general guidelines from the Board, reports to the Board twice a year on the actions delegated to him, and coordinates and supervises policy implementation.

The third decision-making level involves the International Investment Management within the Financial Operations Division Management. This body defines the strategy for implementing the Bank's investment policies, and manages implementation. The International Trading Desk and the International Treasury report to International Investment Manager. The former designs and proposes investment positioning and implements investment decisions once they are approved. The second settles, registers, manages the books, and processes transactions carried out by foreign exchange portfolio managers.

Aside from its direct responsibilities for investment, the International Investment Management carries out portfolio mandates and securities-lending mandates contracted with external counterparts. The purpose of the external portfolio management program, which to date accounts for about 5% of total foreign exchange reserves, is to offer an active standard of comparison for evaluating the direct management of reserves by the International Investment Management, achieve knowledge and technology transfers in this field, and add economic value to the reserves portfolio. The securities lending program, meanwhile, carried out through a holding agent, ensures additional returns on the Bank's investment instruments.

In terms of evaluating and monitoring reserves management, the Central Bank's organizational structure also includes a Performance and Risk Assessment Department. This unit is independent of the International Investment Management and reports to the Deputy General Manager. This department measures the reserves portfolio's performance in absolute terms and compared to the benchmark (reference structure) established for foreign exchange reserves management, and calculates the associated risk parameters. It also monitors compliance with the limits established for investment by the International Investment Management. The Performance and Risk Assessment Department reports on these matters to the Manager of the Financial Operations Division and the General Manager, through the Deputy General Manager. The General Manager, in coordination with the Financial Operations Division Management, reports monthly and quarterly to the Board on the management of the Investment Portfolio and results.

Meanwhile, the General Auditor, who reports directly to the Board, evaluates the effectiveness and efficiency of internal monitoring, risk management and governance of the integrated process of reserves management. Likewise, the Bank's Financial Statements, which include foreign exchange reserves management, are subject to external audit every year.

The General Counsel, which reports directly to the Board, is responsible for ensuring the legality of all decisions made by the Board, and other actions and contracts carried out to invest, manage or dispose of foreign exchange reserves, under regulations laid out in the Basic Constitutional Act. For this purpose, these must undergo a juridical study prior to their approval, to ensure that all investment is made in securities legally eligible for this purpose, and that contracts meet judicial requirements, especially in terms of the legislation and other legal norms applicable, and any eventual waiver of immunity, as per Section 85 of the Basic Constitutional Act (*LOC*).

Finally, the Central Bank of Chile includes other central banks and international institutions among its regular advisors, to enable it to evaluate and improve processes in line with the international best practices. In recent years, these have included the Federal Reserve Bank of New York, the Bank of England and the European Central Bank (ECB).

III. Investment policy

Investment policy governing foreign exchange reserves is defined by legal and liquidity requirements. On the former, the act establishes that foreign exchange reserves can only be invested in foreign currencies, gold or credit securities, securities or commercial paper, issued or guaranteed by foreign states, central banks or foreign or international banks or financial bodies. Moreover, by their nature, foreign exchange reserves can only consist of liquid financial assets.

Within these limits, foreign exchange reserves investment policy is designed in terms of its impact on Central Bank's financial results and potential foreign currency liquidity needs. In practice, this policy establishes a benchmark to guide and evaluate investment, within limits designed to control market and credit risk, which are also referenced to this structure.

A description of the fundamentals of foreign exchange reserves investment policy follows. The first section presents the main portfolios and their composition. The next section explains the reference structure and deals in more depth with the criteria used to set the parameters for currency composition and the duration of the foreign exchange reserves portfolio.

A. Investment Portfolio and Liquidity Portfolio

For management purposes, foreign exchange reserves are invested in assets included in two main portfolios: the Investment Portfolio and the Liquidity Portfolio.

The Investment Portfolio, which is the largest, includes short- and long-term foreign currency held to deal with contingencies and long-term requirements. The benchmark for this portfolio is currently 60% US dollars, 40% euros, with a 13 month duration, as per subsection III.B. The short-term asset subportfolio acts as a buffer to deal with fluctuations in foreign currency liquidity needs. This portfolio's investments include bank deposits and monetary market instruments, maturing in up to one year. The subportfolio of long-term assets, meanwhile, includes nominal bonds maturing in from one to ten years, and inflation-indexed bonds, maturing in from one to 30 years[1]. Transfers from the long-term to the short-term asset portfolio, and vice versa, generally depend on financial considerations arising from the investment strategy, although occasionally this portfolio may absorb or provide extra liquidity.

