

# RESHAPING RETIREMENT

Navigating Latin America's  
Pension Systems after COVID-19



**Edited by:**

Alejandro Izquierdo

Edgar Robles

Waldo Tapia



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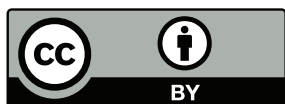
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# Preface

The global turmoil unleashed by COVID-19 has rippled through every facet of society. However, there is a notable void in the intellectual landscape of Latin America and the Caribbean, as the impact of the pandemic on pension systems, the welfare of pensioners, and the accrual of pension benefits remains largely unexplored.

This book seeks to fill this void, offering a collection of case studies born out of a collaboration between research centers in the region and the Research Department and Labor Markets and Social Security Division of the Inter-American Development Bank.

The analysis presented here focuses on how the pandemic affected pension systems in Argentina, Chile, El Salvador, and Peru. These country studies were commissioned out of concern that the COVID recession would lead to a decline in labor demand, resulting not only in lower employment rates but also in lower contribution levels and pension coverage rates.

The chapters in this book are not simply a compilation of statistics and empirical observations. Instead, they serve as a testament to the resilience and adaptability of pension systems in the face of unprecedented challenges. As most adverse effects on labor markets and pension funds were short-lived, one cannot discuss the impact of COVID-19 without acknowledging the role of policy in cushioning the blow. The lessons offered here therefore extend beyond the pandemic itself, as they can provide guidance for future crises and inform policy designs that foster resilience and improve the quality of life of the elderly, especially the most vulnerable among them.

As we immerse ourselves in the wealth of research presented in this book, let it serve as a call to action for policymakers, academics, and practitioners to collaborate in crafting solutions that transcend the

challenges posed by the pandemic. May the lessons presented here illuminate the path to more equitable, sustainable, and resilient pension systems, ensuring a brighter future for generations to come.

**Eric Parrado**  
*Chief Economist*

**Laura Ripani**  
*Chief of the Labor Markets and Social Security Division*



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The principal authors of each chapter are as follows:

- Chapter 1 Alejandro Izquierdo, Edgar Robles, and Waldo Tapia
- Chapter 2 Rafael Rofman, Joaquín Baliña, and Emanuel López Méndez
- Chapter 3 Rubén Castro, Leonardo González, and Juan Tapia Gertosio
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The authors assume complete responsibility for any errors in information or analysis. The views expressed in this book are those of the authors and do not necessarily represent those of the IDB, its Board of Directors, or the countries they represent.

# About the Authors

**Gonzalo Aguilar** is an economist and consultant for international organizations and public institutions.

**Joaquín Baliña** is a sociologist pursuing a binational PhD in Global and Area Studies at the Universidad del Salvador and the Humboldt University of Berlin.

**Rubén Castro** is a social actuary and a consultant for various international organizations and the Chilean government, as well as a professor at Universidad Técnica Federico Santa María.

**Nelson Fuentes** is an economist and consultant for international organizations such as the World Bank, the United Nations Development Programme, and the Inter-American Development Bank, and was previously Minister of Finance of El Salvador.

**Leonardo González** is the head of actuarial studies at the Chilean Ministry of Finance.

**Alejandro Izquierdo** is deputy director and head of the Macro Group at the Research Department of the Inter-American Development Bank.

**Emanuel López Méndez** is a social protection analyst at the Center for the Implementation of Public Policies Promoting Equity and Growth (CIPPEC).

**Javier Olivera** is a researcher at the Luxembourg Institute of Socio-Economic Research and a full professor of economics at Pontificia Universidad Católica del Perú.

**Edgar Robles** is a full professor and the director of the graduate program in economics at Universidad de Costa Rica.

**Rafael Rofman** is an independent consultant who has worked in various capacities at the World Bank. Most recently he was the director of the Social Protection Program at the Center for the Implementation of Public Policies Promoting Equity and Growth (CIPPEC).

**Waldo Tapia** is the pensions coordinator and lead specialist in the Labor Markets and Social Security Division of the Inter-American Development Bank. He is also the lead coordinator of the Network for Pensions in Latin America and the Caribbean (PLAC Network).

**Juan Tapia Gertosio** is a researcher at the Commercial Engineering Department of Universidad Técnica Federico Santa María.

**Camila Trillos** is a professor of economics at Universidad Centroamericana José Simeón Cañas.

**José A. Valderrama** is an assistant professor in the Economics Department of Universidad de Lima.

# The Effects of the COVID-19 Pandemic on Pension Funds in Latin America and the Caribbean

*Alejandro Izquierdo, Edgar Robles, and Waldo Tapia*

The COVID-19 pandemic had an immediate effect on labor markets and, by extension pension funds, around the world. The depth and duration of these effects varied across countries, and some economies are still recovering from them.

The most noticeable impact was job losses, as economic activity stalled after countries imposed restrictions on mobility to stop the spread of the virus. Job losses were particularly strong in sectors such as hospitality, tourism, and retail, which in most countries saw either record unemployment or levels not seen in decades. In other cases, employers reduced the working hours of their employees in response to the pandemic, with the resulting reduction in incomes for workers.

The pandemic had an unequal impact on different groups of workers. For example, women, young people, and low-income workers were hit harder and were more likely to lose their jobs or have reduced working hours. In particular, jobs in the informal sector suffered a greater loss. Paradoxically, labor informality dropped in many countries during the pandemic, especially in countries with high informality rates such as those in Latin America and the Caribbean.<sup>1</sup>

There was also an increase in remote work, as companies adopted work-from-home policies to reduce the spread of the virus. This

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<sup>1</sup> The unemployment rate rose more among informal workers than formal workers. As informality is measured as a percentage of employees, the number of informal workers within total employment fell in several countries during the pandemic.

accelerated the process of teleworking that had started well before the pandemic, although at a slower pace. Today, more companies are relying on remote work and redirecting expenditures on old-fashioned office space to a greater dependence on technology. Therefore, another challenge for the labor market in the aftermath of the pandemic is the expansion of a skill mismatch, with a group of workers lacking the skills needed for new jobs that emerged during and after the pandemic period.

Although its long-term effects on the labor market are yet to be fully understood, the pandemic has brought about significant changes in the world of work. For example, many countries have not been able to recover their pre-pandemic labor participation rates, something that might have a permanent effect on the income generation of families.

### 1.1. Pension Funds

This new situation in labor markets caused by the pandemic might also have effects on pension funds in terms of the status and wellbeing of pensioners and the buildup of pension benefits. The size of the impact on active workers and beneficiaries will largely depend on the pension scheme. For example, in pay-as-you-go (PAYGO) pension plans, pensioners should not suffer from market downturns because benefits are locked in once they are acquired. In the case of the pandemic, the future benefits of active workers contributing to a pension scheme will not change significantly given the relatively short duration of the crisis. However, benefits could change for individuals close to retirement who need to complete the vesting period in order to qualify for a pension benefit. In that case, workers will need to delay their retirement age in order to complete the required number of contributions.

A broader concern is that, since many pension schemes are not fully funded and require government transfers, it is likely that they will be affected given that governments have emerged from the COVID-19 crisis highly indebted, and with fiscal deficits that have not been fully closed. This implies that less resources will be available for transfers to pension systems. Consequently, countries will likely need to undertake fiscal reforms, pension reforms, and/or partial-inflation indexation of pension benefits to cover these imbalances.

Individual-account pension plan members face a different situation, as they bear investment market risk. Their pension balance is affected by both the lack of contributions during the unemployment period and the market downturn. In the short run, these factors decrease the amount of the benefit a soon-to-be pensioner might collect.

In general terms, the COVID-19 pandemic had a negative impact on pension funds globally. Initially, the pandemic caused significant market volatility that affected pension funds because they invest heavily in financial instruments and in the stock market. This led to a decrease in the value of many pension fund assets, resulting in lower returns for investors.

However, later, in response to the crisis, central banks made an effort to promote economic activity by reducing interest rates and enforcing quantitative-easing policies. This resulted in an appreciation in the price of bonds that were part of the assets under management of pension funds, partially undoing previous losses. But when inflation picked up, central banks had to increase interest rates, causing an opposite effect on the value of assets. These events attest to what has been a rollercoaster of returns experienced during the COVID-19 crisis and in its aftermath.

Another effect of the pandemic is that some liabilities of pension funds were brought forward in time. This is because the increase in mortality rates caused by the pandemic could have brought forward the number of beneficiaries eligible for pension benefits. This increase in mortality is likely a one-shot effect because life expectancy should return to its previous level when the pandemic is over. Therefore, these mortality effects should not have a perceivable persistent impact on pension funds.

Ironically, the most important effects of the pandemic on pension funds are not to be found in labor or financial market dynamics, but in the political arena. In many countries with individual-account pension funds, governments pushed forward laws allowing active workers to collect benefits in advance. These cash advances were more significant among low-income workers. In countries like Chile and Peru, cash withdrawals left a significant percentage of workers with a zero balance in their pension accounts. This constitutes a potential challenge to fiscal accounts, as governments may need to provide some minimum pension assurance to workers in the future.

## 1.2. Country Studies

To date, there has been very little research in Latin America and the Caribbean exploring the impact of COVID-19 on pension systems, including reductions in pension savings, lower replacement rates (the adequacy of retirement income), changes in intergenerational equity, problems in financial sustainability, and higher fiscal costs. This book tries to fill that void by presenting a set of studies by several research centers in the region in collaboration with the Research Department and the Labor Markets Division of the Inter-American Development Bank (IDB). The studies cover the impact of the pandemic on Argentina, Chile, El Salvador, and Peru.

These studies were commissioned based on the concern that the economic recession caused by the COVID-19 crisis would most likely imply a decrease in labor demand that, despite the efforts of governments to preserve employment, would not only translate into lower employment rates, but also into lower contribution densities of pension systems and lower rates of future pension coverage. Additionally, the passing of laws allowing early pension fund withdrawals in many countries in the region could significantly affect retirement funds used to finance future pensions and, therefore, the adequacy of retirement income.

A key benefit of these studies is that they all share a common framework for analysis of the impact of COVID-19 on pension systems in the region. In 2015, the IDB created the Network for Pensions in Latin America and the Caribbean, known as the PLAC Network.<sup>2</sup> This network created a standard pension projection model to evaluate the financial and social sustainability of pension systems.<sup>3</sup> The model was used by all studies presented in this book, making it possible to conduct a standardized analysis across countries on the impact of the crisis on both public PAYGO and private individual accounts systems.

Each study first presents country-specific evidence on the impact of COVID-19 on pension systems. The analysis examines the effect on key indicators such as density of contributions, pension coverage rates, replacement rates, changes in intergenerational equity, gender-specific

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<sup>2</sup> The objective of this network is to support regional efforts to improve the institutional and technical capacity of pension systems.

<sup>3</sup> This model is freely available on the network webpage at <https://www.iadb.org/en/who-we-are/topics-and-sectors/labor-markets/plac-network-projects>.



effects, and financial and fiscal sustainability, among others. Second, the studies evaluate the short- and long-term fiscal pressures stemming from the crisis. Third, the studies evaluate political implications in each country and make policy recommendations for the region.

### 1.2.1. Argentina

Argentina has one of the most fragmented pension systems in the region, all based on PAYGO public schemes. Given the country's federal nature, there is a myriad of pension programs, leading in some cases to duplicate benefits for some people. The pension system is so complex that it is challenging even to decipher basic statistics such as the number of beneficiaries and coverage of the hundreds of pension programs that coexist across the country.

Nevertheless, Argentina is among the countries with the highest pension coverage in the region, thanks to the relatively low informality rate and to the existence of the Universal Pension for Older Adults (*Pensión Universal para Adulto Mayor* - PUAM). These schemes offer a basic benefit to practically every citizen in the country. Therefore, the big challenge is whether this high coverage will provide a pension benefit that is adequate and sustainable in the future, especially after the COVID-19 pandemic.

In Argentina, the public pension indexation formula is based on past inflation, which, in a context of increasing inflation, means that the real value of pensions is often rapidly depleted. Despite this fact, in 2020, pension spending reached more than 12 percent of GDP.

The impact of the COVID-19 pandemic on the labor market in Argentina was temporary, and by 2021 employment rates were already similar to those in 2019. Therefore, the pandemic had very limited effects on the pension rights of most current workers. The impact on the labor market was more severe among informal workers, even more so considering that governmental aid was aimed at protecting salaried formal jobs.

In general, application of the IDB projection model reinforces the conclusion that the COVID-19 pandemic had a short-lived effect on main pension indicators in Argentina. The model predicts that coverage of the main pension schemes (salaried workers and the *monotributo*) will remain stable over time, with the exception of coverage for women, who will rely more on non-contributory schemes and PUAM. The model also

anticipates that the adequacy of pension benefits will also remain stable over time, as will pension replacement rates.

Finally, the model shows a deterioration in the financial sustainability of Argentina's pension system in the future, as expenses increase more rapidly than contributions. However, it is not the pandemic that is responsible for this growing deficit, but rather the structure of the pension schemes. In fact, it is expected that a greater coverage of PUAM benefits for women will have a greater toll on sustainability indicators. This is explained by a greater participation rate of females in the labor market and by the gender salary gap, which results in a higher proportion of women benefitting from minimum pensions as compared to men. These pensions have a greater toll on public finances as they are heavily subsidized given their non-contributory nature.

### 1.2.2. Chile

Chile is the pioneer in the world in implementing a compulsory pension system based on individual accounts, dating to the creation of the system in 1980. Along the way, the country's pension system has managed to attain high coverage while its retirement income adequacy received an important boost among lower-income formal workers with the 2008 reform that introduced a solidary non-contributory pillar, that is, a minimum pension paid to workers meeting the vesting requirements and financed with public expenditure. The 2022 reform substituted this non-contributory pillar with a universal pension for most of the elderly.

The effects of the COVID-19 pandemic on labor markets and contributions to pension funds in Chile were similar to those in most countries in the region. Like Argentina, shocks to the labor market in Chile were small and temporary. However, during the pandemic, pension assets were hit hard, as Congress approved three sequential laws allowing early withdrawals, each equal to 10 percent of the balance accumulated in individual pension accounts. In the aftermath of the pandemic, pension assets dropped by 25 percent compared to 2019, a figure representing 22 percent of GDP. Between 97 and 99 percent of workers chose to withdraw the complete allowance (10 percent each time) from their pension accounts.

The early withdrawal of pension funds was not heterogeneous among workers across different income levels. Since there was a voluntary

minimum amount to opt in for the early withdrawal and a compulsory maximum withdrawal amount, the balance of lower-income workers suffered the most. In fact, most workers in the lower income distribution deciles ended up with a zero balance in their pension accounts. In total, around 32 percent of individual accounts were emptied. To compensate for this loss of future income, the government promoted an increase in non-contributory pensions, not only in size but also in coverage. The government made a flat minimum pension almost universal for all senior citizens, except for those in the richest income decile and those with self-financed pensions greater than three minimum wages.

The IDB projection model shows that the COVID-19 pandemic did not have a permanent effect on the contributory wage, participation rate, employment rate, or formality rate. These effects are very similar across income groups and gender, though somewhat biased against women. Most of the impact of the pandemic on labor markets dissipated by early 2022.

By contrast, the model predicts a permanent effect of early withdrawals on future pension benefits. These effects intensify with the age of the worker, since younger people had lower balances to withdraw and a longer horizon to compensate for this withdrawal with new contributions. Even without early withdrawals, the model predicts an average self-financed pension lower than the minimum wage, making most individuals candidates eligible to receive the universal pension approved in 2022. Therefore, most workers will improve their replacement rate after this reform since, according to the model, for 9 out of 10 workers in Chile the decline in the pension benefit caused by the withdrawal is more than offset by the new universal pension arrangement. However, this improvement comes at a cost for public finances, estimated at around 2 percent of GDP in 2023 and projected to increase to 6.5 percent by 2100.

### 1.2.3. El Salvador

Like Chile, El Salvador reformed its pension system in 1996 to transform the PAYGO scheme into an individual accounts scheme. Unlike Chile and Argentina, the Salvadoran economy has a high informality rate that is above the Latin American average. Consequently, the destruction of jobs and the suspension of labor contracts caused by

the paralysis of the COVID-19 pandemic more severely affected the informal labor market, with milder effects on formal jobs contributing to pension funds.

Nonetheless, these latter effects were not small on impact. The already low coverage of the pension system decreased 1.3 percent during the pandemic (pension coverage is around 24 percent nationwide) and monthly contributions to pension funds dropped by 14 percent. As in other countries analyzed in this volume, however, these negative shocks were short in duration and, by the end of 2020, assets under management by pension administrators exceeded those seen before the pandemic.

Non-contributory pensions are almost non-existent in El Salvador. There is a “universal basic pension” covering only the elderly in extreme poverty, which costs around 0.08 percent of GDP. These expenditures did not increase during the pandemic.

As in Chile, in El Salvador the pandemic brought about a relaxation of requisites allowing for early withdrawal of pension funds. Most formal active workers responded accordingly, retiring most of the allowance to finance short-term consumption in a time of income loss. Given the Salvadoran government’s limited fiscal space, these early withdrawals helped people offset income losses caused by the pandemic. This was the case at least for formal workers, who, on average, correspond to the higher income distribution deciles.

Besides the obvious effects of these withdrawals on individual account balances and the future value of pensions, another element to consider in the case of El Salvador is the fact that, by law, most pension assets are invested in local government bonds. Therefore, the decrease of assets under management of pension funds caused by early withdrawals could translate into a financing problem for the government. This may jeopardize the sustainability of pension funds as the government finds it harder to finance its fiscal deficit, some of which is caused by pending obligations of the closed PAYGO pension regime. In the recent past, the government entered into a selective default, precisely for not complying with scheduled payments to private pension funds.

The IDB projection model shows that the COVID-19 pandemic uncovered and exacerbated the vulnerabilities of the Salvadoran pension

system in terms of low coverage, low densities of contributions, insufficient replacement rates, and poor sustainability of the pension funds, as the government is still financing the transition from the PAYGO system to the individual accounts regime. The model also predicts a drop in passive coverage of up to 2 percent, a decrease in assets under management by pension funds of up to 1.5 percent, an increase of pension disbursements of up to 10.6 percent, and an advance of the date when pension payments become higher than contribution collections. In addition, the model shows an increase in the fiscal cost to finance private pension commitments, since early withdrawals will increase the number of people eligible to receive a minimum pension under the private scheme. This effect is calculated at 5.5 percent of GDP. Finally, according to the model, the replacement rate will be reduced by as much as 28 percent, regardless of gender, due to early withdrawals and no obligation to reimburse them.

#### 1.2.4. Peru

Colombia and Peru are the two Latin American countries that have what is called a parallel pension system. Under this configuration, a worker entering the formal labor market for the first time selects between the PAYGO pension scheme, managed by the government, or the individual accounts scheme managed by private administrators. After selecting the scheme, the worker can opt at any time to change from the private to the public scheme, but not inversely. Only around 28 percent of the labor force contributes regularly to a pension scheme, making labor informality in Peru high, even by Latin American standards.

After the lockdown to contain the spread of COVID-19, the government implemented a series of measures to preserve jobs and reactivate the economy. Many of these measures were in-kind assistance and lump-sum cash subsidies to poor households. The government also offered payroll subsidies as a way to incentivize economic activity and limit the destruction of jobs.

Moreover, as in Chile and El Salvador, the Peruvian Congress approved three laws to allow early withdrawals from pension funds. These laws were on top of two additional administrative measures designed by the government in 2020 to extend early withdrawals from individual pension

accounts. In total, these five allowances will reduce the pension assets of an average worker by about 40 percent, jeopardizing the financing of old-age expenses, especially in a country where there is no guaranteed minimum pension. Peru has a non-contributory pension scheme covering 19 percent of the elderly at a cost of 0.1 percent of GDP.

This is not the first time that the Peruvian Congress has allowed advance withdrawals from pension funds. In 2016, a law was approved to permit pensioners to retire a lump sum payment of up to 95.5 percent of accumulated assets in individual pension accounts. The other 4.5 percent of the balance is transferred to finance the health insurance of pensioners. The evidence shows that a vast majority of pensioners preferred the lump sum instead of purchasing an annuity, affecting the market of such financial products.

As in the other countries examined in this volume, labor market figures in Peru show that most of the shocks caused by the economic paralysis due to the pandemic were short-lived. By 2021, the number of jobs was higher than in 2019, with an increase in the informality rate, especially in urban areas. This means that the recession would not have had an important impact on pension funds if early withdrawals had not been approved. Nonetheless, by 2021, these early withdrawals amounted to an equivalent of 7.6 percent of GDP, and 30 percent of active formal workers ended up with a zero balance in their pension pot.

As mentioned, the average reduction in the future pension is 40 percent. However, it is estimated that the reduction is a little higher among men than women, among older ages because younger workers will have more time to capitalize future contributions, and among the lower income deciles given the maximum cap set for the early withdrawals. In sum, the simulations show that after the early withdrawals, the poorest decile will lose an average of 60 percent of the pension pot, while the richest decile will only lose 15 percent.

In the public pension scheme, the government and Congress attempted to approve policies to allow past contribution withdrawals in the PAYGO scheme. However, while a law was approved, it was declared unconstitutional. In the meantime, the government relaxed the conditions to qualify for a pension benefit in the public scheme. These more favorable rules benefitted almost 10 percent of the participants, but the cost runs counter to the sustainability of this scheme.

### 1.3. Main Findings

In general terms, the COVID-19 crisis affected pension schemes in the region through several channels. First, unemployment obviously generates pension gaps in the savings of many workers, and this lack of contributions will undoubtedly harm the pension savings of millions of contributors. Second, the pandemic affected the financial position of pension systems, regardless of whether they are defined-benefit or defined-contribution systems. In the case of defined-contribution systems, the most immediate effect is the reduction of income from contributions due to the decline in formal employment. This caused a deterioration of the financial balance of systems and an increase in implicit debt. Third, assets price shocks and falling financial markets impacted the investment rate of return of pension funds. In defined-benefit systems, the value of pension reserves was reduced, negatively impacting systems' financial sustainability. In defined-contribution systems, the lower rates of return mainly affected persons about to reach legal retirement age, since younger workers still have a long investment horizon for their savings to recover.

Pension systems in each country had their own issues in coping with the COVID-19 pandemic, and the path followed by countries examined in this volume depended on several variables such as the maturity of the system, the political stance, and the structure of the pension system. However, there are common findings that convey three general conclusions that are important to consider in terms of future public policy design.

#### 1.3.1. Structural Challenges

The COVID-19 pandemic exacerbated some of the structural challenges of pension systems in the region, such as low coverage, poor retirement income adequacy, and fiscal sustainability. In theory, a pension system should provide beneficiaries with a decent retirement pension. However, most pension systems in the region suffer from low old-age coverage. In some of the countries analyzed, it is common to find very expensive and fragmented schemes comprised of many different and special regimes, which may result in the duplication of benefits. This

also represents a serious structural challenge in terms of fiscal and social policy.

Some countries will require a comprehensive reform of their pension system focused on the objectives of coverage, adequacy of benefits and sustainability. Such reforms go beyond partial and short-run solutions and instead require that all political and economic actors with an interest find a comprehensive and long-run solution to pension system deficiencies. In addition, pension overhaul requires a set of reforms in several areas with an integrated vision. Reforms to labor markets, protection mechanisms, and fiscal positions must be framed within this vision. In some cases, improving the pension system requires an increase in public expenditure, so it is essential to include sustainable financing sources. In this regard, the introduction of mechanisms to increase tax collection for the financing of contributory and non-contributory pension systems needs to be discussed.

### 1.3.2. Early Withdrawals

Policies allowing early withdrawals from pension balances implied a significant reduction in expected pension wealth, and the distribution of pension wealth losses varied substantially among active formal workers. Losses were larger for workers at the bottom of the income distribution or pension wealth. Furthermore, older people experienced larger losses than younger people, as they have less time to rebuild their pension pots. This could negatively affect the coverage rate and replacement rates (retirement income adequacy), among other variables, putting pressure on future fiscal spending.

In some countries, governments introduced an ambitious expansion of non-contributory pensions, increasing their size and scope. This change more than offset the effect of early withdrawals. However, new non-contributory pensions imply a sizable fiscal cost. Other countries do not have the fiscal space to offer a universal social pension that could attenuate the risk of falling into poverty in old age. In those cases, withdrawals will compromise the economic security of the elderly.

Social validation of a pension scheme is important. If the public is not at ease with its pension system, the stage is set for future issues of unknown costs. Early withdrawal policies in different countries did not



follow a principle of focalized emergency relief, as a large share of withdrawals went to formal workers belonging to upper-income groups, without any technical framework to support this policy. Eligibility conditions were very loose, so practically any active workers could cash out funds, regardless of the size of pension balances and income levels.

### **1.3.3. Impact on the Labor Market**

The impact of COVID-19 on the labor market in most countries was limited and of short duration, with labor markets recovering to a substantial degree by 2021–2022. This occurred partly as a result of several measures adopted to mitigate the consequences of the pandemic (focused on the productive system, social protection, and public health, including strengthening health systems and national vaccination campaigns). Rather than the density of contributions, the variable that is still struggling to recover is real wage growth, possibly due to high inflation and low productivity growth.



# The Impact of the COVID-19 Crisis on the Argentine Pension System

*Rafael Rofman, Joaquín Baliña, and Emanuel López Méndez*

This chapter presents a first approximation of the impact of the COVID-19 outbreak on Argentina's pension system in both the short term and the medium-to-long term. Toward this end, the Inter-American Development Bank's Pension Projection Model is used to design and examine possible scenarios and outcomes based on alternative scenarios. According to the data analyzed and the projections, the impact of COVID-19 on Argentina's pension system in the short run has been limited, particularly given the rapid recovery during the last months of 2021. The long-term impact is harder to predict, first because some of the macroeconomic effects of efforts by the authorities to protect the system and pensioners during the pandemic are still unknown. Second, the effects of COVID-19 on the labor market have yet to fully settle. Nevertheless, the projections suggest that feasible long-term impacts do not significantly change the coverage, adequacy, and sustainability of the pension system.

## 2.1. Argentina's Pension System: A Short History

Argentina is one of the world's pioneers in pension policy, having introduced its first schemes more than a century ago. The first formal pension system was approved in 1904, when a fund to finance pensions for civil servants was created. The system slowly expanded to include other groups and by 1950 most workers were eligible to participate in a pension scheme. The system was highly fragmented, as independent funds covered workers from different industries, and was generally generous,

which resulted in a serious financial crisis in the 1960s. Aiming to consolidate and strengthen the different schemes, two laws passed in the late 1960s merged most national schemes into three funds (one for civil servants, one for private wage earners, and one for self-employed workers) that operated in coordination with one another. The laws also allowed for “differential” regimes that offered more generous terms to workers in hazardous jobs, and other special regimes (including those for civil servants at the provincial level and several “special” regimes for privileged groups). This 1968 reform established a retirement age of 60 (55 for women) and a vesting period of 20 years in the general regime, a proportionally defined-benefit formula based on the best three years of the worker’s income history, and some minimum and maximum benefits in order to improve the system’s distributive impact.

During the 1980s and early 1990s, financial sustainability issues became more critical, and a debate around a possible reform resulted in a new law in 1993 that introduced a deep structural reform to the national scheme. The new program adopted a multi-pillar design, with all workers required to participate in a first pillar that provided a flat benefit to those who reached retirement age (65 for men, 60 for women) and a vesting period of 30 years. The second pillar was either a new, smaller pay-as-you-go scheme that offered a proportional benefit, or a funded scheme based on individual accounts managed by independent firms, which accumulated contributions and paid annuities after retirement. This reform made the system more contributory in the sense that, by increasing the vesting period, it excluded many workers who had longer periods of informality in their working history. At the same time, given that a significant part of the revenue was directed to individual accounts, the dependence of the pay-as-you-go component on general revenue funds increased, making it less contributory (Rofman and Oliveri 2012).

Since the implementation of the new system, both its design and performance has been the subject of strong political debates. The designers hoped that competition among fund managers would reduce costs and make the system more efficient, but market failures and weak supervision resulted in cartelization, limited competition, and high administrative costs. Also, the transition cost was difficult to finance (particularly in a context of already limited fiscal space), deepening already existing macroeconomic problems. The reform was considered by many as one of the

leading causes of the 2001 fiscal crisis. Because of these controversies, the system was subject to multiple reforms and regulations until a new law approved in 2008 closed the funded scheme and forced all workers to move to the publicly managed pay-as-you-go scheme for the second pillar.

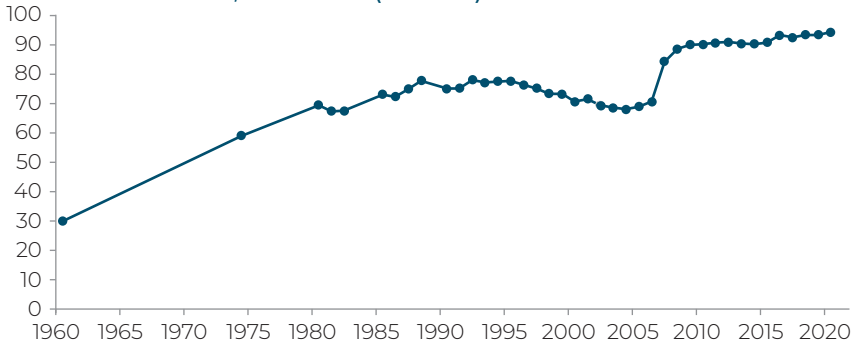
While the general regime of the national system is by far the largest scheme in the country in terms of both participants and resources, the number of “exception regimes” is quite large. There is no clear centralized information about the number of exception regimes, contributors, beneficiaries, or benefits paid. Rofman and della Paolera (2021) identified 177 different regimes that accounted for 40 percent of all benefits and 55 percent of all expenditures. Authorities have tried to limit these numbers many times in recent decades, most notably with the 1993 reform and again in 2002 with a specific law, but both initiatives were reversed.

## 2.2. Pension System Performance

The performance of pension systems is usually assessed along three main dimensions: coverage (how many potential beneficiaries are protected), adequacy (how large the benefits are), and sustainability (how much the system costs). As these dimensions compete with each other (high coverage and adequacy may imply less sustainability because benefits are generally generous in relation to contributions, high sustainability and high adequacy would require low coverage because sustainability implies harder vesting periods and higher contribution rates, and high sustainability and coverage needs low adequacy in order to make the system solvent in the long run). The challenge for policymakers, therefore, is to find reasonable balances that are socially acceptable, avoiding process inefficiencies or other potential negative effects on labor markets or macro balances.

### 2.2.1. Coverage

Pension coverage in Argentina is among the highest in the world, with more than 90 percent of the population aged 65 or more receiving a benefit. Figure 2.1 shows this indicator from 1960 until 2020. Coverage slowly grew from around 30 percent of the elderly in 1960 to almost 80 percent in the 1980s, then declined as a result of the higher vesting period required since the 1993 reform. Coverage rapidly recovered in the mid-2000s, thanks

**Figure 2.1** Argentina: Pension Coverage among Persons 65 years of Age or Older, 1960–2020 (Percent)

Source: Authors' calculations based on the Encuesta Permanente de Hogares carried out by the Instituto Nacional de Estadística y Censos (EPH-INDEC).

to a loophole created in the independent workers' regime. These workers are required to make their contributions to the system, but they can at any time acknowledge and pay missed past contributions, with the corresponding penalties. A law approved in late 2005 and regulating decrees created a scheme (known as "moratoria") that allowed these workers to access an extremely generous payment schedule that, in practice, implied that anyone of retirement age could receive a slightly reduced pension benefit if vesting requirements were not satisfied. While this scheme was supposed to be a short-term measure, different extensions have made it possible to keep the option open for more than 15 years.<sup>1</sup>

In addition, a new benefit was introduced in 2016 that provided a flat noncontributory benefit to any citizen aged 65 and older with no other source of income. The Universal Pension for Older Adults (*Pensión Universal para el Adulto Mayor* - PUAM) provides a benefit equivalent to 80 percent of the minimum pension to any individual who qualifies. This is a noncontributory benefit that functions as a close substitute for moratoria in the case of men, as most beneficiaries under moratoria received an amount similar to a PUAM to pay for contributions that were not made when the person was an active worker. However, the benefit is not as close a substitute for a PUAM for women, given that under moratoria they could retire at 60 years old and PUAM requires beneficiaries to be five

<sup>1</sup> The latest version of this program was supposed to expire on July 2022, but was extended to December 31, 2022 by ANSES Resolution 174/2022.

years older than that. Also, the PUAM does not generate survivors' pensions. The benefit is indexed under the same rules that applied under the general regime of the National Social Security Administration (*Administración Nacional de la Seguridad Social – ANSES*).

