

20

Annual Report
Financial Committee

Advisory Committee to the
Ministry of Finance for Chile's
Sovereign Wealth Funds

19

This publication corresponds to the 2019 Annual Report of the Ministry of
Finance's Financial Committee.

ISSN: 0718-5790

The electronic version of this document is available on the Ministry of
Finance website:

April 2020, Santiago, Chile
All rights reserved

[https://www.hacienda.cl/english/work-areas/international-finance/
sovereign-wealth-funds/financial-committee/annual-report](https://www.hacienda.cl/english/work-areas/international-finance/sovereign-wealth-funds/financial-committee/annual-report).

2

0

**Annual Report
Financial Committee**

Advisory Committee to the
Ministry of Finance for Chile's
Sovereign Wealth Funds

1

9

Contents

Preface	6
Executive Summary	7
Members of the Financial Committee	8
Chapter 1 Fiscal Policy and the Funds' Objectives, Institutional Framework, and Investment Policy	10
A. Fiscal policy	11
B. Objectives and rules on the use of the funds	11
C. Institutional framework	13
D. Investment policy	16
Chapter 2 State of the Sovereign Wealth Funds	22
A. Analysis of the international economy	23
B. Market value	32
C. Returns	33
Chapter 3 Activities and Recommendations of the Financial Committee	38
A. Convergence to the new PRF investment policy	39
B. Responsible investment practices	40
C. Reconciliation of returns reported by external managers and the custodian bank	41
D. PRF sustainability study	41
E. Monitoring of external fund managers	42
Appendix 1: Current and former Financial Committee's members	44
Appendix 2: Summary of Meetings in 2019	45
References	47
Glossary	48

Preface

As stipulated in the Fiscal Responsibility Law of 2006, the Financial Committee was created in 2007 to advise the Finance Minister on the investment of Chile's two Sovereign Wealth Funds: The Economic and Social Stabilization Fund (ESSF) and the Pension Reserve Fund (PRF). The Financial Committee is an independent external advisory board, whose members have a vast experience in economic and financial areas. The Committee meets periodically to analyze matters relating to the investment of the funds. This Report—the thirteenth prepared by the Committee—describes its work and activities in 2019.

The publication of this Report fulfills the requirement established under Decree N° 621, issued by the Ministry of Finance in 2007, which stipulates that the Committee must present an annual report on its work to the Finance Minister and submit a copy of this report to the Finance Commissions of the Senate and the House of Representatives and to the Joint Budget Commission.

The Committee

Executive summary

At the close of 2019, the market value of the funds was US\$ 23,045 million, of which US\$ 12,233 million was in the Economic and Social Stabilization Fund (ESSF) and US\$ 10,812 million was in the Pension Reserve Fund (PRF). The net return in dollars in the year was 4.77% for the ESSF and 12.04% for the PRF,¹ while the net return in pesos was 12.14% and 19.92%, respectively. In the case of the ESSF, the strategic asset allocation was 15% in bank deposits, 74% in sovereign bills and bonds, 3.5% in inflation-indexed sovereign bonds and 7.5% in equities. For the PRF, the portfolio allocation was 35% in sovereign and government related bonds 11% in inflation-indexed sovereign bonds, 6% in U.S. agency MBS, 13% in corporate bonds, 8% in high yield bonds and 27% in equities.

¹ Returns reported in this document correspond to the Time Weighted Rate of Return (TWR), unless otherwise stated. Returns for periods greater than one year are annualized. For periods of less than one year, the return corresponds to the change during the period. Net returns reported are net of management fees.

Members of the Financial Committee



President José De Gregorio Rebeco

Mr. De Gregorio holds a Ph.D. in Economics from the Massachusetts Institute of Technology, a Master's degree in Industrial Engineering and a degree in Civil Industrial Engineering, both from Universidad de Chile. Currently, he is Professor at the Faculty of Economics and Business of Universidad de Chile, and Nonresident Senior Fellow at the Peterson Institute of International Economics. He has been President, Vice-President and Counselor of the Central Bank of Chile, Minister of Economics, Mining and Energy for the Chilean Government, and Economist at the International Monetary Fund. He joined the Committee in September 2014.



Vice President Cristián Eyzaguirre Johnston

Mr. Eyzaguirre holds a MA in Economics from University of California, Berkeley, and a degree in Business Administration from Universidad de Chile. He was CEO at Banco Bice and CFO at CMPC Enterprises. He has been Deputy Director of Chile's Tax Service (SII for its acronym in Spanish), advisor at Federation of Chilean Industry (SOFOPA for its acronym in Spanish) and Professor at Universidad de Chile. He currently participates in the Board of Directors of several companies, and is a Member of the Investment Committee of Hogar de Cristo. He joined the Committee in March 2010.



Member Ricardo Budinich Diez

Mr. Budinich holds a degree in Industrial Civil Engineering and a Bachelor's degree in Engineering Science, both from Universidad de Chile and holds a diploma in corporate governance from Universidad Católica de Chile. Currently, he serves on the Board of Directors of several companies and is member of Vigilance Committees of foreign private equity, global debt, small-mid cap equities and real estate funds. He was Chief Financial Officer of Copec, Director of Sonacol and many subsidiaries from the same company, Chief Financial Officer of Casaideas and advisor to its Board of Directors, member of the Consultative Counsel of Fundación Copec-UC, member of the Investment Committee of Compañía de Seguros Cruz del Sur and assistant professor of Universidad de Chile. He also performed several executive positions in companies from the financial sector. He joined the Committee in September 2016.



Member Jaime Casassus Vargas

Mr. Casassus holds a Ph.D. in Finance from Carnegie Mellon University and a degree in Civil Industrial Engineering from Universidad Católica de Chile. Currently, he is Professor and Postgraduate Director at the Institute of Economics of Universidad Católica de Chile, Managing Editor at the journal "Quantitative Finance", Deputy Director at FinanceUC, and Director of the Economics Society of Chile. He was Visiting Professor at University of California, Berkeley. His research has been published in Journal of Finance, Review of Financial Studies, and Journal of Banking & Finance. He joined the Committee in September 2014.



Member Martín Costabal Llona

Mr. Costabal holds an MBA from the University of Chicago and a degree in Business Administration from Universidad Católica de Chile. He has performed as Finance Minister and Budget Director, executive of Empresas Pizarreño and Infraestructura Dos Mil, CEO of AFP Habitat and Member of the Technical Advisory Committee of Investment established by the Pension Reform. Currently he serves on the Boards of Directors of private companies. He joined the Committee in January 2007.



Member Paulina Yazigi Salamanca

Ms. Yazigi holds a degree in Economics and a Master's degree in Macroeconomics from Universidad Católica de Chile. Besides, she holds a Master of Science in Mathematics in Finance from New York University. Currently, she serves as Chief Investment Officer (CIO) in a family office named Nogaleda Inversiones. She was Investment Manager, Strategy Manager, and Head of Fixed-Income and Economic Research at Credicorp Capital (formerly IMTrust), Vice president of Business Management at BBVA in New York, and co-portfolio manager at Compass Group LLC in New York. She has taught several courses at Universidad Adolfo Ibáñez since 2012. She joined the Committee in September 2018.

CHAPTER 1

Fiscal policy and the
funds' objectives,
institutional
framework and
investment policy

A. Fiscal policy

Chile's fiscal policy is aimed at contributing to macroeconomic stability and providing public goods that increase opportunities and social protection for Chilean citizens.²

Since 2001, Chile's fiscal policy is guided by a structural balance rule or, more precisely, a cyclically adjusted balance rule,³ which mitigates the effect on public finances of fluctuations in economic activity, the copper price and other secondary factors. This implies saving in boom times and being able to use those savings during cyclical downturns. As a result, the fiscal rule has a stabilizing effect on public finances and the economic cycle and improves access to financing for both the public and private sectors.

B. Objectives and rules on the use of the funds

To ensure the sustainability of public spending over time and contribute to the competitiveness of the economy, Law 20,128 on Fiscal Responsibility was passed in September 2006. This law created the PRF and authorized the President of the Republic to create the ESSF, which was then officially established in February 2007. These two funds accumulate the resources resulting from the application of the structural balance rule as detailed below.

Objectives

The funds created by the Fiscal Responsibility Law (henceforth, the Sovereign Wealth Funds) have specific objectives. In the case of the ESSF, the objectives are to accumulate resources to finance potential fiscal deficits and to amortize public debt, thereby contributing to cushioning fiscal spending against fluctuations in the world economy and the volatility of revenues from taxes and copper. The ESSF resources can also be used to finance the PRF if necessary. In the case of the PRF, the objective is to support the financing of fiscal liabilities deriving from the state pension guarantee for old-age and disability solidarity pension benefits, as well as old-age and disability solidarity pension contributions established by the Pension Reform. The PRF thus complements the financing of future pension-related contingencies.

Rules on fund contributions

The rules on establishing the funds and accumulating resources therein are established by law (see Figure 1).⁴

The PRF is increased each year by a minimum of 0.2% of the previous year's gross domestic product (GDP). If the effective fiscal surplus exceeds 0.2% of GDP, the PRF receives a contribution equivalent to the surplus, up to 0.5% of GDP. PRF contributions only have to be made until the fund reaches UF 900 million (*Unidad de Fomento*, UF).

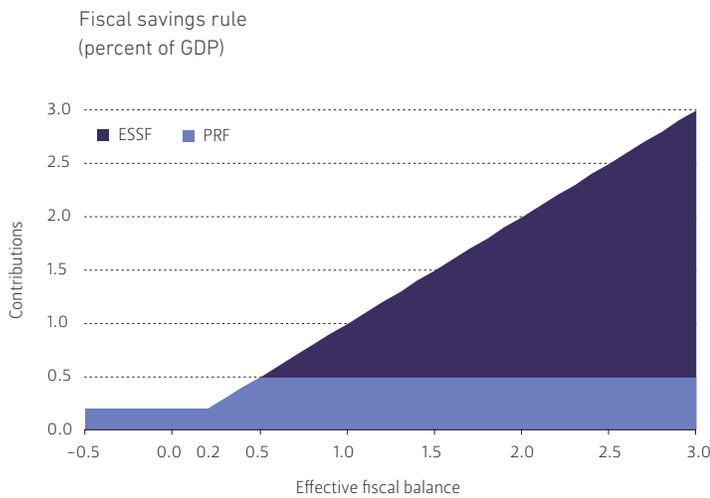
2 Decree N° 892 of 2014, which establishes the basis of fiscal policy, in accordance with the provisions of Article 1° of Law N° 20,128.

3 The structural balance rule (or cyclically adjusted balance rule) has undergone some changes since it was first implemented. For a detailed discussion of its design, modifications, application and results, see Marcel, Tokman, Valdés and Benavides (2001); García, García and Piedrabuena (2005); Rodríguez, Tokman, and Vega (2006); Velasco, Arenas, Rodríguez, Jorratt and Gamboni (2010); Comité Asesor para el diseño de una política fiscal de balance estructural de segunda generación para Chile (2011); Larraín, Costa, Cerda, Villena and Tomaselli (2011); Schmidt Hebbel (2012); Velasco and Parrado (2012) and the Budget Office (2013, 2014, 2015, 2016, 2017 and 2018).

4 For the PRF, the Fiscal Responsibility Law; for the ESSF, Statutory Decree (DFL) N° 1, issued by the Ministry of Finance in 2006.

The yearly contribution to the ESSF corresponds to the balance of the effective fiscal surplus (if positive) after subtracting the PRF contribution, less public debt pay downs and any advance contributions to the fund.⁵ Additionally the fund can receive extraordinary contributions from the sale of assets or debt issue.

FIGURE 1



SOURCE: Ministry of Finance of Chile

Rules on the use of the funds

Starting in 2016, the PRF resources can be used to complement the financing of fiscal liabilities deriving from the state guarantee for old-age and disability solidarity pension benefits, as well as old-age and disability solidarity pension contributions. The annual withdrawal of PRF resources cannot exceed one-third of the difference between expenditures on pension liabilities in the current year and the pension expenditure in 2008, adjusted for inflation. Prior to 2016, withdrawals from the PRF were allowed equivalent to the returns generated in the previous year.

As of 2021, the PRF will cease to exist if the withdrawals in a calendar year do not exceed 5% of the fiscal pension expenditure established in that year's budget. When the PRF is eliminated, the remaining balance will be transferred to the ESSF.