The Liquidity Portfolio covers requirements foreseeable in the short term. In particular, it is the preferred source of resources to deal with daily requirements arising from withdrawals from commercial banks' and the public sector's accounts with the Central Bank. The reference structure involves currencies matched to the timing of scheduled disbursements. It consists mainly of banking overnight and week-end deposits, although it can also include investment in deposits and negotiable securities up to 180 days. When considered appropriate, this portfolio may receive funds from or transfer them to the short-term Investment Portfolio.

Table III.1 shows the level and composition of foreign exchange reserves by portfolio and currency, as of 30 June 2006, when foreign exchange reserves stood at US$17.57 billion, US$12.873 billion

[1]/ Inflation-indexed bonds are in US dollars, or TIPS (Treasury Inflation-Protected Securities).

of which was in the Investment Portfolio and US$4.479 billion in the Liquidity Portfolio. Of total foreign exchange reserves, 67.2% were held in US dollar instruments, 25.5% in euros and 7.3% in other foreign currencies.

Table III.1: Composition of foreign exchange reserves by portfolio and currency

Type of portfolio	Currency	2004		2005		Jun-06	
		US$ mn	%	US$ mn	%	US$ mn	%
Investment Portfolio		**14,849.5**	**92.7**	**12,736.3**	**75.1**	**12,872.6**	**73.3**
Currencies and deposits	Dollar	5,735.8	35.8	3,876.6	22.9	4,477.5	25.5
	Euro	1,067.1	6.7	290.7	1.7	370.6	2.1
	Other	155.2	1.0	780.4	4.6	170.8	1.0
Securities	Dollar	5,552.3	34.7	3,479.9	20.5	3,736.9	21.3
	Euro	2,336.8	14.6	4,303.9	25.4	4,113.5	23.4
	Other	2.2	0.0	4.8	0.0	3.2	0.0
Total	Dollar	11,288.2	70.5	7,356.5	43.4	8,214.4	46.8
	Euro	3,403.9	21.3	4,594.6	27.1	4,484.2	25.5
	Other	157.4	1.0	785.2	4.6	174.0	1.0
Liquidity Portfolio		**645.9**	**4.0**	**3,952.7**	**23.3**	**4,479.4**	**25.5**
Currencies and deposits	Dollar	645.9	4.0	3,952.7	23.3	3,579.5	20.4
	Euro	0.0	0.0	0.0	0.0	0.0	0.0
	Other	0.0	0.0	0.0	0.0	899.8	5.1
Other assets		**520.7**	**3.3**	**274.3**	**1.6**	**218.1**	**1.2**
Monetary gold	Other	3.0	0.0	3.3	0.0	4.4	0.0
IMF SDR	Other	52.6	0.3	52.6	0.3	54.6	0.3
IMF reserve position	Other	445.6	2.8	188.8	1.1	147.7	0.8
Reciprocal credit agreements	Dollar	19.4	0.1	29.6	0.2	11.5	0.1
TOTAL FOREIGN EXCHANGE RESERVES		**16,016.0**	**100.0**	**16,963.4**	**100.0**	**17,570.0**	**100.0**
Total	Dollar	11,953.4	74.6	11,338.9	66.8	11,805.4	67.2
	Euro	3,403.9	21.3	4,594.6	27.1	4,484.2	25.5
	Other	658.7	4.1	1,029.9	6.1	1,280.4	7.3

Source: Central Bank of Chile.

B. Reference structure for the Investment Portfolio

The benchmark for the Investment Portfolio guides investment decisions and makes it possible to define and measure the risks considered acceptable by the Central Bank. This structure sets the basic parameters for currency composition, duration, distribution of credit risk by type of risk and securities and their respective benchmarks.

Considerations basic to determining the Investment Portfolio's reference structure include future foreign currency needs and the impact that investment decisions, based on the reference structure, may have on the Central Bank's results and balance of financial risks.

a) Currency composition

The Central Bank holds its Investment Portfolio in diverse currencies, mainly US dollars and euros. This composition reflects potential needs for suitable liquidity in foreign currency and reduces the effect of shifts in the parities of the main currencies on the Bank's balance sheet.

On the first objective, it should be noted that the US dollar is typically the preferred currency to meet potential foreign currency liquidity needs. Currently, the predominant international view on this point is that the main indicator for evaluating potential foreign currency needs in the case of emerging economies such as Chile's is external debt by residual maturity (that is, short-term debt and long-term debt maturing in the next 12 months). In the case of the Chilean economy, this debt is expressed in US dollars. Similarly, the US dollar is the reference foreign currency for the domestic foreign exchange market and the currency that typically prevails in this market in Chile.