### 2.2.2. Adequacy

Because of high fragmentation among plans, pension benefits in Argentina are heterogeneous, even for individuals with similar work histories. Average benefits in the national system have fluctuated over time, mostly due to inadequate indexation rules in the context of high inflation. Figure 2.2 shows the real value of pension benefits from 1970 to 2020, which are currently slightly (10 percent) over the historical average in real terms.

The trend changes observed in Figure 2.2. reflect policy reforms. For example, the decline between the early 1980s and 1990s was caused by the manipulation of indexation rules, and the increase between 2010 and 2013 reflects a strongly procyclical indexation formula. Part of the problem is that, given political and legal restrictions on modifying pension benefits in nominal terms, different governments have tried to adjust spending by limiting or delaying indexation in a high-inflation context. Whether benefits paid by the pension system are adequate is a normative issue, reflecting social preferences. By 2020, average benefits were, as mentioned, somewhat over the historical average, and 7.33 percent higher

**Figure 2.2** Argentina: Average Real Benefit, National Pension System: 1971–2021 (In 1997 pesos)



Source: Administración Nacional de la Seguridad Social (ANSES), Informe de la Seguridad Social.

than the minimum wage. However, the high heterogeneity implies that many beneficiaries received the minimum benefit (82 percent of the minimum wage), while others received many times that figure.

### 2.2.3. Sustainability

Sustainability is the third relevant dimension that must be considered in assessing the pension system's performance. For obvious reasons, this dimension represents the restrictions that designers and implementers must confront when building a pension system. By 2019, Argentina had managed to expand coverage and provide benefits that were higher than the historical average. Unavoidably, this had an impact on the system's expenditures. Pension spending in Argentina has been volatile following macroeconomic shocks and policy decisions. The maximum level was reached in 2020 when the country spent 12.2 percent of its GDP on pensions. A quick look at the evolution of this indicator over the last three decades allows for the identification of nine periods:

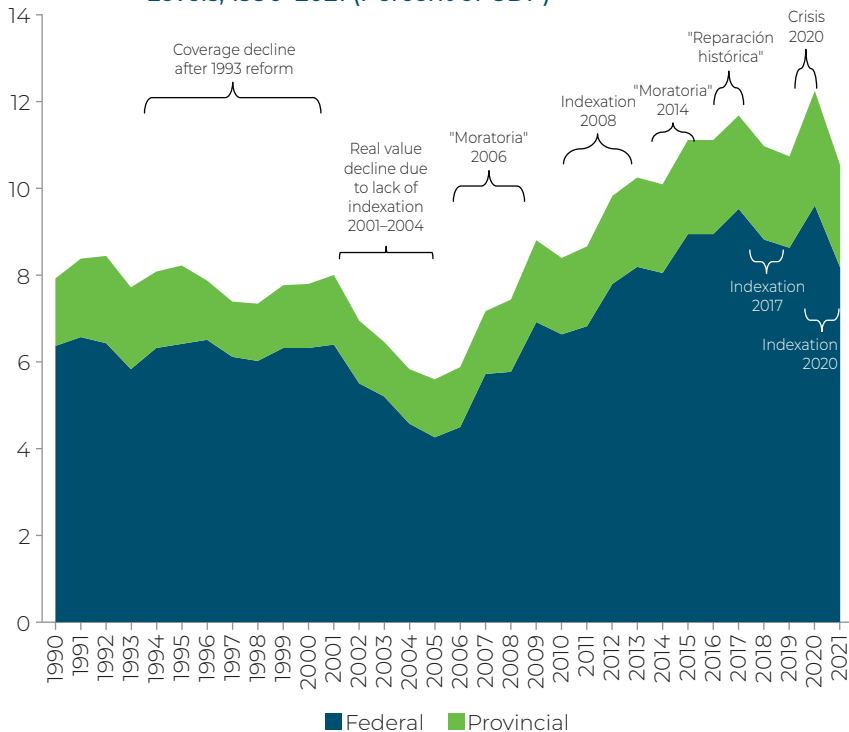
1. From 1994 to 2000, pension spending stabilized, with a slight decline due to the combination of a decline in coverage (as a result of the increase in vesting periods established by the 1993 reform) and an increase in average benefits (due to a reduction in inflation that limited the effect that indexation rules had in the past).
2. From 2001 to 2004, there was a sharp decline in pension spending, given the lack of an indexation rule in the context of renewed inflation after the 2002 crisis.
3. From 2006 to 2009, there was a rapid increase in pension spending due to implementation of moratoria, as discussed earlier.
4. From 2008 to 2012, there was also a rapid increase in pension spending, this time due to implementation of an indexation rule that linked pension benefits to wages and tax revenue, making the pension strongly procyclical.
5. In 2014, a new moratoria law was passed, resulting in another increase in pension coverage and spending.
6. In 2017, a law aiming to close all open legal challenges offered blanket increases for nearly all beneficiaries, increasing pension spending.



7. Also in 2017, the indexation rule was changed to prices, with an implementation lag of approximately nine months. The acceleration of inflation starting in mid-2018 resulted in a loss of real value for pension benefits.
8. In 2020, there was a sharp increase in pension spending, mostly explained by the COVID-19-induced decline in GDP.
9. Finally, in 2021 there was a decline in pension spending due to changes in the indexation formula implemented in 2020.

Interestingly, while demographic trends showed an increase in the proportion of people older than 65 as a proportion of the population from 9 percent to 12.5 percent, changes in pension expenditures in the last 40 years barely reflect this process. Short-term macroeconomic shocks and policy decisions had a much stronger impact (Figure 2.3).

**Figure 2.3** Argentina: Pension Spending at the Federal and Provincial Levels, 1990–2021 (Percent of GDP)



Source: Social Security Secretariat, Boletín Estadístico de la Seguridad Social.

## 2.2.4. Main Challenges

By the time the COVID-19 pandemic hit the world, Argentina's pension system had achieved remarkable success in terms of coverage, providing benefits that could be considered reasonable in comparison with other indicators in the country and similar to benefits in other countries. However, the system had a serious (and probably growing) problem in terms of fiscal sustainability.

While coverage was high, it was achieved through implementation of exceptional (supposedly one-time) measures, primarily the moratoria schemes approved in 2005 and 2014. This brought into question whether high coverage could be sustained over time. In terms of adequacy, average benefits may have been reasonable. There was, however, wide heterogeneity in benefits (even among persons with very similar contribution histories) that depended on many different factors, including the occupations and industries where these individuals worked or where they lived, the time of their retirement, whether they attempted to get (and succeeded in getting) their benefits recalculated through lawsuits, and so on. In short, the system faced several critical challenges that needed (and still need) to be addressed to ensure that the objective of protecting old-age income flows is achieved.

Most of the challenges involve a common factor: efficiency. By late 2019, Argentina spent nearly 10.7 percent of its GDP on pensions. However, had the system paid the average benefit of the national scheme to each resident aged 65 or older, the total cost would have been significantly lower, at around 7 percent of GDP. The difference can be explained by the number of beneficiaries with two or more benefits, the possibility for many participants to receive higher benefits through an exception regime, and a large number of young beneficiaries. These problems are caused, in turn, by the very high fragmentation of the system that results from the proliferation of exception regimes and the outdated design of the survivors' benefits programs.

In addition, the pension system in Argentina had a critical problem that is not common in other countries: the indexation rule. Because inflation has been high and sustained for many decades, whether benefits are indexed and how this is implemented is critical to define both adequacy and sustainability. Indexation should be a relatively simple rule that protects the purchasing power of benefits through an annual cost-of-living

adjustment, but it has become the most relevant aspect of the system in Argentina, especially in the short term.

According to the National Constitution, pensions should be indexed, but the government's failure to consistently apply this principle during most of the 1980s resulted in a growing number of lawsuits and the consequent increase in spending. The 1993 reform adopted a simpler, more transparent indexation rule that required all relevant parameters to adjust with changes in average contributions (and, indirectly, salaries). However, this was canceled in 1995, when it was established that benefit increases would be discretionally decided by the authorities, a rule that remained in place until 2008, when Congress accepted an order by the Supreme Court to reinstate an indexation rule.

The method adopted in 2008 was controversial, as it linked benefits to salaries and tax collection, resulting in a strongly procyclical effect that produced a pension increase of nearly 40 percent in real terms from 2010 to 2013. A new law approved in late 2017 replaced this with a scheme that combined price inflation and salaries, but its application was suspended in 2020 (when discretionary adjustments were granted), and the old 2008 rule was reinstated in 2021. The frequent changes in regulations resulted in very high volatility of the real pension value in a context of growing inflation. As a result, the indexation rule has failed to deliver its main goal of maintaining stable purchasing power.

### *Fragmentation and Exception Schemes*

While Argentina's national pension system is by far the country's largest scheme in terms of both participants and financial flows, there are many smaller schemes with different rules and, in many cases, different institutional structures. The number of different schemes has been estimated at 177 (Rofman and della Paolera 2021) or even more than 200 (Bertín 2022). There are five types of exception regimes, according to their legal status and justification: differential schemes, special regimes, retirement schemes for the military and security forces, noncontributory pensions, and schemes for civil servants at the provincial level.

The differential schemes are part of the national system, with some specific benefits (in most cases, earlier retirement age). This difference is justified by the risky or arduous conditions attributed to specific occupations.

The second group includes what is known as special regimes, which offer more generous conditions (either earlier retirement, lower vesting periods, higher benefits, or more favorable indexation rules), and they are usually justified considering merits. In nearly all cases they target civil servants (teachers, university professors, judges, diplomats) who are considered to be deserving of better treatment as a way to show society's appreciation for their work.

The third group includes retirement schemes for the military and security forces, also justified on grounds of merit.

The fourth group consists of noncontributory pensions, sometimes offered as merit recognition (such as former presidents or vice-presidents, winners of Olympic medals, Nobel laureates) and sometimes in response to extreme necessity (such as mothers of seven children, or disabled individuals with no other income).

The final group includes schemes that protect, through a contributory system, civil servants at the provincial level. These schemes are independently run and financed by provincial governments, although they usually receive funds from the federal government as well.

This high fragmentation results in inefficiencies and bureaucratic difficulties, as well as serious inequities for beneficiaries. While these exceptions exist in most countries, their proliferation is surprisingly widespread in Argentina. Nearly 40 percent of all pension benefits and 55 percent of spending correspond to exception regimes. As a benchmark, Poland is the European country with the largest proportion of the population under an exception pension scheme, at nearly 22 percent of the retired population.

### *Duplication of Benefits*

One of the most critical challenges affecting the pension system in Argentina is the very large number of people with more than one benefit. This is partly due to the fragmentation discussed above (as some beneficiaries may qualify to receive benefits from two or more different schemes), but mostly to a survivor benefit scheme with an outdated design. The rule that governs access to this benefit is simple: surviving spouses and under-age children of any person who died while receiving a benefit or who had the right to receive one are entitled to a survivor pension. That includes retirees, individuals who had not applied for a retirement benefit but had

all qualifying conditions (including age and vesting period), and people who would qualify for a disability pension (which means being an active contributor to the system with some regularity). Children are eligible to receive benefits until their 18th birthday (with some possible extensions), and spouses (including legal and common law) receive a lifetime benefit, regardless of their age. Benefit amounts are also generous: 70 percent of the reference salary or pension benefit of the deceased individual for the spouse, plus additional benefits for children.

These rules, which might have made sense at a time when traditional families had one breadwinner and a spouse (usually the wife) who did non-remunerated domestic work, seem less reasonable as women have increased their labor force participation and pension systems have been reformed to expand old-age coverage to make it nearly universal. Until the late 1990s, less than 20 percent of women and nearly no men of retirement age and receiving a survivor benefit were also pensioners in their own right, but those percentages have grown to over 85 percent as pension coverage has expanded. The national system has approximately 8 survivors' pension beneficiaries for every 10 old-age beneficiaries. By contrast among member countries of the Organisation for Economic Co-operation and Development, that figure is 2.2 survivors' pension beneficiaries for every 10 old-age beneficiaries due to limits to the time a widow or widower may receive a benefit and a less generous rule regarding the amount received.

## 2.3. COVID-19 and Pensions in Argentina

### 2.3.1. Short-Term Impact

Most COVID-19 impacts on the pension system in Argentina have been indirect, as consequences are expected to result from changes in the labor market and other similar channels over time. This section examines both direct and indirect effects of COVID-19 over the short term.

#### *Direct Short-term Impact on Core Dimensions*

##### Coverage

The restrictions imposed by the national government affected key functions of public administration, including the administrative offices of

ANSES, the national agency that is responsible for the administration of pensions. These offices consequently reduced in-person service to the minimum possible, making processes remote and establishing new procedures.

ANSES' lockdown had a significant impact on the number of new benefits in 2020. In 2019, ANSES added over 142,000 new pensioners. By contrast, in 2020 the total amount of new pensions was 66,000, not even half of those enrolled during the previous year. The rhythm recovered in 2021, with over 210,000 new pensions, many apparently for persons who otherwise would have initiated their pension procedure during the previous year. As such, the number of new requests handled during 2021 was one of the highest since 2010, except for 2014–2016, when the second moratoria program was launched.

Considering the average number of annual requests of previous years, the reduction in requests in 2020 had a direct short-term impact that resulted in a reduction of coverage during 2020, which was corrected in 2021.

A regulation approved in July 2021 may have increased coverage, as a new decree established that women would receive additional contributions in recognition for their role as caregivers. Hence, women were credited with one additional year of contributions per child born, plus an additional year in the case of disability or two for adopted children or children receiving the Universal Allocation per Child (*Asignación Universal por Hijo*) benefit. Even though this measure might not have affected a large portion of the pension's overall enrollment (as it was intended to reach a specific segment of the population), it was adopted during the period of the outbreak to address a specific demand related to caregiving activities, which was very much discussed during the pandemic.

### Adequacy

Adequacy of the pension system in Argentina is particularly challenging, given the system's high heterogeneity and macroeconomic instability. The pension indexation rule approved in 2017 established that benefits would be adjusted according to changes in the cost of living and salaries. In December 2019, a few weeks after taking office, the new Congress passed a law suspending this mechanism and authorizing the executive branch to discretionally adjust benefits for six months, which was then

extended for another six months. Benefits were affected as a result of this change, and the real value of pension benefits declined by approximately 4 percent in one year. In December 2020, a new law (27.609) was approved, establishing that adjustments would be granted quarterly and based on a composed index that included variations in taxes and salaries.

The combination of accelerating inflation and a gap between the reference period and the adjustment of benefits resulted in further losses and, by August 2021, the accumulated loss in real terms since December 2019 was close to 13 percent. To compensate, a one-time ARS\$3,000 bonus was distributed in March 2020 for those receiving the minimum pension. In March 2021, an extraordinary subsidy of up to ARS\$1,500 was paid, depending on the amount of the pension, to ensure that nobody received less than ARS\$32,357 annually. Subsequently, in July 2021 the national government announced another extraordinary bonus of ARS\$5,000 for pensioners receiving up to two minimum pensions. In addition, all beneficiaries of social programs were granted an additional transfer equivalent to 15 percent of the amount spent with their debit cards, with a maximum per month of ARS\$700.

Additionally, considering the ups and downs of the labor market during the pandemic, the impact on labor and contribution histories appears to have been temporary. By late 2021 employment rates were at levels similar to those of late 2019, and a similar situation can be observed in the number of contributors. Hence, the impact of COVID-19 on the accumulation of pension rights by current workers was very limited, as discussed earlier.

### Sustainability

As a consequence of the economic shock, the pension system suffered a decline in revenue due to a reduction in the number of active contributors and implementation of temporary exemptions. Data from the *Boletín Estadístico de la Seguridad Social* indicates that the number of contributors to the system was reduced from 10 million in 2019 to 9.45 million in 2020, then partially recovered to 9.84 million in 2021. The decline in social security collection between 2019 and 2020 was also significant: the variation in revenues was 28 percent, well below the 42 percent inflation rate. For 2020–2021 there was a small recovery, as revenue increased by 53 percent, while inflation was 51 percent.

## *Indirect Short-term Impact*

### Education

The restrictions imposed during the COVID-19 pandemic significantly affected access to education services, as schools closed rapidly after the onset of the pandemic and slowly (but far from universally) offered continuity through virtual connections. The national government implemented a remote scheme for all educational levels during the outbreak, including the full 2020 academic year and a substantial part of 2021. Given this situation, many children dropped out of school, and others continued in a situation of low pedagogical continuity.

A study conducted by UNICEF (2021) shows that the pandemic deepened preexisting problems and educational inequalities among children and adolescents. According to UNICEF's estimates, approximately 27,000 students dropped out of school in 2021. Additionally, according to an evaluation by the Observatorio Argentinos por la Educación (Tiramonti, Volman, and Braga 2021), students dedicated less time to educational activities, which negatively affected their learning process. This represents a severe issue in a context in which, even in normal times, only half of the students successfully complete the whole track of secondary school because of deep social and economic gaps.

The impact of this problem on educational outcomes is evident, and as a consequence, it can be expected to have an effect on labor markets and pension systems in the future, as it is probable that many of these children will enter the labor force with less education, that is, less human capital. Even though the consequences of this educational blackout are still unclear, they are expected to have a negative outcome at an economic level, which translates to a potential decrease in revenues and coverage of the pension system.

### Labor Market and Economic Activity

The lockdown measures negatively affected economic activity, diminishing job creation and household consumption. The economic downturn impacted the pension system, as formal job losses resulted in less revenue and interrupted contribution histories. Still, this situation seems to be indirect and short-term, as the economic recovery has been better than expected. During 2019, the employment and unemployment rates were



approximately 43 percent and 10 percent, respectively. Additionally, the use of industrial capacity was 60 percent. In 2020, both the employment rate and industrial capacity use went down by 9 percentage points in the second quarter. Nevertheless, the recovery was fast: by the end of 2020, industrial capacity use was already at pre-pandemic levels, and employment rates reached previous levels by early 2021.

The changes in employment were highly concentrated in the informal sector, as it had no protection during the shutdown. The sectors most affected were transportation, trading, manufacturing industries, hotels and restaurants, and real estate/business activities. Given their characteristics, these activities were unable to shift to a remote work model and most firms suspended their activities (Mera, Karczmarczyk, and Petrone 2020). Figure 2.4 shows how most of the jobs lost were in that sector. Thanks to the measures discussed earlier, formal salaried jobs were effectively protected, and according to the latest data, the decline in jobs seems to have been very small.

A deeper look at formal workers offers some interesting insights. Data from social security contributions show that most of the decline in formal work can be explained by the reduction in the number of salaried workers in the private sector. This was to be expected, as this group represents the largest proportion of formal workers, but the impact was proportionally higher than in other groups. In the first quarter of 2020, 250,000 jobs

**Figure 2.4** Argentina: Annual Change in the Number of Employed Persons, by Formality Status



Source: Authors' calculations based on the Encuesta Permanente de Hogares carried out by the Instituto Nacional de Estadística y Censos (EPH-INDEC).

were lost, equivalent to 2.1 percent of the total. Among those, two-thirds were workers in the private sector. The other two categories that were most affected by the decline were domestic workers and high-income independent workers. The recovery was driven by *monotributistas* (low-income independent workers) and public sector workers.

There were several measures adopted to reduce the impact of the outbreak. The pandemic exacerbated the challenges that the social protection system had already been facing since 2010 at a national level as a result of stratification in the design and implementation of social policies (Langou, della Paolera, and Echandi 2021). The responses to the pandemic replicated the stratified logic of the system, and the pandemic significantly worsened the system's risks, with uneven effects.

Some of the responses to the social and economic impact of the pandemic reinforced existing social protection policies (Table 2.1). These included cash transfers, such as pensions, universal child/pregnancy benefits (*Asignación Universal por Hijo y por Embarazo* – AUH-AUE), and the food card program (*Tareta Alimentar* – TAR). The first measures were implemented in March 2020, including grant increases and one-time payments, as well as the suspension of conditionalities for AUH-AUE beneficiaries. There was also additional financial support for community

**Table 2.1** Argentina: List of Most Relevant Social Protection Measures, 2020–2021

Measure	Type of Measure	Duration	Target Population	Approximate Coverage
Bonuses	Additional cash transfer	2020	AUH/AUE, pensioners, and TAR beneficiaries	9 million people
IFE	Direct cash transfer	2020	Unemployed and informal workers	8.9 million people
TAR	Direct cash transfer	2020 – present	AUH/AUE and pension beneficiaries	3 million people
ATP	Salary and contributions assistance	2020	Private sector firms	3 million people

Source: Authors' calculations based on Social Development and Production Ministry open datasets.

Note: ATP: Programa de Asistencia de Emergencia al Trabajo y la Producción; AUH-AUE: Asignación Universal por Hijo y por Embarazo; IFE: Ingreso Familiar de Emergencia; TAR: Tarjeta Alimentar.

and social organizations. In addition, the authorities implemented several new programs in response to the pandemic. The Emergency Household Income (*Ingreso Familiar de Emergencia* – IFE) Program was created on March 23, 2020 through Decree 310/2020 as an “exceptional non-contributory monetary benefit intended to compensate for the loss or serious decrease in income of people affected by the health emergency declared by Decree No. 260/20, and other amending and complementary regulations.” It was intended for unemployed, informal, and registered low-income independent workers (including those in domestic work). The program was designed to pay a one-time ARS\$10,000 benefit (equivalent to 60 percent of a minimum wage at that time) to each eligible household and was expected to protect approximately 3.6 million families. However, the final number of beneficiaries was close to 9 million, mostly because social registries were unable to associate individuals as household members, and the program became, de facto, an individual benefit scheme. Payments were made on three separate occasions (March, June, and July 2020).

The TAR program was created a few months before the onset of the pandemic and became an important tool to protect the most vulnerable. Targeted to a subgroup of families already in the AUH program (families with young children), it provided additional income monthly to finance basic food consumption, reaching nearly 2 million beneficiaries.

To protect formal workers, three major policies were implemented. First, the government prohibited dismissals without cause of salaried workers. A second measure was the introduction of the Emergency Assistance Program for Work and Production (*Programa de Asistencia de Emergencia al Trabajo y la Producción* – ATP), which postponed or reduced social security contributions, financed part of workers' wages, and provided financial assistance to small businesses and independent workers. A third measure was an increase in unemployment benefits.

Lastly, to strengthen the government's fiscal capacity, a one-time wealth tax was approved in December 2020 (Law 27605), collection of which totaled ARS\$307,000 million. According to the law, 20 percent of the collection would be destined for the purchase and/or production of healthcare equipment and supplies; 20 percent to subsidize micro, small, and medium-sized companies; 20 percent for PROGRESAR scholarships; 15 percent for the Socio-Urban Integration Fund (*Fondo de Integración*

*Socio Urbana* - FISU); and 25 percent for programs and projects approved by the National Energy Secretariat.

### 2.3.2. Medium- and Long-Term Impact

This analysis used the IDB's Pension Projection Model to assess the impact of COVID-19 on Argentina's pension system. The model allowed for building a baseline scenario, which was defined starting in 2019, assuming sustained growth of the economy and no significant changes in labor participation or composition. Based on these features, three alternative scenarios were defined (explained below) to consider possible long-term impacts of the pandemic. They were compared to the baseline taking into consideration the three core dimensions of the system: coverage, adequacy, and sustainability.

#### *Baseline Scenario*

This scenario assumes that the underlying demographic trends will follow the projections estimated by the United Nations Population Division, revised to take into account the recent decline in fertility rates (Rofman and della Paolera 2021), and that labor market participation (structured in terms of salaried/independent work) and formality will remain stable at 2019 levels. For the income profiles for formal salaried workers, the analysis used values reported by the Social Security Secretariat for public and private sectors by age, starting at 18. Self-employed taxable income was set at a fixed level, following the rules.<sup>2</sup> Concerning other economic variables, a constant 3 percent real increase in salaries and GDP was used.

The model was built to attempt to account for the normative heterogeneity in the pension system, and four separate schemes were defined to reflect this. First, workers regularly employed as salaried workers, formally registered, and earning rights to receive pension systems (as long as they accumulate contributions for 30 years or more) were considered part of the "salaried workers" scheme. A second scheme included

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<sup>2</sup> Self-employed workers do not contribute a percentage of their actual earnings, but rather a fixed amount.

self-employed workers, who are assumed to be registered under the *monotributo* regime, which requires monthly contributions of a fixed (and very small) amount and generates rights to a benefit that is very close to the minimum. The third scheme included those who obtained a pension benefit under the moratoria regime. These individuals have no history of contributions (or, if they have it, it is insufficient to generate pension rights), but obtained a pension through one of the one-time moratoria schemes that were open from 2005 until the end of 2022. Hence, this is considered a closed scheme, where no new participants can enter in the future. The final scheme aimed to reflect the dynamics of the relatively new PUAM program, a basic benefit that grants 80 percent of the minimum pension to any person aged 65 or older who was not able to obtain a contributory pension. Many smaller schemes in Argentina were not included in this analysis, including provincial-level programs, special pension schemes, military and security forces retirement, and others (Rofman and della Paolera 2021).

The model was built for each of the eight groups (four schemes for men and four for women) independently, except for PUAM beneficiaries, as will be discussed below. The model considered the population aged 14 or older as potential contributors and beneficiaries of old-age and disability benefits. On the other hand, survivors' benefits can overlap with other benefits and were estimated assuming that both spouses have the same age.

PUAM and moratoria participants do not generate income for the system but do generate expenditures. In 2019, salaried workers had a total contribution rate of 20 percent (including both employees' and employers' rates) while *monotributo* participants had a flat contribution, equivalent to a monthly income of ARS\$6.990 (compared to average wages of ARS\$49.800 for men and ARS\$42.933 for women).

In the baseline model, both the salaried workers and *monotributo* models add new retirees each year considering a retirement rate by age (that is, the percentage of the total population that retires at every single age) based on data from 2019. In the case of moratoria, there are no new retirees, and for PUAM new beneficiaries were defined as a residual: given that nearly everyone who does not qualify to receive a pension benefit under one of the traditional schemes can obtain a PUAM, it was determined that each year the number of new PUAM beneficiaries

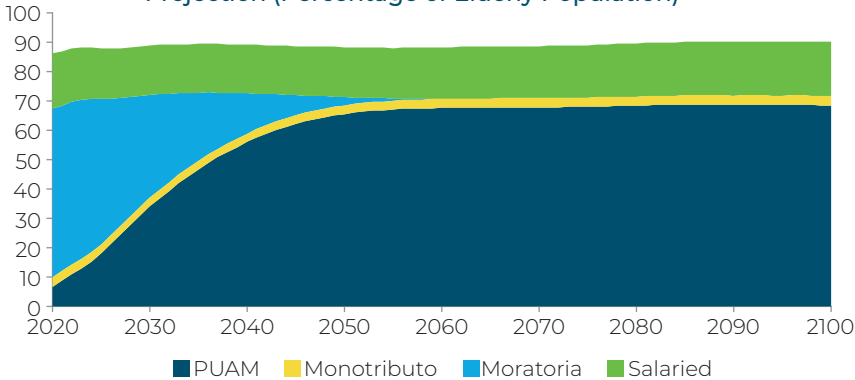
would be such that total coverage will remain at 90 percent. Mean benefits were calculated in different ways for each system: retired salaried workers receive a pension related to their average wage over 10 years before retirement, *monotributistas* and moratoria beneficiaries receive the minimum pension, and PUAM beneficiaries receive 80 percent of the minimum pension.

Coverage

The model projects high stability in coverage of both men and women under the four schemes. The data reflect the lack of new moratoria, more relevant for women than men, and the increasing importance of the PUAM. This result shows the initial relevance of the four schemes selected, as they initially cover almost 80 percent of men and 90 percent of women of retirement age.

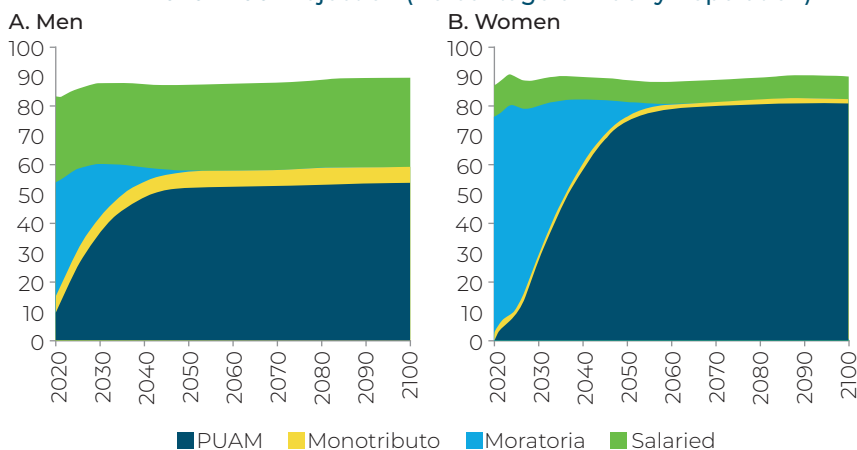
Figure 2.5 shows coverage among the population aged 65 and over for both men and women, by scheme. Moratoria is the largest scheme, as it covers nearly 60 percent of the population in that age range. Those who fully retired under the salaried workers' scheme account for about 19 percent of the total, while PUAM represents 5 percent and *monotributo* 3 percent. As moratoria was to be closed to new beneficiaries at the end of 2022, significant growth is expected in the number of PUAM beneficiaries, which should reach 50 percent of the elderly by 2085. Under these

**Figure 2.5** Argentina: Old-Age Coverage by Scheme, 2020–2100 Projection (Percentage of Elderly Population)



Source: Authors' calculations based on IDB's Pension Projection Model.  
 Note: PUAM: Pensión Universal para el Adulto Mayor.

**Figure 2.6** Argentina: Old-Age Coverage by Scheme and Gender, 2020–2100 Projection (Percentage of Elderly Population)



Source: Authors' calculations based on the IDB's Pension Projection Model.

Note: PUAM: Pensión Universal para el Adulto Mayor.

assumptions, the proportion covered by the salaried workers and *monotributo* schemes should remain stable over time.

However, coverage is different if one looks at the projection by gender. Figure 2.6 shows how pension coverage is mainly explained by the non-contributory moratoria and PUAM among women, while among men the contributive salaried workers and *monotributo* schemes have higher coverage.

The demographic changes will affect the ratio of beneficiaries to the population 14 years of age and older (excluding those receiving a benefit). In the first years of the projection, female beneficiaries represent 20 percent of the population 14 years of age and older, while men represent 15 percent. This baseline shows a decrease for women, reaching the same proportion as men by 2030, when pensions then start to increase for both genders.