The ESSF resources can be used at any time to complement fiscal revenues as needed to finance authorized public spending in the event of a fiscal deficit. These resources can also be used for the regular or extraordinary pay down of public debt (including Recognition Bonds) and for financing the annual contribution to the PRF, as per a decision by the Finance Minister.

Withdrawals from the ESSF and the PRF are effectuated through a decree from the Ministry of Finance.

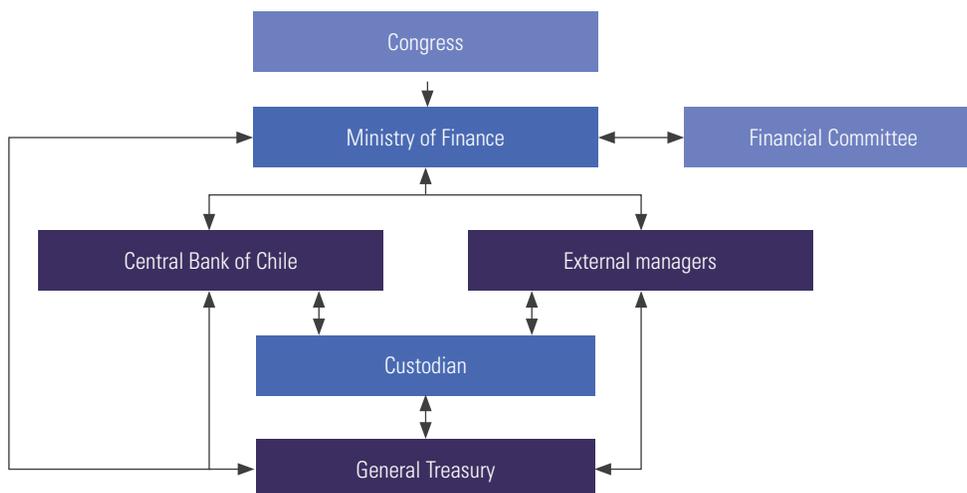
5 The current legislation allows the pay down of public debt and advance contributions to the ESSF using resources from the fiscal surplus of the current year, which must be deposited into the fund in the current or subsequent years.

C. Institutional framework

The legal framework establishes a clear division of roles and responsibilities in order to ensure accountability and operational independence in the management of the funds. This section provides a brief description of the roles of each of the bodies involved in fund management (see Figure 2).

FIGURE 2

Institutional framework for Chile's Sovereign Wealth Funds



SOURCE: Ministry of Finance of Chile

Ministry of Finance and dependent bodies

The Fiscal Responsibility Law establishes that the funds are the property of the Fisco of Chile and that the General Treasury holds the legal title to the resources. The law authorizes the Finance Minister to make decisions on how the funds are managed and to dictate their investment policies. To this end, the Ministry of Finance draws up the investment guidelines, which define the criteria that must be followed by the funds' managers. The Ministry monitors the managers' performance and compliance with the investment guidelines and issues monthly, quarterly and annual reports on the state of the funds.

The General Treasury is responsible for the funds' accounting and the preparation of their audited financial statements, for monitoring compliance with the investment limits, for reconciling information on the portfolios from the managers and the custodian and for approving payments to the managers. The Budget Office is responsible for budgetary issues related to the funds.

Central Bank of Chile

Executive Decree N° 1,383 (the Agency Decree), issued by the Ministry of Finance in 2006, appoints the Central Bank of Chile (CBC) to act as fiscal agent in the management and investment of the resources in both funds. In carrying out these functions, the CBC must strictly follow the investment guidelines issued by the Finance Minister. The CBC is authorized to delegate part of the management of the Sovereign Wealth Funds to external managers.

Following a careful selection process carried out in 2011, the CBC contracted BlackRock Institutional Trust Company N.A. (BlackRock), Mellon Investment Corporation (Mellon) and Rogge Global Partners PLC (Rogge), which was acquired by Allianz Global Investors (Allianz)⁶ in 2016, as external managers delegated to the equity and corporate fixed-income portfolios. In 2013, based on the recommendation of the Financial Committee, the Ministry of Finance instructed the CBC to contract BlackRock and Mellon to manage the ESSF stock portfolio, equivalent to 7.5% of the fund, taking into account that their mandate would be identical to the PRF's and that they were recently chosen from the selection process carried out for that fund.

Decree N° 1,618 of 2012 modified the Agency Decree to relieve the CBC of the management of the corporate fixed-income and equity portfolios of the ESSF and the PRF, whose management had been delegated by the CBC, in representation of the Fisco, to the aforementioned companies. In accordance with Decree N° 1,618 of 2012, the CBC's responsibilities with regard to the externally managed portfolios were significantly reduced as of 1 January 2014, being mainly limited to reconciling daily positions. With these changes, the contractual relationship with the external managers and other tasks previously carried out by the CBC were transferred to the Ministry of Finance and the General Treasury.

In 2018, the CBC selected BlackRock and Nomura Asset Management Global (Nomura) to act as external managers for the high yield bond portfolio; and BNP Paribas Asset Management (BNP) and Western Asset Management Company (Western) to manage mortgage backed securities (MBS) from U.S. agencies.⁷ Both asset classes are part of the new investment policy established for the PRF (see section D of this chapter). The supervision of the external managers of the high yield bond portfolio is the responsibility of the Ministry of Finance and the General Treasury, while the supervision of the U.S. agency MBS portfolio managers will be undertaken by the CBC, given that the Bank has experience investing in this asset class.

Financial Committee

The Fiscal Responsibility Law stipulates that the Ministry of Finance must establish an Advisory Committee to give advice to the Finance Minister on the Sovereign Wealth Funds (henceforth, the Financial Committee). This Committee monitors the investment of the funds' resources and advises the Minister on the definition of the investment policies consistent with the funds' objectives. In compliance with these provisions, on 23 December 2006, the Finance Minister announced the establishment of both the Sovereign Wealth Funds and the Financial Committee. The Committee was then officially created through Decree N° 621, issued by the Ministry of Finance in 2007. In accordance with that decree, the Committee must be made up of six members who have experience in investment portfolio management, have held an executive position in a financial institution or have held or currently hold an academic post. The six Committee members are appointed for two years, with half the seats being renewed each year. The current and former members of the Financial Committee are presented in Appendix 1. The Committee's president receives a fee per session of 25.5 UTMs (*Unidades Tributarias Mensuales*, UTM), with an annual cap of 127.5 UTMs. The remaining members receive a fee of 17 UTMs per session, with an annual cap of 85 UTMs. The Committee must meet at least once every six months, but in practice it has met at least five times a year. A summary of the Committee's meetings during 2019 is presented in Appendix 2.

6 From now on, only reference to Allianz will be made in this report.

7 The contracts with the external portfolio managers for the high yield bond and U.S. agency MBS portfolios were signed in January 2019.

Decree N° 621 also stipulated the Financial Committee's functions and the rules of procedure for its proper functioning. Thus, the duties and powers of the Committee are as follows:

- To advise the Finance Minister, when requested, on key issues related to the funds' investment policy, such as the distribution of investments by asset class (asset allocation), the incorporation of new investment alternatives, the specification of portfolio benchmarks (see Box 1), the permissible range of deviation from the asset allocation and the limits on the funds' investment possibilities.
- To submit recommendations to the Finance Minister, when requested, on custody and investment instructions and on the tender and selection processes for the management of the funds' portfolios.
- To express an opinion at the request of the Finance Minister about the structure and content of the annual reports on the funds' portfolio management that are presented to the Ministry of Finance by the institution(s) responsible for their management or custody and, on the basis of these reports, to express an opinion about the funds' management and, particularly, its consistency with their investment policies.
- To express an opinion about the structure and content of the reports on the funds prepared quarterly by the Ministry of Finance.
- To advise the Finance Minister, when requested, on any matter related to the funds' investment.
- To express its views and recommendations regarding other matters related to the funds' investment policies, taking into account the principles, objectives and rules that govern the funds.

In order to promote transparency, the Financial Committee decided that the decree regulating its activities, the minutes of its meetings and the corresponding press releases should be publicly disclosed. The Ministry of Finance's website thus, includes a special section containing all information on these issues.⁸

BOX 1: Portfolio benchmarks

Portfolio benchmarks are representative market indexes for the different asset classes. In principle, they represent the passive investment performance of diversified portfolios invested in certain asset classes, where the return of each instrument is typically weighted by its relative share of market capitalization. The indexes are used as a reference for measuring the performance of the managers in charge of investing the funds.

Each asset class in an investment portfolio is associated with a benchmark. The benchmark for the total portfolio is thus constructed by weighting the selected indexes by the percentage allocation of each class, as defined in the investment policy.

Both the ESSF and the PRF have passive investment policies. That is, their investment strategy aims to achieve the benchmark return.

⁸ <https://www.hacienda.cl/english/work-areas/international-finance/sovereign-wealth-funds>.

D. Investment policy

Economic and Social Stabilization Fund

In line with the objectives described above, the main goal of the ESSF investment policy is to maximize the fund's accumulated value in order to partially cover cyclical reductions in fiscal revenues while maintaining a low level of risk. Its aversion to risk is reflected in the choice of an investment portfolio with a high level of liquidity and low credit risk and volatility, thereby ensuring the availability of the resources to cover fiscal deficits and avoiding significant losses in the fund's value. It is important to mention that the Ministry of Finance established that the resources of the fund ought to be invested abroad in order to do not damage the competitiveness of the Chilean economy.

From its inception through July 2013, the ESSF investment policy centered on investment in fixed-income instruments denominated in reserve currencies, which typically perform well in times of crisis. However, a new investment policy was implemented in August 2013, which was defined by the Ministry of Finance on the basis of the Financial Committee's recommendations in 2012.⁹ This investment policy establishes a portfolio allocation of 15% in bank deposits, 74% in sovereign bills and bonds, 3.5% in inflation-indexed sovereign bonds and 7.5% in equities (see Figure 3). For the fixed-income portfolio, the currency allocation is defined as 40% in U.S. dollars (USD), 25% in euros (EUR), 20% in yen (JPY) and 7.5% in Swiss francs (CHF), expressed as a percentage of the total portfolio. The new policy also increases the duration of the fixed-income portfolio to approximately 4.8 years (see Box 2).

FIGURE 3

ESSF: Strategic asset allocation
(percent of portfolio)



SOURCE: Ministry of Finance of Chile

9 The Financial Committee's recommendation was founded on the review and analysis of different sources, including Eduardo Walker's study on portfolio allocation commissioned by the Ministry of Finance, comments on the study contained in three external peer reviews and additional simulations using market data from the last 20 years, carried out by the Ministry of Finance's International Finance team. For more information, see Chapter 3 of the Financial Committee's 2012 Annual Report.

BOX 2: Main elements of the Economic and Social Stabilization Fund (ESSF) investment policy

Investment objectives: Consistent with the ESSF objectives, the investment policy aims to maximize the fund's accumulated value in order to partially cover cyclical reductions in fiscal revenues while maintaining a low level of risk. Its aversion to risk is reflected in the choice of an investment portfolio with a high level of liquidity and low credit risk and volatility, thereby ensuring the availability of the resources to cover fiscal deficits and avoiding significant losses in the fund's value.

Strategic asset allocation: The ESSF investment policy stipulates a strategic asset allocation of 15% in bank deposits, 74% in sovereign bills and bonds, 3.5% in inflation-indexed sovereign bonds and 7.5% in equities. The fixed-income portfolio has a currency allocation of 40% in USD, 25% in EUR, 20% in JPY and 7.5% in CHF, expressed as a percentage of the total portfolio.