On the second objective, the Central Bank must also be aware that decisions regarding the currency composition of the Investment Portfolio also influence the currency risk exposure in its balance sheet. In this sense, the main way this currency composition may affect the balance sheet is through shifts in international parities which affect the value of reserves when expressed in pesos and/or UFs. With the application of the floating exchange rate regime, followed by a significant increase in peso-dollar parity, it has become important to diversify the currencies in the investment portfolio and include more euro-denominated instruments.

The specific composition by currency for the current Investment Portfolio reference structure represents an intermediate solution to meet the requirements described above, calling for 60% to be held in US dollars and 40% in euros, and a deviation of 5% above or below the reference values for each. Technically, this solution reflects an effort to minimize variance in the Bank's net foreign currency assets, subject to the requirement of covering certain parity risks to a predetermined level of liquidity in foreign currency.

Aside from the US dollar and the euro, the main currencies, the Investment Portfolio includes other internationally accepted currencies from countries with A- or higher rating, as secondary currencies, including the pound sterling, the yen, the Canadian, Australian, New Zealand and Singapore dollars, the Swiss franc, the Swedish krona, and the Danish, and Norwegian kroner.

b) Reference duration

The methodology used to determine the Investment Portfolio's benchmark duration is based on considering the effect of decisions regarding this variable on the Central Bank's overall balance sheet. Given the Bank's investment profile, potential liquidity needs are estimated to ensure they have no major effects within the desired duration.

To date, the Chilean economy's high degree of integration means that changes in international interest rates affect not only the economic value of foreign exchange reserves, but also other assets and liabilities included in its balance sheet. During the first half of this decade, a significant relationship between external and domestic rates has been noted, especially in the case of medium- and long-term interest rates[2].

The reference duration currently reflects an estimation of the duration required to neutralize (in the first order) the impacts of shifts in international rates on the Central Bank's general balance sheet. This estimation takes into consideration its effects on the value of assets in which foreign exchange reserves are invested and the value of the rest of the Bank's assets and liabilities. Technically speaking, this involves estimating the duration for the Investment Portfolio required to bring the gap in the duration of the Bank's balance sheet to zero, associated with shifts in international interest rates.

Based on the above criteria, the reference duration is currently set at 13 months, allowing a minimum of zero months and a maximum deviation of six months around the reference duration mentioned above. In the case of the long-term Investment Portfolio, the reference duration is 31 months, allowing a minimum of zero to a maximum of eight months more than the reference duration for this portfolio.

---

[2]/ See H. González, E. Jadresic and F. Jaque (2005). "Relación entre Tasas de Interés Internas y Externas," *Economía Chilena*, Vol. 8 – N°2, August, 91-4.

c) Composition by maturity, currency, risk and instrument, and benckmarks

For practical purposes, the benchmark used to guide and evaluate investment is defined in terms of general parameters governing currencies and duration, as discussed above, but in more detail. Table III.2 shows the composition of the reference structure in effect for the Investment Portfolio that the Central Bank manages internally, by maturity, risk and currency. External managers with a mandate to manage long-term portfolios use a structure similar to that presented in the table. The external management program involving the MBS portfolio, meanwhile, uses the corresponding Lehman Brothers index[3].

Table III.2: Investment Portfolio reference structure for internal management (percent)

Instrument	Share	Share by currency	
		US dollar	euro
Short-term portfolio	70.0	41.3	28.7
Short-term bank	37.0	21.8	15.2
Short-term sovereign	33.0	19.5	13.5
Long-term maturity	30.0	17.7	12.3
Bonds	27.0	14.7	12.3
Indexed bonds	3.0	3.0	-
Total	**100.0**	**59.0**	**41.0**

Source: Central Bank of Chile.

Based on these reference structures, separate benchmarks are established for each component of the Investment Portfolio, by duration and currency. These are detailed in table III.3, and involve reference interest rates and indices that are standard throughout the industry.

Table III.3: Investment Portfolio benchmarks

Instrument	Benchmark	
	US dollar	euro
Short-term portfolio		
Short-term bank	Libid rate USD to 6 months	Libid rate EUR to 6 months
Short-term sovereign	Fixbis rate USD to 6 months	Fixbis rate EUR to 6 months
Long-term maturity		
Bonds	JP Morgan 1- to 10-year index	JP Morgan 1- to 10-year index
Indexed bonds	Barclays Indexed bonds index	-----
Mortgage backed securities	Lehman Brothers MBS index	

Source: Central Bank of Chile.