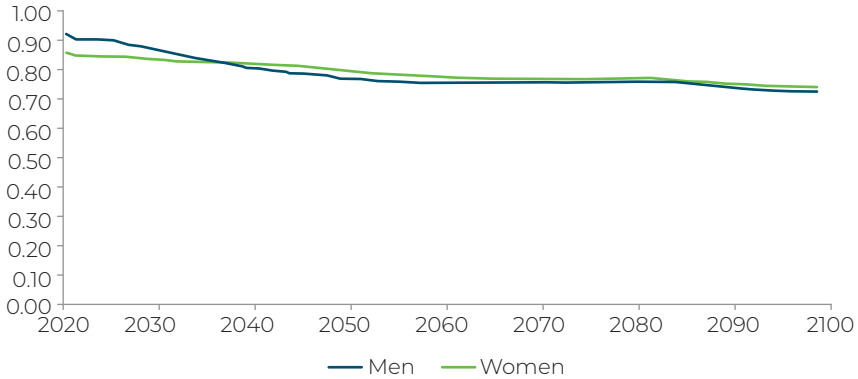
### Adequacy

The baseline scenario shows that benefits will be relatively stable in relation to wages in the future. Pension benefits for salaried workers represent approximately 80 percent of average salaries,<sup>3</sup> and will slowly decline over

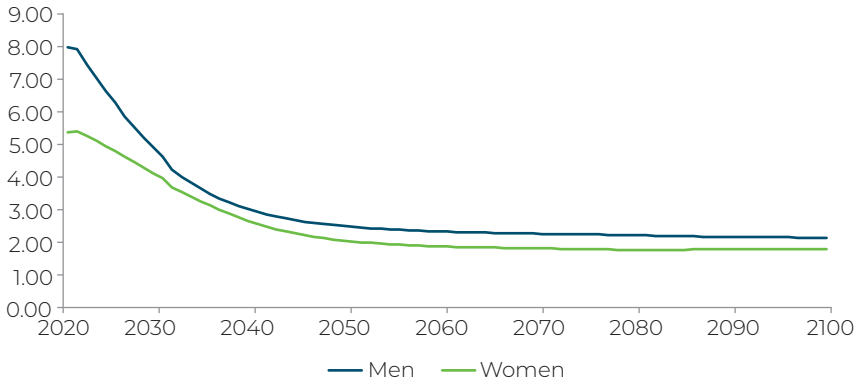
<sup>3</sup> It should be noted that while the replacement rate is close to 80 percent, this is in relation to the average wage, but the ratio is lower when considering the pre-retirement income, at around 55 percent.

**Figure 2.7** Argentina: Replacement Rates, 2020–2100 Projection

**A. Average pension over the average salary of salaried workers**



**B. Average pension over the average implicit salary of monotributistas**



Source: Authors' calculations based on the IDB's Pension Projection Model.

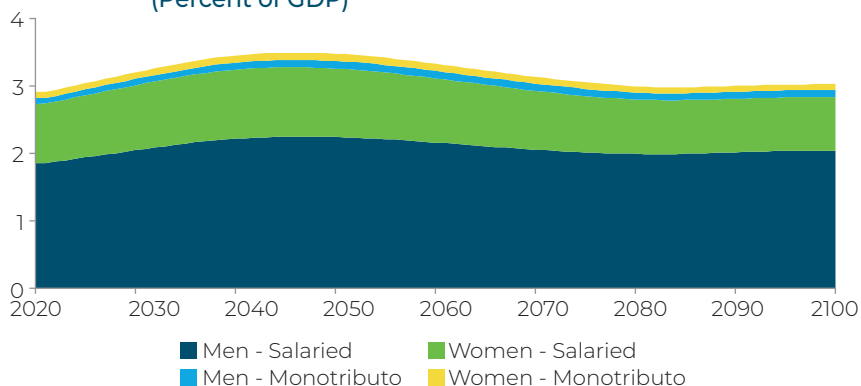
time (this is mostly because current benefits have increased beyond their expected value due to indexation rules applied from 2008–2016). Figure 2.7, Panel A presents the expected trend of this ratio over time by gender. *Monotributo* benefits are much more generous, as the implicit income defined by the set contributions is low in comparison to the minimum pension that these beneficiaries will receive (Figure 2.7, Panel B).

**Sustainability**

Figure 2.8 shows the evolution of revenues generated by salaried workers and *monotributo* contributors. Given the large gap between the actual wages of salaried workers and the implicit income of *monotributistas*,

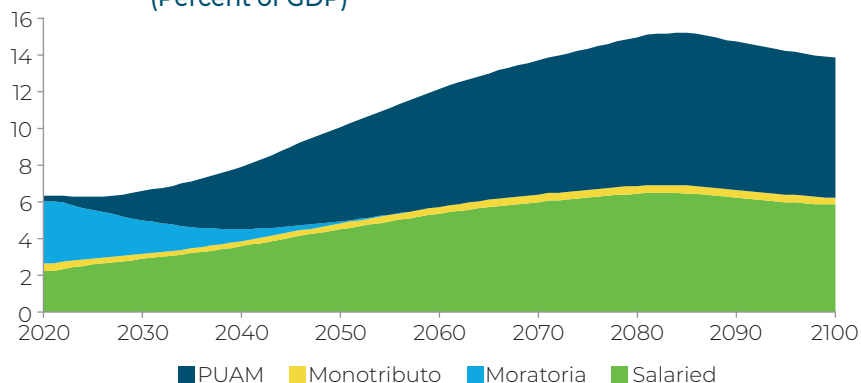


**Figure 2.8** Argentina: Contribution Revenues, 2020–2100 Projection (Percent of GDP)



Source: Authors' calculations based on the IDB's Pension Projection Model.

**Figure 2.9** Argentina: Pension Expenditures, 2020–2100 Projection (Percent of GDP)



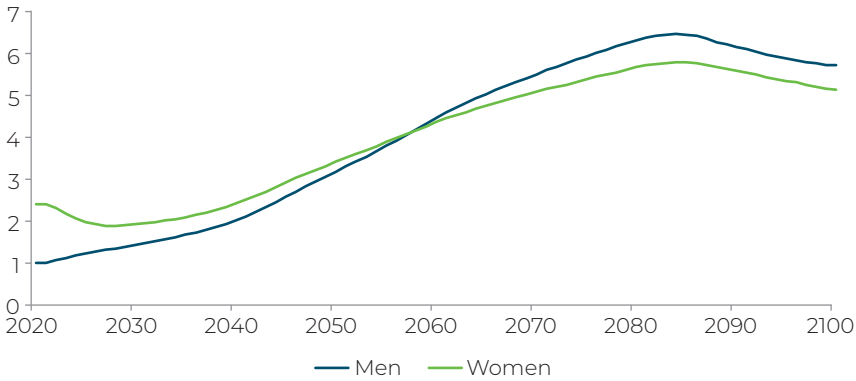
Source: Authors' calculations based on the IDB's Pension Projection Model.

Note: PUAM: Pensión Universal para el Adulto Mayor.

most contributions come from the first group: whereas *monotributistas* contribute 0.18 percent of GDP, salaried workers contribute 2.83 percent (67 percent of that figure by men and 33 percent by women). Revenues are expected to increase up to 3.6 percent of GDP by 2050 and then decline, following the path of the demographic bonus.

In the case of expenditures, total spending was 6.2 percent of GDP in 2021 (with moratoria representing half of this). As seen in Figure 2.9, spending on *monotributo* benefits is not expected to become relevant, as the number of beneficiaries under this scheme will be small (due to their

**Figure 2.10** Argentina: Pension Deficit by Gender, 2020–2100 Projection (Percentage of GDP)



Source: Authors' calculations based on the IDB's Pension Projection Model.

low contribution density). Spending on PUAM, on the other hand, should gradually grow as the program becomes more important, replacing moratoria as the default option for those who have no access to contributory pensions.

Given these expected trends, the financial result of the model (that is, the difference between revenues and expenditures) is expected to deteriorate over time, with a growing deficit. That difference is estimated to go from the current 3 percent of GDP to almost 10 percent in 60 years, with an improvement afterward, around 2080, due to the impact of demographic changes.

In terms of gender, Figure 2.10 shows that, while men contribute more to the deficit now, the situation will reverse as the deficit generated by women will grow faster and overcomes that of men by 2060. This is caused by the higher share of women beneficiaries of the PUAM, which is in turn caused by the gender gap in the labor market. The traditional distinction of productive and reproductive labor between men and women derives in more stable professional trajectories for men, while professional trajectories among women tend to be unstable and interrupted, as they often end up leaving formal employment to take on caregiving tasks. Consequently, differences in terms of coverage, adequacy, and sustainability among men and women are a reflection of inequalities in the labor market (Petrone and Baliña 2022).

## Alternative Scenarios

To assess the possible effects of COVID-19, three alternative scenarios were defined based on the long-term effects that the pandemic might have had on social and economic indicators. The scenarios are labeled as labor market degradation, productive transformation, and creative destruction. Each scenario is presented under two variants. The first assumes that impacts are immediate, in the form of a shock, while the second considers the effects of a gradual impact.<sup>4</sup> Table 2.2 summarizes the main features of each scenario.

*Labor market degradation*, the first scenario, assumes that COVID-19 has a permanent negative impact on labor markets, resulting in a long-term decline of formality and a shift in labor force participation from salaried work to self-employment. This does not affect wages directly, but the shift in labor market variables results in a change in GDP growth that,

**Table 2.2** Argentina: Alternative Scenarios of the Impact of COVID-19

Scenario	Features	Variables	Time Period
Labor market degradation	<ul style="list-style-type: none"> <li>• Permanent negative impact on labor markets</li> <li>• Long-term decline of formality</li> <li>• Shift in labor force participation from salaried work to self-employment</li> </ul>	<ul style="list-style-type: none"> <li>• Formality declines by 10 percent</li> <li>• Retirement rates decline by 10 percent</li> <li>• Rates of access to PUAM increase by 10 percent</li> <li>• Percentage of <i>monotributistas</i> among formal workers increases to 25 percent</li> </ul>	<ul style="list-style-type: none"> <li>• Shock: Changes take place as of 2023</li> <li>• Gradual: Changes take place over 20 years, starting in 2020</li> </ul>
Productive transformation/ education loss	<ul style="list-style-type: none"> <li>• Acceleration of shift from manufacturing to services in employment</li> <li>• Formality and salaries decline</li> </ul>	<ul style="list-style-type: none"> <li>• Formality declines by 10 percent</li> <li>• Retirement rates decline by 10 percent</li> <li>• Rates of access to the PUAM increase by 10 percent</li> <li>• Real salaries decline by 10 percent</li> </ul>	<ul style="list-style-type: none"> <li>• By shock: Changes take place as of 2023</li> <li>• Gradual: Changes take place over 20 years, starting in 2020</li> </ul>

(continued on next page)

<sup>4</sup> Even though these scenarios take into consideration the real and feasible impacts of COVID-19 on the social and economic structure, we did not model the general equilibrium consequences of such changes.

**Table 2.2** Argentina: Alternative Scenarios of the Impact of COVID-19  
(continued)

Scenario	Features	Variables	Time Period
Creative destruction	<ul style="list-style-type: none"> <li>• Creative destruction process in the economy: Replacement of traditional manufacturing jobs with high-productivity services</li> </ul>	<ul style="list-style-type: none"> <li>• Salaried work declines by 10 percent, fully replaced by independent (<i>monotributo</i>) jobs</li> <li>• Real salaries increase by 10 percent</li> </ul>	<ul style="list-style-type: none"> <li>• By shock: Changes take place as of 2023</li> <li>• Gradual: Changes take place over 20 years, starting in 2020</li> </ul>

Source: Prepared by the authors.

Note: PUAM: Pensión Universal para el Adulto Mayor.

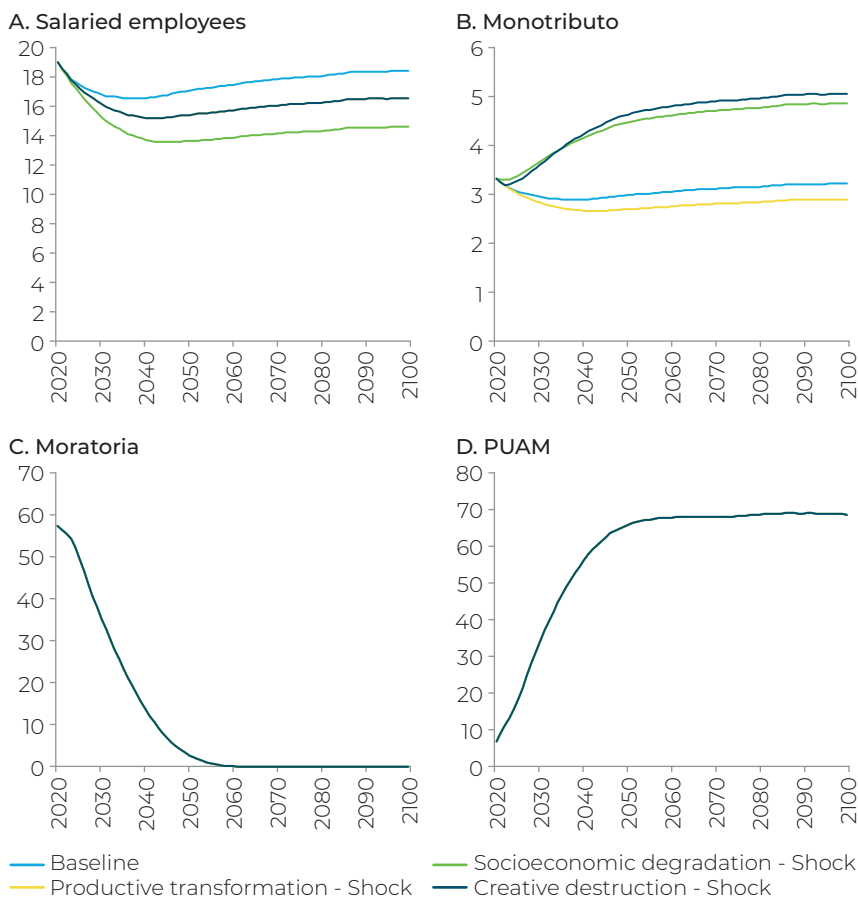
in turn, affects wages. However, the general income of families is affected, as incomes fall because labor relations shift towards other forms of contracting, such as self-employment (*monotributo*).

*Productive transformation*, the second scenario, assumes that COVID-19 accelerated a preexisting trend of change in the productive matrix and, at the same time, the long-term effect on human capital that resulted from the loss of education access during the pandemic will be significant. Because of the productive transformation, labor demand will shift from manufacturing, with relatively higher-paid jobs, to services, with lower salaries. At the same time, lower human capital will result in lower salaries. Hence, in this scenario, both formality and salaries decline, which also affects GDP growth.

*Creative destruction*, the third scenario, assumes that COVID-19 accelerates the creative destruction process in the economy, forcing a replacement of traditional jobs (salaried workers in manufacturing) with more dynamic and better-paid (but less stable) jobs in high-productivity services. This supposes both a decline in salaried workers and an increase in their real salaries. Furthermore, even though the number of salaried workers declines, GDP remains the same given the rise in productivity.

The effects of each scenario over variables are assumed taking into account the historical experience in Argentina. For example, salaried work declined nearly 5 percentage points between 2015 and 2021 and informality grew by 10 percentage points during the 2001–2002 crisis. Still, these scenarios are not predictions, but rather an attempt to assess how significant the effects might be if they occur.

**Figure 2.11** Argentina: Old-Age Coverage by Scheme in Baseline and Shock Scenarios, 2020–2100 Projection (Percentage of the population 65 and older)



Source: Authors' calculations based on the IDB's Pension Projection Model.

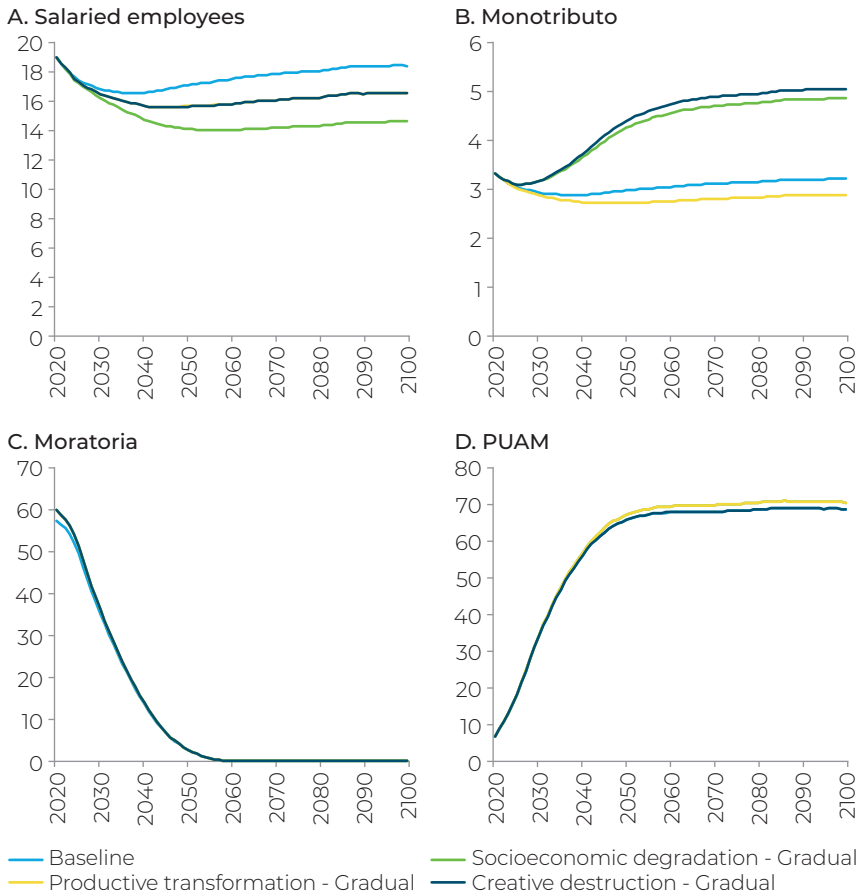
Note: Some scenarios are not shown because they overlap with others, given that the simulated changes do not affect coverage for all schemes. PUAM: Pensión Universal para el Adulto Mayor.

## Comparing the Scenarios

### Coverage

As previously discussed, total coverage of the elderly was over 80 percent in 2020, considering the four schemes analyzed. The proposed scenarios show differences in the distribution of this coverage in the future, as weight shifts towards salaried, *monotributo*, or PUAM schemes. Salaried work is highly relevant for the system because it represents the main

**Figure 2.12** Argentina: Salaried Workers' Coverage in Baseline and Gradual Scenarios, 2020–2100 Projection (Percentage of the population 65 and older)

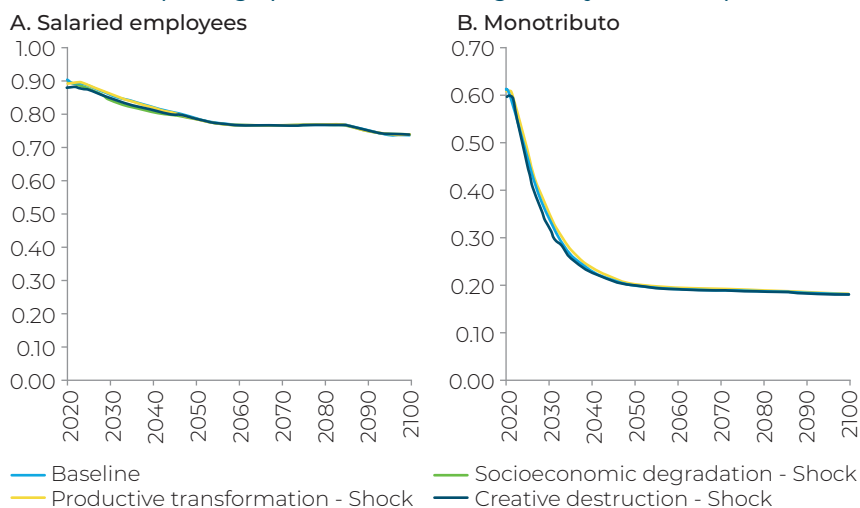


Source: Authors' calculations based on the IDB's Pension Projection Model.  
 Note: Some scenarios are not shown because they overlap with others, given that the simulated changes do not affect coverage for all schemes. PUAM: Pensión Universal para el Adulto Mayor.

revenue source and the main determinant of benefits. The proportion of pensioners under this scheme starts at 19 percent in 2020.

As expected, coverage in the long term converges to the same level, regardless of whether the shock or gradual variants are considered, but changes under the shock variant are faster. A decline in coverage for salaried workers can be expected in all cases due to the increase in informality. The effect of lower formality among active workers in the alternative scenarios results in lower coverage in old age. On the other hand, coverage of

**Figure 2.13** Argentina: Replacement Rates in Shock Scenarios for Salaried Workers and *Monotributistas*, 2020–2100 Projection (Average pension over average salary or income)



Source: Authors' calculations based on the IDB's Pension Projection Model.

Note: Some scenarios are not shown because they overlap with others, given that the simulated changes do not affect coverage for all schemes. PUAM: Pensión Universal para el Adulto Mayor.

the *monotributo* improves in the first and third scenarios, as the proportion of the labor force in this category increases. Of course, there is no impact on moratoria beneficiaries (since it is assumed that the scheme is closed), and increases in PUAM beneficiaries are expected to offset losses in the other schemes.

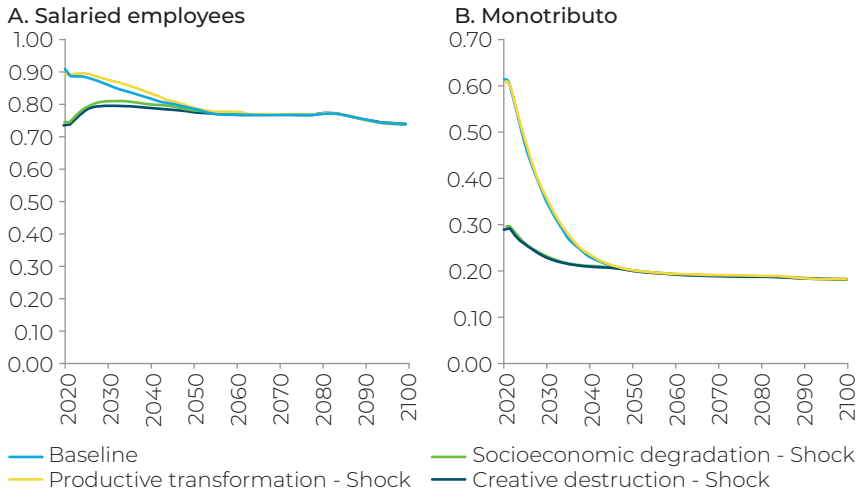
### Adequacy

Figures 2.13 and 2.14 examine adequacy by showing the value of average pensions in relation to the average income of salaried workers and *monotributistas*. Pension benefits start the simulation period at 70–80 percent of wages for salaried workers and close to 300 percent of assumed income for *monotributistas*. In both the shock and gradual scenarios, salaried workers see a period of increase in replacement rates (that is shorter if changes are rapid). A similar effect is found among *monotributo* beneficiaries.

### Sustainability

Starting from slightly below 3 percent of GDP, revenue is expected to increase faster under the creative destruction scenario than under the

**Figure 2.14** Argentina: Replacement Rates in Gradual Scenarios for Salaried Workers and *Monotributistas*, 2020–2100 Projection (Average pension over average salary or income)



Source: Authors' calculations based on the IDB's Pension Projection Model.

alternative ones. Still, in all cases demographic changes will likely dominate the trend, resulting in a cyclical dynamic related to changes in the number of active-age individuals. On the other side, expenditures would be similar under the different scenarios, except for the productive transformation scenario, where the declining trend in GDP would result in a faster increase in spending until lower salaries and coverage affect most retired workers a few decades from now.

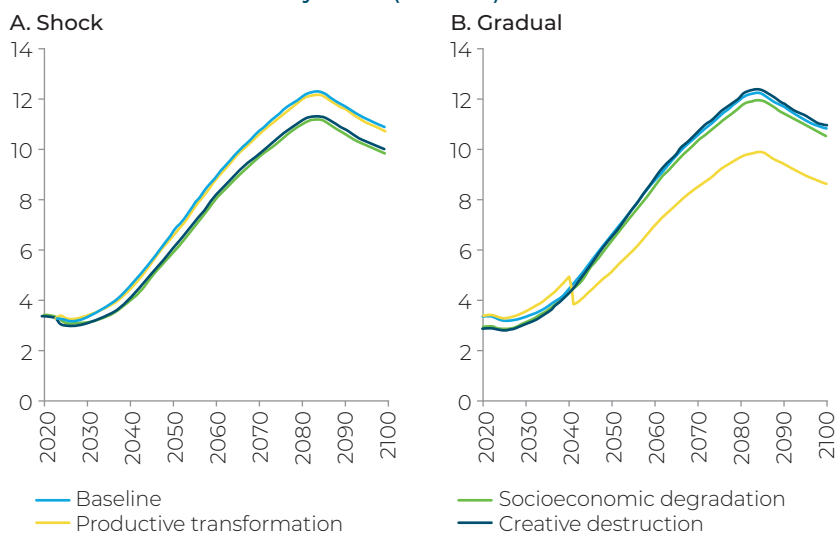
The resulting fiscal situation can be seen in Figure 2.15, which shows the running deficits of the system. The creative destruction scenario does not differ significantly from the baseline, but the other two scenarios present different behavior, with larger deficits in the short and medium term (significantly higher in the gradual scenarios). This could have a serious impact on the country's macroeconomic stability and, consequently, the fiscal and political sustainability of the system.

## 2.4. Conclusions

Pension systems are deeply linked to labor markets. Hence, any significant impact of COVID-19 on pensions would most likely happen through



**Figure 2.15** Argentina: System Deficit in Shock and Gradual Scenarios, 2020–2100 Projection (Percent)



Source: Authors' calculations based on the IDB's Pension Projection Model.

labor market effects. In this regard, the most relevant result of the analysis presented in this chapter is that the impact of COVID-19 on the formal labor market in Argentina was limited, making the indirect effects on pensions also limited. Even though economic activity was severely hit, by the third quarter of 2020 the most relevant indicators were already recovering, with economic activity and labor force participation growing and unemployment declining. This trend continued, and by the end of 2021 most effects of COVID-19 had been offset. Even though there may be additional unexpected consequences of the crisis, it seems that in the short term, the social and economic impacts of COVID-19 are in the past.

These results were partly related to several measures adopted to mitigate the consequences of the pandemic. Some of them focused on the productive system, others on social protection, and others on public health, such as strengthening health systems and undertaking the national vaccination campaign. On the other hand, mobility restrictions and the closure of public spaces had a very negative impact on economic and social indicators, as they caused a sudden stop in activity in many sectors, including still-to-be-assessed effects on educational quality and attainment.

The pension system in Argentina offers very high coverage, with a basic income for nearly all residents older than 65 regardless of their work history, resulting in a very expensive scheme (total pension expenditures are around 11–12 percent of GDP). Furthermore, the system is highly fragmented, as it is comprised of many different and special regimes. In some cases, this ends up in duplication of benefits, which represents a serious structural challenge in terms of fiscal and social policy. However, these same characteristics protected the system from the serious effects of COVID-19. In contrast to fully funded schemes, pay-as-you-go is more effective in spreading the costs of a crisis across social groups and time, hence softening short-term effects (although, of course, this same characteristic creates hidden costs that may hamper economic growth in the medium term.) This has been proven true for Argentina when analyzing the short-term impact of the crisis.

One mechanism that authorities used to ease the financial burden generated by this wide protection network was to reduce pension indexation in the context of sustained inflation, hence reducing (permanently) benefits for all participants. Still, this was partly offset by extraordinary cash bonuses, distributed via a seemingly contradictory policy approach that resulted in lower spending without political unrest.

It could be argued that the main impact of COVID-19 on the pension system in Argentina was on its sustainability. As discussed, revenue declined in 2020 (and more importantly, the government distributed generous subsidies for firms to pay salaries and contributions). However, this risk was offset by the reduction in indexation, as mentioned above.

Long-term impacts are more difficult to assess, partly because it is not clear what the effects of COVID-19 will be on the labor market over the medium and long term, and partly because the high complexity and heterogeneity of Argentina's pension system make it very difficult to model. Using the IDB's Pension Projection Model allowed for building a baseline scenario considering four schemes that constitute most (but not all) pension beneficiaries in Argentina, assuming that the most relevant variables regarding trends and levels observed up to 2019 would be maintained in the long term. The baseline model predicts a decline in coverage among older women (mostly because PUAM benefits are not enough to replace moratoria benefits) and a more stable trend among men. In fiscal terms, a gradual worsening of the deficit should

be expected (from the current 3 percent of GDP to nearly 10 percent by 2085), reflecting population aging.

Considering this base scenario, three alternative scenarios were defined to reflect the potential long-term impact of COVID-19. The first assumes a process of deterioration in the labor market, with a decline in formality and the proportion of salaried workers. The second assumes an acceleration in the existing trend of the labor force shifting from traditional manufacturing jobs to service activities that, combined with the loss of human capital that occurred during the pandemic, results in a reduction of salaries. Finally, the third scenario adopts a creative destruction approach, assuming that there will be a rapid process where salaried work is replaced by independent jobs, but at the same time productivity will grow and, consequently, wages will increase. For each scenario, there is a shock (with immediate effects) and a gradual variant (with effects spread over 20 years).

The most relevant result from this exercise is that the two first scenarios would have a negative fiscal impact in the short and medium term (particularly when considering the gradual variants), but they would produce better fiscal results in the long term. Inversely, the creative destruction scenario would have no significant impact in the short term but would render the pension system consistently less sustainable in the long term.

In conclusion, the impact of COVID-19 on Argentina's pension system has been limited in the short term. The long-term impact is harder to predict because the macroeconomic effects of efforts by authorities to protect the system and pensioners during the pandemic is not yet fully known, and neither are the effects of COVID-19 on the labor market. The projections suggest that the feasible long-term effects do not significantly change the coverage, adequacy, and sustainability of the pension system.



# Chile: The Combined Impact of Early Withdrawals from Pension Funds, COVID-19-related Labor Shocks, and New Non-contributory Pensions

*Rubén Castro, Leonardo González, and Juan Tapia Gertosio*

The Chilean pension system was hit hard during 2020–2021 by labor market shocks and by the early withdrawal of 25 percent of the individual pension funds accumulated by 2019, an amount equivalent to 20 percent of GDP. Also, non-contributory pensions were severely expanded. This chapter estimates the size of those impacts on new pension allowances and replacement rates across the distribution of Chilean workers, using a combination of official data sets and the Inter-American Development Bank’s model for the heterogeneity of labor trajectories. It is estimated that COVID-19-related labor market shocks on pensions were small, but that the impact of early withdrawals was bigger, at about 31 percent and 37 percent of new self-financed pensions for men and women, respectively, in 2022. This share increases to about 56 percent among the third of the affiliates with the lowest savings. It was also found that the recent increase in non-contributory pensions more than counteracted this impact for roughly 90 percent of new retirees in 2022. About 90 percent of the population more than offset their labor-and-withdrawal impact on pensions with the increase in non-contributory pensions.

### 3.1. Early Withdrawals, the COVID-19 Shock, and Non-contributory Pensions

Chile's pension system is deeply rooted in individual accounts. This system was installed in Chile around 1980, a period of profound reforms. Its novel central role for individual pension savings captured the attention of policymakers worldwide, and it became a type of laboratory case. Some 40 years later, nearly all the economically active and civil population had been enrolled in the individual accounts system for their entire formal working life. In this context, total savings in 2019 amounted to about 80 percent of Chile's GDP. Until 2019, those savings were projected to pay for most public pensions.

However, social unrest erupted in October 2019, and then COVID-19 broke out in early 2020. By December 2020, the Chilean Congress, in a historical process, approved the right of people to withdraw some (and in some cases even all) of the savings accumulated in their pension accounts.

It is impossible to overstate the significance of this process for Chilean society. Early withdrawals from pension funds were unthinkable before 2019, and then became legal, fast, and easy. On three occasions during the COVID-19 crisis, the Chilean Congress—in response to popular pressure—passed a special law to allow early withdrawals from pension funds.

This chapter explores the impact of those withdrawals on future public pensions, as well as the impact of COVID-19-related labor shocks, and how they were counteracted by bigger non-contributory pensions. For countries where individual accounts play a central role in the pension system, it is relevant to understand how early withdrawals from pension funds have played out in Chile. In fact, however, such withdrawals also occurred in Colombia, Peru, Mexico, Bolivia, El Salvador, and Costa Rica. As such, it is critical to obtain a comprehensive understanding of the Chilean case in order to project the potential consequences of this type of event in other countries in Latin America and the Caribbean.