Portfolio benchmarks: A benchmark has been defined for each component of the strategic asset allocation, using a representative market index:

Asset class		Percent of portfolio	Benchmark
1. Bank deposits		5.0	ICE BofA US Dollar 3 Month Deposit Bid Rate Average Index
		6.0	ICE BofA Euro Currency 3 Month Deposit Bid Rate Average Index
		4.0	ICE BofA Japanese Yen 3 Month Deposit Bid Rate Average Index
		15.0	Subtotal bank deposits
2. Treasury bills and sovereign bonds	2.1. Treasury bills	6.0	ICE BofA US Treasury Bill Index
		7.0	ICE BofA Germany Treasury Bill Index
		6.0	ICE BofA Japan Treasury Bill Index
		19.0	Subtotal Treasury bills
	2.2. Sovereign bonds	26.5	Bloomberg Barclays Global Aggregate -Treasuries: U.S. 7-10 Yrs
		11.0	Bloomberg Barclays Global Aggregate - Treasuries: Germany 7-10 Yrs
		10.0	Bloomberg Barclays Global Aggregate -Treasuries: Japan 7-10 Yrs
		7.5	Bloomberg Barclays Global Aggregate -Treasuries: Switzerland 5-10 Yrs
		55.0	Subtotal Sovereign bonds
		74.0	Subtotal Treasury bills and Sovereign bonds
3. Inflation-indexed sovereign bonds		2.5	Bloomberg Barclays Global Inflation-Linked: U.S. TIPS 1-10 Yrs
		1.0	Bloomberg Barclays Global Inflation-Linked: Germany 1-10 Yrs
		3.5	Subtotal inflation-indexed sovereign bonds
4. Equities		7.5	MSCI All Country World Index ex Chile (unhedged with reinvested dividends)

The ESSF has implemented a passive management strategy since May 2011, allowing only marginal deviations from the strategic asset allocation.

Management: The ESSF is largely managed by the CBC, which, acting as fiscal agent, manages the fixed-income portfolio (92.5% of total assets). The equities portfolio is managed by external management companies contracted by the CBC following a tender process.

Ex ante tracking error:¹ The ex-ante tracking error is capped at 50 basis points for the fixed-income portfolio and 60 basis points for the equities portfolio.

Eligible currencies and issuers: Only currencies in the benchmark are eligible for investment. In the case of sovereign exposure, the issuers that make up the corresponding benchmark, supranational institutions, agencies and eligible entities with an explicit government guarantee according to the eligibility criteria used by the CBC in order to invest the international reserves and according to the pre-established limits set in the investment guidelines. With regard to bank exposure, the fund can only be invested in banks with a risk rating of A-/A3 or higher (Standard & Poor's, Moody's and Fitch) and in accordance with the limits stipulated in the investment guidelines. For exposure to equities, only the issuers that make up the corresponding benchmark are eligible for investment, however the investment in exchange traded funds, mutual funds, American depository receipts, global depository receipts, and futures are also allowed.

Leveraging and the use of derivatives: Leveraging is not allowed.² The use of derivatives is defined according to the type of portfolio:

- Fixed-income portfolio: The use of forwards and swaps is only allowed for foreign currency hedging. The total notional amount cannot exceed 4% of the fixed-income portfolio.
- Equity portfolio: The use of forwards and swaps is only allowed for foreign currency hedging. In addition, the use of equity futures is allowed for hedging purposes or to gain exposure to part of the benchmark. The aggregate nominal amount of the futures, forwards and swaps cannot exceed 10% of the portfolio of each external manager.

Rebalancing policy: The rebalancing policy consists in restoring the strategic allocation once a year and whenever the share of equities exceeds the range of 5.5% to 9.5% of the total portfolio. The annual rebalancing is coordinated with fund contributions, to the extent possible.

Investment guidelines: The investment guidelines, which are published in Spanish and available online at the Ministry of Finance website,³ provide additional information on the ESSF investment policy, such as special restriction on investment in specific countries and other relevant limits, as well as other aspects of portfolio management.

1 The ex-ante tracking error is an estimate of the standard deviation of the difference between the portfolio and benchmark returns. The lower the ex-ante tracking error, the more passive the portfolio management.

2 Leveraging is the purchase of assets through debt.

3 <https://www.hacienda.cl/english/work-areas/international-finance/sovereign-wealth-funds/economic-and-social-stabilization-fund/investment-policy>.

Pension Reserve Fund

In November 2017, the Finance Minister accepted the Financial Committee's recommendations on modifying the PRF investment policy. The new policy proposed by the Committee was defined based on the conclusions of a study commissioned from Mercer Investment Consulting (Mercer), which was submitted in mid-2017.

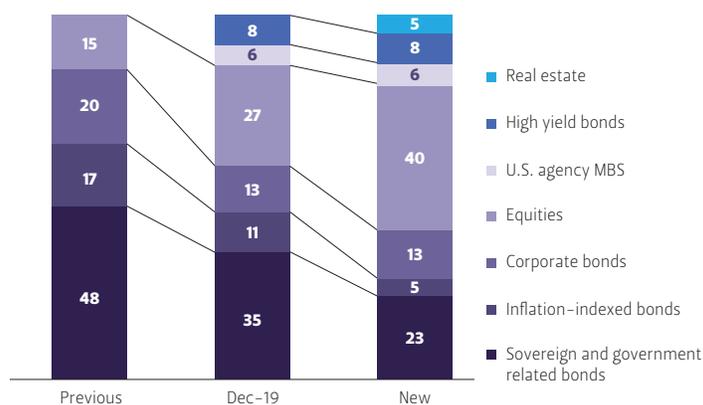
As part of the new investment policy, and considering that the fund's resources are to finance part of the fiscal pension obligations, which are denominated in pesos, a new investment objective and risk tolerance were established for the fund. Specifically, the investment objective was defined as an expected annualized return in pesos of at least 2% over Chilean inflation in a ten-year period, with a probability of at least 60%. The risk tolerance establishes that the probability that the fund's real return will be less than -12%, expressed in pesos, must not be over 5% in any given year.¹⁰

The new strategic asset allocation was defined so as to be consistent with the above objectives and risk tolerance. Specifically, the new portfolio allocation established that 40% of the fund must be invested in equities, 23% in sovereign and government related bonds, 5% in inflation-indexed sovereign bonds, 6% in U.S. agency MBS, 13% in corporate bonds, 8% in high yield bonds, and 5% in unlisted real estate assets. All asset classes will be invested globally, with the exception of U.S. agency MBS. The Committee also suggested gradually hedging the exposure of the fixed-income portfolios to Chilean pesos (see Box 3).

Based on recommendations from the Financial Committee, the Finance Ministry defined transitional strategic asset allocations that reflect the way the fund will converge to the definitive allocation. Thus, the transitional strategic asset allocation in December 2019 established that 27% of the fund is to be invested in equities, 35% in sovereign and government related bonds, 11% in inflation-linked bonds, 6% in U.S. agency MBS, 13% in corporate bonds, and 8% in high-yield bonds (see Figure 4).

FIGURE 4

Comparison between previous, transitory and new investment policy (percent of portfolio)



SOURCE: Ministry of Finance of Chile

For more information about the implementation of the new investment policy and the way it will converge to the new strategic asset composition see chapter 3, Section A.

¹⁰ For more information on the previous investment policy, see the Financial Committee's 2017 Annual Report.

BOX 3: Main elements of the new investment policy for the Pension Reserve Fund (PRF)

Investment objective: The investment objective is to earn an expected annualized return in pesos of at least 2% over Chilean inflation in a ten-year period, with a probability of at least 60%. The risk tolerance establishes that the probability that the fund's real return will be less than -12%, expressed in pesos, must not be over 5% in any given year.

Strategic asset allocation (target): The new investment policy considers a portfolio allocation of 23% in sovereign and government related bonds, 5% in inflation-indexed sovereign bonds, 6% in U.S. agency MBS, 13% in corporate bonds, 8% in high yield bonds, 40% in equities, and 5% in unlisted real estate assets. Additionally, the currency exposure associated with the fixed-income portfolio will be hedged. Based on the Financial Committee's recommendations, the Finance Minister decided to gradually converge to the new strategic asset allocation over a period of approximately three years. The convergence process is discussed in detail in chapter 3, section A of this report.

Benchmarks: A benchmark has been established for each component of the strategic asset allocation, using a representative market index:

Asset class	Percent of portfolio	Benchmarks
Sovereign and government related bonds ^(a)	23	Bloomberg Barclays Global Aggregate: Treasury Bond Index (unhedged)
		Bloomberg Barclays Global Aggregate: Government-Related (unhedged)
Inflation-indexed sovereign bonds	5	Bloomberg Barclays Global Inflation-Linked Index (unhedged)
Corporate bonds	13	Bloomberg Barclays Global Aggregate: Corporates Index (unhedged)
U.S. agency MBS	6	Bloomberg Barclays US Mortgage Backed Securities (MBS) Index
High yield bonds	8	Barclays Global High Yield Index (unhedged)
Equities	40	MSCI All Country World Index ex Chile (unhedged, with reinvested dividends)
Real estate	5	To be determined

(a) The two subindexes of this asset class are added in accordance with their relative capitalization.

Currency hedging: The currency exposure associated with the fixed-income portfolio will be hedged to mitigate foreign currency conversion loss, that is, the risk deriving from the fluctuation of the portfolio's investment currencies against the peso. One or more external portfolio managers will be contracted to implement the hedging strategy in accordance with guidelines established by the Ministry of Finance, taking into account the Financial Committee's recommendations. The strategy will involve the use of currency forwards. In 2020 the Financial Committee will recommend the hedging strategy and prepare the guidelines that will be used to contract the external managers to implement the strategy. The Committee has recommended implementing the strategy gradually so as to mitigate the impact on the national currency.¹

Management: The sovereign and government related bonds portfolio and the inflation-indexed bond portfolio are managed directly by the CBC, acting as fiscal agent. The corporate bond and equity portfolios are managed by external portfolio managers. The high yield bond, U.S. agency MBS, and real estate portfolios and the currency hedging program will be managed by external portfolio managers, all of which will be selected by the CBC with support from the Ministry of Finance and a consulting firm (RVK).

¹ The currency hedging strategy implementation is awaiting an analysis being carried out by the Budget Office, to determine if said strategy will have an impact on the fiscal balance.

Ex ante tracking error: The ex-ante tracking error has been set at 50 basis points for the aggregate portfolio of sovereign and government related bonds and inflation-indexed sovereign bonds, 60 basis points for the equity portfolio, 50 basis points for the corporate bond portfolio, and 150 basis points for the high yield bond portfolio. For the U.S. agency MBS portfolio, the monthly average cannot exceed 20 basis points, and the maximum daily value cannot exceed 30 basis points.

Eligible currencies, issuers, and instruments: For each asset class, only currencies that are included in the respective benchmarks are eligible for investment. Eligible issuers and instruments are mainly those included in the benchmark, but each asset class includes some eligible issuers and instruments that are not in the benchmark, so as to give the portfolio managers more flexibility in managing their portfolios. These include the following:

- U.S. agency MBS: debt instruments issued or guaranteed by the U.S. government or by MBS issuing agencies, interest rate futures, and TBAs.²
- Corporate bonds: market-traded futures and reopened issues that are comparable to the instruments included in the benchmark.
- High yield bonds: futures, reopened issues that are comparable to the instruments included in the benchmark, sovereign instruments, and investment-grade bonds that leave the benchmark.
- Equities: ETFs, mutual funds, American Depositary Receipts (ADRs), Global Depositary Receipts (GDRs), and futures.

Leveraging and use of derivatives: The fund does not allow leveraging. The use of derivatives is differentiated by portfolio:

- Aggregate portfolio of sovereign and government related bonds, and inflation-indexed sovereign bonds: forwards or swaps can only be contracted for the purpose of currency hedging. The nominal value of forwards or swaps that are contracted with a given eligible counterparty cannot exceed 1.0% of the market value of the portfolio if the counterparty has a credit rating of at least AA- and 0.5% if the credit rating is A- to A+. At the same time, the aggregate notional value of all current forward or swap contracts cannot exceed 4% of portfolio.
- U.S. agency MBS: Exposure to TBAs cannot exceed 30% of the portfolio. The nominal amounts of U.S. interest rate futures valued at market price and expressed in absolute value cannot exceed 10% of the market value of the portfolio.
- Equities, corporate bond, and high yield bond portfolios: Each manager can only contract forwards or swaps for the purpose of currency hedging; and futures —equities or fixed-income, as indicated— for hedging purposes or to gain exposure to part of the benchmark. The nominal value of the forwards or swaps that are contracted by a given manager with a given eligible counterparty cannot exceed 3% of the market value of the portfolio under management. The aggregate nominal amount of futures, forwards, and swaps cannot exceed 10% of the portfolio of any given manager.

Rebalancing policy: During the transition period, the portfolio will only be rebalanced among the different asset classes in order to converge to the new strategic asset allocation. See chapter 3, section A.

Investment guidelines: The investment guidelines, which are published on the Ministry of Finance's website,³ provide additional information on the PRF investment policy, including details on the admissible instruments and other key limitations, as well as other issues related to fund management.

² To be announced (TBA): MBS forwards.

³ <https://www.hacienda.cl/english/work-areas/international-finance/sovereign-wealth-funds/pension-reserve-fund/investment-policy>.