C. Reference structure for the Liquidity Portfolio

This portfolio's investment involves matching currencies and maturities with disbursements scheduled within the Bank's balance sheet. The currency benchmark for the Liquidity Portfolio is associated with the actual composition of currencies to be disbursed, and deposits and withdrawals by commercial banks and the public sector. As of the end of June 2006, this composition stood at 79.9% in US dollars and 20.1% in yens. Regarding interest rates, the benchmark for Liquidity Portfolio investments is calculated on the basis of overnight and longer-term rates for the different currencies making up this portfolio, according to the characteristics of the expected disbursements.

[3]/ See section VI for a description of the External Managers' Program.

IV. Risk management

Risk management policy is an integral part of foreign exchange reserves investment management. Investment guidelines are approved by the Central Bank's Board, which empowers the Financial Operations Division Management to handle implementation. These guidelines include the objectives associated with reserves management and, ultimately reflect the philosophy governing reserves investment. This is defined in terms of the ranges of deviation from the reference portfolio and limits on different types of investment.

A. Liquidity risk

Liquidity risk involves the risk of not being able to sell an instrument or close a position when required, without facing significantly costs. To ensure the liquidity of foreign currency investments making up its foreign exchange reserves, the Central Bank manages a portfolio composed solely of short-term deposits in international commercial banks, with a range of maturities, and fixed income instruments trading on highly liquid and deep secondary markets.

B. Credit risk

The current investment guidelines consider three fundamental sources of credit risk.

i) Bank risk. Exposure to bank risk arises from time deposits, current accounts, investment in certificates of deposit, and foreign currency operations. Management of this risk reflects two elements. The first involves setting an overall maximum exposure to bank risk for the Investment Portfolio, which is currently set at 45% of the portfolio. The second involves individual limits for each bank, referring to both maturity and the maximum investment. To meet eligibility requirements as a counterpart, a bank must have minimum equity of US$1 billion, and its long-term instruments must be rated "A-" or better by at least two of the three international risk rating agencies (Fitch, Moody's and Standard & Poor's), using, where appropriate, the homologation of nomenclatures established by the US Securities Valuation Office.

ii) Sovereign risk, supranational and external financial institution risk. Countries eligibility as sovereign issuers depends on their relative size, the level of their public debt, and the risk rating for their long-term debt. On this last point, countries that in the past 24 months have enjoyed a risk rating of "A-" or more from at least two of the three international risk rating agencies mentioned above, are eligible. There is no limit on sovereign risk exposure. Supranational risk, however, is subject to an overall maximum of US$ 1.560 billion, while individual limits depend on the risk rating of each institution, with a minimum "AA-" rating, issued by at least two of the three risk rating agencies, is required, and its size is measured by capital. The exposure of external financial institutions (i.e., US agencies) reflects their risk rating, which must be "AAA" in the case of at least two of the three risk rating agencies mentioned above and minimum equity of US$1 billion. The total overall limit on exposure to these institutions is 15%, and there are individual maximums for each institution.

iii) Counterpart risk. Counterparts' eligibility is also subject to objective selection parameters. From the Bank's perspective eligible counterparts are those institutions rated as primary dealers in the US, along with brokers with an approved risk rating and subsidiaries at least 90% owned by the head office, which enjoy the same long-term risk ratings required for banks eligible for investment.

Table IV.1 provides the makeup of foreign exchange reserves by type of credit risk and credit rating. As of 30 June 2006, 45.3% of reserves were invested in AAA-rated instruments, issued by sovereign bodies, US or supranational agencies. The remaining 54.7% was invested in instruments with a risk rating of from A to AA+, mainly in the banking sector.

Table IV.1: Composition of foreign exchange reserves by credit risk (percent)

Type of credit risk (1)	Credit rating (2)						
	AAA	AA+	AA	AA-	A+	A	Total
Bank	0.0	0.0	9.8	30.3	5.6	6.6	52.3
Sovereign	33.9	0.6	1.4	0.0	0.0	0.4	36.3
Agency	8.8	0.0	0.0	0.0	0.0	0.0	8.8
Supranational	2.6	0.0	0.0	0.0	0.0	0.0	2.6
Total	45.3	0.6	11.2	30.3	5.6	7.0	100.0

(1) Credit risk associated with investment in bank financial instruments (deposits, forex -spot/forward, pfandbriefes); sovereign states (deposits, bills, floating rate notes, nominal and indexed bonds); US financial agencies (bills, nominal bonds, mortgage-backed securities); and official multilateral issuers (deposits, bills, floating rate notes, nominal bonds), respectively.