Overall, the public made almost maximum use of the chance to make early withdrawals from pension funds from their accounts. The vast majority of accountholders made such withdrawals at the maximum legal level, which had a huge impact on most macro- and micro-level economic variables in Chile. In this context, the average withdrawal was about US\$1,400, and there were about 28 million withdrawals. Total savings dropped from

**Table 3.1** Chile : Total Pension Funds as a Percent of GDP, 2011–2021

Pensions Funds as percent of GDP	
2011	58
2012	60
2013	62
2014	68
2015	69
2016	69
2017	72
2018	71
2019	82
2020	76
2021	60

Source: Authors' calculations based on official data.

82 percent of GDP in 2019 to 60 percent by the end of 2021, after the third and final early pension fund withdrawal (Table 3.1).

In their design, early withdrawals from pension funds included non-linear rules, which introduced sharp socioeconomic gradients among affiliates. Specifically, rules about minimums and maximums introduced gradients across savings levels, which in turn caused socioeconomic gradients in future pensions. For example, given the rules on minimum amounts to be withdrawn, a substantial number of accountholders retired the majority or even the total of their savings. At the same time, due to rules on the maximum amount established in the successive laws that allowed the early withdrawals from pension funds, many workers with medium to high savings levels withdrew only the standard 10 percent or less.

The purpose of this chapter is threefold. First, it aims to document the timing and social gradient of the early withdrawals from pension funds and labor market shocks. Although this labor channel of transmission for the impact of COVID-19 on pensions seems smaller than the impact of early withdrawals from pension funds, both shocks during 2020–2021 are integral components of the impact of COVID-19 on public pensions. The second aim is to project the impact of such withdrawals and labor market shocks on future public pensions. The third and final aim is to

show how the withdrawals were counteracted by bigger non-contributory pensions.

Non-contributory pensions are an increasingly relevant component of the Chilean pension system. In fact, Chile recently introduced a large reform that increased the size and expanded the coverage of non-contributory pensions, making them an almost universal allowance. The universal pension is about half the size of the minimum wage, is nearly equal for everybody, and covers all individuals but the richest 10 percent. To be precise, the universal pension decreases for those with high self-financed pensions, but those retirees are in the richest 10 percent, so the universal pension is nearly flat for all beneficiaries. Therefore, in this new system, early withdrawals from pension funds and labor market shocks have nearly no direct relation with people's non-contributory pensions.

The methodology used to analyze the short- and long-term impact of early withdrawals from pension funds and labor market shocks on pensions is based on an actuarial-economic model. A cell-based application of the conceptual model currently used by the IDB is employed to carry out pension projections. This includes a heterogeneity matrix to simulate the distribution of future pension allowances in order to include in the simulation a socioeconomic gradient in the early withdrawals and the labor market shocks.

The next section briefly introduces the Chilean pension system and its historical evolution. Section 3.3 then describes the early withdrawals from pension funds, which are comprised of three massive episodes (each of them corresponding to the passage of a law by the Congress). Section 3.4 describes and analyzes the labor market shocks that took place during 2020–2021. The final sections of the chapter present the methodology, the results for the Chilean case, and the main points of the discussion, respectively.

### 3.2. The Chilean Pension System

Since Chile was the first country to fully embrace an individual capitalization pension system, its case has been intensively explored in the literature. Only a brief description highlighting its main features is provided here, drawing on OECD (2021a).



The early 1980s were a period of profound reforms in nearly all spheres of public systems in Chile. In 1981, after at least a decade of analysis and discussion of the situation of the country's sparse pay-as-you-go systems, the individual capitalization system started for all new entrants into the labor market, as well as for most people under age 45 who opted out of the old system to join the new one. Under the new system, private entities known as Pension Fund Administrators (*Administradoras de Fondos de Pensiones* - AFPs) were designated to manage pension savings, including investment decisions. In general, upon inauguration of the new system the contribution rate was set at 10 percent, plus about 1 percent for the disability and survivorship fund (an insurance-like scheme) and about another 1 percent for the AFP fee. The amount of new self-financed pensions was set at the actuarially fair value, with the support of a modest non-contributory pillar. During this process, which started in 1981, the accumulation of pension funds grew steadily, reaching 82 percent of Chile's GDP at the end of 2019.

Along the way, some changes were introduced into the system. In 2002, new investment options for pension funds were created (known as *Multifondos*), and in 2004, a marketplace known as *El Sistema de Consultas y Ofertas de Montos de Pensión* (SCOMP) was developed for insurance companies to meet with new retirees looking for annuities. In 2008, a more substantial reform strengthened all pillars of the system and designed a new non-contributory pillar. This new non-contributory pension expanded coverage, increased the pension amount, and transformed the non-contributory pension into a right rather than a benefit. It also included a novel gradual approach in which the non-contributory pension was set as a decreasing function of the self-financed pension.

Finally, in 2022 the non-contributory system was replaced by a universal pension system, where a flat pension was awarded to the entire population 65 years old and older, with the exception of persons in the top 10 percent of income and those with self-financed pensions above about three minimum wages (most of them already included in the top 10 percent of income).

Currently, the legal retirement age for the self-financed pension in Chile is 65 for men and 60 for women, while for the non-contributory pension the age is 65 for both men and women.

### 3.3. Early Withdrawals from Pension Funds in Chile and Their Socioeconomic Gradient

The necessity of economic relief during the COVID-19 crisis, and the political and historical context, explain the rationale for early withdrawals from pension funds. On three occasions, all during the 2020–2021 period, the Chilean Congress passed a law that allowed individuals to withdraw some of their pension savings from their individual accounts. The time window for the first withdrawal went from December 2019 to December 2020, the second from March 2020 to March 2022, and the third from April 2021 to April 2022. Hence all the withdrawals are now completed.

The public made extensive use of all three early withdrawal opportunities. Chile's Pension Oversight Office published several statistical reports (Superintendencia de Pensiones 2021a, 2021b, 2022) that show that 92 percent of individual accounts were accessed under the first withdrawal, leaving about 12 percent of individual accounts with no savings. This figure is fairly similar for the second and third withdrawals: about 90 percent of accounts with savings were accessed under the withdrawals, leaving about 10 percent of those accounts with no savings. In all three episodes, the average withdrawal among those who withdrew was about 35 percent of savings.

The rules of the withdrawals are very important in terms of understanding the socioeconomic gradients involved. In each of the three episodes, the maximum withdrawal amount allowed was 10 percent of total savings, with a (voluntary) minimum of about US\$1,500 and a (mandatory) maximum of about US\$6,000. Thus, for each early withdrawal, affiliates with low savings were allowed to withdraw a potentially large share of their individual accounts, while people with very high savings were allowed to withdraw at most 10 percent or less.

#### 3.3.1. The First Withdrawal Episode

The Pension Oversight Office published microdata at the individual level using a 10 percent sample of withdrawals from the first episode, including individuals' age, sex, total savings, date, and size of the withdrawal. These microdata provide a unique opportunity to explore this episode in more

**Table 3.2** Chile: Number and Size of Early Withdrawals from Pension Funds by Episode

	<b>Numbers of Accounts with Withdrawals (a)</b>	<b>Numbers of Accounts with Savings (b)</b>	<b>Withdrawal Rate (a/b)</b>	<b>Average Withdrawal as Percent of Savings</b>
1st withdrawal	10,927,883	11,014,138	99%	40.3%
2st withdrawal	9,038,595	9,472,159	95%	37.0%
3st withdrawal	7,898,885	8,146,056	97%	35.9%

Source: Authors' calculations based on official statistical notes.

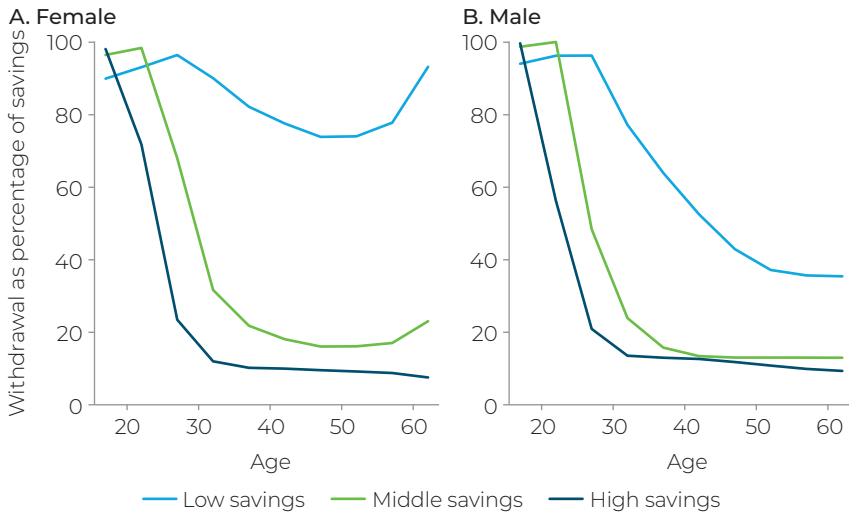
detail. The microdata are used here to count the number of accounts with withdrawals by sex and age, and aggregated official data are used to estimate the total number of account holders by sex and age. The share of account holders who exercised the right to make the first withdrawal is then computed by age and sex.

Approximately 99 percent of account holders made the first withdrawal (Table 3.2). This is the case for both men and women, and across most ages. Thus, there are no deep sex or age gradients among those who made the first withdrawal.

The next important figure is the proportion of total savings withdrawn by those who made the first early withdrawals from pension funds. Using the microdata from the first episode allows for easily computing that proportion (last column in Table 3.2). An age gradient might be expected, that is, older individuals might withdraw a lower proportion because they have higher savings and there are rules regarding maximum withdrawals. Figure 3.1 shows the results of this calculation, including an age, sex, and savings-level gradient. In each age-sex bracket, the accounts in the microdata from the first early withdrawals are classified into three groups of equal size: low, medium, and high savings. These saving levels can be mapped directly into the heterogeneity matrix of the projection model, as will be discussed later in the Methodology section.

Figure 3.1 makes clear that the proportion of total savings withdrawn by affiliates in the first withdrawal episode ranged from nearly 100 percent among young individuals to about 40 percent and 20 percent for men and women in their 60s, respectively. Thus, average early withdrawals from pension funds as a percentage of savings were higher among young workers.

**Figure 3.1** Chile: Average Early Withdrawal from Pension Funds as a Percent of Savings in the First Episode by Sex, Age, and Savings Level (Percent)



Source: Authors' calculations based on the IDB's Pension Projection Model.

Figure 3.1 shows that among the group with the lowest level of savings, older persons withdrew a substantially larger share of their savings, in the range of 80 percent for women and 50 percent for men. However, this same gap between groups with lower and higher savings levels can be seen among affiliates as young as age 25. The middle and high savings-level groups, on the other hand, are much more similar to one another in this regard.

Figure 3.1 also shows a sex gradient, visible among the third of account holders with the lowest savings levels (conditional on age, as explained in the previous paragraph). This is because the lowest savings levels among women are lower than the lowest savings levels among men. This can also be seen in the distribution of the proportion withdrawn in the first episode (although both men and women are concentrated at 10 percent and 100 percent, women are more concentrated at 100 percent than men).

### 3.3.2. The Second and Third Withdrawal Episodes

For the second and third episodes of early withdrawals from pension funds, there are still no microdata available. However, there are official

statistical notes (Superintendencia de Pensiones 2021a, 2121b, 2022). They are used here to compare the three early withdrawal episodes at the aggregate level in order to explore the impact of the second and third withdrawals.

Table 3.2 illustrates that the withdrawal rate was fairly stable across the three episodes, with the average withdrawal as a percentage of savings decreasing slightly across episodes. This slight decrease from 40.3 percent to 35.9 percent probably occurred because individuals with low savings levels exhausted their savings with each successive early withdrawal. Hence, they could not withdraw more savings in the last episodes. This pushed down the average withdrawal in the direction of the base case, 10 percent. Indeed, the average early withdrawal as a percentage of savings is very similar across episodes if one controls for savings level. Here, there is probably a direct implication of the early withdrawal rules, plus the behavior of making withdrawals as often as possible, rather than other behavioral explanations.

In sum, the only substantial difference between the three early withdrawal episodes is the number of accounts with withdrawals. The proportion of accounts with savings that experienced withdrawals, and the average proportion withdrawn, is similar. There is a slight difference in the proportion withdrawn, explained by the fact that some individuals simply progressively exhausted their available savings with each successive withdrawal. This situation altered the pool of individuals that could withdraw in each episode.

### **3.4. The Impact of COVID-19 on Labor Markets and Its Socioeconomic Gradient**

This analysis follows a group of variables in the labor market that are closely related to the pension system: (i) contributable wage, (ii) participation wage, (iii) employee rate, and (iv) formality rate. The composition of these variables determines the proportion of individuals that contribute to their savings accounts in any given month.

Of course, all those figures are strongly influenced by COVID-19 relief policies. However, the analysis here is of the impact of labor market anomalies during 2020–2022 on future pensions, not the decomposition of such anomalies into their different elements.

### 3.4.1. Contributable Wage

The real growth rate of contributable wages with respect to 12 months before shows important changes in trends across the last 40 years in Chile, but it is usually above 2 percent, with the exception of recessions such as the Asian crisis of 1997 and the 2007 subprime crisis.

There was a recession-like drop in wage growth during the period of early withdrawals from pension funds from 2020 to 2022. Wage growth declined to a crisis level of 1 percent in 2020 and 0 percent in 2021, and even lower at the beginning of 2022, according to the latest available data. The case of men and women are similar. The future evolution of the real growth rate of the contributable wage is very unclear, though official data show a relatively minor COVID-19 impact on the contributable wages of active pension fund affiliates.

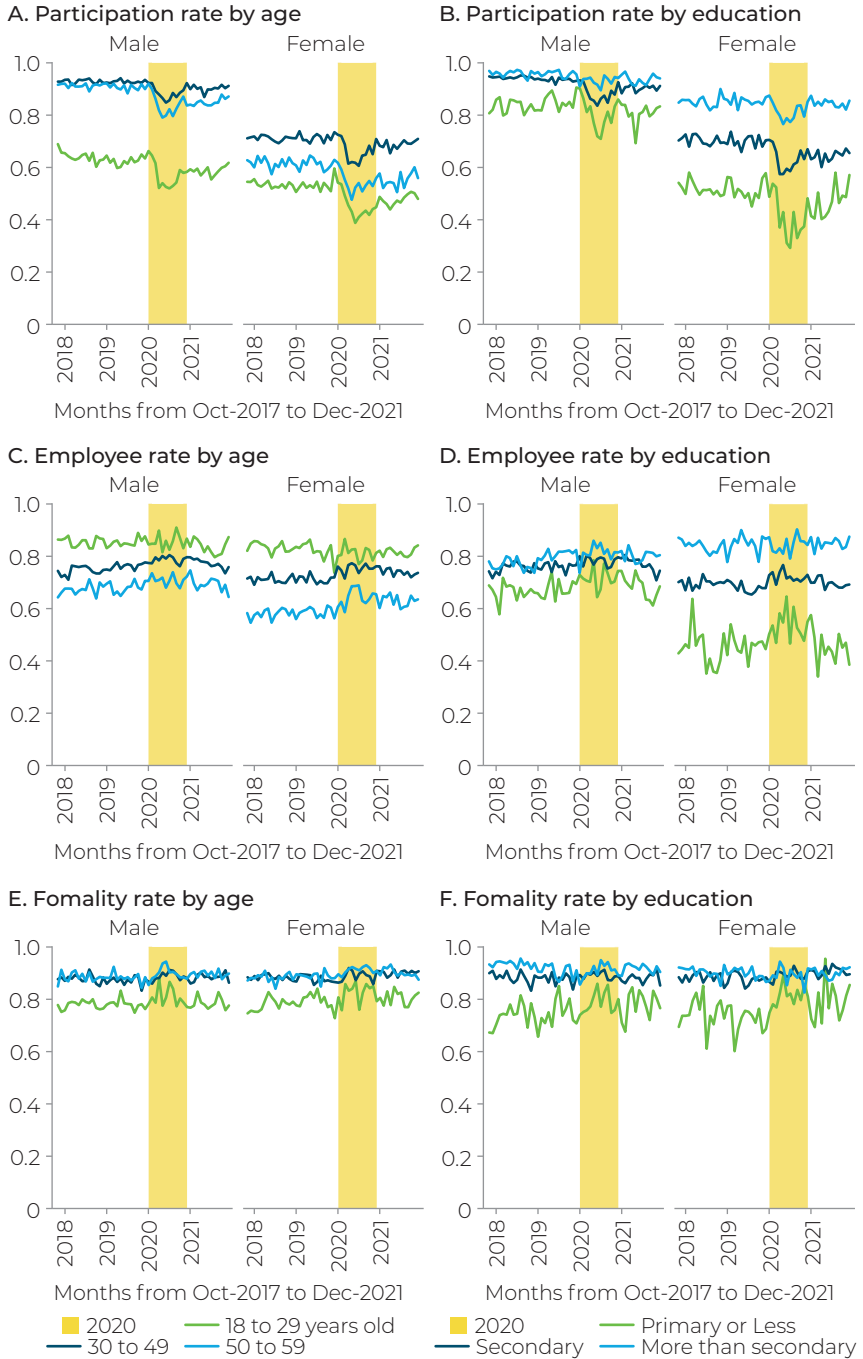
Regarding the socioeconomic gradient in the wage shock, there is not much information available. The Chilean labor survey does not include wages. Nonetheless, as an alternative for analysis, AFPs maintain official statistics on the evolution of average contributable wages. So the differences between the AFPs with lower average contributable wages and those with higher average contributable wages can be explored. In this case, more volatility and more recuperation in the former type of AFPs rather than the latter is observed, but, in general, no clear social gradient is seen.

In sum, the wage shock from the COVID-19 crisis was relatively small, but there is considerable uncertainty regarding its future evolution. The socioeconomic gradient in the wage shock, on the other hand, is small.

### 3.4.2. Participation Rate

The participation rate is usually measured as the proportion of the population in a given age-sex bracket that joins the labor market.<sup>1</sup> Figure 3.2 shows a clear shock to the labor force participation rate. At a glance, the figure shows that the shocks are focused in 2020 and are similar for both

<sup>1</sup> The current specific definition of labor participation used in labor surveys largely follows an international standard developed by the International Labour Organization, and can be summarized in the following question: Did you work for pay for at least one hour during the past week, or, if you did not, did you perform job search activities?

**Figure 3.2** Chile: Labor Market Variables across Time, 2018–2021

Source: Authors' calculations based on labor force surveys.

sexes, all age groups, and all education levels, and that they recover by late 2020 or early 2021. Going into more detail, the shock is about 10 percent for men and 15 percent for women. For women, the shock is somewhat larger in the lower educational group, but, in general, the associated socioeconomic gradient seems small. In sum, there was a uniform shock in the labor participation rate, with a low socioeconomic gradient.

### 3.4.3. Employee Rate

Conditional on participating in the labor market, the next variable that directly influences the pension system is the employee rate, since only formal employees contribute to the individual accounts in Chile. Figure 3.2 shows the employee rate, namely, total employees over total participating individuals. The overall shock on this rate seems mild. Some variation in 2020 is observed, but no significant changes are seen. The analysis by age or educational level does not show a substantial socioeconomic gradient either.

### 3.4.4. Formality Rate

Finally, conditional on employee status, the last variable explored is the formality rate, since informal workers rarely contribute to the pension system. Similar to the employee rate, Figure 3.2 shows some variation in this rate across 2020, but with no clear change, and no clear socioeconomic gradient.

### 3.4.5. Summary

The analysis found only a mild and temporary drop in the labor force participation rate, and no clear shock in the formality or employee rate, as a result of the COVID-19 crisis. The drop in the participation rate implies a temporary drop in the ratio of contributors to active affiliates. A small though ongoing change in the real growth rate of contributable wages was also found. In both wage and participation shocks, no substantial or clear socioeconomic gradients were identified. All of these observations are not surprising, as there is plenty of evidence of a substantial rebound in the labor market. A recent survey shows a complete recovery to



pre-pandemic levels in March 2022,<sup>2</sup> and this recovery has occurred for both men and women. Furthermore, the total number of pension contributors per month has also substantially recovered.

### 3.5. Methodology

#### 3.5.1. The Heterogeneity Matrix

The methodology used for this study is based on an actuarial estimate of the current situation and a projection for the future. The IDB model and its heterogeneity matrix (IDB 2022) are used to manage heterogeneity in labor trajectories, early withdrawals from pension funds, and labor markets shocks. The heterogeneity matrix works as a complement to a standard cell-based model. The IDB model approach is used because it provides a transparent framework to capture heterogeneity in pension projections in a rather open and accessible spreadsheet that does not require any other software or special add-in.

The heterogeneity matrix concept is a simple life-time perspective. It is assumed that each individual in any given cohort can be assigned a relative index regarding “density of contributions” and “wage conditional on contributing.” A wage index of 1.05, for example, means the individual has a 5 percent higher salary relative to the average in his or her cohort. It is also assumed that a good approximation of the diverse labor market trajectories can be achieved by assuming that these relative positions are stable across the life cycle, which is empirically checked in the Results section of this chapter. Each of the individuals in the cohort can be placed in one cell of a 10x10 matrix where the rows represent the deciles of relative density and each column represents the deciles of the relative wage. Data such as the average index of density and wage can be placed in the cell, and the proportion of the cell that is married or is eligible for public assistance, for example, can also be determined. It can thus be said that the matrix “divides” the cohort into 100 groups. The next section of the chapter adds the heterogeneous nature of the early withdrawals from pension funds into the

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<sup>2</sup> On April 19, 2022, the prestigious survey center of Universidad Católica de Chile published its “Empleo - Covid-19 UC” study, which, like other sources, found that the total number of jobs was higher than pre-pandemic levels. For more information, access <https://www.uc.cl/noticias/se-recupera-la-totalidad-de-empleos-perdidos-por-la-pandemia-y-tasa-de-ocupacion-sube-con-fuerza/>.

model by introducing the size of such withdrawals in each cell of the matrix.

To estimate this heterogeneity matrix for Chile, a public longitudinal monthly micro database called the *Historias Previsionales de Afiliados* (HPA) was used. The database covers about 22,000 individuals. This is a powerful and renowned data set, articulated with the largest and longest panel data set in Chile, which to date has had seven rounds (2002, 2004, 2006, 2009, 2012, 2015, and 2019). The sampling procedure started as a common initiative among several Chilean institutions, and has been refreshed to add new individuals. The document containing all the details of the sampling procedure—in addition to the computation of sampling weights, attrition, sampling error and variances—is available on the state agency's website.<sup>3</sup>

These data follow each individual since their enrollment in the system. Therefore, the data provide access to every monthly contribution for every individual in the sample. The focus here is on individuals aged 50–54 so as to avoid early and late career issues. For each individual in this age bracket, his or her life-time density and life-time contributable wage as a proportion of the value in the individual's cohort are computed. With these data, each individual in a specific cell among the 100 cells in the matrix is classified. Matrices for males and females are computed separately, and those matrices are assumed to be valid for all cohorts.

### 3.5.2. Adding Early Withdrawals from Pension Funds into the Model

The projection begins in 2020, using 2019 as the last observed year because the early withdrawals from pension funds occurred during 2020–2022. Two stages were implemented to add this into the model. The first stage focuses on the *average* effect of early withdrawals by age and sex, and the second stage focuses on the *distribution* of such withdrawals.

The first stage takes the proportion of individuals (by age and sex) who made an early withdrawal and their average withdrawal for the first

<sup>3</sup> Subsecretaría de Previsión Social, Encuesta de Protección Social, available at [www.previsionsocial.gob.cl/sps/biblioteca/encuesta-de-proteccion-social/](http://www.previsionsocial.gob.cl/sps/biblioteca/encuesta-de-proteccion-social/) (accessed 29 April 2023). In the first wave, 2002, the sample included only the enrolled population. The second wave (2004) added new young people and a sample of the non-enrolled populations. In 2015, new young people were again added.

episode in 2020 and applies the resulting reductions in savings into each age and sex bracket in the model in that year. For the second and third episode, those reductions are added together because they occurred mostly during 2021. It is assumed that the age, sex, and savings profiles obtained from the microdata of the first episode are also valid for the second and third episodes. This procedure suffices for the model to capture the average effect of early withdrawals from pension funds on self-financed pensions, since in the Chilean individual capitalization system these pensions are actuarially fair and thus adjust automatically to changes in savings.

The second stage focuses on the distribution of the early withdrawals from pension funds, that is, the heterogeneity of withdrawals. The idea is that certain groups of individuals within the same cohort made a different use of the early withdrawals (for the most part due to the withdrawal rules rather than subjective behaviors). The addition of this heterogeneity is relatively simple in the Chilean capitalization system because the projection of the average case does not depend on the distribution of cases. This is because the self-financed pension is a linear function of savings, whereas the non-contributory pension is the same pension for everybody. Distribution issues can be addressed here without addressing the average self-financed pension or the non-contributory pension.

Figure 3.3 shows a division of the heterogeneity matrix into three savings levels. Each level is comprised of 33 percent of the individuals. The three savings levels are used as a proxy for a socioeconomic gradient and are matched with the three savings levels in the analysis of the first early withdrawal episode (Figure 3.1). For the second and third episodes, the same socioeconomic gradient as in the first episode is assumed.

The relative impact on retirement savings depends on the person's age in 2020–2021 because for young individuals in those years the change in retirement savings is minimal compared to the situation of relatively older active workers in 2020. For this reason, the situations of young, middle-age, and older active workers in 2020 are modeled separately.

### 3.5.3. Adding Labor Market Shocks into the Model

The focus here is on the age-sex conditional average impact on two dimensions: contributable wage and density of contributions. Heterogeneity is

**Figure 3.3** Chile: Mapping Early Withdrawals from Pension Funds by Savings Level into the Heterogeneity Matrix



Source: Authors' calculations.

left out of the analysis because it is probably a very minor component of the projection. This follows the analysis of the labor market shocks in Section 3.4.

Regarding wages, the logic of the individual capitalization model allows for easily adding a lower real wage growth rate during the first years of the projection. A lower growth rate implies smaller average savings and therefore smaller self-financed pensions. It is worth noting that other pension systems, like pay-as-you-go systems, require the computations of some sort of “pensionable wage,” which would probably be a bit more complex to add into a model.

Taking a conservative stance, a 1.7 percent growth rate of wages is assumed for the long run. The official data show that the wage growth rate was below 1 percent in 2020 and 0 percent or even lower afterward. Given the uncertainty about the future real growth rate of the contributable wage, 0 percent growth is assumed until 2022 and the implications of different scenarios for the future evolution of this rate are discussed.

The density of contributions, on the other hand, fully recovered after 2021, as shown in Section 3.4. During 2020–2021, the density of contributions changed by 5 and 8 percentage points for males and females, respectively (a respective relative shock of –10 and –15 percent). This was easily added into the model for the same reasons that it was easy to add

the wage shock. Following the discussion in Section 3.4, the same relative density shock was added across age and sex groups.

### 3.5.4. The Base Case Scenario

Current and future new pensions are first projected in a “base case” scenario without the impact of early withdrawals from pension funds and labor and non-contributory impacts. Those impacts are then added for comparison. Official statistics are used to compute the following variables, by sex and age, at the start date of the analysis (December 2019, in this case, as discussed earlier): number of active workers (year average), average savings by active workers, number of contributing active workers (year average), average wage of contributing workers, an affiliation table (the transition rate into being an account holder), and a disability table (risk rate for active workers to become beneficiaries of disability pensions, which is estimated based on the prevalence of disability pensions and the observed disability and survivorship insurance premium). The heterogeneity matrix with and without early withdrawals from pension funds was estimated as in Sections 3.5.1 and 3.5.2. For the projection, the following are assumed: a real per capita GDP growth of 1.7 percent (which implies real 1.7 percent growth in wages conditional on age and sex); a real annual rate of financial return on pension savings of 5 percent; a real annual interest rate of 2 percent for annuities, population, and population-level mortality rate projections by the United Nations; mortality rates for pension computation from regulatory documents;<sup>4</sup> and a constant heterogeneity matrix, affiliation table, disability table, density of contributions table, and age-sex wage profiles. Finally, it is assumed that the current non-contributory pension growth rate is the same as that of the contributable wage.

The model projects average savings by age and sex, plus the number and average allowances of new old-age, disability, and survivor pensions. The average allowance for new pension benefits arises from two components: the contributory allowance, which comes from savings over the actuarial factor, and the non-contributory allowance, which is the universal pension. All of those figures are decomposed using the heterogeneity matrix.

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<sup>4</sup> See Superintendencia de Pensiones, Norma de carácter general SP°398, SVS N°398, 20 November 2015.

## 3.6. Results

### 3.6.1. Comparison of Distributions between Official Data, *Historias Previsionales de Afiliados*, and the Heterogeneity Matrix

This section focuses on the evaluation of the heterogeneity matrix as a methodological framework to manage the complexities of projecting the diversity of labor trajectories.

First, an important simplification supporting the matrix is checked, which is that an individual's relative position in terms of wage and density remains constant across the active life cycle, and therefore relative savings are constant across the individual's working life. Using the HPA database to compute the relative distribution of savings by sex and age, substantial stability of relative savings across age was found for both sexes.

Second, the performance of (i) the heterogeneity matrix approach, (ii) data from the Pension Regulation Office, and (iii) the HPA was compared. The cases of males and females, and of relatively old and relatively young age individuals, were compared as of December 2020.

All comparisons show a close relation between the estimated distribution using the heterogeneity matrix, official data, and HPA data. Thus, the heterogeneity matrix satisfactorily reproduces total savings. As such, the heterogeneity matrix might be useful for simulating a distribution of wages, densities, and total savings.

### 3.6.2. Impact of Early Withdrawals on New Self-Financed Old-Age Pensions

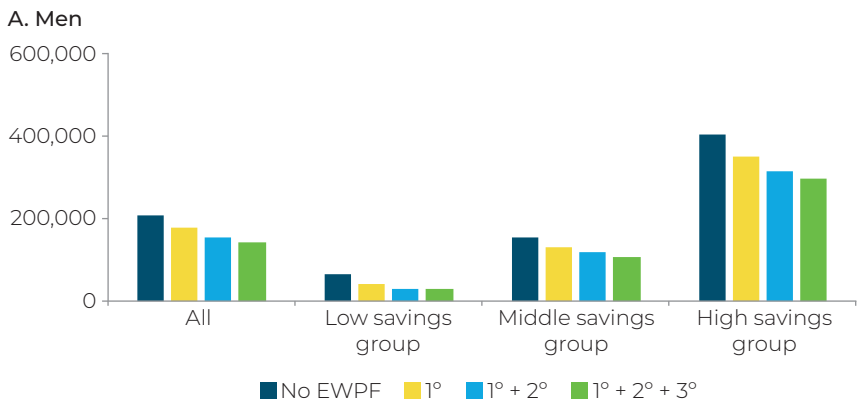
The projected impact of early withdrawals from pension funds on retirement savings, and therefore on self-financed old-age pensions, depends on the age of the individual at the time of the withdrawal. For a very young individual, for example, even a 100 percent withdrawal of funds would imply only a minor impact on the person's retirement savings. The focus here is on the impact for three ages groups as of 2019: young (20), middle-age (40), and older active (60) workers in 2020. The impact is modeled in both size and heterogeneity across savings group. Each savings group is comprised of 33 percent of the cohort, as discussed in Section 3.5.2.

The impact of early withdrawals from pension funds on the distribution of new benefits is similar to the impact on savings because the size of new pension allowances is just equal savings over an “actuarial factor.”<sup>5</sup> The actuarial factor is higher for women, mostly because they retire earlier than men (60 instead of 65 years old) and they have a longer life expectancy. Figure 3.4 shows the estimated average amount of new self-financed old-age pensions in 2022, by sex and saving group, in four scenarios: before the occurrence of the early withdrawal, at the time of the first early withdrawal, and then the same scenario for the first and second early withdrawal, and finally for the third early withdrawal.

Figure 3.4 presents several important issues. First, even without early withdrawals from pension funds, men’s and women’s self-financed pensions are on average much smaller than the minimum wage: about 200,000 and 100,000 Chilean pesos for men and women, respectively, as compared with a minimum wage of about 300,000 in Chilean pesos of 2019.