CHAPTER **2**

State of the Sovereign
Wealth Funds

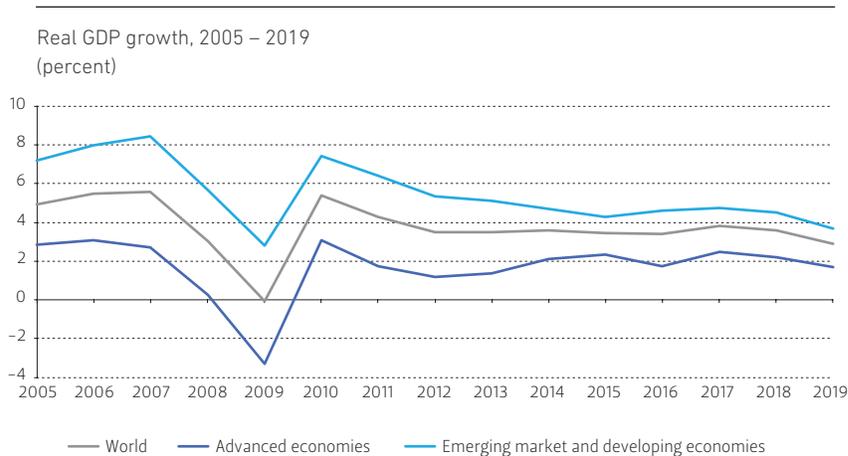
A. Analysis of the international economy

For a better understanding of the recent performance of the sovereign wealth funds, this section summarizes the main developments in the international economy in 2019.

According to estimates by the International Monetary Fund (IMF),¹¹ the world economy grew 2.9% in 2019, which is somewhat lower than market expectations and reflects a sharper slowdown than expected in the largest economies toward the end of the year. The year was marked by the constant negotiations of the trade conflict between the United States and China, a slight weakening of the dollar, and more expansive international financial conditions.

On aggregate, the advanced economies slowed from an annual growth rate of 2.2% in 2018 to 1.7% in 2019. The emerging and developing economies also recorded a slight downturn, from 4.5% in 2018 to 3.7% in 2019 (see Figure 5). In the advanced economies, it can be observed the slowdown in U.S and Euro Zone, and the stagnation of the United Kingdom in comparison to the previous year. Japan's economy, in contrast, experienced a moderate acceleration, accompanied by a significant fiscal impulse and business investment that improves domestic demand (see Figure 6). For the emerging and developing economies, notable trends included slowdowns in China and India and Brazil (see Figure 7).

FIGURE 5

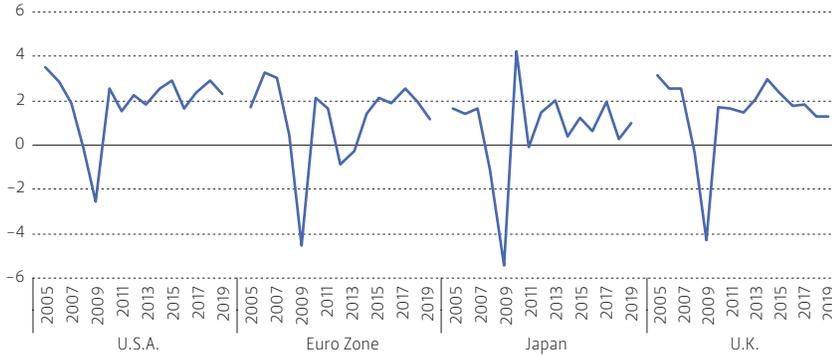


SOURCE: International Monetary Fund

11 The growth data presented in this section are extracted from the IMF World Economic Outlook database for October 2019, updated to January 2020.

FIGURE 6

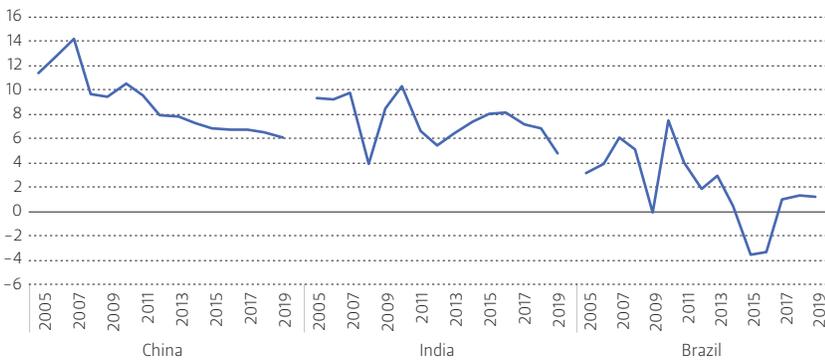
Real GDP growth in specific developed economies, 2005 - 2019
(year-on-year change, percent)



SOURCE: International Monetary Fund

FIGURE 7

Real GDP growth in specific emerging economies, 2005 - 2019
(year-on-year change, percent)



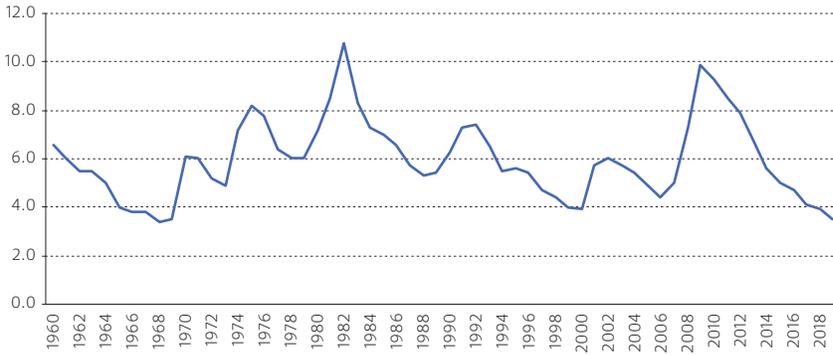
SOURCE: International Monetary Fund

As mentioned, the U.S. economy had a slowdown in 2019, growing 2.3%, below the 2.9% of 2018. As of December 2019, the unemployment rate had fallen to 3.5%, suffering the downward trend that has been seen since 2010 (see Figure 8). The nominal hourly wage at year-end grew 2.9% relative to one year previous (see Figure 9), in line with a tightening labor market. Despite the increased pressure in the labor market, inflation remained low. The general price index ended the year up 2.3% relative to 2018, which is around the 2% annual inflation target set by the U.S. Federal Reserve (the Fed), while core inflation, which excludes food and energy prices, it also had a variation of 2.3% in the year (see Figure 10). In a context in which the U.S. economy has slowed, the Fed decreased the range of the monetary policy rate (the Federal Funds Rate) 25 basis points three times during 2019 to 1.50-1.75%.¹²

¹² At the July meeting the Fed decreased the range from 2.25% - 2.50% to 2.00% - 2.25%, in September to 1.75% - 2.00% and in October to 1.50% - 1.75%.

FIGURE 8

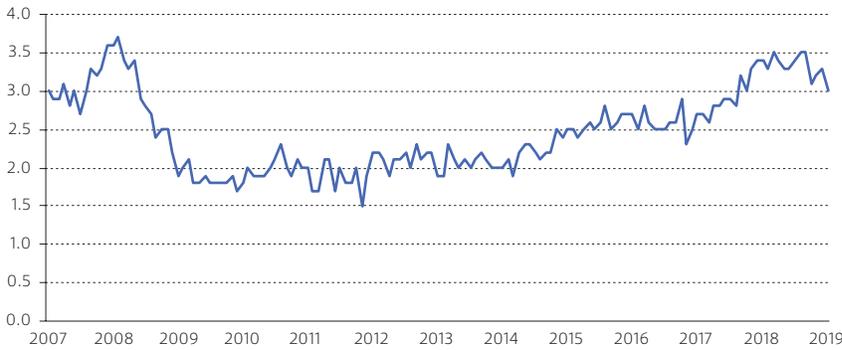
U.S. unemployment rate, 1960 - 2019
(percent)



SOURCE: Bureau of Labor Statistics

FIGURE 9

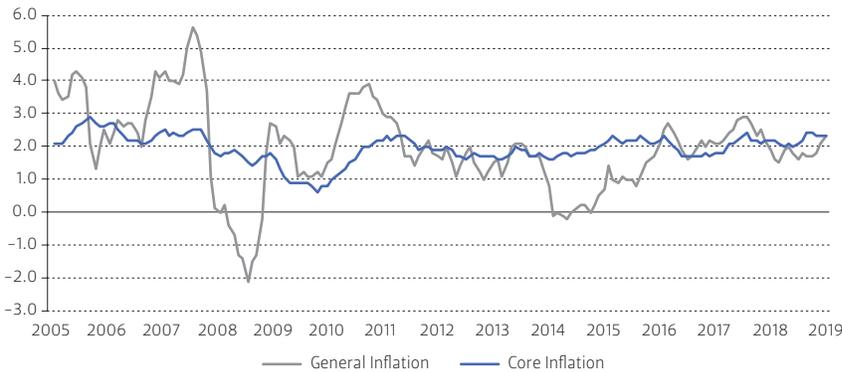
U.S. wage growth, 2007 - 2019
(year-on-year change, percent)



SOURCE: Bloomberg

FIGURE 10

U.S. consumer price index, 2005 - 2019
(year-on-year change, percent)

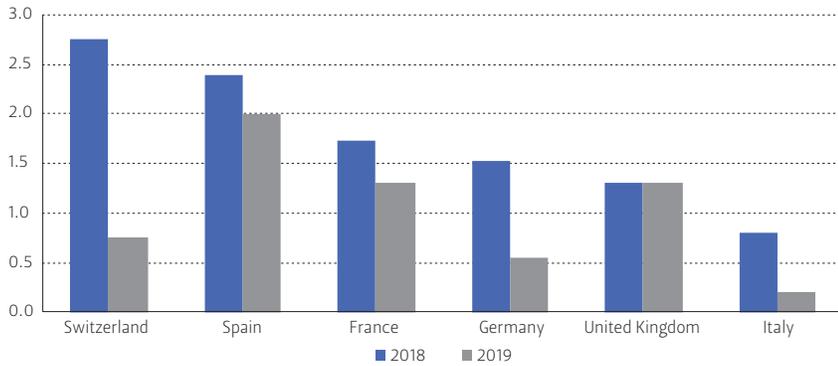


SOURCE: Bloomberg

In the Eurozone, growth slowed from 1.9% in 2018 to 1.2% in 2019, reflecting a significant slowdown in the largest economies in the bloc, highlighting those of Germany and Switzerland (see Figure 11). Inflation in the Eurozone ended the year at 1.3% (see Figure 12). The unemployment rate declined over the course of the year, ending at 7.4%, maintaining the downward trend seen since 2013 (see Figure 13). In this scenario, the European Central Bank (ECB) announced in September 2019 a monetary stimulus package that included monthly bond purchases of 20 billion euros starting in November, together with a reduction in deposit interest rates from -0.4% to -0.5%.

FIGURE 11

Real GDP growth in selected Eurozone countries in 2019
(year-on-year change, percent)



SOURCE: International Monetary Fund. Estimates

FIGURE 12

Eurozone annual inflation, 2005 - 2019¹³
(percent)



SOURCE: Bloomberg

13 Harmonised Index of Consumer Prices.

FIGURE 13

Eurozone unemployment rate, 2005 - 2019
(percent)



SOURCE: Bloomberg

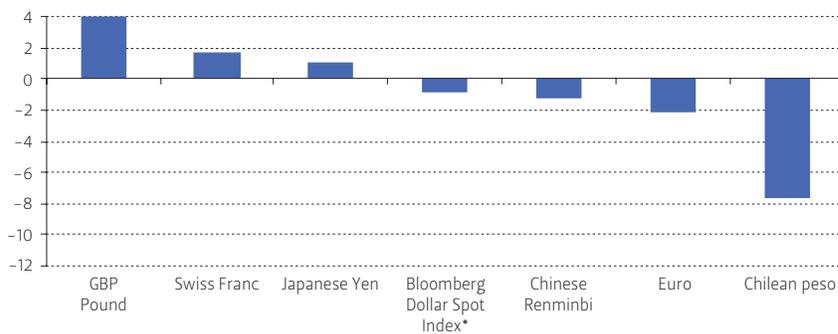
Japan experienced a moderate acceleration in the year, from a growth rate of 0.3% in 2018 to 0.7% in 2019. The Central Bank of Japan kept its short-term interest rate target at -0.1% and maintained its ten-year bond purchase program, in order to keep those rates around 0%.