(2) Based on ratings from Fitch, Moody's and Standard and Poor's.

Source: Central Bank of Chile.

C. Market risk

Market risk is controlled through diversification of investment in currencies, instruments and maturities and through monitoring and controlling the limits on exposure to currency and duration risk described above. Market risk is also quantified using absolute and relative (to the benchmark portfolio) Value at Risk (VaR) using the parametric method, a daily horizon, a confidence level of 95%, and a decline factor of 0.94.

D. Operational risk

Operational risk associated with foreign exchange reserves management is controlled by segregating functions and responsibilities, and internal and external monitoring and controls. The International Trading Desk is subject to compulsory administrative procedures established for the different stages of operations associated with reserves management, to minimize operational risk inherent in transactions. It also has computer systems that make it possible to pre-enter and validate operations before actually carrying them out. Similarly, the International Treasury Department has software and administrative procedures involving controls over the implementation and posting of operations. Likewise, no operation can be completed without the respective approval from a trading desk dealer and an International Treasury supervisor.

The Control and Operations Unit within the Department for Performance and Risk Control is responsible for an ongoing review of risk by permanently evaluating compliance with investment guidelines defined by the Central Bank's Board. This unit, which reports directly to a department that, as mentioned above, is independent of International Investment Management, monitors compliance with institution exposure limits and margins, along with the internal administrative procedures established for financial operations associated with reserves management. Combined with regular, ongoing audits and evaluations, both internal and external, this minimizes the area's operational risk.

V. Past returns from foreign exchange reserves management

The average annual total return from foreign exchange reserves management for 2000-2005 was 4.12% measured in foreign currency (table V.1). This measure uses a currency basket defined by the Investment Portfolio reference structure, which currently consists of 60% dollars and 40% euros[4]. Total return trends are in line with the behavior of relevant external interest rates in the past five years.

Table V.1: Total return and differential on foreign exchange reserves (percent)

Year	Measured in foreign currency*		In pesos		Differential return
	Total return Foreign exchange reserves (a)	Benchmark return (b)	Total return Foreign exchange reserves (c)	Benchmark return (d)	(a)-(b) = (c)-(d)
2000	6.88	6.65	12.92	12.70	0.22
2001	5.57	5.27	18.08	17.78	0.30
2002	5.25	4.69	17.89	17.32	0.57
2003	2.31	1.78	-12.84	-13.37	0.53
2004	1.84	1.95	-2.36	-2.25	-0.11
2005	2.90	2.85	-9.92	-9.97	0.05
Annual average					
2000-2005	**4.12**	**3.87**	**3.96**	**3.70**	**0.26**

* Reference currency basket for the Investment Portfolio, 60% US dollars and 40% euros.
Source: Central Bank of Chile.

The total average return for the same period expressed in pesos was 3.96%. The difference between the total return measured in foreign currency and in pesos reflects parity movements by the foreign currency against the Chilean peso.

The differential returns relative to the benchmark averaged 0.26% or 26 basis points for 2000-2005. In the past five years, the benchmark achieved an average return of 3.87%.

The differential return averaged UF1.53 million (US$37.8 million) annually in 2000-2005 (table V.2).

Table V.2: Differential returns relative to benchmark*

Year	Measured in basis points	Measured in pesos (billion)	Measured in UF (million)	Measured in US dollars (million)
2000	22.2	16.7	1.08	30.9
2001	30.2	27.3	1.71	43.0
2002	56.5	56.1	3.43	81.4
2003	52.9	56.2	3.33	81.5
2004	-11.2	-10.5	-0.62	-17.2
2005	4.6	4.0	0.23	7.1
Annual average				
2000-2005	**25.9**	**25.0**	**1.53**	**37.8**

* Valuation calculated on annual average values.
Source: Central Bank of Chile.

Finally, table V.3 provides the total return on foreign exchange reserves measured in different currencies.

[4]/ See box on measuring returns for more details.

Table V.3: Total return on foreign exchange reserves in different currencies (percent)

Year	Measured in foreign currency*	In pesos	In US dollars	In euros
2000	6.88	12.92	4.84	11.64
2001	5.57	18.08	3.90	9.28
2002	5.25	17.89	9.34	-7.19
2003	2.31	-12.84	6.64	-11.26
2004	1.84	-2.36	4.08	-3.50
2005	2.90	-9.92	-1.72	11.72
Annual average 2000-2005	4.12	3.96	4.51	1.78

* This measure uses the composition of the currency basket defined in the reference structure of the Investment Portfolio, which currently stands at 60% dollars and 40% euros.