Second, the figure shows the sharp, though not surprising, difference in self-financed pension allowances across savings groups. In the case of

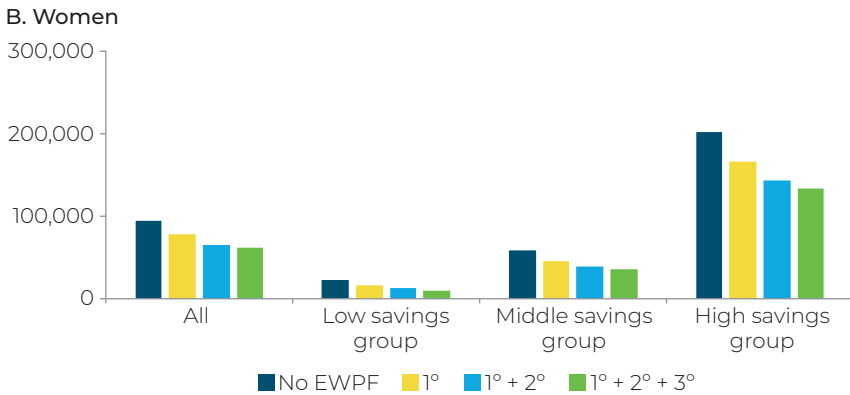
**Figure 3.4** Chile: Projected New Pension Benefits in 2022 by Early Withdrawal from Pension Fund and Savings Group (In Chilean pesos)



(continued on next page)

<sup>5</sup> The actuarial factor reflects future mortality (and future mortality of the spouse and other relatives who are entitled to a pension), plus the expected interest rate and pension parameters. Currently, the actuarial factor is about 188 for males aged 65 and 237 for women aged 60. It is worth mentioning that the interest rate embedded in the actuarial factor was substantially higher in 2022, which implies a sudden growth in the allowances of new pensions during the current year.

**Figure 3.4** Chile: Projected New Pension Benefits in 2022 by Early Withdrawal from Pension Fund and Savings Group (In Chilean pesos) *(continued)*



Source: Authors' calculations.

Note: Males are evaluated at 65 years old, females at 60 (legal retirement ages). Amounts are in constant Chilean pesos of December 2019. EWPF: early withdrawal from pension funds.

men, a third of affiliates with the largest savings self-financed a pension roughly eight times that of affiliates in the lowest third of savings. This figure is even more pronounced among women.

Third, with the three early withdrawals from pension funds, the estimated self-financed pensions are only about 145,000 and 60,000 Chilean pesos for men and women, respectively. Moreover, after the third withdrawal, the average pension allowance in the group of females with the lowest savings is close to zero.

The impact of early withdrawals from pension funds on pensions of individuals who were middle-aged or young in 2020–2021 is much softer.

### 3.6.3. Impact of Early Withdrawals on Replacement Rates

The replacement rate is a common measure used in pension reports. It is generally defined as the pension allowance over the recent wage. A deeper analysis of the replacement rate goes beyond the goals of this chapter, but the replacement rate can take many forms, can embody a wide array of issues within a pension system, and is quantitatively sensitive to several variables. The following measure of the replacement rate is used here: pension allowance over average wage during the last three years (months without contributions are counted at wage = zero).



For early withdrawals from pension funds, replacement rates are estimated to experience a substantial drop, and more so for females. Men's replacement rates fell about 25 percent due to early withdrawals from pension funds, while the drop for women was around 40 percent.<sup>6</sup> It is worth noting that even without early withdrawals from pension funds, men's replacement rates would have been about twice those of women; this is due partly to their later legal retirement age (65 for men versus 60 for women), partly to their life cycle of contributions (which occurs a bit later in the case of women), and partly to the age profile of wages. While replacement rates are not low for men, their average contributive labor income is low, so their pension allowances can be quite low. In fact, men's average pensions without early withdrawals from pension funds, as shown in Figure 3.4, is 200,000 Chilean pesos, which is only about two-thirds the minimum wage.

#### **3.6.4. The Change in Non-Contributory Pensions as a Counterforce for Early Withdrawals**

As discussed in Sections 3.3.1 and 3.3.2, the Chilean pension system underwent a change in its non-contributory pillar in 2022 that saw the old *Pensión Solidaria* replaced with the new *Pensión Garantizada* (PGU). This section explores the extent to which the change in this pillar counteracted the impact of early withdrawals from pension funds on total pension allowances. To do so, future pensions with the old and the new non-contributory pensions are estimated using the model.

The PGU is awarded to the lower 90 percent of the income distribution, with basically the same allowance for every beneficiary. Even though beneficiaries with a relatively higher self-financed pension obtain only a fraction of the PGU, they are mostly in the higher 10 percent that does not receive a PGU in the first place. Even with early withdrawals from pension funds, the PGU allowance is nearly the same for all beneficiaries, which explains why the direct fiscal impact of early withdrawals from pension funds might be very small. For the calculations in this study, it is assumed for simplicity that the PGU allowance is equal for all beneficiaries, regardless of their savings.

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<sup>6</sup> This does not match exactly with the average drop in savings because the average ratio (the replacement rate) would not be equal to the ratio of the averages.

The profound non-linearities in the change in non-contributory pensions require some distributive analysis. Table 3.3 shows the financial analysis by savings decile, focused on estimated new pensioners in 2022. No behavioral changes are included in this table.

Table 3.3 shows that the change in the non-contributory pillar was substantially gainful for all savings groups, with the exception of the higher decile, which does not have access to the PGU. It also shows how these gains were more substantial, in relative terms, for the lower deciles, though deciles 7, 8, and 9 experienced a larger gain than the 6th decile due to the extension in focalization, especially among females.

And it is very important to note that the last column of Table 3.3 shows that the change in non-contributory pensions more than offset the decrements due to the early withdrawals from pension funds.

The expansion of non-contributory pensions of course implies a fiscal cost. Fiscal spending on the PGU is not complex to project, as it arises directly from the population projection, and because the PGU is nearly a flat benefit. (Although the PGU has a decreasing value for individuals with high self-financed pensions, those individuals are for the most part already excluded because they correspond to the richest 10 percent of the population). A good estimate of the PGU's fiscal cost can be calculated by multiplying the total population 65 and older by the level of the benefit (180,000 Chilean pesos in 2022, 153,000 Chilean pesos in December 2019, in both cases approximately US\$220) times 90 percent (the means-tested goal). For the first full year of the new scheme (2023), a fiscal cost of 1.96 percent of GDP is estimated, growing steadily over time until reaching 6.5 percent in 2100.

### **3.6.5. The Impact of Labor Market Shocks**

For the impact of the disturbance in labor participation discussed in Section 3.4.2, the analysis found a minor shock on the average benefit of new old-age pension allowances of about 0.5 percent for men and 1 percent for women, lasting for the first 40 years of the projection and peaking in about 2040.

The impact on the real growth rate of the contributable wage discussed in Section 3.4.1, on the other hand, depends on the future evolution of this rate. If the real growth rate recovers its long-run value without

**Table 3.3** Financial Analysis by Savings Decile: Estimated Change in Non-Contributory Pensions and Estimated Impact of Early Withdrawals from Pension Funds among New Old-Age Pensions in 2022 in Chile, by Sex

Savings Decile	Self-financed Pension in Pesos without EWPFs	Self-financed Pension in Pesos with EWPFs	Old Non-contributory Pension in Pesos	New Non-contributory Pension in Pesos	Impact of EWPFs on Self-financed Pension in Pesos	Impact of Change in Non-contributory Pensions in Pesos	Total Impact in Pesos	Combined Impact of EWPFs and Change in Non-contributory Pensions as Proportion of the Original Self-financed Pension without EWPFs
	(a)	(b)	(c)	(d)	(e)=b-a	(f)=d-c	e+f	(e+f)/a
<b>MALE</b>								
Low	157	0	148,867	153,000	-157	4,133	3,976	2539%
2	6,565	4,998	146,699	153,000	-1,567	6,301	4,735	72%
3	40,648	30,948	135,165	153,000	-9,700	17,835	8,135	20%
4	108,225	82,399	112,296	153,000	-25,826	40,704	14,878	14%
5	155,632	118,493	96,253	153,000	-37,139	56,747	19,608	13%
6	191,627	145,899	84,072	153,000	-45,729	68,928	23,199	12%
7	236,740	180,246	0	153,000	-56,494	153,000	96,506	41%
8	307,431	234,067	0	153,000	-73,363	153,000	79,637	26%
9	418,914	318,947	0	153,000	-99,967	153,000	53,033	13%
High	730,001	555,799	0	0	-174,203	0	-174,203	-24%

(continued on next page)

**Table 3.3** Financial Analysis by Savings Decile: Estimated Change in Non-Contributory Pensions and Estimated Impact of Early Withdrawals from Pension Funds among New Old-Age Pensions in 2022 in Chile, by Sex (continued)

Savings Decile	Self-financed Pension in Pesos without EWPFS	Self-financed Pension with EWPFS	Old Non-contributory Pension in Pesos	New Non-contributory Pension in Pesos	Impact of EWPFS on Self-financed Pension in Pesos	Impact of Change in Non-contributory Pensions in Pesos	Total Impact in Pesos	Combined Impact of EWPFS and Change in Non-contributory Pensions as Proportion of the Original Self-financed Pension without EWPFS
	(a)	(b)	(c)	(d)	(e)=b-a	(f)=d-c	e+f	(e+f)/a
<b>FEMALE</b>								
Low	322	0	148,811	153,000	-322	4,189	3,867	1200%
2	2,721	1,638	147,999	153,000	-1,084	5,001	3,917	144%
3	11,174	6,725	145,139	153,000	-4,449	7,861	3,412	31%
4	26,086	15,700	140,092	153,000	-10,386	12,908	2,521	10%
5	45,223	27,217	133,617	153,000	-18,005	19,383	1,378	3%
6	65,286	39,292	114,134	153,000	-25,993	38,866	12,872	20%
7	95,160	57,272	0	153,000	-37,888	153,000	115,112	121%
8	129,757	78,095	0	153,000	-51,662	153,000	101,338	78%
9	190,861	114,870	0	153,000	-75,990	153,000	77,010	40%
High	336,933	202,784	0	0	-134,148	0	-134,148	-40%

Source: Authors' calculations.

Note: Males are evaluated at 65 years old, females at 60 (legal retirement ages). Pesos: Constant Chilean pesos as of December 2019. Old non-contributory refers to *pensión solidaria*, while new non-contributory refers to *pensión garantizada universal*. It is assumed here for simplicity that (i) non-contributory pensions start at 60 for women (the legal age for non-contributory pensions is 65 for men and women); and (ii) *pensión solidaria* stays constant across retired life (the legal pension allowance increases about 7 percent in real terms, starting at age 75). EWPFS: early withdrawals from pension funds.

compensating for past losses (that is, if there is a permanent shock in wages), the impact on self-financed pensions could be relatively small, in the vicinity of 5 percent for both sexes. If the rate recovers and also compensates for past losses (so that the wage recovers its long-run trend), the impact on self-financed pensions could be very small.

### 3.7. Discussion

It is perhaps impossible to know if the early withdrawal of pension funds in Chile would have happened in the absence of the COVID-19 crisis. What can be estimated is the profound impact of those withdrawals on the Chilean pension system. Total savings were 82 percent of GDP in 2019 and dropped to 60 percent by the end of 2021, after the third and final early withdrawal episode. Most of the eligible population chose to exercise their right to make an early withdrawal from pension funds.

Based on different data sources, the analysis for this chapter estimates a drop of about 31 percent and 37 percent for men and women, respectively, in the self-financed pension allowances of new pensioners in 2022, an impact that slowly goes away for new pensioners in future years. It is additionally estimated that the non-linear rules for the early withdrawals introduced a sharp socioeconomic gradient, that is, there was about twice the impact on pension allowances for new retirees in the 33rd percentile of lowest savings compared with the highest 33rd percentile.

At the same time, Chile introduced an ambitious expansion of non-contributory pensions, increasing their size and scope from the original *pensión solidaria* to the new PGU.

Perhaps surprisingly, the disturbance of pension allowances due to labor market shocks seems small. Formal labor markets had recovered to a substantial degree by the end of 2022. The ILO (2021, 2) came to a similar conclusion for a wide set of countries: “The COVID-19 crisis has brought additional pressures to bear on the costs and financing of pension systems, but the impact over the long term will be moderate to low.”

Rather than the density of contributions, the variable that is still struggling to recover is real wage growth. It is hard to project the future evolution of real wages, in particular if and when future real growth rates are going to compensate for the current slowdowns. However, the scenario

of normal growth from 2023 onward suggests relatively small labor market impacts on pension allowances.

Probably the most salient policy recommendation from the Chilean pension fund early withdrawal experience is the importance of maintaining social validation of any pension scheme. At the end of the day, it is a matter of risk. If the public is not at ease with its pension system, the stage is set for the unknown. Early withdrawals from pension funds in Chile did not apparently follow any particular line of emergency relief, with a large share of withdrawals going to upper-income groups, without a technical framework to support this policy.

In addition, the rise in non-contributory pensions raises issues regarding the protection of the formal labor market. It may not be necessary to require mandatory contributions (which are probably going to increase from 10 to 16 percent, depending on the next pension reform) by low-salary workers on the verge of informalization, when the new non-contributory pension (which may also increase in the next parametric reform) might already provide a replacement rate much higher than the recommendations in the ILO's Social Security (Minimum Standards) Convention No. 102, which dates to 1952.

One limitation of the analysis in this chapter in terms of the labor market impact arena is that the COVID-19 crisis is ongoing, so it is hard to propose scenarios for the future. Another limitation is the scarcity of data about the second and third early withdrawals from pension funds, and the probable lower quality of data on non-active affiliates. Finally, it is important to mention that the trend projection from 2022 to 2100 might differ from the actual experience of 2020, 2021, and 2022 because those were very atypical years in many dimensions—for example, the number of new pensioners decreased substantially in the last two years, presumably due to the COVID-19 economic shock—and also because the technical interest rate for the computation of new pension allowances experienced a sizable increase, therefore increasing the size of new pension allowances.

# The Impact of the COVID-19 Pandemic on the Formal Labor Market and the Pension System in El Salvador

*Nelson Fuentes, Gonzalo Aguilar, and Camila Trillos*

Policies designed to restrict economic activities and alleviate consumption needs as a consequence of the COVID-19 pandemic have had considerable effects on pension systems (OECD 2021b). Lockdowns and social distancing policies have in practice represented a restriction on economic activity, since people cannot travel to their workplaces or meet together, thus paralyzing the productive process and the income flow from sales (Wilkinson 2020). This is especially true for small businesses, which are characterized by high financial fragility and limited access to the formal credit market (Apedo-Amah et al. 2020; De Vito and Gómez 2020; Schivardi and Romano 2020). The restrictions thus force these firms to dismiss workers and reduce wages (Carranza et al. 2020).

With regard to pension systems, the interruption of labor trajectories caused by dismissals is directly correlated with two consequences: on the one hand, an increase in applications for early withdrawals from pension funds, and, on the other, a reduction in contributions to those funds. Both affect the accumulation of savings of individual account pension systems. Workers losing their jobs or looking for one may enter the informal sector, reducing the coverage of the pension system and the probability of obtaining an old-age pension in the future. In cases with government-guaranteed pensions, this also implies an additional fiscal cost (Bosch et al. 2020; Gil and Delgado 2021; Weller 2020).

The contributory pension system in El Salvador was founded in 1969 based on a pay-as-you-go scheme with public administration, so pension institutions assumed payment obligations and longevity risks. A structural reform in 1996 changed the pension system to a privately administered individual capitalization scheme that promised to restore the financial sustainability of the system, expand coverage, and increase pension benefits. However, the objectives of this reform and subsequent ones were not achieved, and the main problems of the Salvadoran pension system had not been solved when the COVID-19 pandemic struck in 2020, and they persist today.

During the COVID-19 pandemic in El Salvador, 79,990 workers stopped contributing to the private system between March and June 2020; the coverage of the pension system decreased 1.3 percentage points between 2019 and 2020; and the monthly aggregated contribution declined from US\$80.3 million in February 2020 to US\$68.9 million in June 2020. All this happened while the government implemented legal mechanisms to relax the requirements for early withdrawals, a policy that had previously been legalized.

Although there is some anecdotal evidence on the effects of the COVID-19 pandemic on the pension system in El Salvador, this chapter focuses on the effects on the Salvadoran private pension system, mainly through two mechanisms: loss of formal jobs, and changes in the dynamics of early withdrawals. The evidence presented here shows that the first effect is very limited, since employment and wages recovered quickly, while the second effect is much more important for the sustainability of the pension system.

## 4.1. A Brief Description of the Labor Market and the Pension System in El Salvador

Before discussing the effects of the pandemic on the private pension system in El Salvador, it is necessary to briefly describe the country's labor market and pension system to better understand some of the elements examined later.

### 4.1.1. The Salvadoran Labor Market

According to data from the Multi-Purpose Household Survey (*Encuesta de Hogares de Propósitos Múltiples* - EHPM), the labor market in El Salvador



is characterized by low participation, high informality, low wages, and gender gaps to the detriment of women. For example, the global participation rate was around 51 percent in 2020, but that for men was 64.6 percent while that for women was 39.2 percent, even though female participation increases with schooling level. Moreover, the average schooling of women in the economically active population is higher than that of men by between 0.3 and 0.4 years.

In 2019, 55.4 percent of the employed economically active population worked as dependents, 28.4 percent worked as independents, 4.4 percent were employers, and 11.8 percent were unpaid family or domestic workers. However, the occupational distribution by gender had dissimilar patterns: 64.9 percent of men worked as dependents compared to 41.7 percent of women. This is correlated with informality: even under official definition of informality,<sup>1</sup> the total informality rate was 43.7 percent (40 percent for men and 49 percent for women), but using an alternative definition,<sup>2</sup> the informality rate was 59.6 percent in urban areas (55 percent for men and 65.2 percent for women) and 83.2 percent in rural areas (81.9 percent for men and 85.9 percent for women).

The average monthly labor income in El Salvador was US\$343 in 2019, and this is positively correlated with schooling level for both men and women. For example, workers who had between one and three years of schooling had average labor income of US\$242, while that figure for those who completed at least some level of higher education was US\$614. However, the average labor income of women was equivalent to 82.3 percent of that of men.

According to data from the Salvadoran Social Security Institute (*Instituto Salvadoreño del Seguro Social - ISSS*), in 2019 there were 856,014 formal workers, and the mean wage was US\$504.18. However, in 2020 when the pandemic peaked, the number of formal workers fell to 830,047, and the mean wage to US\$498.31. In 2021, the values increased even above those of 2019, with 877,202 formal workers and a mean wage of US\$534.77, though the wage figure was affected by a 20 percent increase in the minimum wage.

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<sup>1</sup> Informality includes (i) wage earners employed in establishments with fewer than five workers, (ii) self-employed workers, (iii) family workers, and (iv) employers with less than five workers.

<sup>2</sup> Working without contributing to the pension system.

#### 4.1.2. The Institutional Context of the Salvadoran Contributory Pension System

The pension system in El Salvador was created in 1969 with a contributory scheme of the ISSS that covered formal workers in the private sector. In 1975, the National Public Employee Pension Institute (*Instituto Nacional de Pensiones de los Empleados Públicos* - INPEP) was created for administrative public sector employees, incorporating teachers in 1978. In 1981, the Armed Forces Social Security Institute (*Instituto de Previsión Social de la Fuerza Armada* – IPSFA) was created to manage the military's retirement, disability, and survival pension funds. Thus, the ISSS, INPEP, and IPSFA constitute El Salvador's Public Pension System (*Sistema Público de Pensiones* – SPP).

The systems had a pay-as-you-go financial structure and defined benefit and were based on an intergenerational social arrangement, where active workers financed pensioners, since contributions went to a common fund from which the pensions were paid to those meeting the vesting requirements. Actuarial studies, however, determined that the pay-as-you-go system was financially unsustainable because the benefits granted did not match the contributions to the system. In addition, the support ratio was deteriorating, falling from 30 contributors for each pensioner in 1996 to six contributors for each pensioner in 1996 (SSF 2015).

In 1996, El Salvador embarked on a structural reform of the pension system that implied a change towards an individual capitalization scheme, *Sistema de Ahorro para Pensiones* (SAP). This promised to restore the financial sustainability of the system, expand coverage, and increase benefits. Two years into the reform process, the system based on individual capitalization came into force and the administration passed into private hands—Pension Fund Managers (*Administradoras de Fondos de Pensiones* – AFP)—although with temporary public administration, since the pay-as-you-go scheme did not allow new affiliations.<sup>3</sup>

This reform involved associated parametric changes such as an increase in the contribution rate, an increase in the minimum contribution

<sup>3</sup> Affiliation was mandatory for all workers entering the workforce for the first time and for all workers under 36 years old. Workers who were over 36 years, but under 50 for women and under 55 for men, could choose between the public or private system.

period, and a revision of the formula for calculating benefits. Later, during the implementation of the reform, new reforms were applied to the system to correct elements that had not been foreseen—such as the prompt depletion of the public institutions' technical reserves<sup>4</sup>—or, alternatively, to address exogenous shocks that affected the yields of the fund or benefits, among other considerations. These events implied commitments by the government that had to be financed with its own funds or with debt, generating a serious fiscal problem.

Since the approval of the SAP Law in 1996, different reforms have been undertaken, including those established by Legislative Decree (LD) No. 1217 (2003) and LD No.100 (2006), both applicable to affiliates who opted for the SAP. Through these decrees, it was established that pensioners who opted for the private system should receive pensions equivalent to those they would have received in the public system, forcing the government to assume the cost of this measure. In 2006, the *Ley del Fideicomiso de Obligaciones Previsionales* (FOP) was also approved to obtain resources for payment of the government's Social Security obligations through the issuance of *Certificados de Inversión Previsional* (CIP) that had to be purchased with the funds managed by the AFPs.

In 2017, a new reform of the pension system was approved (LD No. 787) as one more attempt to solve the system's considerable financial and quality challenges as well as the sustainability of public finances. The private individual capitalization scheme was maintained, but important parametric and institutional strengthening changes were introduced, the most important of which were the following: (i) Affiliates were allowed to withdraw up to 25 percent of the individual account balance early, with the penalty that, if they do not repay the withdrawn amount, they will have to defer the retirement age up to a maximum of five years; and (ii) Affiliates who reach retirement age but have more than 10 but less than 25 years of contributions are allowed to pay the *Beneficio Económico Temporal* (BET) using the individual balance until it runs out, or pay de *Beneficio Económico Permanente* (BEP) distributing the individual balance account over 20 years until it runs out, and then finance the pension with the *Cuenta de Garantía Solidaria*.

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<sup>4</sup> Those reserves were estimated at US\$338.7 million at the end of 1997 (SSF 2015) and were exhausted in 2001. From 2001 to 2006, the government resorted to borrowing with eurobonds.

## Indicators of the Salvadoran Pension System

Research shows that the objectives set by the 1996 reform were not achieved, that not all of the reforms were implemented, and that the main problems of the Salvadoran pension system persist.

### Pension Coverage

Pension coverage has remained around 24 percent in recent years (SSF, various years) and, despite the fact that this represents an improvement compared to the beginning of the SAP, low coverage continues to be one of the system's main problems. This problem is even more pronounced considering that coverage is positively correlated with income levels (Arenas de Mesa 2019).

### Contribution Density

In El Salvador, contribution density is low. Argueta, Bolaños, and Rivera (2015) estimated that the individual contribution density calculated on the basis of working life is 23 percent (25 percent for men and 22 percent for women). Data from the *Encuesta Longitudinal de Protección Social* (ELPS) from January 2011 to December 2012 show an individual contribution density of 12.6 percent (13.2 percent for men and 12 percent for women), but most affiliates (86.5 percent) have never contributed.

### Minimum Old-age Pensions

Old-age pensions in El Salvador are low. The current minimum old-age pension is US\$304.17 per month, equal to the minimum wage (adjusted in August 2021 to US\$365 monthly), and approximately 45 percent of pensioners receive it (though it is estimated that with the increase in the minimum wage, that percentage would rise to 70 percent).

### Replacement Rates

Replacement rates are differentiated according to affiliation groups: contributors obligated to the SAP, the biggest group, receive the lowest replacement rates. In the SAP, low contribution densities limit access to old-age pensions. In 2012, 62 percent of applications ended in reimbursements. Despite the design of the BET and BEP, they have not been used to provide partial coverage to affiliates with fewer years of contributions

(less than 10 years). Even those who can access these plans choose to receive a reimbursement and not a partial benefit, maybe because the amount could be less than the minimum pension (but provides access to the health system).

### Financial Sustainability

Another relevant pension system issue is financial sustainability. According to the actuarial valuation study (SSF 2021), the investment portfolio of the pension fund is concentrated in public instruments (61 percent, equivalent to US\$7,864 million), and the system has an estimated actuarial deficit of US\$22,174 million (77.2 percent of GDP). The financial sustainability of the pension system has a direct impact on public finances: pre-pandemic data show that around 50 percent of the fiscal deficit and a quarter of the debt are generated by the government's pension commitments. The financing needs to meet the government's Social Security commitments have been growing, representing an annual average of 20 percent of GDP over the last five years.

The review of the pension system indicators shows that structural problems existed prior to the COVID-19 pandemic. Despite the reforms implemented after the enforcement of the SAP Law, which changed the pension model to an individual capitalization scheme, a variety of difficulties persists. These include low coverage rates and insufficient benefits for contributors without pensions or with low pensions. There are also financial pressures on the system, which are transferred to public expenditure and generate commitments on the part of the government, even in a scenario in which non-contributory pensions are far from becoming universal.

### *The Early Withdrawal Mechanism in El Salvador*

Early withdrawals from the Salvadoran pension system were included in the 2017 reform (LD No. 787), prior to complying with certain requirements established in the law and with the obligation to repay withdrawals, including the interest that such withdrawals would have generated if the funds had stayed in the system. The SAP Law dictates that early withdrawals can be requested progressively, according to age groups and gender, following the scheme shown in Table 4.1.

**Table 4.1** El Salvador: Age Authorized to Withdraw from Pension Funds

Year	Men	Women
2017	58 years or older	53 years or older
2018	56 years or older	51 years or older
2019	54 years or older	49 years or older
2020	52 years or older	47 years or older
2021	50 years or older	45 years or older
2022	46 years or older	41 years or older
2023	42 years or older	All
2024	All	All

Source: The law establishing the Sistema de Ahorro para Pensiones.

The analysis of early withdrawals can be carried out based on the moment when the individuals were authorized to request them. Data from the Salvadoran Pension Fund Association (*Asociación Salvadoreña de Administradoras de Fondos de Pensiones – ASAFONDOS*) show that most affiliates who requested early withdrawals, including both men and women, did so in the year when they were authorized to do it, which could be attributed to a “novelty bias.” Among women, the average amount withdrawn by “new” authorized individuals is lower than the withdrawals of women who had been authorized in previous years, which is consistent with a greater availability of funds as contribution time increases. In the case of men, the opposite is observed, which could be explained by a “present bias,” that is, “new” authorized individuals are further away from the time of retirement.

The previous analysis is relevant to understanding the alternative behavior of men and women, but it is also necessary to identify changes in the dynamics of early withdrawals before and during the pandemic. Prior to the COVID-19 pandemic, in 2018, 10,072 contributors made early withdrawals totaling US\$59.8 million. In 2019, 17,174 contributors made early withdrawals totaling US\$106.2 million. The promotion and relaxation of early withdrawals as a result of COVID-19 dramatically increased the use of this mechanism. As of December 2020, it was reported that 23,818 individuals made early withdrawals that year totaling US\$194.7 million. These figures increased even more during 2021, when approximately half of all early withdrawals during the 2018–2021

**Table 4.2** El Salvador: Early Withdrawals by Authorization Moment, 2018–2020

		Women		Men	
		Newly Authorized to Withdraw	Previously Authorized to Withdraw	Newly Authorized to Withdraw	Previously Authorized to Withdraw
2018	Active contributors	3,931	2,251	3,077	813
	Average amount	US\$5,759	US\$6,188	US\$6,192	US\$5,176
2019	Active contributors	5,734	3,596	5,759	2,085
	Average amount	US\$5,762	US\$6,158	US\$6,590	US\$6,262
2020	Active contributors	6,762	5,341	7,811	3,904
	Average amount	US\$5,640	US\$6,153	US\$7,106	US\$17,458 <sup>a</sup>

Source: ASAFONDOS (2022).

<sup>a</sup> The average amount withdrawn by 54-year-old men in 2020 appears to be an outlier that is outside the range observed for other ages. When this value is excluded, the average amount withdrawn is US\$7,121.8.

period were requested, that is, 55,000 contributors made early withdrawals totaling US\$344.4 million.

During 2018 and 2019, more women than men requested early withdrawals, but this difference leveled off in 2020. Although there is not enough evidence to affirm it categorically, this behavior could be related to the fact that the first group authorized to withdraw early was comprised of affiliates closest to retirement age. The probability of access to an effective pension is lower for women, so the withdrawal is, in practice, just a preview of what will be a reimbursement in the future. As individuals further from retirement age are authorized, however, the “present bias” prevails, and the probability of withdrawal is distributed uniformly.

With regard to the average amount withdrawn, the explanation seems to be the same: the average withdrawal by women was very similar in 2018–2020 (around US\$5,900), while the average withdrawal by men grew (US\$5,900 in 2018, US\$6,500 in 2019 and US\$10,500 in 2020), which supports the idea that women withdraw the maximum percentage authorized because they foresee that they will not have a pension in the future, while men who are further from retirement make withdrawals for larger amounts as a result of a present bias.

## 4.2. Estimating the Impact of COVID-19 on the Salvadoran Labor Market and Private Pension System

### 4.2.1. Methodological Issues

A valuable instrument to estimate the impact of COVID-19 on the Salvadoran private pension system is the Pension Actuarial Projection Model developed by the Inter-American Development Bank's Latin American and Caribbean Pensions Network (PLAC Network). The model estimates the income and expenditure flows of the pension system by projecting the annual population of contributors and pensioners and their respective wages and pensions.

The impact of the COVID-19 pandemic using the Pension Actuarial Projection Model is estimated here for two different scenarios. The first, which is called the Counterfactual Specification, uses data from what would have been observed if the pandemic had not occurred. This is done through an Interrupted Time Series Analysis (ITSA) specification, which is useful in the absence of a control group (Linden 2015). The other scenario, which is called the Base Specification, uses ASAFONDOS data from 2020 and reflects the effects of the pandemic on the private pension system.

Monthly data from the ISSS database were used on the total number of formal workers and the average wage between January 2016 and October 2021. The analysis of both variables tries to capture the impact generated by the pandemic and the reactivation policies on the demand for labor, but in two different aspects: the first in relation to the number of workers, and the second in relation to changes in working hours. Results using the ITSA specification are used to feed the Counterfactual Specification.

Two other relevant elements for the Counterfactual Specification are pension reimbursements and early withdrawals. Given that a portion of retirees do not receive a contributory pension, but rather a reimbursement, the retirees' flow projection is adjusted by weighting it with the effective pension rate, while the reimbursements are included as expenditures in the period during which the individual is retired. Early withdrawals represent short-run expenditures when they are delivered, but medium-run income when they are repaid, without affecting the accumulated



balance in the account (assuming people will redeposit the withdrawal in the future).

As for the Base Specification, the most important adjustment relates to early withdrawals: given the relaxation of the mandatory repayment requirement, the amounts withdrawn are greater than in the Counterfactual Specification, with more expenditures, without future incomes from repayment, and with lower accumulated balances and benefits. Two Base Specifications are proposed corresponding to different scenarios: the first (BS-A) assumes that the entire effect of the early withdrawals translates into a reduction of future benefits; the second (BS-B) assumes that the entire effect of early withdrawals translates into an increase in the percentage of individuals who receive a reimbursement.