China grew 6.1% in 2019, down from 6.6% in 2018, but within the government's target range. This reflected lower domestic demand and exports due to the trade conflict with the United States. In response to the trade war, the authorities implemented a series of stimulus measures that included tax cuts, increased spending on infrastructure, and liquidity injections by the central bank to face the adverse economic scenario in the year.

In this global context, the U.S. dollar weakened with respect to the main world currencies by 0.9% (see Figure 14).¹⁴ In terms of the currencies in which the sovereign wealth funds are invested, the Chinese renminbi and the euro depreciated the most (-1.3% and -2.2%, respectively), while the pound sterling, the Swiss franc, and the Japanese yen appreciated by 3.9%, 1.6%, and 1.0%, respectively.

FIGURE 14

Selected currencies against the U.S. dollar in 2019¹⁵
(year-on-year change, percent)



SOURCE: Bloomberg

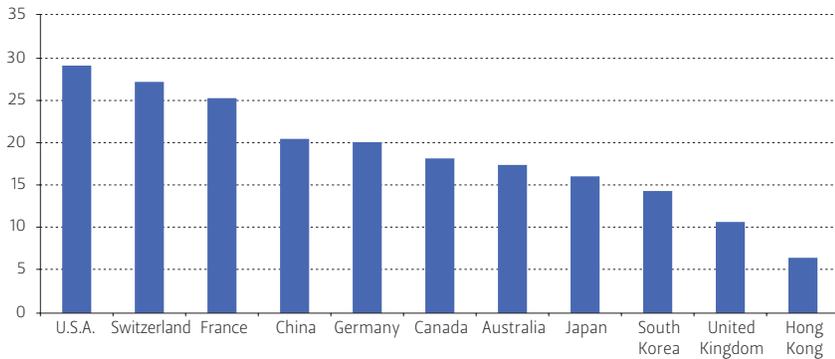
14 The Bloomberg Dollar Spot Index is a tradable index that shows the value of the dollar in relation to the ten main currencies of the world. Index returns greater than zero is indicative that the dollar appreciated in relation to the value of the basket of coins, while negative returns reflect that the dollar depreciated relative to the value of the basket of coins.

15 A negative return implies depreciation of the currency; a positive return, appreciation

Throughout 2019, in most markets, there were significant increases in the price of equities. In a selected sample (see Figure 15), all the equities exchanges had positive returns. The equity markets with the best performance in 2019 were U.S, Switzerland and France, whose returns, measured in local currency, were 29.1%, 27.2% and 25.3%, respectively. The index with the worst performance in relative terms, in local currency, were those of South Korea, the United Kingdom and Hong Kong with 14.4%, 10.2% and 6.5%, respectively.

FIGURE 15

MSCI equity index returns in 2019
(percent, measured in local currency)

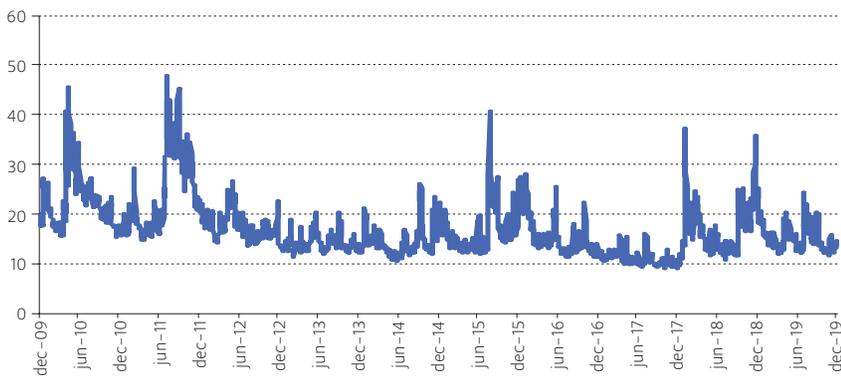


SOURCE: Bloomberg

The volatility of the stock market (S&P 500), measured through the Chicago Board Options Exchange (CBOE) equity volatility index (the VIX), presented in 2019 a lower average level than the previous year, experiencing its maximums in January and August with values of 25.5 and 24.6, respectively. The minimum was recorded in November (11.5), higher than the minimum registered in 2018 (9.2) (see Figure 16).

FIGURE 16

Equity market volatility (VIX): S&P 500, 2009–2019
(in levels)

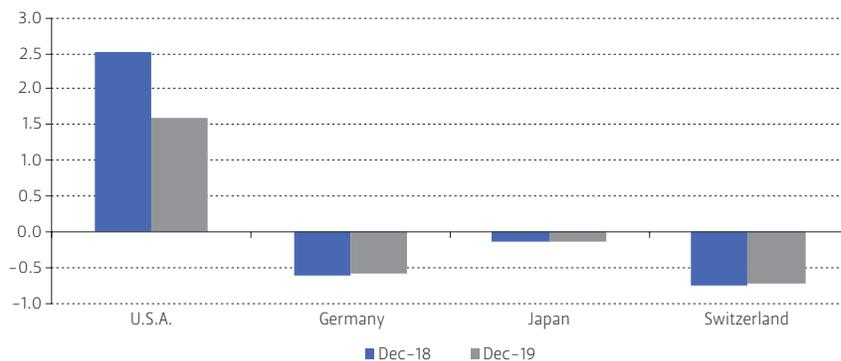


SOURCE: Bloomberg

At the end of the year, in the US nominal two-year sovereign interest rates had decreased relative to the level observed in the same period of the previous year (see Figure 17), while in Germany, Japan and Switzerland they increased slightly. On the other hand, nominal 10-year interest rates decreased in the United States, Germany, Switzerland, and Japan (see Figure 18).

FIGURE 17

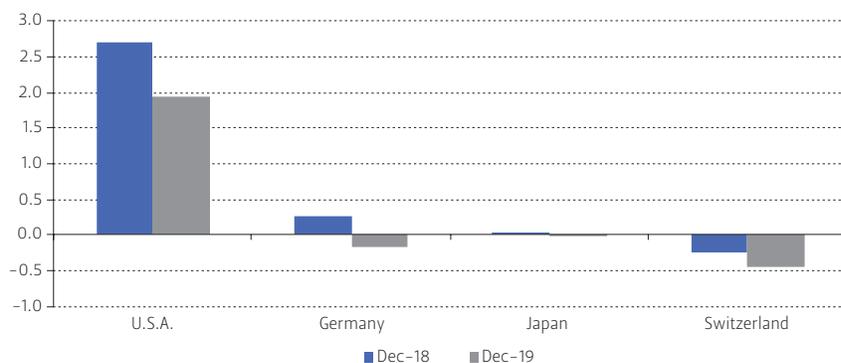
Internal rate of return (IRR) on two-year bonds in selected countries, 2018–2019 (percent)



SOURCE: Bloomberg

FIGURE 18

Internal rate of return (IRR) on ten-year bonds in selected countries, 2018–2019 (percent)

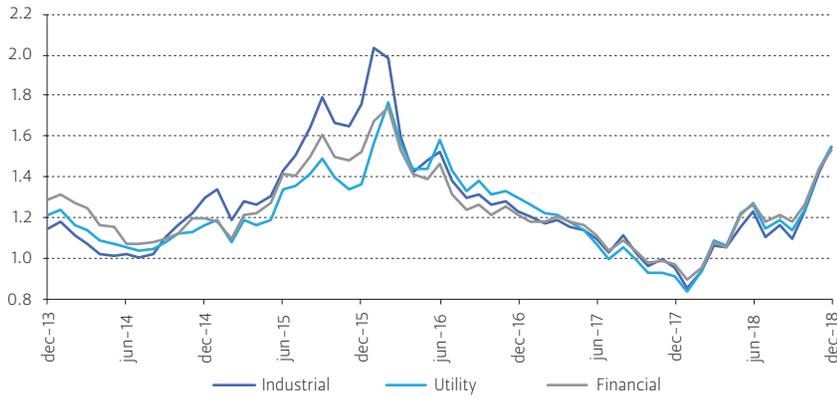


SOURCE: Bloomberg

In the corporate market, spreads decreased in all sectors of the “Bloomberg Barclays Global Aggregate Corporate” index relative to 2018. In the industrial, financial, and utility sectors, spreads decreased 36%, 33%, and 40%, respectively (see Figure 19). At the same time, spreads narrowed for high yield bonds: the Bloomberg Barclays Global High-Yield index recorded a 27% reduction in spreads (see Figure 20).

FIGURE 19

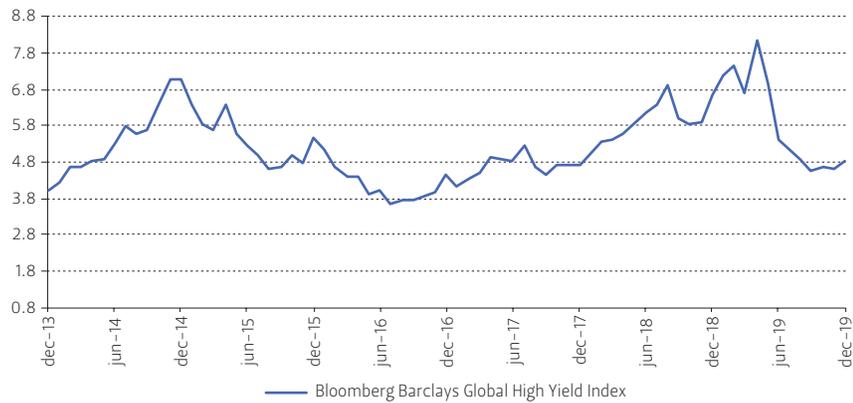
Investment grade corporate spreads by industry, 2013 – 2019
(percent)



SOURCE: Bloomberg Barclays

FIGURE 20

High yield bonds spreads, 2013 – 2019
(percent)

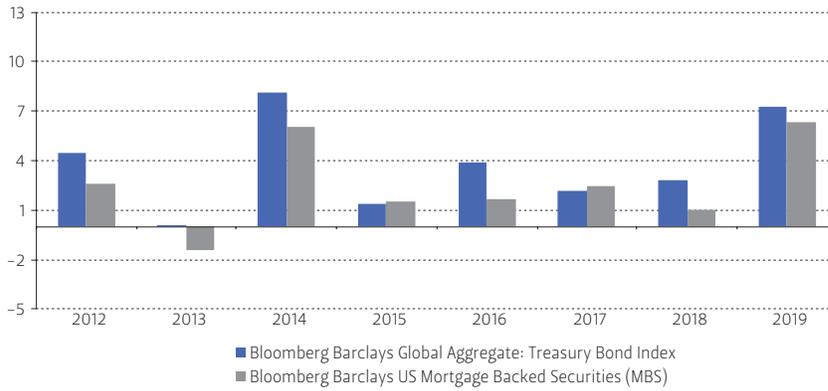


SOURCE: Bloomberg Barclays

In 2019, returns in local currency of investment grade sovereign bonds and the MBS of US agencies experienced positive returns. Thus the “Bloomberg Barclays Global Aggregate: Treasury Bond Index (hedged)” and the “Bloomberg Barclays US Mortgage Backed Securities (MBS)” closed the year with returns of 7.25% and 6.35%, respectively (see Figure 21). Investment grade corporate bonds, represented by the Bloomberg Barclays Global Aggregate: Corporates Index (hedged), and high yield bonds (sovereign and corporate), represented by the Bloomberg Barclays Global High Yield Index (hedged), closed the year with returns of 12.51% and 13.34%, respectively (see Figure 22).

