

Unemployment Insurance based on Individual Savings Accounts: Lessons for other Latin American and Developing Countries from Chile

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Working Paper
**Unemployment Insurance based on Individual Savings Accounts:
Lessons for other Latin American and Developing Countries from Chile**

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Abstract

In recent years, unemployment protection systems based on individual savings have been instituted in several developing countries. Chile was one of the first countries to establish such a system, which at the time was widely referred to as a model for other countries. Since its institution in 2002, the Chilean UISA has gradually been rolled out to cover the wage-earning population to the point that since 2009 its administrative data can be considered to be representative of this segment of the labour force.

This paper examines how the Chilean UISA works, both in terms of its coverage and levels of benefits and how it is different from a traditional unemployment insurance. We undertake a detailed analysis of the administrative data produced by the UISA system, which also enables us to examine the functioning of the Chilean labour market. Based on the interaction between employment characteristics and the conditions imposed by the benefit system, we assess the efficacy of the system and analyse whether the UISA can indeed serve as a model for other developing countries.

Keywords: Unemployment Insurance Savings Accounts, Unemployment, Chile, Labour Markets

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1. Introduction

During recent years, several middle income developing countries have implemented unemployment insurance systems based on a financing mechanism which relies principally on individual savings accounts. In some cases, these savings accounts are complemented by a minimal shared funding mechanism (a "solidarity pillar") that aims to even out the risk of unemployment among the insured. These unemployment compensation systems have been much lauded and promoted by multilateral international institutions because they are considered to be easy to establish and administer, have low fiscal funding requirements, and limit the risk of moral hazard associated with more traditional insurance systems.³ This paper analyses how the Chilean unemployment insurance savings account (UISA) system, which was the first such system to be implemented, has worked since its establishment in 2002.

The Chilean UISA provides us with an excellent case study for the Latin American region, and also for other developing countries, not only because we now have 14 years of administrative data with which to examine how well the system is working, but also because of Chile's status in the region as a pioneer of privatised Social Security systems with so-called "solidarity pillars", which provide basic social protection floors for those not covered by their own savings. In the same way that Chile's pension system was once regarded as a model for other developing countries, its unemployment insurance has also been copied elsewhere. Mauritius implemented a similar system in 2009 ("Workfare Programme"), Colombia, for example, legislated in 2013 to institute a new insurance system based on individual savings accounts, while Mexico has legislated that it will implement such a system in 2016. Other countries, such as Sri Lanka, are still debating the precise form of the unemployment insurance system they wish to institute (Vodopivec, 2013).

Before going into this analysis, however, we need to say a word about semantics: this paper deliberately uses the term "unemployment insurance savings account system" (even though it is a cumbersome expression) to illustrate that the Chilean system is not really an "unemployment insurance" in the traditional sense. As we will see from the analysis that follows, the system can better be described as a mandatory savings system based on individual accounts with an unemployment insurance component.

³ In 2001, the ILO described the Chilean unemployment insurance system as "new legislation that could lead to a new generation of reforms in unemployment insurance matters" (ILO, 2001:50). See also Vodopivec (2013) for a succinct summary of this literature.

In this paper, we use administrative data from the Chilean UISA system to examine the extent to which it covers both employed and unemployed workers. We proceed as follows: Section 2 explains the historical and theoretical context of how countries in Latin America came to implement unemployment insurance systems based on individual savings accounts, section 3 presents an analysis of how the Chilean UISA system works, section 4 analyses the administrative data for Chile, and section 5 concludes and simulates potential reforms to the existing Chilean system to examine whether it could be made less regressive.

2. The context of unemployment insurance systems in Latin America

2.1. Historical context

Of all the social protection mechanisms that have been instituted in developed and developing countries over the course of history, unemployment insurance is the most complicated (and often ideologically contentious) as there are no easily identifiable characteristics that make a person eligible for a potential benefit, such as an age limit (as with pensions), household structure or income levels (as with benefit payments), or a health condition (disability insurance). By contrast, in the case of the unemployed, the state has to monitor whether a worker is legitimately unemployed, looking for a new job, and available to take advantage of a potential job opportunity. Monitoring the behaviour of the unemployed is particularly difficult in developing countries, where many workers are employed informally or frequently switch between different (and sometimes multiple) precarious jobs.

The difficulties faced by developing countries in the establishment of functioning unemployment insurance systems mirror those experienced by developed countries during the late 19th and early 20th century, where insurance systems were first established for industrial accidents, sickness, and old age, before unemployment insurance was even considered (Berg and Salerno, 2008: 86). These early unemployment insurance systems, however, suffered from problems of low coverage, financing issues (which meant that some such schemes went bankrupt), and fragmentation (some groups of workers such as domestic servants or agricultural workers were excluded *ex-ante* from the new systems) (Berg and Salerno, 2008: 88).