#### 4.2.2. Labor Market Impact

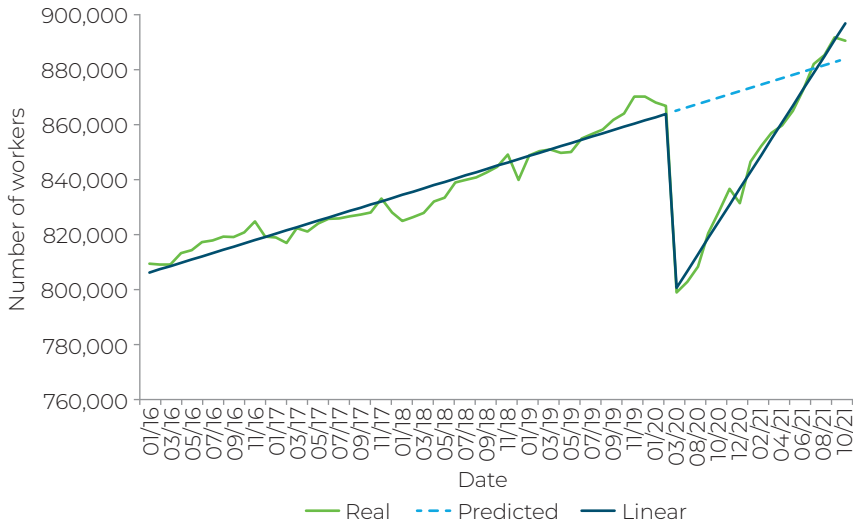
The results of the ITSA Specification using total employment as the dependent variable (ITSA Specification 1) show that the strict quarantine implemented during March, April, and May 2020 caused an immediate loss of 64,411 jobs. Using private employment (ITSA Specification 2) and public employment (ITSA Specification 3) as dependent variables show effects in opposite directions: while 70,878 jobs were lost in the private sector, employment grew by 6,466 in the public sector (Table 4.3). As indicated in the methodological section, these impacts are calculated

**Table 4.3** El Salvador: Impact of COVID-19 Quarantine and Reactivation Policies on Employment (Number of workers)

	ITSA Specification 1	ITSA Specification 2	ITSA Specification 3
	Employment	Private Employment	Public Employment
Starting level	806,220	643,036	163,184
Immediate change in level	-64,412	-70,878	6,466
Pre-pandemic slope	1,178	1,021	158
Post-pandemic slope	10,848	9,547	1,299

Source: Authors' calculations based on data from the Instituto Salvadoreño del Seguro Social.  
Note: Under all three specifications, statistically significant effects are at a 95 percent confidence level. ITSA: Interrupted Time Series Analysis.

**Figure 4.1** El Salvador: Total Employment Monthly Trends, 2016–2021 (Number of Workers)



Source: Authors' calculations based on data from the Instituto Salvadoreño del Seguro Social.

in comparison with what would have happened in a scenario without the pandemic.

Figure 4.1 shows three relevant elements: the real evolution of total employment, the most efficient linear representation of that evolution, and the linear estimate of what would have happened to employment in a situation without a pandemic, based on the coefficients estimated in ITSA Specification 1. In addition to the negative impact of the measures designed to prevent the spread of COVID-19, employment recovered relatively rapidly, as it took approximately 13 months to reach the level that would have been observed if the pandemic had not occurred. Despite this, private employment had not yet reached the level it would have been in a situation without a pandemic, which reinforces the idea that public employment has been an important part of the post-pandemic economic recovery process.

The results of the ITSA estimates using the total mean wage as the dependent variable (ITSA Specification 4) show that pandemic restrictions in March, April and May 2020 caused an immediate loss of US\$26 in monthly average wage at the end of May. The results of the estimations of ITSA Specifications 5 and 6, which use private wages and public wages

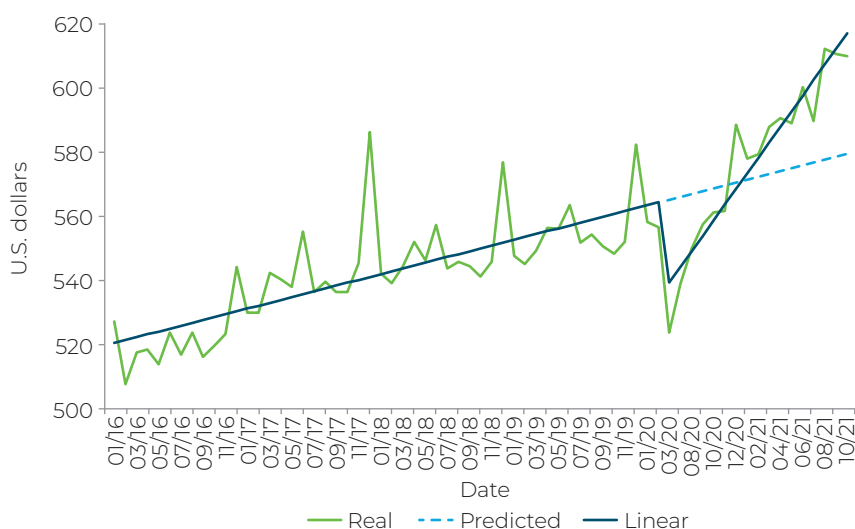
**Table 4.4** El Salvador: Impact of COVID-19 Quarantine and Reactivation Policies on Employment (U.S. dollars)

	ITSA	ITSA	ITSA
	Specification 4	Specification 5	Specification 6
	Wage	Private Wage	Public Wage
Starting level	520.5	501.1	774.5
Immediate change in level	-25.8	-44.2	4.3
Pre-pandemic slope	0.89	1.15	0.93
Post-pandemic slope	8.81	9.73	6.11

Source: Authors' calculations based on data from the Instituto Salvadoreño del Seguro Social. Note: Under all three specifications, statistically significant effects are at a 95 percent confidence level. ITSA: Interrupted Time Series Analysis.

as dependent variables, respectively, show negatively correlated effects: while wages decreased on average by US\$44 in the private sector, wages grew by US\$4 in the public sector (Table 4.4).

Analogous to previous employment estimates, Figure 4.2 shows the real evolution of the average wage, the most efficient linear representation of that evolution, and the linear estimate of what would have happened to mean wages in a situation without a pandemic, based on the coefficients

**Figure 4.2** El Salvador: Monthly Average Wage Trends, 2016–2021 (U.S. dollars)

Source: Authors' calculations based on data from the Instituto Salvadoreño del Seguro Social.

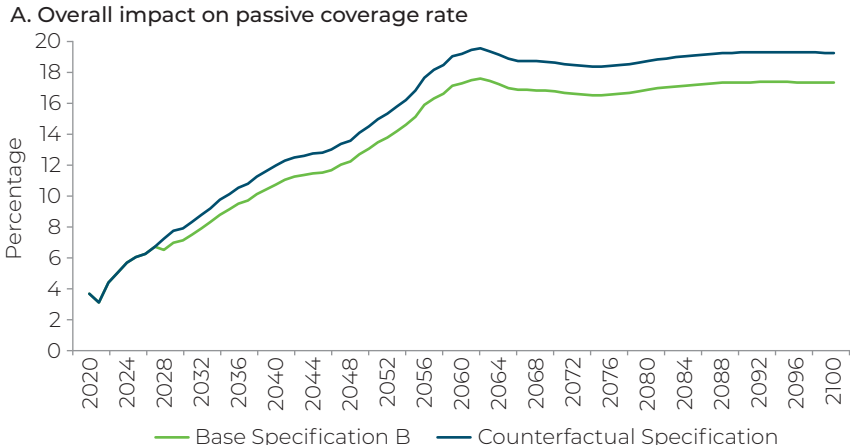
estimated in the ITSA Specification 4. After eight months, the average wage reached the level that would have been observed if the pandemic had not occurred, a recovery even faster than the figures for employment.

### 4.2.3. Effects of Early Withdrawals on the Pension System

The first impact of the COVID-19 pandemic on the private pension system can be seen in the coverage rate of the elderly. By definition, BS-A is identical to the Counterfactual Specification (in terms of the flow of pensioners, since it is assumed that the lower balances in the individual accounts caused by early withdrawals will only affect the amount of future pensions, and not the reimbursements). In this sense, the difference between the Counterfactual Specification and BS-B shows the maximum possible impact of the pandemic on coverage of the elderly as a result of early withdrawals. As can be seen in Figure 4.3, Panel A, the consequence of the pandemic is a progressive and permanent drop of around 2 percentage points in the elderly coverage rate. This effect, beyond the differences in magnitude, is very similar between women (and men).

Furthermore, the impact on the financial flows of the private pension system is estimated by projecting incomes and outflows. Incomes follow a growing trend in all models and scenarios, although they are higher in

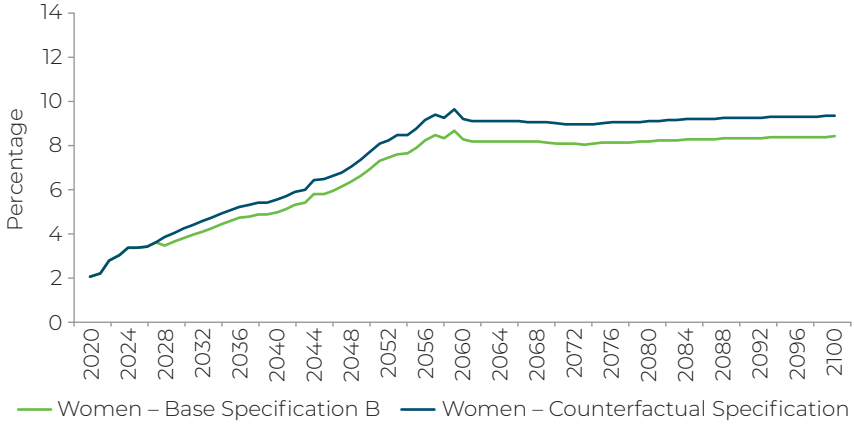
**Figure 4.3** El Salvador: Impact of COVID-19 Pandemic on Elderly Coverage Rate, Global and by Sex, 2020–2098 (Percent)



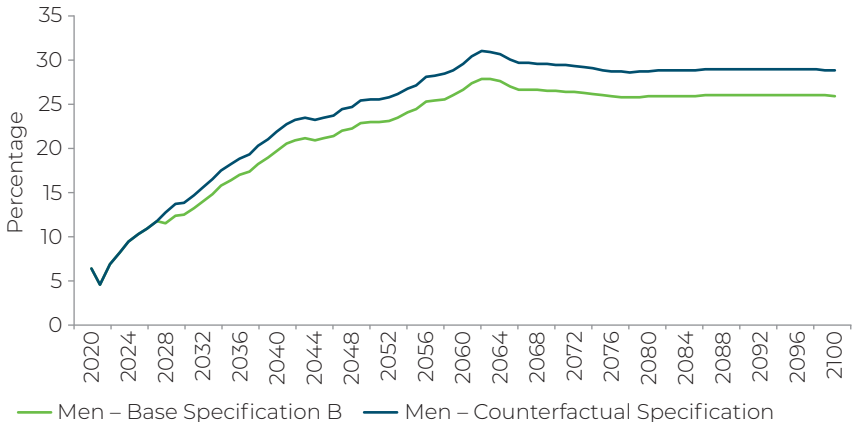
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**Figure 4.3** El Salvador: Impact of COVID-19 Pandemic on Elderly Coverage Rate, Global and by Sex, 2020–2098 (Percent) *(cont.)*

**B. Impact on women**



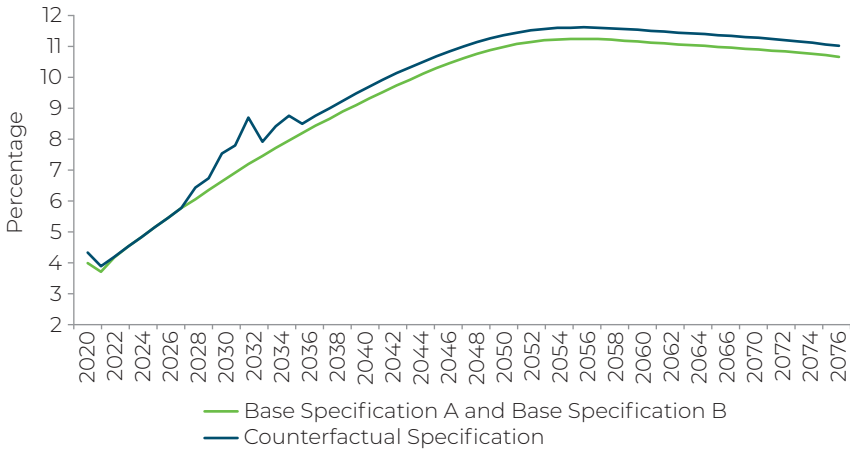
**C. Impact on men**



Source: Authors' calculation based on the IDB Pension Projection Model.

the Counterfactual Specification (Figure 4.4), meaning the COVID-19 pandemic had a negative effect on incomes, mainly caused by loosening the requirements on repayment of early withdrawals (keeping in mind that the effect on employment and, therefore, on contributors, was very short term). It should be noted that the gap between projected income in the situations with and without COVID-19 increases during the 2028–2036 period, which is due to the assumption that individuals who withdraw balances early do so in the year they are authorized to do so and, therefore, the flow of repayments is concentrated in those years.

**Figure 4.4** El Salvador: Income of the Pension System, 2020–2076 (Percent of GDP)

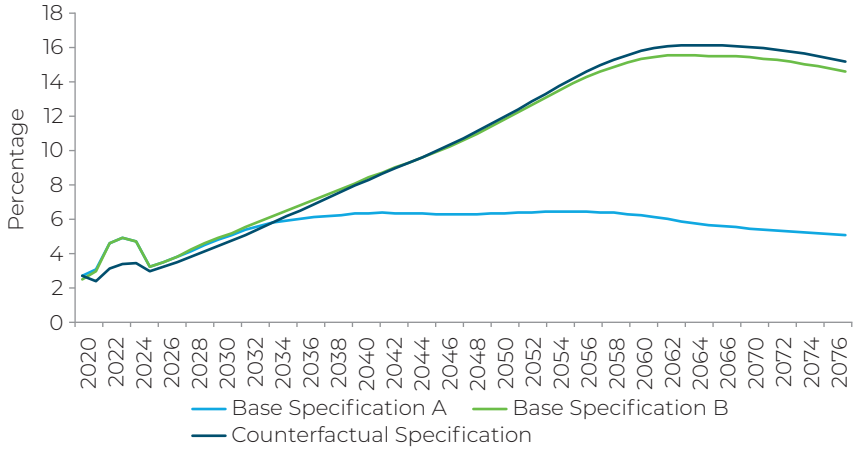


Source: Authors' calculation based on the IDB Pension Projection Model.

On the outflow side, all models and scenarios projected an increase in the short and medium term. In the short term, the effect of the COVID-19 pandemic is a substantial increase in outflows as a result of a greater demand for early withdrawals caused by the relaxation of repayment requirements. In the long term, the impact on outflows depends on the assumptions of two scenarios: (i) If early withdrawals translate into lower benefits—and not reimbursements (BS-A)—outflows will remain relatively constant until 2060 and will then gradually decrease, falling below the counterfactual scenario; and (ii) If early withdrawals translate into more reimbursements—and not a loss of benefits (BS-B)—the outflow trend will be very similar to what would have occurred without the pandemic, although outflows will be slightly lower (Figure 4.5). Since these two scenarios are extreme situations, it is highly likely that the actual impact will be somewhere between the outcomes.

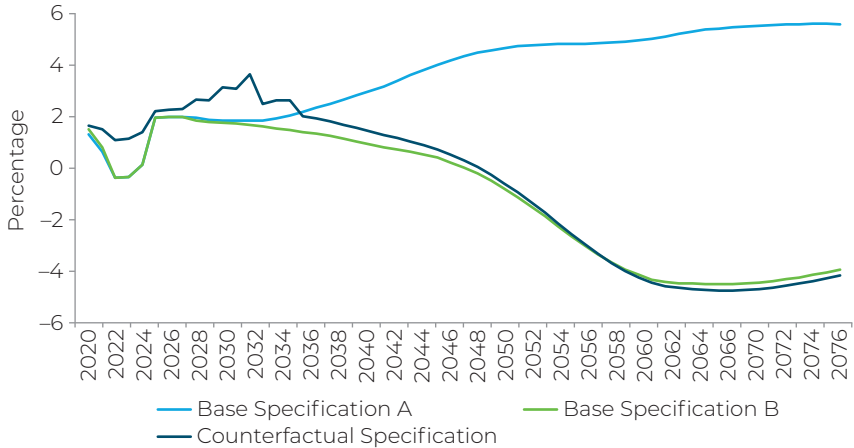
The dynamics of incomes and outflows are useful to understand the financial pressures the private pension system could face. As shown in Figure 4.6, the system would have outflows greater than income around 2050. Under the BS-B scenario, where it is assumed that the effect of early withdrawals occurs only on reimbursements, the COVID-19 pandemic does not have a significant effect on the financial balance flow. Alternatively, under the BS-A scenario, where it is assumed that the effect of early withdrawals

**Figure 4.5** El Salvador: Outflows of the Pension System, 2020–2076 (Percent of GDP)



Source: Authors' calculation based on the IDB Pension Projection Model.

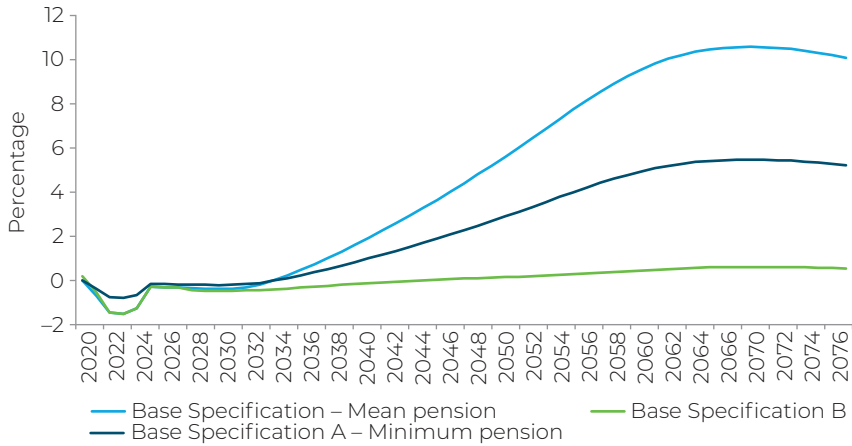
**Figure 4.6** El Salvador: Balance (Difference between Income and Outflows) of the Pension System, 2020–2076 (Percent of GDP)



Source: Authors' calculation based on the IDB Pension Projection Model.

is only on future benefits, the COVID-19 pandemic results in an increase in the long-run balance of the private pension system. Additionally, under both COVID-19 scenarios, relaxation of conditions for early withdrawals—as a palliative measure to provide actual income to active contributors—exerts short-run pressure on the resources required to meet outflows.

**Figure 4.7** El Salvador: Fiscal Cost to Offset the Effect of the COVID-19 Pandemic on Pensions, 2020–2076 (Percent of GDP)



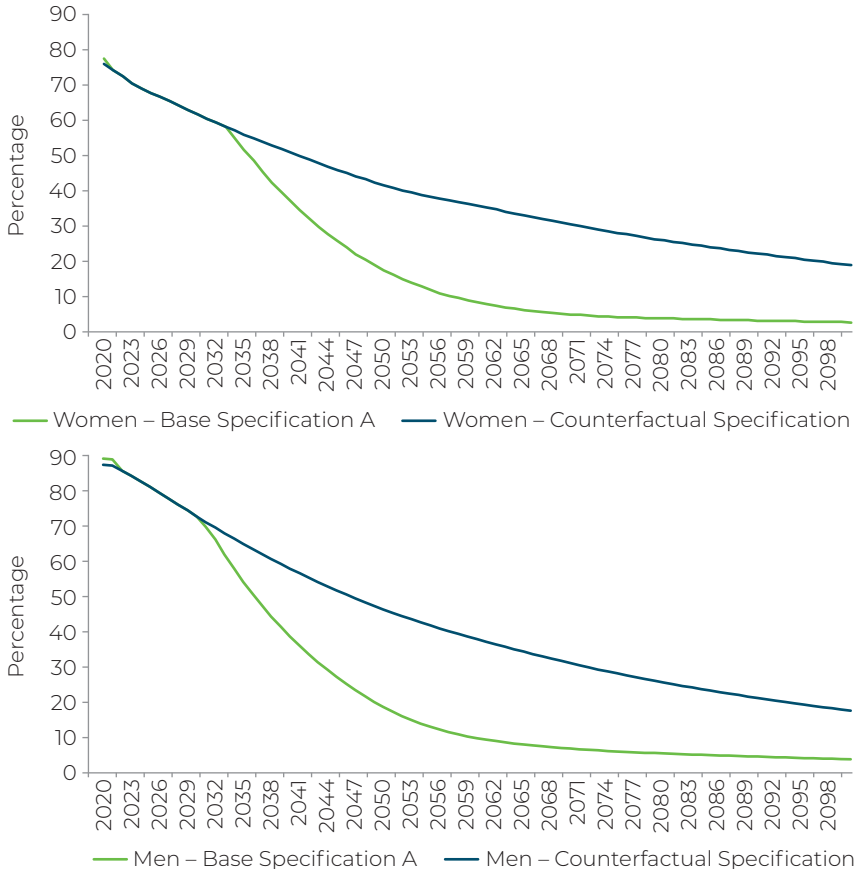
Source: Authors' calculations based on the IDB Pension Projection Model.

An approach to determining the additional public expenditure needed to finance private pension commitments caused by the COVID-19 pandemic is to calculate the difference between outflows in the situation without COVID-19 and each of the scenarios with COVID-19. This assumes that it will be necessary to appeal to a compensatory public expenditure to equal the outflow trend that would have occurred, so that the benefits of the pensioners are exactly the same after the pandemic. A more realistic scenario is one in which public expenditure finances only the cost of the minimum pension. As Figure 4.7 shows, it is estimated that annual public expenditure to fully offset the effect of the pandemic—by financing the average pension—should grow progressively from 2035 to 2069 from 0.23 to 10.6 percent of GDP. Partially offsetting it—by financing the minimum pension—would increase the fiscal cost from 0.12 to 5.5 percent of GDP in the same period.

In relation to the replacement rates, the result of BS-B is, by definition, not different from that observed in the Counterfactual Specification, since it is assumed that the entire effect of early withdrawals is strictly manifested in reimbursements and not in future benefits. On the other hand, BS-A presents lower future benefits—nearly 28 percent as the highest impact, around 2060—because it is based on the assumption that the early withdrawals are not repaid and, therefore, the balances of the individual accounts are lower than those without COVID-19 (Figure 4.8). It should



**Figure 4.8** Replacement Rate (Mean Pensions over Mean Salaries), by Sex, 2020–2098 (Percent)



Source: Authors' calculation based on the IDB Pension Projection Model.

be noted that this impact is theoretical in the sense that it is the maximum effect that would occur in a situation without government intervention.

### 4.3. Conclusions and Recommendations

Reforms to the Salvadoran pension system, both structural and parametric, have failed to solve the main problems of coverage, adequacy of benefits, and financial sustainability. The reforms generated commitments to the government—payment of pensions from the SPP, subsidies for the payment of pensions from the SAP, payment of the minimum

pension, increases in public debt, budget contributions, etc.—and have modified these responsibilities over time.

Since the creation of the SAP in 1996 the system has not been provided with sufficient resources to cover the actuarial deficit of both the old public system and the private one. In this sense, government administrations have excessively used public debt to finance pension expenditures, causing pension debt to reach 21.3 percent of GDP in 2021. In terms of the fiscal deficit for 2021, this represents approximately 1.2 percent of GDP.

The COVID-19 pandemic has exposed the vulnerabilities of the Salvadoran pension system and social protection mechanisms, forcing the government to implement policies to minimize the short-run effects on the income of affiliates by using the pension system as a funding source to alleviate consumption needs. The estimations show that the pandemic caused short-run effects on employment and wages, which had already recovered as of July and January 2021, respectively, so these elements do not seem to have a permanent impact on the private pension system.

The greatest impact on the Salvadoran private pension system is associated with the use of early withdrawals, specifically the relaxation of conditions to repay them. Using the IDB Pension Projection Model, it can be concluded that the effects of the COVID-19 pandemic on the private pension system are as follows:

1. A possible drop in elderly coverage assuming that the effect of early withdrawals is distributed between an increase in reimbursements and a drop in future benefits. The extreme scenarios with COVID-19 estimate a negative impact of up to 2 percentage points on elderly coverage for both women and men.
2. A negative effect on the incomes of the SAP system as a result of repaying early withdrawals being non-compulsory. The highest effect will be observed during the 2028–2036 period, reaching a maximum of 1.51 percent of GDP in 2032, and remaining between 0.36 and 0.40 percent of GDP thereafter. The effects of the drop in employment and wages are negligible because they were very short-lived.
3. A short-run increase in outflows—a maximum of 1.49 percent of GDP in 2023—as a consequence of higher demand for early

withdrawals in line with the relaxation of repayment requirements. The magnitude of the long-run effect depends on the assumption about where early withdrawals translate—lower benefits or higher reimbursements. According to the results estimated from the extreme scenarios, outflows would increase progressively starting in 2045, reaching a maximum of 10.6 percent of GDP (Base Specification A) and 0.62 percent of GDP (Base Specification B) in 2069. It is likely that the actual impact will be somewhere between those extremes.

4. A negative short-run effect of a maximum of  $-1.49$  percent of GDP on the system's annual balance (difference between incomes and outflows) as a result of higher demand for early withdrawals caused by the relaxation of repayment conditions, exerting more pressure on the resources required to meet outflows. In the long run, there is not a clear effect, since the direction of the impact depends on the assumption about how early withdrawals translate—into lower benefits or higher reimbursements.
5. An increase in the fiscal cost to finance private pension commitments. The increase is negligible when it is assumed that the early withdrawals translate into reimbursements, but it is significant when it is assumed that the effect is transferred to benefits. In the latter case, the magnitude of the annual cost is estimated to be a maximum of 5.5 percent of GDP when the government assumes the payment of minimum pensions. As in the previous cases, the likely fiscal cost will be below this value.
6. A reduction in replacement rates compared with the Base Specification A. Even if this is a theoretical impact because it estimates the maximum effect that would occur in a situation without government intervention, it is calculated that the replacement rate could drop to 28 percent for both men and women. As in the previous cases, it is very likely that the real impact will be less, especially if government intervention is expected to guarantee minimum pensions.
7. The COVID-19 pandemic could exacerbate some of the structural challenges of the Salvadoran pension system, mainly the adequacy of benefits, which is already low. In theory, a pension system should provide individuals with a retirement pension

when they end their active working life. As discussed above, however, the Salvadoran pension system suffers from low elderly coverage, a phenomenon that could have been exacerbated by the pandemic. Behind low coverage, which is an indicator of the distortion of the pension system, are the early withdrawals and reimbursements.

8. Early withdrawals fulfill a function to provide social protection during active working life, which is not the objective of the pension system. In the absence of a comprehensive social protection system in El Salvador—unemployment insurance, job training, labor intermediation, conditional transfers, etc.—early withdrawals are a mechanism in the best of cases for consumption-smoothing for those households exposed to short-run shocks, and in other cases, a consumption-anticipation strategy at the cost of lack of protection during old-age years. In this way, although early withdrawals affect the sufficiency of future benefits granted by the pension system, their elimination cannot obviate the discussion of the design of a comprehensive social protection network.
9. Reimbursements are also a mechanism contrary to the theoretical ideal of a pension system, since in practice the system operates only as a mandatory savings mechanism during active working life, without this translating into a permanent income during the retirement stage. Given that the reimbursements originate from insufficient accumulated funds in the individual account, and that this is a consequence of the structure of the Salvadoran labor market (characterized by high informality and low wages), part of the solution to the pension system problem lies in the design of productive and labor policies that generate incentives to create formal and better-paid jobs, and in the introduction of a cross-cutting gender approach to guarantee the participation of women under equal conditions in the labor market. Until the structural problems of the labor market are solved, it is necessary to implement a non-contributory pillar in the pension system with an incentive structure that guarantees universal protection during old age and financial sustainability.
10. Attention to policies aimed at improving the pension system requires an increase in public expenditure, so it is essential to

include sustainable financing sources. In this regard, there could be a discussion about introducing mechanisms to increase tax collection to finance the contributory and non-contributory pension schemes. These discussions could be directed towards improving the efficiency of tax collection (e.g., evasion control and tax simplification), expansion of the tax base (e.g., a special contribution), and a change in tax rates (e.g., increases in the income tax and value-added tax). However, a tax reform should not only guarantee greater collection, but also increase the progressivity of the tax structure.

11. Finally, it is also possible to think of financing strategies for the pension system that originate in the system itself and that complement the public resources used to guarantee financial and social sustainability. An alternative that could be studied is to increase the pension contribution of individuals with higher incomes and design a cross-subsidy mechanism that accumulates resources in a common fund that will be used in the future to pay for more and better pensions for those workers who did not accumulate enough funds in their individual accounts. The 2017 reform has already introduced the *Cuenta de Garantía Solidaria* as a financing mechanism for the system, and it is possible to think of other parametric adjustments related to retirement age, mortality tables, and administration costs, among other considerations.

As can be deduced from the discussion presented throughout this chapter, the Salvadoran pension system has structural problems that have been exacerbated by the COVID-19 pandemic. In this sense, a comprehensive reform of the pension system is required that focuses on the objectives of coverage, sufficiency, and sustainability, goes beyond partial and short-run discussions, and involves all political and economic actors with an interest in finding a comprehensive and long-run solution to the pension system problems.



# The Impact of the COVID-19 Pandemic on Future Pensions in Peru

*Javier Olivera and José A. Valderrama*

The first case of COVID-19 in Peru was detected on March 5, 2020. On March 15, the Peruvian government declared a state of emergency, which implied the suspension of non-essential work activities in the public and private sectors, mandatory social distancing, and border closures. In the following days, temporary measures to contain the spread of the coronavirus were extended due to the increase in the number of infections. The extension of restrictive measures posed a dilemma for the government in terms of prioritizing between the economy and health.

In order to smooth the economic shock caused by the pandemic, which forced the closure of companies and the confinement of workers, the government implemented various measures to protect the employment relationship and avoid job losses. New regulations allowed remote work and paid leave, and a temporary scheme of special government-sponsored paid leave was established.<sup>1</sup> The government also implemented a series of cash and in-kind social transfers responding to widespread demand to use social protection tools to strengthen the resilience of poor and vulnerable households to shocks resulting from COVID-19 (Bowen et al. 2020).

The government's response was divided into (i) measures to mitigate the adverse consequences of the pandemic, and (ii) policies to stimulate

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<sup>1</sup> This scheme, *Suspensión Perfecta de Labores*, involves the suspension of obligations of both the employer and the worker (remuneration and compliance with the working day) without breaking the employment relationship.

the economy (Olivera 2021). The government's main response to mitigating the economic impact on living standards was the implementation of lump-sum cash and in-kind transfers for various groups of recipients. The transfers included the *Bono Yo Me Quedo en Casa*, *Bono Independiente*, *Bono Rural*, *Bono Familiar Universal*, *Bono Electricidad*, *Bono Yanapay*, *Bono 210 Soles*, and food baskets (Olivera 2021). Among the policies aimed at reactivating the economy, the government set up *Reactiva Peru*, *Arranca Peru*, and payroll subsidies.