FIGURE 21

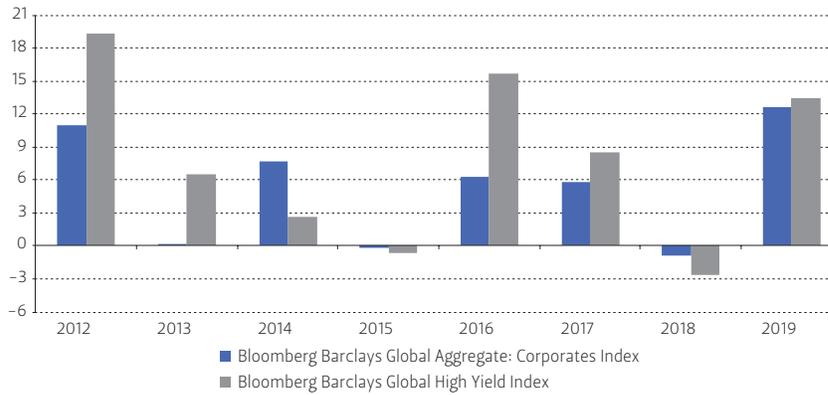
Bloomberg Barclays: Global Aggregate Treasury bonds (hedged) y US MBS (hedged), 2012 - 2019 (percent, measured in local currency)



SOURCE: Barclays

FIGURE 22

Bloomberg Barclays Global: Aggregate Corporates (hedged) y High Yield (hedged), 2012 - 2019 (percent, measured in local currency)



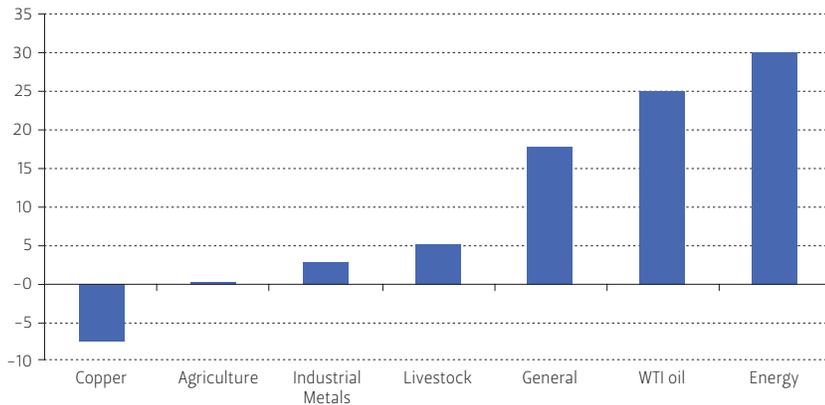
SOURCE: Bloomberg Barclays

When comparing the average prices of commodities in 2019 versus those of 2018, it is observed that most of the sectors experienced positive variations, except for the agriculture sector, which decreased 0.3%. Given its relevance for Chile, the variation in the nominal average price of copper stands out, which experienced a decrease of 8.0% compared to the previous year (see Figure 23).¹⁶

16 Price of Metals, Chilean Copper Commission.

FIGURE 23

Standard & Poor's commodity index in 2019
(year-on-year change, percent)



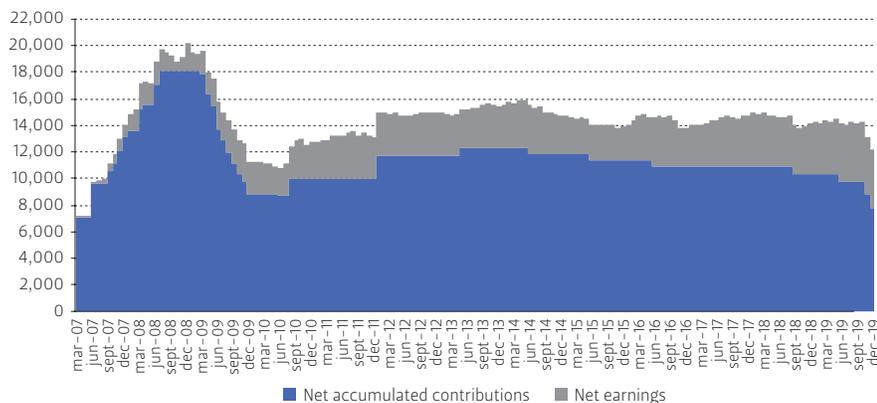
SOURCE: Bloomberg

B. Market value

At year-end 2019, the market value of the ESSF and the PRF was US\$ 12,233 million and US\$ 10,812 million, respectively, versus US\$ 14,134 million and US\$ 9,663 billion at year-end 2018. The decrease in the value of the ESSF was mainly due to withdrawals of US\$ 2,564 million, used to finance the contribution to the PRF, and support the Fisco's financing needs due to the decreasing fiscal revenues in the last quarter of 2019. This was offset by net investment gains of US\$ 663 million (see Figure 24). The increase in the PRF, in turn, was mainly due to net investment gains of US\$ 1,161 million, despite a net withdrawal of US\$ 13 million (see Figure 25). The PRF net withdrawal breaks down into a contribution of US\$ 564 million in June, equivalent to 0.2% of the previous year's GDP, and a withdrawal of US\$ 577 million made that same month. The total amount withdrawn from the PRF in 2019 is the maximum withdrawal allowed to finance the Solidarity Pillar in accordance with current legislation.

FIGURE 24

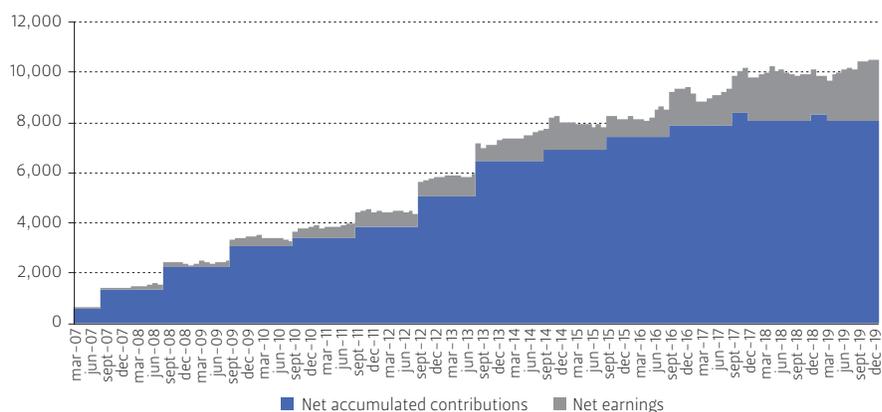
ESSF: Market value, March 2007 to December 2019
(millions of dollars)



SOURCE: Ministry of Finance of Chile

FIGURE 25

PRF: Market value, March 2007 to December 2019
(millions of dollars)



SOURCE: Ministry of Finance of Chile

C. Returns

In 2019, the net return in dollars (see Box 4), was 4.77% in the ESSF and 12.04% in the PRF (see Table 1). Using the internal rate of return (IRR), the yield was 4.87% for the ESSF and 12.08% for the PRF.

For the ESSF, the positive return breaks down into a 3.19% return on the fixed-income portfolio, and 26.70% return on the equity portfolio. The fixed-income return is the sum of 3.33% yields on instruments in local currency and -0.13% due to exchange rate fluctuations against the dollar of the currencies in which these instruments are denominated.

In the case of the PRF, the return in dollars is explained by the positive returns on all asset classes. In fixed income, the returns were 5.95% for sovereign and government related bonds, 8.12% for inflation-indexed sovereign bonds, 6.16% for U.S. Agency MBS, 11.65% for corporate bonds, and 8.70% for high yield bonds. As in the ESSF, the PRF equity portfolio, yielded 26.79% in the year.

TABLE 1

ESSF and PRF: Determinants of returns in dollars, 2019
(percent)

Fund	Component	Quarter				2019
			II	III	IV	
ESSF	Fixed-income ^(a)	0.73	2.79	-0.21	-0.14	3.19
	Local currency	1.49	1.63	1.21	-1.05	3.33
	Exchange rate fluctuations	-0.75	1.15	-1.40	0.92	-0.13
	Equities	12.26	3.74	0.01	8.77	26.70
	Total return (USD)	1.49	2.87	-0.19	0.55	4.77
	Total return (CLP)	-0.64	2.68	6.54	3.17	12.14
	Total return (Real in UF)	-0.64	1.44	5.99	2.22	9.19
PRF	Sovereign and government related bonds	1.79	3.57	0.62	-0.12	5.95
	Inflation-indexed sovereign bonds	4.19	1.89	1.69	0.15	8.12
	U.S. Agency MBS	2.06	1.96	1.39	0.62	6.16
	Corporate bonds	4.20	4.05	1.12	1.83	11.65
	High yield bonds	2.26	3.15	-0.47	3.53	8.70
	Equities	12.04	3.75	0.04	9.03	26.79
	Total return (USD)	4.59	3.39	0.60	3.00	12.04
	Total return (CLP)	2.39	3.20	7.38	5.68	19.92
	Total return (Real in UF)	2.39	1.95	6.82	4.71	16.77

(a) For the ESSF fixed-income portfolio, the table presents an estimate of the return in local currency and the return deriving from exchange rate fluctuations affecting the portfolio. The impact of exchange rate fluctuations is approximated and calculated using the benchmark currency allocation, taking into account that the ESSF is invested under a passive mandate. The return in local currency is calculated by subtracting that estimate from the fixed-income return.

SOURCE: Ministry of Finance of Chile

Returns in Chilean pesos depend on the peso-dollar exchange rate: the value of the portfolio expressed in pesos increases (decreases) when the peso depreciates (appreciates) against the dollar. In 2019, the peso depreciated against the dollar, which explains the better returns in national currency of 12.14% annual in the ESSF and 19.92% in the PRF. The real returns of the funds, which is calculated from the nominal return in pesos, discounting the variation in the UF for the respective period, was 9.19% for the ESSF and 16.77% for the PRF.

BOX 4: Factors affecting returns in the Sovereign Wealth Funds

The investment returns in the Sovereign Wealth Funds depends on a number of factors that affect the different types of instruments included in the different fund portfolios.

For the fixed-income portfolios, the main factors are interest rate levels, the credit quality of the issuers, and exchange rate movements. Market interest rates directly affect the interest rate offered on time deposits in financial institutions and sovereign debt securities at issuance. Changes in interest rates further affect the price of fixed-income instruments that are traded in the secondary market, especially for medium- and long-term securities, where an increase has a negative effect and a decrease has a positive effect. The issuer's credit quality further affects the price at which a fixed-income instrument is traded in the market: a deterioration in credit quality will cause a reduction in the price; an improvement, an increase.¹ Finally, because the funds' performance is measured in dollars while a large share of the portfolio is invested in instruments denominated in other currencies, exchange rate movements against the dollar have an effect on returns.

For the equities portfolios, returns will largely depend on the market's perception of the issuing corporation's income generation capacity and the risks associated with the company, as well as market financial conditions.

¹ In the case of corporate bonds, credit quality is generally measured through the spread, that is, the difference between the bond's interest rate and the benchmark sovereign interest rate. An increase (decrease) in the spread on a corporate bond is associated with a reduction (increase) in the bond's value.

Since the inception of the funds, the annual return in dollars as of year-end 2019 was 2.59% for the ESSF and 3.88% for the PRF. Expressed in Chilean pesos, the annual return for this full period was de 5.22% for the ESSF and 6.55% for the PRF. Finally, the real annual return since inception was 1.71% for the ESSF and 2.99% for the PRF.

In 2019, the return for the ESSF was 7 basis points lower than its benchmark. For the PRF the return was 6 basis points lower than its benchmark. Since 31 March 2007, the difference between the average annual return of the ESSF and PRF and their benchmarks was -4 basis points and -23 basis points, respectively.¹⁷

Figure 26 shows the index of accumulated returns for each fund. For the ESSF, the index increased 38.5% between 31 March 2007 and year-end 2019; for the PRF, the increase was 62.6% in the same period. The figure illustrates how the two funds' returns began to differentiate in 2012, when the PRF investment policy was changed. The higher return of the PRF, relative to the ESSF, is mainly due to the strong performance of the asset classes that were incorporated into the PRF in early 2012, in particular equities and corporate bonds, which have recorded annualized returns of around 10.50% and 3.60%, respectively.¹⁸

¹⁷ This means that the manager's portfolio generated lower returns, on average, than the implicit benchmark portfolio in the full period (2007–2019).

¹⁸ Although the ESSF also invests in equities, they were only incorporated in August 2013 and represent 7.5% of the total portfolio, versus about 29% in the PRF at the end of 2019. It should be noted that equities represented approximately 15% of the PRF between March 2012 and September 2018, and since then its exposure in the fund has been gradually increased in order to converge with the new investment policy.

FIGURE 26

ESSF and PRF: Accumulated returns index, in dollars
(31 March 2007 = 100)



SOURCE: Ministry of Finance of Chile

CHAPTER 3

Activities and
Recommendations
of the Financial
Committee

A. Convergence to the new PRF investment policy

1. Convergence process

The Financial Committee recommended a gradual convergence to the new strategic asset allocation, given that it entails a significant increase in equities exposure. Furthermore, spacing out the increases over a long period of time would diversify some of the risk of interacting with the market at a bad time. Additionally, it considered that there are limitations to the CBC's capacity to dedicate resources for carrying out the process of selecting external portfolio managers for the new asset classes.