Functioning mandatory and tripartite systems were eventually established after the Second World War, but varied significantly in terms of their institutional and benefit structures. Over time, they became more generous and had to face new challenges that arose from market liberalisations, deindustrialisation, globalisation and international migration, among other factors. Between the 1980s and 1990s, European insurance systems with "generous" benefits and durations were blamed for high unemployment rates in countries such as Germany, France, Italy and Spain, even though other countries with equally generous benefits had unemployment rates that were at least as low or even lower than those in the United States (Auer, 2000;

Nickell (1997), and OECD (1994)).⁴ Some European systems have adjusted their benefit levels in response to these criticisms, and new conditions were added which tested the efforts that workers were making to find new jobs (Draibe and Riesco, 2007; Venn, 2012).

The origins of unemployment insurance in European countries at the turn of the 20th century are important in the context of Latin America today as they illustrate many of the problems that governments in developing countries have to face since the basic mechanisms and problems of establishing unemployment insurance have not changed over time. These complexities also explain why most developing countries, even those in the higher middle income bracket, do not establish fully fledged unemployment insurance systems, and instead prefer to focus on other social programs such as health insurance, pension systems, conditional cash transfer programs or other social benefits. Most importantly, the perception that European unemployment insurance benefits were overly generous and had created undue moral hazard significantly shaped the theoretical and political debates on the subject in Latin America, as will be discussed below.

Having said this, the problem of unemployment has always been an important subject for policymakers dealing with labour market issues. In the case of the Latin American region, governments began to consider implementing mechanisms that would protect workers against unemployment almost as soon as they began considering basic labour market legislation. The logic of protecting workers against unemployment is enshrined in dismissal clauses, which generally require employers to give at least one month's notice, and in severance pay mechanisms that require employers to pay one monthly wage (generally) per year of service if the worker was made redundant.⁵

Severance pay illustrates the fact that labour market legislation in Latin America was negotiated around the logic of "traditional" employment relationships as they existed in Europe at the time. This means that legislation supposes a long-term, stable employment relationship between the worker and a single, clearly identifiable employer, with a formal written contract, social security contributions, and a set of institutions that could enforce such legislation. However, as this article will show, such traditional employment relationships have become quite rare in present-day Latin America.

Aside from debates on whether or to what extent severance pay legislation distorts the functions of labour markets in developing countries, it is clear that it does not work well as an unemployment "insurance" mechanism.⁶ First, it does not cover workers who have worked

⁴ The literature that blames Europe's high unemployment rates on overgenerous insurance systems also systematically ignores the consequences of the fall of former Communist states in Eastern Europe that generated extremely high levels of inter-European immigration as well as the influx of historically high levels of immigration from northern Africa to Europe.

⁵ A similar logic applies in Asian countries, although the amounts stipulated by severance pay legislation vary. See Asami, 2013: 28.

⁶ For a debate on the perceived disadvantages of severance pay, see for example Heckman and Pagès, 2000; Jaramillo and Saavedra, 2004; and Holzmann et al. 2011; Holzmann and Vodopivec, 2011. This literature concludes that severance pay distorts labour markets by protecting jobs and not workers. However, it does not take into

informally or for short periods of time under fixed term contracts. Second, it is difficult to enforce severance pay legislation, and we know very little about the extent to which it is actually paid in Latin America.⁷ Critics contend that employers use flexible, informal or precarious hiring mechanisms to avoid this legislation (Sehnbruch, 2012). In addition, we know that severance pay is rarely paid in full as employers gamble that workers are unable to face the lengthy and expensive legal process that they would need to engage in to enforce their rights. Finally, the right to severance payments evidently does not apply if a worker resigned voluntarily, or is fired for any form of misconduct.

Given the limited use of severance pay as a protection mechanism in the case of unemployment, some countries in Latin America oblige employers to contribute to an individual savings account to make a provision for potential future rights to severance pay. In this case, the worker has the right to withdraw funds from the account under any circumstances. This is the case, for example, of the *Fundo de Garantia do Tempo e Serviço (FGTS)* in Brazil, the *Cuenta Individual de Indemnización (CII)* in Ecuador or the unemployment insurance contributions paid by employers for domestic service workers in Chile. In fact, these mandatory savings accounts have been operating for many decades, and actually form the basis of the idea that unemployment insurance can be funded through individual savings accounts (Sehnbruch, 2006).

Other countries in Latin America have also established limited unemployment insurance systems in the past. They include Argentina, Brazil, Uruguay, and Venezuela.⁸ While modelled on traditional unemployment insurance systems, their coverage often excludes entire groups of workers from the insurance (such as construction workers, domestic or public-sector employees in Argentina), and their benefits are limited, both in terms of replacement rates and number of payments (Mazza, 2000 and Velazquez, 2010). It is the perceived limitation and unworkability of these traditional unemployment insurance systems in developing countries with weak institutions and largely informal labour markets that have led policymakers in Latin America and elsewhere to look for alternative models.

2.2. Political context and theoretical debates.

The origin of the theoretical debate on unemployment insurance in Latin America lies both in these historical experiences as well as in the recommendations made by the Washington Consensus to flexibilise labour markets in the region, in particular by reducing or abolishing severance pay mechanisms to boost the creation of more and better jobs, especially for low income workers, women, and young people (Heckman and Pages, 2004). However, such reforms are politically difficult to implement, as illustrated by the fact that severance pay

account the very limited extent to which severance pay in Latin America is actually paid in practice as it does not work with real data on payments made.