Beyond the potential negative effects of the pandemic via an economic downturn and job losses on the evolution of pension contributions, the Peruvian government and Congress implemented certain measures that could jeopardize the old-age security of participants in the Private Pension Scheme (*Sistema Privado de Pensiones - SPP*). These measures allowed individuals to make early withdrawals of pension funds. In 2020, three withdrawal policies were established in April (two by the government, and one by the Congress), and a fourth policy was established in November by the Congress, implying a total drain of 33,723 million soles from the pension funds (equivalent to 4.5 percent of GDP in 2020). Drifting towards a dangerous trend, a fifth withdrawal policy was implemented by the Congress in May 2021, implying an amount of funds much larger than the previous measures (32,219 million soles, equivalent to 3.7 percent of GDP in 2021).<sup>2</sup>

The main reason given by the authorities for implementing the withdrawal policies was to provide liquidity to families due to the job losses and economic crisis generated by the pandemic. Olivera (2021) provides at least two reasons why this policy may be problematic and ill-designed. First, the pension funds are severely reduced or even depleted, particularly for affiliates with small pension balances, which will reduce resources to finance an adequate standard of living during old age. Unlike many other countries, Peru does not have a universal social pension that could attenuate the risk of falling into poverty in old age. Second, the withdrawal policies are not targeted at families suffering more adverse conditions, even though the arguments in favor of the measures suggested this would be the case. The eligibility conditions are so loose that practically

<sup>2</sup> There was a sixth withdrawal policy set up between June and September 2022, but it has not been considered in the analysis for this chapter. That measure has allowed additional withdrawals equivalent to 21,994 million soles (about 2.5 percent of GDP).



all affiliates can cash out funds, regardless of the size of their pension balance or income levels.

Some could argue that the funds were important to help families cope with income losses, but the SPP affiliates are mostly salaried workers in the formal market with higher educational attainment and job quality better than that of the average worker in the Peruvian labor market. SPP affiliates (particularly those contributing regularly) correspond to the higher level of the distribution of income, so they suffered less economic consequences from the pandemic or had other resources to cope with the shocks. Thus, allowing pension fund withdrawals may not have been a policy that was strictly needed in the Peruvian context. As noted by Bosch et al. (2020), social and labor policies should be prioritized to protect employment and assist families in need, but instruments with other objectives, such as pension savings, should be used as last-resort measures. As this chapter will show, the five pension fund withdrawal policies severely compromised the old-age security of SPP affiliates. On average, the expected pension funds accumulated at retirement age will fall by about 40 percent, although there are significant heterogeneous effects.

Congress also attempted to establish a policy to allow the affiliates in the National Pension Scheme (*Sistema Nacional de Pensiones* - SNP) to cash out past contributions. However, after months of political turmoil, this policy was deemed unconstitutional by the Constitutional Court of Peru. However, this conflict, in a way, caused the government to relax the benefit rules for the SNP in order to facilitate claiming and accessing a pension. As will be explained in this chapter, the new rules will increase access to pensions to about 10 percent of affiliates, which would not have been possible without the relaxation of the eligibility conditions triggered by the decision of Peru's Constitutional Court.

## 5.1. The Peruvian Pension System

The Peruvian pension system has two main schemes representing two alternative options for individuals. The SPP is a defined contribution scheme based on individual retirement accounts, established in 1992 and implemented in the following year. Pension Fund Managers (*Administradoras de Fondos de Pensiones* - AFPs) receive the contributions and invest individual savings in supervised and regulated investments. There

are currently four AFPs managing the pension funds: Prima, Integra, Pro-futuro, and Habitat. The SNP is a defined benefit, which operates as a pay-as-you-go pension scheme with contributions and additional government transfers sustaining the payment of pensions.

A person must choose one of two schemes when entering the labor market for the first time. If there is no choice during the first 10 days, the default option is the SPP. Furthermore, people can shift from the SNP to the SPP at any time, but the opposite is not possible. Even though the system is set up in a way to favor affiliation with the SPP, there is still a considerable number of workers currently affiliated with (and opting for) the SNP.<sup>3</sup>

One of the main differences shaping the preferences for one scheme over the other is the computation and provision of pension benefits. In the SPP, there is no minimum pension guarantee, except for a specific cohort group of affiliates (born before 1945) who shifted schemes in the past. That is, during retirement, the pension savings accumulated by the individual are not topped up with government transfers, as usually occurs with low pension amounts in other pension systems. Moreover, since the reform was implemented in June 2016, affiliates have been able to withdraw up to 95.5 percent of their pension pots (which are untaxed) at retirement, while the remaining 4.5 percent is transferred to the health insurance system (*Seguro Social de Salud del Perú - EsSalud*), providing health insurance to the retiree. The individual can still buy an annuity in the insurance market and withdraw part of the funds, but the evidence shows an overwhelming preference for withdrawing all the funds.<sup>4</sup> Clearly, this regulation is harmful to the annuities market and has reduced the ability of individuals to insure against the risk of old age. In addition, according to Olivera (2020), the policy of massive withdrawals implies that individuals, when withdrawing all their funds, can no longer see exactly what their pension amounts would have been. Those amounts are very likely to be low for most members reaching retirement age. In some ways, this feature unintentionally

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<sup>3</sup> As of December 2021, there were 8.25 million affiliates in the SPP and 4.72 million affiliates in the SNP.

<sup>4</sup> As of December 2016, 241,200 persons aged 62 or older were enrolled in the SPP. However, from then until December 2019, there were 4,036 new retirement pensions. This means that only 1.7 percent of the individuals eligible for retirement received a pension once the reform allowed large pension savings withdrawals.

made it difficult for individuals to learn how low their pensions actually are, which would reduce the likelihood of social protests such as the *No más AFP* movement in Chile.

In the SNP, benefits are computed following pension rules, including minimum and maximum pension amounts. Until October 2021, the vesting period to obtain a pension at the legal retirement age in the SNP was 20 years of contributions, meaning that any personal contribution period just short of these 240 months would not generate a pension. There was no reimbursement of contributions to individuals who did not complete this minimum period of contributions, which could imply perverse regressive transfers from low-income earners (who are more likely to record fewer contributions) to higher-income earners. However, since November 2021, it has been possible to request new “proportional” retirement pensions by showing at least 10 years of contributions. The maximum and minimum retirement pensions in the SNP are 893 and 500 soles per month (equivalent to 96 percent and 54 percent of the minimum wage, respectively) when the person proves at least 20 years of contributions. The pension is 350 soles if the person contributes at least 15 years and less than 20 years, and the amount is 250 soles if the person contributes at least 10 years and less than 15 years. This policy eases the problem of regressive contributions and the low number of pensioners, which was a long-standing criticism of the SNP.

Under both schemes, the retirement age is 65 and the contributions are computed based on labor earnings that are at least equal to the minimum wage.<sup>5</sup> The contribution rates and fees are different in these schemes, yet they both consider 12 payments per year, meaning that the two salary bonuses (included in the labor legislation) are excluded from the income base to compute pension contributions. The total contribution rate under the SNP is 13 percent. Under the SPP, the contribution rate feeding into the individual pension accounts is 10 percent of the total salary, plus an insurance premium fee that is 1.74 percent of the salary (up to a cap on the salary equivalent to 10,535 soles). In addition, the average management fee by the AFPs in the SPP is 1.58 percent of the salary for affiliates who are in the load factor fee scheme, and is 1.12 percent of the balance for affili-

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<sup>5</sup> The minimum was 930 soles between April 2018 and April 2022, and 1,025 soles since May 2022.

ates who are in the balance fee scheme.<sup>6</sup> Taking into account all contributions and fees on wages, the affiliates of both schemes contribute roughly similar percentages, that is, 13 percent under the SNP and 11.9 to 13.3 percent under the SPP. The employer contributes to neither of the two schemes.

Employees from the formal sector who are on a payroll are obligated to contribute to pensions, while the contribution is voluntary for self-employed and other workers. Given the considerable size of Peru's informal labor market, it is not surprising that there is low coverage and low contribution frequency in the pension system. According to 2021 figures, about 47 percent and 27 percent of the labor force were enrolled in the SPP and SNP, respectively. However, when only considering regular contributors, the respective shares are 20 percent and 8 percent. A key difference between the two pension schemes is their financial sustainability. By definition, SPP pensions do not require government support, but this does not mean that the scheme's implementation in 1993 and the transition to that scheme had no costs. The primary public expenditures come in the form of Recognition Bonds (*Bonos de Reconocimiento*), which imply a promised public transfer to the individuals who shifted from the public to the private pension scheme. This bond is awarded around the date of the pension scheme shift and recognizes part of the contributions made to the public scheme. According to computations for this chapter, the accumulated fiscal cost of the Recognition Bonds was about 3.1 percent of accumulated GDP between 1995 and 2020.

Contrary to the SPP, the SNP needs the contributions of current affiliates to pay current pensions. To this end, the government also transfers resources to help finance these payments. In addition, this scheme has a reserve fund (*Fondo Consolidado de Reserva - FCR*) that also supplies resources to cover pension expenditures. In 2020, 64 percent of the pension payroll was financed with contributions, 34 percent with the FCR, and the remaining 2 percent with Treasury transfers.

The SPP and SNP are the largest pension schemes in Peru, but there are two other schemes worth mentioning. One is the Law 20530 pension scheme, which cannot receive new affiliates but is still being financed by the government. This scheme was seriously unbalanced due to low

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<sup>6</sup> In addition to the balance fee, the affiliates who are in this scheme have to pay a decreasing load factor fee from 2013 until 2023. On average, this additional fee is 0.17 percent of the salary as of December 2021.

contribution rates and the automatic update of pensions mirroring the salary increases in occupations equivalent to the last one held by the retiree. The other is the pension scheme for military and police forces (*Caja de Pensiones Militar Policial* - CPMP). According to recent figures, the pension payments under the Law 20530 scheme amounted to 4,466 million soles in 2021, while the revenues from the affiliates totaled 11 million soles, evidencing a severe degree of underfunding.<sup>7</sup> In addition, the actuarial liability is about 37,133 million soles (4.3 percent of GDP).<sup>8</sup> The CPMP is also problematic, as pension payments largely exceed contributions. Although reform in 2012 established new rules seeking to improve the financial sustainability of the CPMP, there remains a significant gap between contributions and pension payments (Table 5.1).<sup>9</sup>

Finally, Peru has a non-contributory pension scheme, which is targeted at individuals aged 65 and over with no other pensions and living in households classified as extremely poor by the official household targeting system (*Sistema de Focalización de Hogares* - SISFOH). The program, called *Pension 65*, was introduced in October 2011 and is administered by the Ministry of Development and Social Inclusion. With around 570,000 beneficiaries in 2021 (19 percent of persons aged 65 and over), and at a cost of 0.10 percent of GDP, this is the second-largest social program in Peru, behind the conditional cash transfer program *Juntos*. In monthly terms, the transfer amounts to 125 soles (about US\$32), which is equivalent to 62 percent of the extreme poverty line in Peru in 2021. Beneficiaries receive the payments every two months.

Table 5.1 summarizes the main indicators of the different pension schemes in Peru.

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<sup>7</sup> These figures are estimated from administrative records of pensioners and affiliates as of December 2021. There are 216,717 pensioners with an average monthly pension of 1,362 soles and 1,993 affiliates with an average monthly salary of 3,530 soles.

<sup>8</sup> The actuarial pension reserve is estimated at 36,063 million soles and the non-pension reserve at 1,050 million soles.

<sup>9</sup> The CPMP includes the old DL 19846 scheme (closed to new entrants) and the new DL 1133 scheme, implemented in 2012. In 2021, the first tier had 101,331 contributors, 83,979 pensioners, 389 million soles in revenues, and 2,838 million soles in pension expenditures. The low level of assets with respect to actuarial reserves, which is only 1.2 percent, captures the severe underfunding of this scheme. The actuarial reserves are equal to 12.4 percent of GDP in 2021. In the DL 1133 scheme, there are 84,784 contributors totaling 304 million soles in revenues, but there are not yet pensioners. For this tier, assets represent 31.2 percent of the actuarial reserve.

**Table 5.1** Main Statistics of Pension Schemes in Peru, 2021

Variable	SPP	SNP	Pension 65	CPMP	Law 20530
Millions of soles:					
Contributions revenues	13,914	3,560		692	11
Pension payroll		5,575	838	2,709	4,466
Government transfers		115		2,306	
Reserves fund		136,354			37,133
SPP pension fund	131,918				
As percent of GDP:					
Contributions revenues	1.60	0.41		0.08	0
Pension payroll		0.64	0.10	0.31	0.51
Government transfers		0.01		0.27	
Reserves fund		15.67			4.27
SPP pension fund	15.13				
Population:					
Pensioners	84,652	590,968	568,599	78,727	216,717
Affiliates	8,251,977	4,716,085		191,492	
Contributors	3,601,430	1,437,799		191,492	1,993
Contributors (percent of affiliates)	44.00	30.00		100.00	
Affiliates (percent of labor force)	51.00	29.00		1.00	
Contributors (percent of labor force)	22.00	9.00		1.00	0.00

Source: Prepared by the authors based on statistics from the official sites of the Peruvian pension schemes.

Note: CPMP: Caja de Pensiones Militar Policial; SNP Sistema Nacional de Pensiones; SPP: Sistema Privado de Pensiones.

## 5.2. Review of Effects of the COVID-19 Outbreak on the Labor and Pension Sectors

### 5.2.1. Labor Markets

The outbreak of COVID-19 in 2020 affected various dimensions of society in Peru and compromised the social progress of its citizens. In economic terms, the effects are generally considered as a sequence consisting of an initial supply shock and a subsequent demand shock (OECD 2020a). The

supply shock is related to the interruption of international supply chains (i.e., by closures of input-producer firms), prompting the reduction or closure of many downstream firms, despite unprecedented policy responses by governments. The shock is also related to the social distancing measures imposed on households. The purchasing power of households was compromised, as they suffered from public health restrictions to contain the advance of the pandemic, illness, and loss of employment. The supply shock subsequently provoked a demand shock as consumption and investment streams collapsed, since household incomes plummeted and there was an increase in the general feeling of uncertainty due to social isolation policies. These events led economies and labor markets astray, resulting in a loss of about 8.8 percent in global working hours relative to the fourth quarter of 2019 (ILO 2020).

Before the onset of COVID-19, Peru experienced moderate employment growth. The pre-pandemic context in 2019 showed the following employment distribution among sectors: high-productivity sectors (mining, financial services, electricity, gas, and water) accounted for 2.4 percent of national employment; medium-productivity sectors (manufacturing sector, construction, and transportation and storage) accounted for 22.6 percent; and the other 75 percent was clustered in low-productivity sectors (services, commerce, and agriculture) (Gamero and Perez 2020). The main types of work categories in the labor force were employees (46.3 percent) and self-employed (37.9 percent) (ILO 2021).

Peru was one of the economies most affected by the pandemic in Latin America. Evidence reported in ILO (2021) and Gamero and Perez (2020) shows that there were 6 million jobs lost due to the pandemic in April 2020. According to the latter study, there are two important factors explaining such an economic crisis: marked productivity heterogeneity and scarce diversity. The former refers to the unequal distribution of employment absorption by sector mentioned above.

As an initial result of the pandemic impact, employment in the manufacturing and construction industries of Metropolitan Lima was hit harder than commerce and services. By occupational category, self-employment jobs suffered a greater contraction. The reduction of self-employment shows how, due to sanitary restrictions during the COVID-19 crisis, the informal sector was unable to absorb displaced workers from the formal sector, as typically occurred during other economic crises (Weller 2020).

Both formal and informal employment declined due to the impact of the pandemic and the health restrictions imposed by the government. However, this reduction in both labor markets lasted only for the first few months of the pandemic, as economies then began to relax public health measures. The second most affected category was domestic work, which reflects the decline in family budgets, as families were no longer able to hire these services (Weller 2020). Furthermore, the major increases in unemployment were among men between ages 25 and 44 and among people with non-university higher education.

By the end of the first half of 2020, several labor-market-related variables were affected. First, the unemployment rate increased. For example, in Metropolitan Lima during the quarter from June to August it increased to 15.6 percent, that is, 9.7 percent more than in the previous year's equivalent quarter. Moreover, about 245,000 people lost their full salaries due to the paid leave policy promoted by the government. Second, the real income of employed individuals dropped due to the reduction of economic activities (by about 10.5 percent). According to Gamero and Perez (2020), real income during June-August dropped to levels similar to those of nine years earlier. However, despite sharp negative effects on the activity of sectors such as restaurants and hotel services, transport and storage, commerce, manufacturing, and mining and hydrocarbons, some other sectors started to recover, namely the fishing industry, public administration, telecommunications, and the financial and insurance sectors (Gamero and Perez 2020).

Regarding the most recent available information for the Peruvian labor market (INEI 2022), the working-age population in 2021 was composed of 25.3 million people, of whom 18.2 million (71.9 percent) were part of the labor force, while 7.1 million (28.1 percent) were the non-active population. These figures show that the Peruvian labor market is recovering from the pandemic shock, as the labor force increased by 12.8 percent compared to 2020 and 1.8 percent compared to 2019. Yet, by 2021, the informal employment rate was 76.8 percent, 1.5 percentage points higher than in 2020, and 4.1 percentage points higher than in 2019. Also, the urban informal employment rate rose 3 percentage points during the last year and is 5 percentage points higher than in 2019. This means that, although the labor market is recovering, employees are working mostly in the informal labor market, particularly in the urban informal market.



### 5.2.2. Pension Systems

COVID-19 prompted a reduction in people's income and generated high demand for access to savings, including pension funds. Unlike other savings schemes, pension funds are part of a system designed to provide economic security in old age (Alves, Berniell, and De La Matta 2021; Mesa 2020). Individuals tend to accumulate liquid savings at the beginning of their working life until a certain time (e.g., between 35 and 40 years old), and thereafter they favor non-liquid forms of savings, mainly for retirement.<sup>10</sup> Restrictions on accessing pension funds before retirement are helpful for people showing some behavioral biases such as present bias, procrastination, and overconfidence (OECD 2018). Potential negative impacts of fund withdrawals are reported in Bosch et al. (2020) and Lorca (2021).

Impacts on labor markets, such as job destruction, rising unemployment rates, low wages, and the growth of the informal economy, result in lower contributions and revenues to pension systems, regardless of the type of system (Cabrita 2020; Mesa 2020). OECD (2020b) and Sutcliffe (2020) identified a variety of impacts on retirement savings:

- A fall in the value of assets in retirement savings accounts.
- An increase in liabilities from falling interest rates in retirement savings arrangements with retirement income promises.
- Less ability of individuals to contribute to pension plans as they face lower wages or job loss, and less ability of employers to pay for contributions due to financial distress.
- Operational disruptions as a result of working remotely.
- Cyber-attacks, fraud, and scams directed at individuals, regulators, supervisors, and providers of retirement savings schemes.
- A tendency for people to prioritize their present needs over their long-term interests.

Additionally, in the case of a defined-benefit scheme, the death of many pensioners could, on the one hand, imply a reduction in pension liabilities, but on the other hand, imply an increase in new survivor pensions

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<sup>10</sup> For further economic theoretical arguments, see Gourinchas and Parker (2002) and Barr and Diamond (2006).

given to the beneficiaries of the deceased pensioners (Sutcliffe 2020). It is still unclear which effect would dominate.

Latin American countries implemented various policies to contain the effects of the pandemic on the labor market and pension systems, such as unemployment insurance programs, advance payment of future transfers, additional payments (e.g., cash transfers programs, grants programs, and increase of minimum wage), financing companies, tax reductions, and extraordinary withdrawals of funds. It seems reasonable that instruments designed to protect employment and sources of income should be prioritized for deployment and that instruments designed for other objectives, such as mandatory retirement savings, should be used as a last resort in the absence of alternatives (Bosch et al. 2020).

Nevertheless, as highlighted by Cavallo and Serebrisky (2016), few households in Latin America have savings to smooth their consumption to face an income shock. People have few sources of savings, yet some could have retirement savings in pension funds or in other forms. A withdrawal policy directly undermines pension adequacy, and only those who have a formal job will be able to access these retirements.<sup>11</sup>

Lorca (2021) quantifies the effects of Chile's withdrawal policy on self-funded pension benefits and government supplements. The policy resulted in an average withdrawal of 22.9 percent from individual pension balances, which represented a drop of 8 percent in the country's entire pension fund. Furthermore, Madeira (2022) uses counterfactual simulations to show that pension withdrawals could decrease the future savings rate by 1.7 percent in Chile. Bosch et al. (2020) simulate with stylized scenarios the expected changes in replacement rates caused by the withdrawal policies in Peru. For example, an individual withdrawing 25 percent of his or her pension balances at age 40 (and assuming a real interest rate of 3.5) could experience a reduction in the replacement rate by about 13.1 percent. It is also worth mentioning that many people who withdrew pension funds in the first half of 2020 realized temporary losses due to the stock market downturn that occurred at the onset of the pandemic (Grimm and Holzhausen 2022).

The negative effects of the pandemic on the labor market and pension systems will endure in the long run, especially in countries that

<sup>11</sup> The Peruvian experience of Law 29426, *Regimen Especial de Jubilación Anticipada para Desempleados*, showed that there is a high probability that most people withdraw their pension savings even if they do not need them (Altamirano et al. 2019).

allowed multiple fund withdrawals. Thus, the sustainability of pension systems (adequate coverage, benefit adequacy, and financial sustainability) will be one of the main social and fiscal challenges in Latin America going forward (Mesa 2020). As highlighted by OECD (2020b), pension policies should have a better balance between short-term and long-term needs without compromising the sustainability of pension arrangements.

### 5.3. Effects of Private Pension Fund Withdrawals

#### 5.3.1. Description of Withdrawal Policies

Between 2020 and 2021, the Peruvian government and Congress authorized five pension fund withdrawal policies for affiliates, arguing that they were needed to mitigate the economic effects of the COVID-19 pandemic and boost the Peruvian economy. On April 1, 2020, Emergency Decree DU 034-2020 authorized withdrawals from pension funds of up to 2,000 soles for affiliates who did not contribute between September 2019 and February 2020.<sup>12</sup> A second Emergency Decree (DU 038-2020) was enacted on April 13 to allow the withdrawal of up to 2,000 soles for affiliates who were placed under a new paid-leave scheme sponsored by the government (*Suspensión Perfecta de Labores*). Other affiliates could cash out funds if they did not contribute in February or March 2020, and those whose wages were lower than 2,400 soles and contributed in February or March. In none of the cases could individuals accumulate benefits simultaneously from the two Emergency Decrees.

The Peruvian Congress continued with these policies by passing three other withdrawal schemes. On April 6, 2020, Congress enacted Law 31017 authorizing withdrawals equivalent to 25 percent of individual pension funds, setting minimum and maximum amounts of 4,300 and 12,900 soles for the total withdrawal. All affiliates were eligible for this third policy, regardless of other governmental policies. The fourth policy, passed on November 4, 2020 (Law 31068), authorized withdrawals of up to 17,200 soles for affiliates with no contributions made between October 2019 and September 2020. That law also allowed withdrawals of up to 4,300 soles for affiliates who did not contribute in October 2020. Finally, the fifth

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<sup>12</sup> 2,000 soles were equivalent to about US\$526, which is about 2.2 minimum wages.

policy, (Law 31192) passed by the Congress on May 6, 2021, allowed withdrawals of up to 17,600 soles for all affiliates, with no distinction.

A recent report by Peru's Superintendent of Banking, Insurance, and Pension Funds (*Superintendencia de Banca, Seguros y AFP* - SBS) details the main characteristics of the withdrawal policies (SBS 2022). In total, these policies represented withdrawals totaling 65,942 million soles, with 5,691,478 affiliates partially or totally withdrawing their funds (39 percent were women and 61 percent were men). The total amount withdrawn as of December 2021 represented 7.6 percent of estimated GDP for that year.

Table 5.2 shows the withdrawal amounts for each policy. Emergency Decree DU 034-2020 involved 2,966 million soles, representing 4.5 percent of total withdrawals, while DU 038-2020 allowed withdrawals of 2,094 million soles, representing 3.2 percent of the total. The other three

**Table 5.2** Peru: Distribution of Pension Fund Withdrawals by Policy

Policies:	Affiliates		Millions of Soles		Average Soles
	Number	Percent	Amount	Percent	
(1) DU 34-2020	1,935,164	34	2,966	4.5	
(2) DU 38-2020	1,305,719	22.9	2,094	3.2	
(3) Law 31017	3,775,066	66.3	19,647	29.8	
(4) Law 31068	1,256,676	22.1	9,016	13.7	
(5) Law 31192	3,218,211	56.5	32,219	48.9	
Total	5,691,478	100	65,942	100	
Withdrawals:	Number	Percent	Amount	Percent	Average Soles
Less than 2,000 soles	1,500,484	26.4	1,277	1.9	851
2,000–5,000	1,091,777	19.2	3,647	5.5	3,341
5,000–10,000	725,244	12.7	5,254	8	7,245
10,000–20,000	942,435	16.6	14,061	21.3	14,920
20,000–30,000	768,813	13.5	19,187	29.1	24,956
More than 30,000	662,725	11.6	22,516	34.1	33,975
Total	5,691,478	100	65,942	100	11,586

Source: SBS (2022).

Note: Data as of December 2021. The number of affiliates for each policy in the top panel considers the individuals who benefited from at least one policy. An affiliate could have benefited from multiple policies, so the percentages may total more than 100 percent. The withdrawal categories of the bottom panel indicate the accumulated withdrawals for each individual.

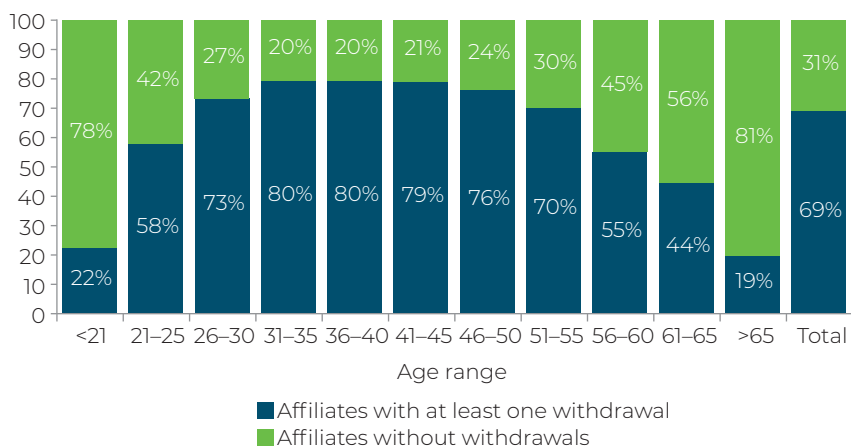
decreases involved much larger amounts of resources. Law 31017 triggered the withdrawal of 19,647 million soles (30 percent of total withdrawals), Law 31068, 9,016 million soles (14 percent), and Law 31192, 32,200 million soles, the largest amount of withdrawals, representing 49 percent of total withdrawals.

The withdrawals were concentrated in small amounts. For example, 46 percent of individual withdrawals (accumulated across the five policies) were less than 5,000 soles, representing 7.5 percent of the total amount of withdrawn funds (see bottom panel of Table 5.2). Likewise, 25 percent of withdrawals were larger than 20,000 soles, representing 63 percent of the total.

Moreover, 69 percent of affiliates withdrew savings from their accounts at least once, while 31 percent did not make a withdrawal (Figure 5.1). Of the affiliates who withdrew, 35 percent made one withdrawal, 37 percent made two, 19 percent made three, and 9 percent made four. The withdrawn funds of older affiliates are over-represented in the distribution of withdrawal amounts, which is explained by the fact that older affiliates contributed and capitalized more resources in their pension funds.

Not only the actions of the government and Congress have effects on pension funds. The economic crisis and recession triggered by the pandemic and social distancing measures also impacted the ability of affiliates

**Figure 5.1** Peru: Pension Fund Affiliates by Withdrawal Status and Age Group (Percent)



Source: SBS (2022).

Note: The figure plots data as of December 2021.

to keep up their pension contributions. The drop in contribution density was sharp around the period of the pandemic outbreak (between the first and second quarters of 2020). That decline was around 30 to 40 percentage points and affected all age groups and genders. It is worth noting that even if a drop in contributions reduces pension wealth, its magnitude is perhaps much lower than the impact of withdrawals. For example, four months of no contributions at the average wage in the SPP implies a drop of 915 soles, but the average total amount withdrawn across all withdrawal policies is 11,586 soles, which is 13 times higher.

### 5.3.2. Simulation of the Effects of Withdrawals

The potential effects of the withdrawal policies on the level of expected pension balances are assessed here by means of simulations. Expected pensions are not used as the main outcome because the SPP has practically ceased to provide pensions since 2016 due to a regulation abolishing the obligation to buy an annuity. Instead, individuals can cash out up to 95.5 percent of their pension funds at retirement age. However, by construction, the final pension balance is a measure directly linked to the level of a pension (which is equal to the pension balance divided by the annuity price).

The simulations use a sample of the non-retired SPP population drawn from SBS administrative records as of December 2019. This is a random sample, stratified and representative of the following strata: five-year age groups, sex, and year of enrollment in the SPP. This unique dataset includes information about individuals' pension balances, management fees, income, and various demographic variables. The sample represents 2 percent of the total non-retired SPP population.<sup>13</sup> The initial sample size is composed of 138,020 observations, including individuals older than 18 and younger than 65. Individuals older than 65 are not considered, as this is the legal retirement age. In addition, the observations on the following categories of individuals are dropped: those with no information on residence region or living abroad (178), those enrolled in the SPP before 18 years old (160), and those allocated in the lowest pension risk fund (31) (this

<sup>13</sup> At a confidence level of 99 percent, the sample size has a margin of error of 0.34 percent.

type of fund is allocated to people in the process of retiring). The final sample size is 137,651 individuals.

The data include information on age, gender, employment condition, and income at the individual level. The data also include information about the pension account, such as enrollment date in the SPP, AFP, last contribution date, pension balance, balance affected and unaffected by the management fee reform, type of fee, type of pension risk fund, contribution density, and information about recognition bonds. This bond is an amount of money, based on past contributions, guaranteed by the government to those previously affiliated with the SNP. Olivera (2016, 2020) used this type of micro data to study the ex-ante effects of multi-pillar pension reforms, while Bernal and Olivera (2020) studied the effects of the 2013 management pension fee reform.

The accumulation of pension funds for each individual in the sample is simulated from January 2020 until retirement. The sample was taken just before the onset of the pandemic (December 2019), so it does not include information on whether the individual withdrew funds or on the size of each withdrawal. However, the available evidence (SBS 2022) and press releases from SBS during 2020–2021 point out that most individuals decided to withdraw the maximum permitted amounts, even fully depleting their pension balance. Thus, the simulations assume that the selected and eligible individuals withdrew the maximum possible and feasible amount permitted by the policy. The complete set of parameters and procedures involved in the simulations are detailed in Olivera and Valderrama (2022).

As it is not known exactly which individuals decided to make withdrawals, people from the universe of affiliates fulfilling the eligibility conditions of a given policy were randomly selected. The available information about the number of affiliates withdrawing per age group and policy (SBS 2022) is used to randomly select individuals within each age group in the sample to obtain a proportion of affiliates withdrawing within each age group that is similar to the actual one. For the selected individuals, a withdrawal value is computed that is the maximum allowed by the policy and the individual's own pension fund circumstances.

Monthly periods are set for the simulation from  $t=1$  to  $t=564$ , with  $t=1$  equivalent to January 2020. The five withdrawal policies occurred between  $t=4$  and  $t=20$ , with varying time windows to effectively claim and cash out

the pension funds. In order to facilitate the simulations of pension fund accumulation and amounts withdrawn, a unique period to compute the withdrawal for each policy is assumed. These periods are  $t=4$  for policy 1;  $t=5$  for policy 2;  $t=6$  for policy 3;  $t=12$  for policy 4; and  $t=20$  for policy 5.

When pension balances at each period for each individual are simulated, the following are taken into account: real monthly salary, real monthly return rate of pension funds, contribution rate from the salary, and probability of making pension contributions (captured by contribution density). A baseline final pension balance assuming that no withdrawals take place ( $S_b$ ) is first simulated. A final pension balance taking into account the withdrawal policies ( $S_p$ ) is also simulated; that is, the pension balance is reduced by the amount of the corresponding withdrawal for each selected affiliate. It is also allowed that the same individual could apply to different withdrawal policies. The procedure of computing  $S_p$  is replicated 100 times and averages are taken of the results for each individual. The final effect of the policies is estimated as the percentage change in pension balances due to the policies:

$$D = 100 \times (S_b - S_p) / S_b \quad (1)$$

Table 5.3 reports the overall simulations. In general, the results on the total amount of withdrawals and the number of individuals cashing out funds are very close to the actual ones. For policies 1–4, the difference between the simulated and actual values of the withdrawn funds is about 4.1 to 5.4 percent, yet for policy 5, this difference is 16.1 percent. Overall, the difference between the simulated and actual values of the total amount of funds implied by the five policies is 7.4 percent, and the difference is 2.7 percent for the number of affiliates cashing out funds.