Source: Central Bank of Chile.

Calculating returns on foreign exchange reserves

The Central Bank of Chile's management of foreign exchange reserves must ensure access to foreign currency liquidity that is secure and efficient, and safeguards the Bank's financial equity, as mentioned above (section I). Given these objectives, a strategic benchmark is constructed to guide investments in terms of duration, currency composition and credit risk exposure (section III, Investment policy). Once the strategic decisions are made, tactical deviations from the benchmark are evaluated to increase the return on the foreign exchange reserve portfolio. The framework for these tactical decisions is established in the Policy Manual, which sets limits on deviations in terms of their duration, currency composition and credit risk.

In this context, the total return on foreign exchange reserves, that is the rate of growth of their economic value using average figures for the year, can be expressed as the return on the benchmark and the difference in the benchmark and general returns (differential return).

Total returns vary according to the currency used for their measurement, since they reflect appreciations and depreciations in the exchange rates involved. The differential return, in contrast, is independent of the currency in which total returns and the reference structure returns are made*.

Returns measured in foreign currency are expressed using the foreign currency basket established within the benchmark for the Investment Portfolio. Since April 2005, this basket consists of 60% US dollars and 40% euros. For February 2004 – to March 2005, the currency breakdown was 75% US dollars and 25% euros. From January 2000 to January 2004, the basket consisted of 72% US dollars, 18% euros, 5% yens and 5% pounds sterling.

* This is exact when total returns and the reference structure (logarithmic returns) are compounded continuously and is a good approximation when returns are compounded discreetly. Returns in this section are compounded continuously.

VI. External management program

In line with its commitment to efficiently manage its foreign exchange reserves, for the past ten years the Bank has developed an external management program for a portion of its investment portfolio. This section describes its main characteristics and the main processes central to its management.

A. Characteristics of the program

The Central Bank currently maintains two external management programs for its foreign exchange reserves investment portfolio.

Started in 1995, the first consists of hiring foreign specialists to manage a percentage of the Central Bank's foreign currency assets, according to a previously approved mandate, which currently focuses on a portfolio similar to the long-term share of the Investment Portfolio. There are three reasons for such program: creating an active standard of comparison for the Bank's portfolio, ensuring knowledge and technology transfers, and adding economic value to the foreign currency portfolio. The program is structured into two- and three-year periods, which start with selection of administrators and end with an evaluation and the decision on whether to continue the mandate. As of June 2006, three external managers were involved in this program, handling a portfolio worth US$602 million.

There is also a specialized mandate for a Mortgage-Backed Securities (MBS) program, which begun in 2003 to add value to the portfolio and ensure a transfer of knowledge between Bank staff and the managers. This year there is one external manager handling this program, which as of 30 June 2006 involved a portfolio worth US$335 million.

B. Selection process and evaluation of external managers

External managers are selected through a two-stage process. In the first stage, a "Request for Information" is sent to all institutions that have expressed an interest in participating. These bodies may be commercial banks, investment banks or firms dedicated to portfolio management. The information requested is used in a pre-evaluation based on three main criteria: seniority of the institution and experience with similar portfolios, personnel assigned to the Central Bank portfolio, and other characteristics such as costs, prior performance, investment philosophy and reliability. The pre-evaluation involves assigning a score to each variable, to identify a small number of institutions that go on to the next stage.

The purpose of the second stage is to generate a final ordering of pre-selected institutions, according to the external portfolio management program, and a specialized external consultant is involved. To complete this ranking, qualitative aspects of firms are identified, along with more details on elements evaluated in the first phase. The final score is presented to the Central Bank's Board, which ultimately selects the external manager.

The evaluation of external managers' performance is based on their results and a comparison with internal results, market risks assumed and other variables such as administrative costs, penalization for transgressions, and contributions to knowledge transfer.

VII. Transparency in foreign exchange reserves management

The Central Bank's Board recently established as an institutional policy the disclosure of information regarding foreign exchange reserves management to the President of Chile, the Senate and the general public, through its website. This information is framed by the objectives of foreign exchange reserves management, the institutional framework governing its administration, investment policies, the composition and basic characteristics of these reserves, and the risk management and profitability obtained by the Bank[5].