Thus, the Committee recommended in 2018 a convergence plan that considers increasing the equities exposure gradually over three years, with scheduled increases approximately every six months, if possible timed to correspond with PRF contributions and withdrawals.¹⁹ Also, recommended starting invest in U.S. agency MBS and high yield bonds at the beginning of 2019, because the associated processes are similar to past experience with equities and corporate bonds executed in 2011. Additionally, the Financial Committee suggested that the implementation of the real estate asset class were carry out in 2020 once analyzed the operational, legal, and tax issues associated with this type of investment in the private market. The currency hedging program implementation was left for a later phase, as it depends directly on the final currency composition of the fixed-income portfolio once the fund has fully converged to the strategic asset allocation. It should be noted that the increase in equities and the new asset classes would be financed out of the sovereign and government related bond portfolio, the inflation-linked bond portfolio, and corporate bond portfolio.

As planned, the PRF began to invest in U.S. agency MBS and in high-yield bonds in January 2019. With regard to the real estate sector, the new PRF investment policy seeks a global exposure to the sector, but in the private, more conservative (core) market. In this context, the Committee recommended studying the tax implications of incorporating this asset class into the PRF, as well as the potential impact on other asset classes. Given that the United States represents around 40% of the global real estate market, is more developed, and has high-quality benchmarks, the Committee recommended starting with a review of the U.S. tax code. Ernst and Young was commissioned to carry out the study, which is expected to be completed in the first quarter of 2020. If the conclusions are favorable, the Committee has suggested starting to invest in the United States before adding other continents such as Europe and Asia. The Financial Committee will analyze whether a tax study is necessary for the latter markets. Thus, a selection process is expected to be held in the second half of 2020 to contract an investment firm to manage investments in the real estate sector. With regard to currency hedging in the fixed-income portfolio, the Committee recommended waiting for the Budget Office (Dipres) to assess the potential impact of the hedging on the fiscal balance.

Taking into account the above, the Financial Committee recommended defining new transitory strategic asset allocations that reflects the way to converged into the final allocation (see Table 2).

¹⁹ Contributions to the PRF must be made during the first half of each year, usually in June. The Budget Office and The Ministry of Finance have been coordinating, as far as possible, that withdrawals coincide with the date of contributions to minimize transaction costs.

TABLE 2

Transitory and final strategic asset allocation
(percent)

	Sovereign and government related bonds	Inflation-indexed sovereign bonds	Corporate bonds	Equities	U.S. agency MBS	High yield bonds	Real estate	Total
31-12-2017	48	17	20	15	0	0	0	100
30-09-2018	44	17	20	19	0	0	0	100
31-01-2019	39	11	13	23	6	8	0	100
30-06-2019	35	11	13	27	6	8	0	100
31-01-2020	32	5	13	31	6	8	5	100
30-06-2020	28	5	13	35	6	8	5	100
31-01-2021	23	5	13	40	6	8	5	100

SOURCE: Ministry of Finance of Chile

In summary, the convergence process began gradually and is expected to reach the final strategic asset allocation by early 2021, which includes 23% in sovereign and government related bonds, 5% in inflation-indexed sovereign bonds, 13% in corporate bonds, 6% in U.S. agency MBS, 8% in high yield bonds, 40% in equities, and 5% in unlisted real estate assets. With regard to the hedging strategy, a decision will be made in 2020 on whether to continue the strategy. If the outcome is to continue, then the investment guidelines and associated convergence will be established.

B. Responsible investment practices

In 2019, the Finance Minister asked the Financial Committee to analyze the alternatives for possibly including environmental, social, and governance (ESG) considerations in the sovereign wealth fund investment processes. In response to that request, the Committee analyzed different options, taking into account the institutional framework of the Chilean funds and their predominantly passive investment strategy. In this context, the Committee focused on analyzing equities benchmarks that are similar to the benchmark that is currently used for the funds²⁰ but with better ESG characteristics.²¹ Additionally, the Committee analyzed the requirements and implications of signing the Principles for Responsible Investment (PRI)²² supported by the United Nations.²³ After reviewing the information presented, the Committee recommended waiting to further analyze the implementation of this type of initiative in the future, based on the government's priorities in the current context and the pressure to use more of the sovereign wealth fund resources in the coming years. Nevertheless, the Committee reiterated its recommendation from 2017 to establish a policy that the sovereign wealth funds' external portfolio managers be required to adhere to the PRI.

20 MSCI ACWI excluding Chile.

21 The Committee focused on equities because the associated benchmarks have a longer history than benchmarks for other asset classes.

22 A set of six principles for integrating sustainability and traditional objectives.

23 The PRI works with its international network of signatories to put into practice a series of Principles for Responsible Investment that are supported by the United Nations. The objective of the PRI is to understand the impact of environmental, social, and governance issues on investment and to support signatories as they integrate these issues in their investment and equities decisions.

C. Reconciliation of returns reported by external managers and the custodian bank

The Financial Committee recommended establishing tolerance bands for monitoring the deviation between returns reported by external portfolio managers and the custodian bank. According to reports submitted to the Committee by the consultant RVK, such deviations are to be expected, and they could derive from factors such as the use of different accounting systems or programs, different price sources, the nature of the different asset classes, their liquidity profile, the level of turnover in the portfolio, and so on. The tolerance bands recommended by the Committee are presented in *Table 3*. In the event that the deviation between the returns reported by the external portfolio manager and the custodian bank exceeds the permissible tolerance bands, the Financial Committee's Technical Secretariat, with support from the consultant, would undertake an in-depth analysis of the deviation in order to understand what is causing the difference.

TABLE 3

Tolerance bands indicated for different periods
(basis points)

Period	Asset Class			
	Equities	Corporate bonds	High yield bonds	U.S. agency MBS
1 Month	8	15	10	10
3 Month	7	13	9	9
1 Year	6	12	8	8

SOURCE: Ministry of Finance of Chile

D. PRF sustainability study

As in past years, the Financial Committee participated in the PRF sustainability study, which must be carried out every three years in accordance with the Fiscal Responsibility Law. Coordinating the study is the responsibility of the Budget Office (Dipres), which, following a tender process, awarded the project to a team of consultants made up of Pablo Castañeda, Rubén Castro, Eduardo Fajnzylber (coordinator), and Juan Pablo Medina.

On this occasion, the Committee members met with the consulting team at an intermediate stage of the study. They analyzed the methodology used and the preliminary results after consulting about the assumptions of certain scenarios and recommending some modifications that were incorporated into the final version of the study.²⁴ The main recommendations of the Financial Committee were:

- Review and more fully describe the assumptions behind the calculation of credit spreads in UF.
- Explain the methodology used to calculate CLP-hedged returns.
- Review the forecast for average pensions in the AFP pension fund system in 2019, as it is not consistent with information held by some Committee members.

24 Castañeda P., Castro R., Fajnzylber E., y Medina J. (2019). "Estudio sobre la sustentabilidad del Fondo de Reserva de Pensiones". The study is available at: <https://www.hacienda.cl/areas-de-trabajo/finanzas-internacionales/fondos-soberanos/estudios-relevantes>.

- Assign probabilities to the errors used to make stochastic forecasts.
- Consider more realistic scenarios in the next version of the study, taking into account a possible reform of the pension system (increase in the basic solidary pension).

Once the study was completed, the Financial Committee analyzed the main conclusions, which included the following:

- Both deterministic and stochastic forecasts of the PRF show a rising trend in the next 20 years. This is largely due to the fact that the minimum contributions defined by law (0.2% of the previous year's GDP) plus expected returns are higher than the maximum withdrawals allowed for PRF.
- However, the Committee concluded that the latest changes in the Solidarity Pillar, which were only incorporated in some of the sensitivity analyses in the study, will put more pressure on the sustainability of the fund. Even so, the sensitivity analyses featuring lower contributions, lower returns, and larger withdrawals suggest that the PRF would remain sustainable (greater than 0 in the forecast horizon) in over 95% of cases.
- The study concluded that the limit of UF 900 million²⁵ established by the Fiscal Responsibility Law—that is, the maximum size after which the fund will not receive any new contributions—is sufficient to cover all the fund's obligations in a period of 20 years. The study further estimates that a PRF size of UF 185 million would be adequate to finance the maximum withdrawals allowed by law for 20 years. Nevertheless, it is important to bear in mind that this analysis does not take into account the increase in the Solidarity Pillar in late 2019.

The Committee emphasized the importance of these results, which indicate that the PRF should be sustainable in real terms for the next twenty years. However, significant changes in the Solidarity Pillar could affect the fund's sustainability in the future.

E. Monitoring of external fund managers

The Financial Committee received delegations from the CBC, Mellon, BlackRock, and Allianz, which are required to report annually on their portfolio management to the members of the Committee and the Ministry of Finance. The CBC discussed the main market developments in 2018 and described its portfolio performance, investment methodologies and the main positions in both funds, as well as the results of an evaluation made to the custody services. Mellon, BlackRock, and Allianz also reviewed the main market events in the year, as well as their portfolio allocation and performance, their investment strategies, and some institutional investment trends. Additionally, Mellon described their approach to incorporating ESG issues into the investment processes of other funds. Finally, at the Committee's request, BlackRock provided additional information on the strategy that would be used in the currency hedging program for the fixed-income portfolio. These visits are part of the mandatory activities through which the external fund managers are required to report on their performance.

²⁵ Once this amount is reached, the Fiscal Responsibility Law establishes that the PRF will not be able to receive new contributions.

APPENDIX 1 CURRENT AND FORMER FINANCIAL COMMITTEE'S MEMBERS

Members	Position	Incorporation Date	Departure Date
José De Gregorio Rebeco	President	September 2014	-
Cristián Eyzaguirre Johnston	Counselor Vice-President	March 2010 September 2011	-
Ricardo Budinich Diez	Counselor	August 2016	-
Jaime Casassus Vargas	Counselor	September 2014	-
Martín Costabal Llona	Counselor	August 2007	-
Paulina Yazigi Salamanca	Counselor	September 2018	-
Igal Magendzo Weinberger	Counselor	September 2014	September 2018
Eduardo Walker Hirschfeld	Counselor	August 2007	August 2016
Arturo Cifuentes Ovalle	President Counselor	January 2014 August 2011	August 2014
Rodrigo Valdés Pulido	Counselor	February 2014	April 2014
Eric Parrado Herrera	Counselor	August 2011	March 2014
Klaus Schmidt-Hebbel Dunker	President Counselor	August 2011 September 2009	January 2014
Andrés Bianchi Larre	President	August 2007	August 2011
Ana María Jul Lagomarsino	Vice-President	August 2007	August 2011
Andrés Sanfuentes Vergara	Counselor	August 2007	March 2010
Oscar Landerretche Moreno	Counselor	August 2007	June 2009

APPENDIX 2 SUMMARY OF MEETINGS IN 2019

MEETING 1 | 23 JANUARY 2019

In its first session of the year, the Financial Committee reviewed the degree of progress in the implementation of the PRF investment policy. They noted that on 22 January 2019, resources were transferred to high yield bonds and U.S. agency MBS managers, and increased equities exposure in accordance with the convergence plan recommended by the Committee for the new policy. In addition, the Committee members discussed the alternatives for investing part of the PRF in Real Estate (core) globally and the proposals of the consulting firm, RVK, Inc. regarding how a hedging strategy could be implemented in the same fund. The Financial Committee was informed by the Technical Secretariat on the analysis that will be done about the ESSF's fiscal dimension, regarding the fund's objective, and who could carry out the study. Once this phase is completed, a consulting firm will be contracted to execute an investment policy study. The Committee received a delegation from the custodian bank, J.P. Morgan, for an in-depth analysis of the methodology used to calculate the ex-ante tracking error (a risk indicator). Finally, the Budget Office (Dipres) reported to the Financial Committee about the impact of the pension system reform bill has on the PRF.

MEETING 2 | 03 APRIL 2019

The Financial Committee received delegations from Allianz and the CBC. The former, which is in charge of investing part of the PRF corporate bond portfolio, gave a presentation on the company, their investment results, and the financial market outlook. The CBC, in turn, which is responsible for investing the PRF and ESSF fixed-income sovereign portfolios, reported on its performance, positions, and the results of an evaluation of the custody services. Subsequently, the Committee analyzed and was in agreement with the recommendations made by its Technical Secretariat regarding the necessary phases for implementing the real estate investment program and the currency hedging program for the fixed-income portfolio.