The estimations indicate that the withdrawal policies will reduce the expected pension balances at retirement by 40 percent (40.25 percent on average, with 95 percent confidence intervals of 40.09 and 40.42). Different variations of  $D$  for each policy can also be obtained. Policy 1 reduces pension savings by 10.5 percent, and policy 2 adds 5 percent of loss. Thus, those two policies designed by the government account for 15.5 percent of the loss in future pension funds. Policy 3 adds 11.3 percent of loss, policy 4 adds 4.6 percent, and policy 5 adds 8.8 percent. This implies that the withdrawal policies passed by Congress increased the losses from



**Table 5.3** Peru: Overall Results of Simulations

Policy	Total Amount of Withdrawals (Millions of Soles)		Number of Affiliates with at Least One Withdrawal	
	Actual	Simulation	Actual	Simulation
(1) DU 34-2020	2,966	2,806	1,910,843	1,898,050
(2) DU 38-2020	2,094	2,140	1,296,323	1,296,050
(3) Law 31017	19,647	19,712	3,746,482	3,746,350
(4) Law 31068	9,016	9,389	1,250,250	1,250,050
(5) Law 31192	32,219	27,029	3,206,818	3,206,550
Total	65,942	61,076	5,636,965	5,787,726

Source: Prepared by the authors.

Note: The actual amounts and number of affiliates correspond to individuals younger than 65.

15.5 percent to 40.3 percent (i.e., 24.7 percentage points). The next section deals with the assessment of these effects across various groups of individuals.

A byproduct of the simulations is that the number of affiliates who could have ended with a pension balance equal to zero after each withdrawal policy can be retrieved. The results indicate that the number of pension pots exhausted is considerable. For example, about 2 million affiliates could have a zero pension balance after the last policy (policy 5), which represents 30 percent of the total number of affiliates.<sup>14</sup> Note that these pension accounts will still grow due to future contributions and capital returns, in particular for younger individuals. However, there is capital that will never be recovered, so the levels of pension wealth will be lower in the future. A possible danger in the long run is a stronger demand for social pensions, but it is difficult to determine how strong this demand will be and how much these social pensions could cost. Considering the current level of Peru's *Pension 65* social pension program (125 soles a month targeted to extremely poor people with no pensions), it is calculated here that 62.5 percent of SPP affiliates could have saved for a pension of at least the level of the social pension if no withdrawal policies would have been

<sup>14</sup> The estimated percentages of affiliates who exhausted their pension pots were 11.1 percent, 5.6 percent, 20.1 percent, 12.9 percent, and 30.4 percent for policies 1, 2, 3, 4, and 5, respectively.

in place. However, this percentage drops to 53.3 percent after the withdrawal policies.<sup>15</sup>

### 5.3.3. Heterogeneous Effects

This chapter aims to assess the effects of the policy withdrawals across different groups and characteristics of the affiliates. An overall reduction of 40 percent in the expected pension balance is already large enough to compromise old-age security, but this statistic could be larger or smaller for some groups. Table 5.4 and Figure 5.2 report the expected heterogeneous effects of the withdrawal policies.

Table 5.4 shows that the policies reduce the pension balances of men more than women, though only slightly. The pension fund amounts of men drop by 41.1 percent, while those of women drop by 38.9 percent. When men and women are compared across ages, there are larger differences in fund losses (with men losing more than women) at older ages. For example, women lose 0.5 percent more than men in the 20–29 age group, but men lose 3.4 percent more than women in the 50–59 age group (results not reported).

Figure 5.2, Panel A shows the impact of the withdrawals by age group. The loss of future funds is larger for older individuals and lower for younger individuals. The loss could be as high as 54.1 percent for persons between ages 46 and 55, but for the 21–25 age group, the loss is 16.5 percent. The reason for these results is that older people have, on average, larger pension pots from which they can cash out more funds. At the same time, they have less time to contribute, capitalize, and rebuild their pension funds. The results also indicate that people close to retirement will experience a large drop in their expected funds. People between ages 60 and 64 will face a loss of 51.5 percent in their pension balances. Of course, it is still possible that individuals withdrawing funds could make meaningful and well-informed investments and at least match the returns of the SPP. However, anecdotal evidence suggests that the withdrawals increased conspicuous consumption (Olivera 2021). Furthermore, the hypothesis that most people

<sup>15</sup> The SPP's official life tables and an interest rate of 3 percent are used to compute annuity prices for women and men at age 65. The annuity price is multiplied by the social pension amount, which results in the value of capital needed to finance a social pension. Then, we compare this amount with the final balance accrued by the individual.

**Table 5.4** Peru: Loss in Final Pension Balance Due to Withdrawal Policies

	Mean (Percent)	Standard Error	95 Percent Confidence Interval	
Overall	40.25	0.08	40.09	40.42
Men	41.12	0.11	40.91	41.33
Women	38.91	0.13	38.66	39.17
Lima	37.99	0.12	37.75	38.23
Other regions	42.12	0.11	41.9	42.34
AFP Habitat	28.58	0.18	28.23	28.93
AFP Integra	44.9	0.15	44.6	45.19
AFP Prima	32.51	0.14	32.23	32.78
AFP Profuturo	53.03	0.17	52.71	53.35
Load factor fee	32.43	0.11	32.22	32.64
Balance fee ("Mixed")	43.14	0.1	42.93	43.34

Source: Prepared by the authors.

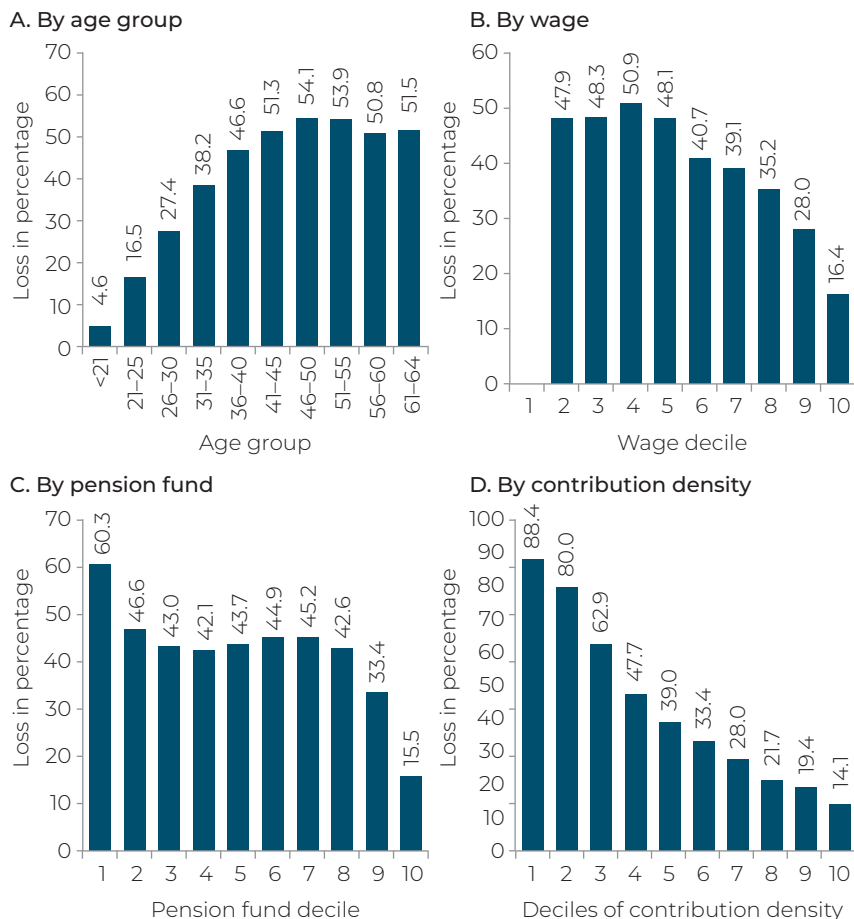
Note: AFP: Asociación de Administradoras de Fondos de Pensiones.

made savvy investments with the withdrawn funds is difficult to accept in a country where only 28 percent of the adult population has the correct knowledge of simple financial questions about the interest rate, inflation, and risk diversification (Klapper, Lusardi, and van Oudheusden 2015).

Figure 5.2, Panel B shows the losses in expected pension balances across the distribution of wages observed at the sample (December 2019). The lower deciles (poorer affiliates) experience, in general, larger losses than the higher deciles (richer affiliates), which indicates a clear socioeconomic gradient in the effects of the withdrawals. For example, while persons in the poorest decile lose 47.9 percent of their funds, those in the richest decile lose 16.4 percent.<sup>16</sup> This implies a disadvantage for the poorer affiliates, who are more likely to face difficulties building enough resources to obtain economic security in old age. The reasons for these results are related to the fact that the policies include maximum limits for withdrawals, so the withdrawn funds tend to represent lower shares of the pension pots of richer

<sup>16</sup> The two first percentiles are merged, as there are a large number of individuals earning the minimum wage at the bottom of the wage distribution.

**Figure 5.2** Peru: Loss in Final Pension Balance in Distinctive Variables Due to Withdrawal Policies (Percent)



Source: Prepared by the authors.

Note: The age groups correspond to the distribution as of December 2019. The deciles of wages, pension funds, and contribution density correspond to the distribution as of December 2019.

individuals and larger shares of the pension pots of poorer individuals. In addition, it is likely that poorer affiliates were eager to cash out more frequently and at the maximum possible amounts from their available funds because they were more liquidity-constrained than richer affiliates.

Figure 5.2, Panel C shows a socioeconomic gradient in the loss of expected pension funds across the initial distribution of pension funds. The poorest decile of the distribution of pension funds experiences an average loss of about 60.3 percent, while the richest decile experiences a

loss of about 15.5 percent. In between, there are not many differences in the losses of individuals distributed between the third and eighth deciles, with their average loss being about 43.6 percent. Therefore, if the distribution of pension savings or wages is used, the impact of the withdrawal policies is stronger on the poorest groups.

The frequency of contributions made by the person (captured by the individual contribution density indicator) is also a key factor in determining the final value of the pension balance. There are sharp differences in this indicator among the affiliates, also implying a socioeconomic gradient. Persons with more stable jobs and higher wages tend to have higher levels of contribution density. In contrast, persons with various and longer spells of unemployment and/or who transit more frequently between the formal and informal sectors are more likely to show low levels of contribution density. Figure 5.2, Panel D shows the losses of expected pension savings according to the distribution of individual contribution densities. The persons in the first and second decile of contribution densities will suffer losses in pension funds of about 88 percent and 80 percent, respectively. The reason is that the affiliates with low contribution density will not be able to rebuild their pension savings over their labor lifespan, and therefore the withdrawals will have a sharper impact on their future pension savings. This situation is markedly different from that of persons who contribute regularly. Persons in the highest decile of contribution density will lose about 14 percent of their pension funds, which is much lower than the losses of persons in the first three deciles.

Other results are reported in Table 5.4. People residing in regions other than Lima tend to experience higher losses (42.1 percent against 38 percent). There are also important differences across AFPs. Affiliates of Profuturo face the largest losses at 53.4 percent on average, while affiliates of Habitat experience the smallest losses at 28.6 percent on average. The reason is that Profuturo's affiliates tend to be the oldest in the sample, earning lower incomes and showing the lowest levels of contribution density. In contrast, Habitat's affiliates are the youngest in the sample. Thus, the withdrawal policies will hit this AFP harder because it has a relatively more vulnerable population.

Finally, a potential unintended effect of the early withdrawals could be that the SNP affiliates may shift to the SPP in order to benefit from the withdrawal policies. However, note that this change does not entail

monetary recognition for the contributions made to the SNP, and hence the individual shifting to the SPP will lose all previous contributions and start with a pension balance equal to zero. Thus, the incentive to transit to the SPP is low. No statistical evidence was found of individuals shifting pension schemes since the onset of the pandemic. To the contrary, a decrease in this flow was observed during 2020.

#### 5.4. Effects of the COVID-19 Pandemic on Public Pensions

The economic effects of the COVID-19 pandemic on the public pension scheme (SNP)—and subsequent policy responses—are markedly different from the effects and policies observed in the SPP. The adverse labor market effects triggered by the pandemic affected the frequency of pension contributions by SNP and SPP affiliates, but the public policy responses were very different. Congress passed a law to allow SNP affiliates to cash out past contributions, as was the case with withdrawal policies applied to the SPP. However, after lengthy political struggles between the government and Congress, the Constitutional Court of Peru ruled the law regarding SNP unconstitutional at the end of 2020. Nevertheless, this conflict led to a rethinking of the SNP benefits scheme. In this context, the government set up a series of new regulations (e.g., reducing the amount of contributions to pensions) to change the stringent eligibility rules to receive a pension, and then facilitate the allocation of more pensions.

These policies will improve the old-age security of SNP affiliates and simultaneously attenuate the adverse effects of the drop in contributions experienced during the COVID-19 pandemic. This section first assesses the potential impact of the pandemic on SNP contributions, then evaluates the possible effects of the new pension rules on access to future benefits. Finally, the section focuses on the number of contributions, as this is a crucial determinant of the value and eligibility assessment of the benefits of a defined-benefit scheme such as the SNP.

##### 5.4.1. Effects on Contributions

The effects of the pandemic on SNP contributions are assessed by exploiting a sample of affiliates from SNP records as of December 2021. The

sample includes longitudinal data on 78,152 individuals randomly selected from a universe of 4.7 million affiliates. The data allow for comparing the contributions made by the individuals in 2018–2019 with their contributions made in 2020–2021. In this way a possible effect of the pandemic on the frequency of contributions could be obtained.

The comparison of contribution behavior before and after the pandemic is summarized using a transition matrix reported in Table 5.5. Three groups of individuals making transitions are considered: (i) individuals with zero contributions, (ii) individuals always contributing, and (iii) individuals between both categories, meaning that they sometimes contributed during the period analyzed. This categorization is based on the fact that the distribution of contributions is bimodal, with high concentrations of individuals with zero or little contribution or with many contributions.

Table 5.5 shows the transitions between states. Among the main results, there is a certain persistence because in most cases people maintain their level of contributions, especially persons with zero contributions. Thus, of the total number of people who did not make any contributions

**Table 5.5** Peru: Transitions According to Contribution Density Level (Percent)

Overall		Observed in 2020–2021		
Observed in 2018–2019	Density = 0	Between 0 and 1	Density = 1	Total
Density = 0	88.58	11.23	0.19	100
Density between 0 and 1	36.25	45.95	17.81	100
Density = 1	0.62	28.2	71.18	100
Age in 2021: 30 to 35		Observed in 2020–2021		
Observed in 2018–2019	Density = 0	Between 0 and 1	Density = 1	Total
Density = 0	84.88	14.97	0.14	100
Density between 0 and 1	36.21	49.21	14.58	100
Density = 1	1.01	39.43	59.56	100
Age in 2021: 36 to 45		Observed in 2020–2021		
Observed in 2018–2019	Density = 0	Between 0 and 1	Density = 1	Total
Density = 0	87.64	12.16	0.2	100
Density between 0 and 1	34.64	47.02	18.34	100
Density = 1	0.54	31.03	68.43	100

(continued on next page)

**Table 5.5** Peru: Transitions According to Contribution Density Level (Percent) *(continued)*

Age in 2021: 46 to 55		Observed in 2020–2021		
Observed in 2018–2019	Density = 0	Between 0 and 1	Density = 1	Total
Density = 0	90.19	9.6	0.21	100
Density between 0 and 1	37.27	43.74	18.99	100
Density = 1	0.72	25.79	73.5	100
Age in 2021: 56 to 65		Observed in 2020–2021		
Observed in 2018–2019	Density = 0	Between 0 and 1	Density = 1	Total
Density = 0	93.47	6.34	0.19	100
Density between 0 and 1	39.5	37.62	22.88	100
Density = 1	0.43	20.11	79.46	100

Source: Prepared by the authors using a sample of Sistema Nacional de Pensiones records from December 2021 provided by the Oficina de Normalización Previsional.

Note: Only the population between 30 and 65 years of age is considered.

between 2018 and 2019, 86.5 percent maintain this condition, while 75.7 percent of those who always contributed continued to do so. This persistence increases with age. For example, among individuals aged 56–65, 92 percent of those who did not make contributions before the pandemic continued to not make contributions during the pandemic, while 82 percent of those who always contributed continued to do so.<sup>17</sup>

Another result from Table 5.5 is that the most important transition occurred in the group of people who, having made some contributions during 2018 and 2019, did not contribute during the pandemic. Thus, 39 percent of affiliates contributing in the first period analyzed stopped doing so in the second period.

It can be assumed that the contribution behavior in 2018–2019 is the level that each individual would have had in 2020–2021 if the pandemic had not occurred. Thus, the 2018–2019 contribution density values (i.e., the counterfactual) can be compared with the actual values observed in 2020–2021 to determine the potential impact of the pandemic on the probability of contributing. Table 5.6 reports these impacts. Using this

<sup>17</sup> A similar result is obtained when we model the probability of contributing. That is, younger people are more likely to change status, and there is more inertia when the pre-pandemic contribution density is zero.



approach, it is estimated that affiliates who always contributed before the pandemic suffered an average drop of 2.2 months of contributions, while those who contributed less regularly experienced a drop of 1.4 months of contributions. Furthermore, older affiliates tended to experience larger reductions in months of contributions than younger ones. There were no significant differences between men and women.

### 5.4.2. Effects of the New Pension Policies

In October 2021, the government established a series of new rules to facilitate the eligibility conditions to receive an SNP pension. Before this change, the only way to obtain a retirement pension was 20 years of contributions, which also ensured the right to receive a guaranteed minimum

**Table 5.6** Peru: Impact of COVID-19 on Number of Monthly Contributions

	Observed in 2020– 2021	Simulated in 2020– 2021	Gap	Standard Error	95 percent Confidence Interval	
Overall	7.63	8.13	-0.51	0.01	-0.51	-0.48
Men	8.27	8.73	-0.46	0.02	-0.46	-0.42
Women	7.15	7.69	-0.54	0.02	-0.54	-0.51
Observed in 2018–2019						
Density = 0	0.8	0.05	0.75	0.01	0.75	0.77
Density between 0 and 1	9.61	11.02	-1.41	0.03	-1.41	-1.35
Density = 1	21.61	23.91	-2.3	0.03	-2.3	-2.24
Age in 2021:						
30 to 34	6.59	7.04	-0.45	0.03	-0.45	-0.39
35 to 40	7.42	7.87	-0.45	0.03	-0.45	-0.4
41 to 45	7.74	8.17	-0.43	0.03	-0.43	-0.36
46 to 50	7.58	8.12	-0.54	0.04	-0.54	-0.47
51 to 55	7.82	8.45	-0.63	0.04	-0.64	-0.56
56 to 60	8.71	9.31	-0.59	0.04	-0.6	-0.52
61 to 65	9.42	10.1	-0.67	0.04	-0.67	-0.59

Source: Authors' calculations using a sample of Sistema Nacional de Pensiones records from December 2021 provided by the Oficina de Normalización Previsional.

Note: Only the population between 30 and 65 years of age is considered.

pension. The affiliates without this number of contributions would not receive any pension or any return of contributions. However, in pension systems in other countries, members who do not qualify for a pension receive some form of refund of contributions. The government launched what are called proportional pensions, which feature the following characteristics: (i) a pension equivalent to 50 percent of the minimum pension for persons contributing between 10 and 15 years (pension of 250 soles); and (ii) a pension equivalent to 70 percent for persons contributing more than 15 years and less than 20 years (pension of 350 soles). The government also implemented a type of pension loan scheme with the goal of enabling affiliates contributing more than 17 years and less than 20 (this is Law 31301) to obtain at least a minimum pension. The mechanism embedded in this policy is that the “pension loans” can finance the missing contributions and be repaid from future pensions, provided the repayment does not exceed 30 percent of the pension value.<sup>18</sup>

One way to determine the effects of the new policies is to estimate the contributions accumulated at age 65. The available data allow for knowing up to 22 years of historical contributions, starting in 2000 and ending in 2021. Since employment histories are incomplete, the number of unobserved contributions made before 2000 and after 2021 need to be computed accordingly. To facilitate the estimates, it is assumed that the contribution density for the periods before 2020 and after 2021 is the same as the contribution density observed five years before the pandemic. The choice of five years guarantees the same time horizon of contributions for a wide range of ages. Thus, the impact of the SNP pension policies on affiliates aged 30–65 years (as of December 2021) can be estimated. Furthermore, it is assumed that the first contribution to the SNP occurs at age 20.

The first panel of Table 5.7 reports the results of the estimations. About 10 percent of the sample could benefit from the new policies, with no significant differences between men and women. Specifically, 5.3 percent could receive a pension equivalent to 50 percent of the minimum pension, 1.8 percent could receive a pension equal to 70 percent of the minimum pension, and the remaining 2.5 percent could receive a pension

<sup>18</sup> In December 2021, the government enacted Law 31365 to give a transfer equivalent to 350 soles to SNP pensioners, with the exception of affiliates receiving other COVID-19-related social transfers (the Yanapay Bonus and the 210 Soles Bonus).

thanks to the pension loan. Furthermore, the results practically do not change regardless of whether the simulated contributions for 2020–2021 estimated in the previous section exercise are used. The bottom panel of Table 5.7 quantifies the actuarial cost of the new policies. The impact is estimated to be almost 5,900 million soles, which represents just over 4 percent of the net actuarial reserve for 2020.<sup>19</sup>

### 5.4.3. Effects of Pandemic Deaths on Pension Liability

This section studies the actuarial impact of the excess number of deaths observed among SNP affiliates and pensioners during the pandemic. The first column of Figure 5.3 plots the evolution of deaths among the non-retired SNP affiliates for both men and women, while the second column plots the evolution among SNP pensioners both for men and women. All sub-figures show a sharp increase in the number of deaths during the pandemic that becomes more acute among pensioners due to their age

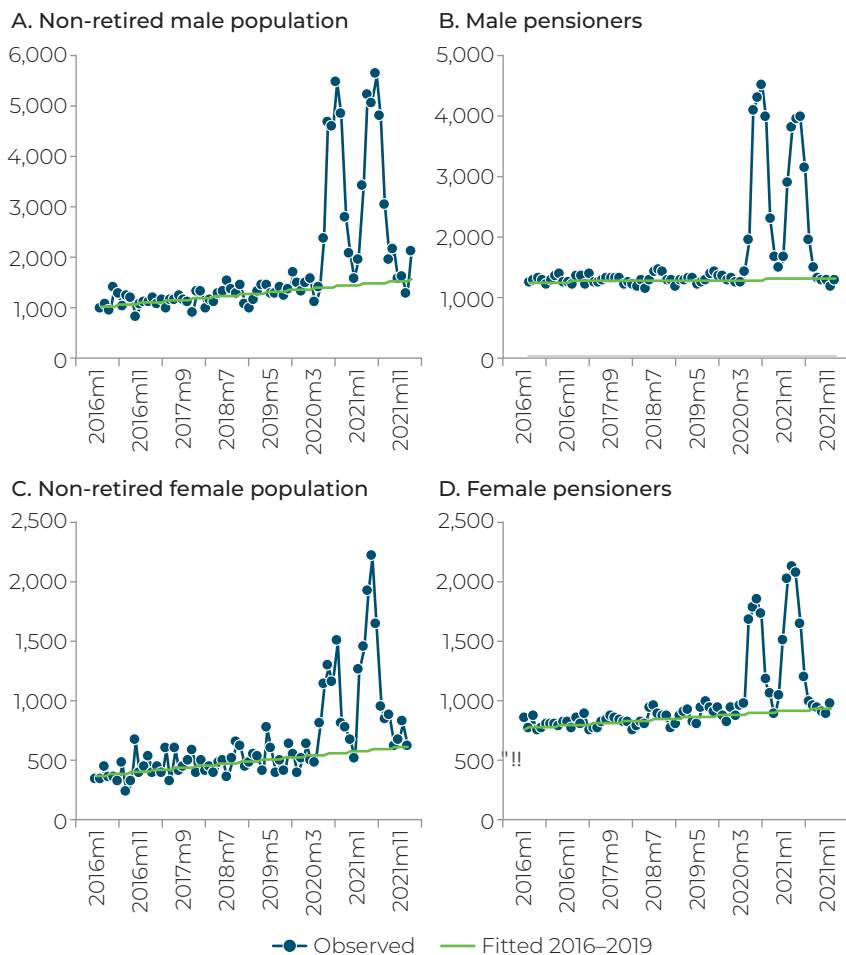
**Table 5.7** Peru: New Benefits under the Sistema Nacional de Pensiones

Benefit Type	Female	Male	Total
Distribution of Benefits by Contributions Accrued at Retirement (Percent)			
No pension (< 10 years)	56.25	60.38	58.64
50 percent minimum pension (10–15 years)	5.22	5.32	5.28
70 percent minimum pension (15–17 years)	1.8	1.73	1.76
70 to 100 percent minimum pension (17–20 years and loan)	2.51	2.45	2.47
≥ 100 percent minimum pension (≥ 20 years)	34.22	30.11	31.85
Total	100	100	100
Actuarial Cost of New Pension Benefits (Millions of soles)			
50 percent minimum pension (10–15 years)	1,156	1,638	2,794
70 percent minimum pension (15–17 years)	547	728	1,275
70 to 100 percent minimum pension (17–20 years and loan)	785	1,044	1,829
Total	2,488	3,410	5,899

Source: Authors' calculations using a sample of Sistema Nacional de Pensiones records from December 2021 provided by the Oficina de Normalización Previsional.

Note: Only the population between 30 and 65 years of age is considered.

<sup>19</sup> The official net actuarial liability was 134,616 million soles in 2020.

**Figure 5.3** Monthly Deaths of Affiliates and Pensioners in the Sistema Nacional de Pensiones, 2016–2021

Source: Authors' calculations using a sample of Sistema Nacional de Pensiones records from December 2021 provided by the Oficina de Normalización Previsional.

Note: Deaths include all causes.

composition. During 2016–2019, the estimated number of monthly deaths of SNP affiliates was on average 1,521 people (18,260 annually), but this average rose to 3,884 people monthly (46,618 annually) during 2020–2021. This implies a monthly excess of deaths estimated at 2,363 (28,359 annually). Thus, about 56,717 deaths among SNP affiliates were due to the pandemic.

The effect of pandemic deaths on SNP financial flows can be computed by estimating the contributions that will not be collected and the

retirement pensions to which people will not be entitled. The increase in survival pensions (for the widow or widower) due to the death of married affiliates also needs to be considered. Average observed numbers are used due to the unavailability of comprehensive micro data on SNP mortality, as well as the official parameters for computing actuarial liabilities in the SNP (i.e., official life tables and discount rates). The estimations are summarized in Table 5.8, which shows that pandemic deaths may imply

**Table 5.8** Peru: Effects of Pandemic Deaths on Actuarial Net Liability (Millions of soles)

	Pensioner	Widow(er)	Contributions	Net Result
<i>Non-Retired Affiliates</i>				
<i>Counterfactual (A)</i>	1,600	304	87	1,818
Male	1,355	304	74	1,585
Female	245	0	12	233
<i>Observed (B)</i>	0	615	0	615
Male	0	615	0	615
Female	0	0	0	0
<i>Effect (A)-(B)</i>	1,600	-311	87	1,203
Male	1,355	-311	74	970
Female	245	0	12	233
<i>Pensioners</i>				
<i>Counterfactual (A)</i>	2,702	913		3,615
Male	2,092	913		3,005
Female	610	0		610
<i>Observed (B)</i>	0	1,660		1,660
Male	0	1,660		1,660
Female	0	0		0
<i>Effect (A)-(B)</i>	2,702	-747		1,955
Male	2,092	-747		1,345
Female	610	0		610
<i>Overall effect</i>	4,302	-1,058	87	3,158

Source: Authors' calculations using a sample of Sistema Nacional de Pensiones records from December 2021 provided by the Oficina de Normalización Previsional.

Note: The table shows the observed actuarial net liability and the counterfactual estimates in the absence of the COVID-19 pandemic. The estimations distinguish between the groups of non-retired affiliates and Sistema Nacional de Pensiones pensioners.

an improvement in the net actuarial liability driven by a fall in the amount of future retirement pensions (4,302 million soles). Yet, the amount of widow pensions would increase by 1,058 million soles, while the flow of contributions would drop by 87 million soles. All in all, there is an estimated reduction of 3,158 million soles in the net actuarial liability, which is equivalent to 2.4 percent of the net actuarial reserve of 2020. It is worth noting that this reduction could finance around half of the net actuarial cost of the new SNP pension benefits examined in the previous section.

## 5.5. Conclusions

This chapter is one of the first analyses to exhaustively document and assess the potential effects of the COVID-19 pandemic on pension systems in Latin America, in this case the private and public pension schemes of Peru. Beyond the negative impacts of the pandemic on variables such as frequency of contributions transmitted via labor market effects, the analysis shows that the pension policy responses could have much more important and lasting effects. This is due to the freedom given to affiliates to withdraw from private pension pots before retirement. In a perverse tandem between the government and the Congress of Peru, five withdrawal policies were set up between 2020 and 2021.

The main reason given for these withdrawal policies was to provide liquidity to families because of the job losses and economic crisis generated by the pandemic. However, the policies are problematic and ill-designed. The pension funds were severely reduced or even depleted, particularly for affiliates with small pension balances. As Peru does not have a universal social pension that could attenuate the risk of falling into poverty in old age, the withdrawals will compromise the economic security of the elderly. Moreover, the withdrawal policies are not targeted to families facing more adverse conditions, which was cited as a reason to implement the measures in the first place. The eligibility conditions are very loose, meaning that any affiliates can cash out funds, regardless of their socioeconomic status.

The analysis in this chapter simulates that individuals will experience, on average, an expected fall of about 40 percent in their pension funds accumulated at retirement age. However, there are important heterogeneous effects: the losses are larger for poorer affiliates in terms of income

and pension wealth, and older people experience larger losses than younger people.

As for the public pension scheme, there were significant attempts to use the same rationale of cashing-in pension savings and allowing past contributions to be withdrawn from the public scheme, but after months of political turmoil between political actors, that policy was dismissed on constitutional legal grounds. However, this conflict led the government to reassess the benefit rules in the SNP and establish new regulations to facilitate the allocation of more pensions in the public scheme. The analysis in this chapter shows that almost 10 percent of SNP affiliates will benefit from the new policies. A small temporal drop in pension contributions due to the pandemic is also estimated, but its effects on pension access are largely attenuated by the new SNP pension rules. Moreover, it is estimated that the excess mortality among SNP affiliates due to the pandemic may lead to a reduction in the actuarial net liability of the public pension scheme in the long run.

Overall, the analysis is a tale of two interventions. On the one hand, the withdrawal policies jeopardize security in old age, leaving SPP affiliates with reduced or no pension savings to secure an income later in life. On the other, the SNP's new pension rules improve pension coverage among its affiliates. This lack of consistency, along with the implementation of harmful policies, is a clear example of how *not* to design pension policies. Pension policies should rely on sound technical expertise and be less influenced by short-term political gains for the authorities.





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In the wake of the global turmoil unleashed by COVID-19, Latin America and the Caribbean faces a glaring gap in understanding the impact of the pandemic on pension systems. Through a collaboration between research centers across the region and the Inter-American Development Bank, this book aims to fill that gap. Case studies focusing on Argentina, Chile, El Salvador, and Peru explore the pandemic's impact on pensioners' well-being and benefit accumulation, highlighting the resilience of pension systems in the face of adversity and the critical role of public policies in shaping their fate. Offering insights into navigating uncertainty and crafting policies to improve the quality of life of the elderly, this book calls on policymakers, academics, and advocates to join forces in designing equitable, sustainable, and resilient pension systems for future generations.