This decision by the Central Bank's Board consolidated current policies on this matter bringing them into line with transparency guidelines from the International Monetary Fund (IMF) to ensure clarity and accountability of foreign exchange reserves management activities and results[6].

The requirements established for authorities responsible for reserves management, according to the IMF guidelines, are presented below, along with the Central Bank's measures, clearly indicating the Central Bank's compliance with international standards.

IMF Requirement	Central Bank of Chile
1. Clarity of roles, responsibilities, and objectives of financial agencies responsible for reserves management. The allocation of reserves management responsibilities, including agency arrangements, between the government, the reserves management entity, and internal governance criteria should be publicly disclosed and explained. The broad objectives of reserves management should be clearly defined, publicly disclosed, and the key elements of the adopted policy explained.	*Monetary Policy Report (IPOM)*, September 2005. Website, Management of Foreign exchange reserves. A report on foreign exchange reserves management policy was published, covering its objectives, the organization of institutions and responsibilities, and guidelines for investment decisions and managing associated risks. The referential composition of assets by currency, maturity, duration and instruments was established, to guide investment. Current information is available on the Bank's website.
2. The general principles governing the reserves management entity's relationships with counterparts should be publicly disclosed.	*Annual Report 2005.* Website, Management of Foreign exchange reserves. The external portfolio management program was published in the Annual Report 2005. Current information is available on the Bank's website.
3. Public availability of information on foreign exchange reserves. Information on official foreign exchange reserves should be publicly disclosed on a pre-announced schedule.	*Monthly Bulletin* and *Weekly Report*. Website, Management of Foreign exchange reserves. The Central Bank publishes reserves levels along with other statistics for the Chilean economy in regular weekly and monthly publications. Moreover, these are available on the Bank's website and through the IMF's statistics release mechanism.
4. Accountability and assurances of integrity by agencies responsible for reserves management. The conduct of reserves management activities should be included in the annual audit of the reserves management entity's financial statements. Independent external auditors should conduct the audit and their opinion on the financial statements be publicly disclosed. Similarly, general principles for internal governance used to ensure the integrity of the reserves management entity's operations should be publicly disclosed.	*Official Gazette (Diario Oficial)*, a nationally circulated newspaper, *Annual Report* and Website. *Monetary Policy Report*, September 2005. Balance sheets and statements for the Central Bank are audited by external, independent auditors and regularly published in the *Annual Report* and on the Bank's website. General governance principles are included in the *Monetary Policy Report*, September 2005, and on the Bank's website, and in Foreign Exchange Reserves Management.

[5]/ Figures for Central Bank foreign exchange reserves are available at www.bcentral.cl.

[6]/ See IMF (2004), "Guidelines for Foreign Exchange Reserve Management".

VIII. Glossary

Accountability	English-language term referring to "transparency duties" or organizations' ability to report their actions to the general public.
Bank risk	Risk associated with investment in bank financial instruments. Refers to different risks faced by banks while carrying out their activities. Normally, this varies according to the type of business carried out by the institution. Some risks involved are: credit, liquidity, foreign exchange and interest rate.
Basis point	One hundredth of a percentage point. The smallest measure for assign value to the return on bonds or changes in interest rates.
Brokers	Persons or firms that on occasion act as brokers for others or on their own account (main intermediary) in security operations. A broker is a firm that communicates to potential clients levels of buy and sell proposals and typically agrees on operations as an agent, for a commission or honorarium, without being involved as a counterpart in operations.
Commercial papers	Debt instruments issued in domestic and foreign currency by governments, financial institutions and large firms, to meet requirements for short-term financing. Investment maturities range from 90 days to one year. When issued in the US they are denominated in US dollars and Euro commercial papers can be issued in US dollars and other currencies. Their yields reflect the risk rating of the issuer, with a range of durations, interest rates, amortizations, currencies and due dates.
Counterpart risk	Risk arising from the possibility of non-compliance with obligations undertaken by the counterpart in some financial operation.
Credit risk	Risk of one party not repaying the full value of an obligation, upon maturity or any other time. In securities exchange systems, the definition typically includes repositioning and replacement cost risk, and principle risk.
Diversification	Policy that involves investing in diverse assets to reduce non-systemic portfolio risk.
Duration	A measure for exposure to interest rate risk, since it measures a fixed yield instrument (bond) price sensitivity to changes in interest rates, that is, how much the instrument price changes in response to interest rate changes. This is applied analogically to a fixed income instrument portfolio.