MEETING 3 | 15 MAY 2019

The Financial Committee met with delegations from Mellon and BlackRock. Mellon, which is responsible for managing part of the PRF and ESSF equity portfolios, gave a presentation on the firm, their results, and how other institutional investors have incorporated ESG issues into their investment processes. BlackRock, which is responsible for managing a share of the corporate fixed-income and high-yield bond portfolios in the PRF and part of the equity portfolios of both funds, discussed the company and their results and provided additional information on some issues that should be considered for the future PRF currency hedging program. The Committee discussed a work plan for analyzing how ESG-type considerations could potentially be incorporated into the sovereign wealth fund investment processes. Finally, the Technical Secretariat reported that the first phase of the ESSF study had been assigned to the Budget Office (Dipres).

MEETING 4 | 19 JULY 2019

At this meeting, the Financial Committee took a deeper look at some issues related to the currency hedging program that will be implemented for the PRF. In this context, the Committee engaged in a preliminary analysis of diverse strategies that could be implemented, as well as their operational implications. Additionally, the Technical Secretariat communicated that the first phase of the ESSF study, assigned to the Budget Office (Dipres), was already nearing completion and discussed the steps to begin the second phase. Finally, the Committee members analyzed the main results of both sovereign wealth funds and compared their portfolio composition to the respective benchmarks.

MEETING 5 | 06 SEPTEMBER 2019

At the September meeting, J.P. Morgan presented additional analysis requested by the Committee in relation to the methodology used to calculate the ex-ante tracking error. RVK gave a presentation on the reasons that there are differences between the returns reported by the external portfolio managers and the custodian bank and recommended establishing tolerance bands for monitoring these differences. Subsequently, the Committee reviewed alternatives used by institutional investors to incorporate the Principles for Responsible Investment into their investment processes.

MEETING 6 | 08 NOVEMBER 2019

At this meeting, the Financial Committee met with the team of consultants responsible for carrying out the PRF sustainability study, which, in accordance with current legislation, must be conducted every three years. The Committee made observations on the methodology and preliminary results of the study, highlighting that it did not include the changes to the Solidarity Pillar that was being discussed at that time. Additionally, the Technical Secretariat reported to the Committee members on progress in the implementation of the new PRF investment policy, in particular in relation to the currency hedging program and real estate investment. Finally, the Financial Committee members analyzed the sovereign wealth fund returns, reviewed the performance of the different fund managers, and compared the allocation of the different asset classes in the investment portfolios against their respective benchmarks.

REUNIÓN 7 | 20 DECEMBER 2019

The Financial Committee analyzed the performance of the sovereign wealth funds in the context of the updated fiscal forecasts. Based on information provided by the Finance Ministry, the Committee members concluded that the ESSF will undergo larger withdrawals than previously projected in the coming years. Consequently, the Financial Committee asked the Technical Secretariat to conduct a study of the strategic asset allocation, taking into account the expected disbursements in the coming years. In the case of the PRF, the Financial Committee recommended proceeding with the convergence to the new strategic asset allocation, which was defined by the Finance Minister in late 2017, and also suggested reviewing its implementation in the future if there were significant changes in the expected size of the fund. Finally, the Committee recommended waiting to analyze the future implementation of ESG initiatives in the sovereign wealth funds, given the government's priorities in the current context and the pressure to use more of the resources in the coming years.

References

- > Castañeda P., Castro R., Fajnzylber E., Medina J. y Villatoro F. (2019). "Estudio sobre la sustentabilidad del Fondo de Reserva de Pensiones", Budget Office (Dipres), Ministry of Finance, Chile.
- > CFA Institute (2017), "Introduction to Alternative Investments", Study material Level 1, U.S.
- > CFA Institute (2008), "Alternative Investments Portfolio Management", Study material Level 3, U.S.
- > Comité Asesor para el diseño de una política fiscal de balance estructural de segunda generación para Chile (2011). "Propuestas para perfeccionar la regla fiscal, Informe Final," Paper prepared on request from the Ministry of Finance, Chile.
- > García, M., P. García and B. Piedrabuena (2005). "Fiscal and Monetary Policy Rules: The Recent Chilean Experience," Working Paper, Central Bank of Chile.
- > Larraín, F., R. Costa, R. Cerda., M. Villena and A. Tomaselli (2011). "Una política fiscal de balance estructural de segunda generación para Chile," Estudios de Finanzas Públicas, Budget Office (Dipres), Ministry of Finance, Chile.
- > Dirección de Presupuestos (2013, 2014, 2015, 2016, 2017 y 2018). "Indicador del Balance Cíclicamente Ajustado Metodología y Resultados", Budget Office (Dipres), Ministry of Finance, Chile.
- > Marcel, M., M. Tokman, R. Valdés and P. Benavides (2001). "Balance estructural del gobierno central, metodología y estimaciones para Chile; 1987-2000," Estudios de Finanzas Públicas N° 1, Budget Office (Dipres), Ministry of Finance, Chile.
- > Mercer Investment Consulting, Inc. (2008). "Strategic Asset Allocation Analysis," Paper prepared on request from the Ministry of Finance, Chile.
- > Mercer Investment Consulting, Inc (2017). "Pension Reserve Fund – Asset Allocation Study", Paper prepared on request from the Ministry of Finance, Chile.
- > Rodríguez, J., C. Tokman and A. Vega (2006). "Política de balance estructural: resultados y desafíos tras seis años de aplicación en Chile," Estudios de Finanzas Públicas N° 7, Budget Office (Dipres), Ministry of Finance, Chile.
- > Schmidt-Hebbel, K. (2012). "Fiscal Institutions in Resource-Rich Economies: Lessons from Chile and Norway," Paper prepared for the conference "Understanding and Avoiding the Oil Curse in the Arab World," Kuwait.
- > Velasco, A., A. Arenas, J. Rodríguez, M. Jorratt and C. Gamboni (2010). "El enfoque de balance estructural en la política fiscal en Chile: Resultados, metodología y aplicación al período 2006-2009," Estudios de Finanzas Públicas N° 15, Budget Office (Dipres), Ministry of Finance, Chile.
- > Velasco, A., and E. Parrado (2012). "The Political Economy of Fiscal Policy: the Experience of Chile (95-133)," Oxford Handbook of Latin American Political Economy, Oxford University Press.
- > Walker E. (2011). "Un asset allocation para el the ESSF," Paper prepared on request from the Ministry of Finance, Chile.

Glossary

Active management — an investment strategy that seeks to obtain a higher return than a given benchmark.

Alternative investments — investments other than those traditionally used (equities and fixed-income); they mainly include private equity, venture capital, hedge funds, commodities and real estate.

American depositary receipts (ADR) — negotiable certificate issued by a U.S. bank representing a specified number of shares (or one share) in a foreign stock traded on a U.S. exchange.

Asset class — a specific investment category such as equities, corporate bonds, sovereign bonds or money market instruments. Assets of the same class generally share characteristics that make them similar from a tax, legal and structural perspective, but this does not imply that they respond the same way to a given market event.

Basis point — one one-hundredth of a decimal point; 1 basis point = (1/100) de 1%.

Bond — a financial liability of an issuer (for example, a company or a government) to investors, under which the issuer undertakes not only to return the investors' capital, but also to pay an agreed interest rate on a specific date(s).

Cash — cash in hand and bank demand deposits.

Corporate bond — a bond issued by a corporation or company.

Credit default swap (CDS) — a financial instrument used by investors as protection against default on a bond; can also be used to take a speculative position on a bond covered by the CDS.

Credit rating — the level of solvency of the issuer of a financial instrument (company or country) as defined by a credit rating agency.

Duration — a measure of the sensitivity of a bond's price to changes in interest rates: the longer the duration, the farther the bond's price will fall in response to an increase in interest rates.

Equities — securities that represent the ownership or capital of a company; buyers of equities become ow-

ners or shareholders of the company and thus have earnings or losses depending on the company's performance.

Ex ante tracking error — a measure of the difference between the return on an investment fund and its benchmark.

Exchange-traded fund (ETF) — a market-traded financial instrument that typically replicates a market index; traditionally used to obtain passive exposure to equity market indexes, but has expanded into fixed-income, commodities and even active strategies.

Fiscal Responsibility Law — Law N° 20,128, published in Chile's Official Gazette on 30 September 2006.

Fixed-income — investment instruments with a yield over a given period that is known at the time of their acquisition; sovereign and corporate bonds and bank deposits are fixed-income assets.

Global depositary receipts (GDR) — bank certificate issued in more than one country for shares in a foreign company. The shares are held by a foreign branch of an international bank. The shares trade as domestic shares but are offered for sale globally through the various bank branches.

Headline or reputational risk — the risk of an adverse public perception of an entity's management.

High Yield Bonds — non investment grade sovereign and corporate bonds.

Inflation-indexed bond — a bond whose value varies in line with an inflation index; in the United States, these securities are known as Treasury Inflation-Protected Securities (TIPS).

Internal rate of return (IRR) — the effective yield on an investment, calculated taking the net present value of all cash flows as zero.

Investment policy — the set of criteria, guidelines and instructions that regulate the amount, structure and dynamics of an investment portfolio.

Leverage — the level of debt carried by a firm or investment vehicle.

LIBID — London interbank bid rate; the interest rate paid on interbank deposits. By definition, this rate is equal to the LIBOR minus 0.125%.

LIBOR — London interbank offered rate; the interest rate charged on interbank borrowing.

Liquidity — the degree to which an asset or security can be quickly bought or sold in the market without affecting the asset's price.

Money market instrument — a short-term asset with a maturity of less than a year, which can readily be converted into cash and is less volatile than other asset classes.

Mortgage-backed securities (MBS) from U.S. agencies — instruments that are secured by a mortgage related to the purchase of mortgage properties. These instruments are issued by Ginnie Mae, Fannie Mae and Freddie Mac.

Mutual fund — an investment vehicle managed by an entity that brings together the capital of different investors and provides them with exposure to different asset classes; unlike ETFs, mutual funds are not traded on the market.

Passive management — an investment strategy that seeks to replicate the return on a representative index of an asset class or combination of asset classes.

Portfolio — the combination of investments acquired by an individual or institutional investor.

Quantitative easing — an unconventional monetary policy tool used by some central banks to increase the money supply, usually through the purchase of the country's own government bonds.

Recognition bond (bono de reconocimiento) — an instrument issued by Chile's Pension Normalization Institute (Instituto de Normalización Previsional) representing a worker's contributions to the old pension system before joining the new (private) AFP system.

Return (total) — the combination of the return in local currency and the return generated by exchange rate fluctuations.

Return generated by exchange rate movements — the share of the return that is generated by variations

in the value of the dollar against other currencies in which assets are held.

Return in local currency — the return generated by a financial instrument in the currency in which it is denominated; corresponds to the share of returns associated with the level of interest rates and their movements, creditworthiness and other factors.

Risk — the possibility of suffering a financial loss; the variability of the return on an investment.

Sovereign bond — a bond issued by a government.

Special Drawing Rights (SDR) — international reserve assets created by the IMF to supplement its member countries' official reserves. SDRs can be exchanged for freely usable currencies.

Spread — the difference between the yield rate at maturity of two fixed-income instruments; used to measure their level of relative risk.

Swift — Society for Worldwide Interbank Financial Telecommunication.

TED Spread — the difference between the interbank borrowing rate (LIBOR) and the risk-free rate (U.S. Treasury bills). A higher TED spread typically indicates a lower level of market liquidity.

To Be Announced (TBA) — denotes the forward mortgage-backed securities (MBS) trade, and pass-through securities issued by Freddie Mac, Fannie Mae and Ginnie Mae.

Time-weighted rate of return (TWR) — a measure of return obtained by compounding or multiplying daily returns, excluding contributions and withdrawals; unlike the IRR, it excludes the effect of net cash flows.

Variable-income — equities.

VIX — the Chicago Board Options Exchange (CBOE) Volatility Index, which reflects market expectations for volatility over the next 30 days; based on the implied volatilities of a wide range of S&P500 index options.

Volatility — a measure of a financial asset's risk, representing the variation shown by its price over a period of time.

Authors

José De Gregorio Rebeco

Jaime Casassus Vargas

Martín Costabal Llona

Ricardo Budinich Diez

Cristián Eyzaguirre Johnston

Paulina Yazigi Salamanca