External debt by residual maturity	External debt by original short-term maturity plus long-term external debt maturing in the next 12 months.
FIXBIS rate	Interest rate set for Bank of International Settlement securities for maturities ranging from one week to one year.
Foreign exchange reserves	Liquid external assets in foreign currency held by the Central Bank of Chile, to support its monetary and foreign exchange policies.
Inflation-indexed bonds	Bonds whose value is corrected according to a specific inflation index, in the case of the US known as TIPS.
International Monetary Fund (IMF)	International Monetary Fund (www.imf.org). Founded in 1946 to assist nations with balance of payment problems.
Investment guidelines	Criteria applied in managing Central Bank investment.
Investment Portfolio	Central Bank foreign exchange reserves portfolio, held to deal with contingencies and long-term requirements, containing short- and long-term assets.
Libid rate	London Interbank Bid Rate. The rate paid by one bank to another on a deposit.
Liquidity Portfolio	Central Bank foreign exchange reserves portfolio to cover short-term requirements.
Liquidity risk	Risk of a counterpart (or participant in a settlement system) failing to repay the total value of an obligation when it falls due. Liquidity risk does not mean the counterpart or participant is insolvent, since obligations may be settled at a later date.
Market risk	Risk of losses to positions included in or external to the immediate situation, arising from changes in market prices.
Monetary market instruments	Tradable instruments maturing in one year or less.
Mortgage-Backed Securities	Financial instruments backed by mortgages, typically referred to as mortgage bonds.
Operational risk	Risk arising from deficiencies in information systems or internal controls that may lead to unexpected losses.
Overnight deposits	Deposits maturing in one day.
Portfolio	A combination of investment instruments held by anby individual or institutional investors.
Reference duration	An index of duration, constructed to guide and evaluate investment duration.

Referential structure	Reference portfolio that guides and permits the evaluation of foreign exchange reserves management.
Return differential	The difference between the return on a portfolio and the return on its reference structure.
Risk	The possibility of suffering damages or losses. Variability in the return on investment.
Risk rating	Refers to the degree of credit risk associated with a financial instrument, institution or country, defined by some risk-rating agency.
Secondary market	Market in which an already issued financial asset is traded. Each transaction involves a buy/sell operation among investors.
Securities Lending	Loan of a broker/dealer's asset to another, who must eventually return this same asset, often collateralized.
Sovereign risk	Risk arising from investment in sovereign instruments. Typically used to refer to estimation of risk assigned to a sovereign state. This is a rating estimated by specialized agencies, of the possibilities of a State suitably complying with financial obligations. This is based on a background of payments, political stability, economic conditions and the willingness to repay debt.
Special drawing rights (SDR)	SDR involve foreign exchange reserves assets created by the IMF in 1969 to complement reserves assets held by member countries. SDRs are assigned to member countries in proportion to their IMF quotas. SDRs also service as a unit of account of the IMF and other international agencies. Their value is based on a basket of the world's main currencies.
Supranational risk	Risk of non-payment by an official multilateral issuer.
US financial agencies	Mortgage-financing institutions in the US enjoying an explicit or implicit government guarantee.
US primary dealers	Commercial banks and brokers/dealers that can carry out operations involving US government financial instruments directly with the Federal Reserve system (US central bank). To be eligible to be a primary dealer, commercial banks are subject to official supervision by federal banking supervisors and financial intermediation institutions registered with the SEC (Securities and Exchange Commission), and meet specific requirements for capital and participation in US treasury auctions.
US Securities Valuation Office	Office responsible for the daily evaluation and valuation of the quality of credit securities belonging to state-regulated insurance companies.

Value at risk (VaR)	A portfolio risk measure that provides an estimation of the amount of portfolio losses for a given time horizon and level of confidence or probability.
Volatility	A measure for risk of any asset. Reflects the price change in a given period of time. Securities can rise and fall with market fluctuations, reflecting events such as changes in interest rates, unemployment and general changes in the economy.
Weekend deposits	Deposits maturing over the weekend.

CAUTIONARY NOTE: These definitions are offered solely to foster general understanding of concepts used, and do not necessarily provide the full legal definition of these concepts.

Juan Esteban Laval Z.
Legal Representative

CENTRAL BANK OF CHILE
December 2006

ISBN: 956-7421-26-9
Register of intellectual property N°159.469

Edition 400 issues
Santiago, Chile
Agustinas 1180, Santiago, Chile
P. O. Box 967, Santiago, Chile
Telephone: 56-2-670 2000
Fax: 56-2-670 2231
www.bcentral.cl
bcch@bcentral.cl
Impresión: Maval Ltda.