⁷ More information is available on Asian countries, where payment levels are also very low. See Asami, 2013: 31.

⁸ A Chilean unemployment benefit scheme also existed prior to 2002, but its benefits were so limited that few unemployed workers bothered to claim them (Sehnbruch, 2006b).

mechanisms have not been reformed or eliminated from Latin American labour legislation.⁹ Its persistence has therefore led to the development recommendation that severance pay be replaced by functioning unemployment insurance mechanisms based on individual savings accounts, which could then function as a kind of “provision” against severance pay, and be deducted from the final severance payment made.

Furthermore, unemployment insurance is also a part of the “second generation” of reforms recommended by the Washington Consensus institutions that advocate improving active labour market policies in developing countries, by establishing vocational training programs and institutions that can better match workers and jobs (Inter-American Development Bank, 2004 and World Bank, 2013). Unemployment insurance is part of this recommended package.

In this context, the existing literature often begins by explaining that unemployment insurance constitutes “a legitimate space for public policy action” because, as historical experience in both Europe and Latin America has shown, such an insurance cannot be provided through voluntary mechanisms or by private providers, as imperfect information systems and adverse selection criteria make the systems unworkable (Chetty and Finkelstein, 2012 quoted in Vodopivec, 2013).

However, this raises the question of how unemployment insurance can be optimally designed in developing countries, where unemployment is not a “discreet” event and where job search effort cannot be monitored.¹⁰ Workers, for example, can receive benefits from unemployment insurance systems while either working informally, or not bothering to look for a job at all. This raises the spectre of “moral hazard” as studies from developed countries are often extrapolated to developing countries even though analysts recognise that unemployment in developing countries is a completely different phenomenon (Vodopivec, 2013). Yet repeatedly analysts working on optimal social insurance design in developed countries are quoted in the literature on developing countries. Espino and Sanchez (2013), for example, quote Hansen and Imrohorglu, (1992), who are referring to a general equilibrium model based on the United States economy, when they say that “if there is moral hazard, and the replacement ratio is not set optimally, the economy can be much worse off than it would be without unemployment insurance.”¹¹

Concerns about moral hazard such as these have profoundly shaped the debate about unemployment insurance in Latin America from a theoretical perspective and have incorporated by the Chilean literature on the subject. They led policy makers to search for a new balance between fiscal cost, social insurance and potential mechanisms of abuse by combining insurance contributions with individual savings accounts (Cortázar et al. 1995;

⁹ A discussion of why not can be found in Sehnbruch (2012) and Carnes (2014).

¹⁰ Vodopivec (2013: 3) uses the term “discrete event” to reflect the fact that in an industrial and urbanised society, workers either work or do not work. He contrasts this with developing countries well workers can “resort to self- or home production, because they are divorced from ownership of means of production.”

¹¹ Similarly, papers by Feldstein and Altman, 1998; Orszag and Snower, 2002; and Parsons, 2003 are frequently cited by the development literature on unemployment insurance.

Ministerio del Trabajo, 2000; Acevedo, 2002 and 2004; Calvo, 2002; Solari 2002; Ramos, 2002; Velasquez, 1996 and 1998).

In addition to the profound influence of the international literature on Chilean policymakers, we must also consider Chile's role as a pioneer of privatised social insurance.¹² Its pension system based on individual savings accounts was instituted in 1981, and health insurance based on individual insurance plans was established in 1983. Any funding mechanism for unemployment insurance based on sharing risk among workers, was therefore viewed with suspicion during the intensely neoliberal public policy atmosphere of the 1980s and 1990s, which had not yet fully analysed or understood the failings of individualised and privatised social insurance.¹³ In this context, traditional unemployment insurance as it existed at the time in Europe, was viewed very negatively, especially by employers' associations and the political right, as is illustrated by the following quotation, from an interview with the president of one of them in 1993:

The experience [with unemployment insurance] has been extraordinarily negative. The majority of these countries – Spain, England, and other nations of Europe, and including the USA, are having great trouble reversing these systems, which only tend to encourage leisure There is an increasingly larger group of people that makes arrangements to live off these benefits without any interest whatsoever of working in the formal economy. Moreover, many continue working informally and earning a double income....it would be foolish on our part if we should wish to apply a system in Chile that has been proven, by other countries that came before us, to be wrong and negative.¹⁴

Another influential Chilean labour market analyst, for example, wrote at the time: "it is well-known that unemployment insurance systems in Europe have failed" (Beyer, 2000). This illustrates the simplistic arguments into which complex problems were distilled.

The idea of instituting unemployment insurance to protect the unemployed, and positive arguments in favour of unemployment insurance, such as theories related to job – skill matching and counter cyclical expenditure, therefore rivalled with a political economy consensus that was intensely suspicious of any form of state intervention in markets (especially in the labour markets), and of risk sharing. This explains why the Chilean literature on the subject begins by explaining that there is a legitimate role for public policy and the state in the provision of unemployment insurance, as it cannot be provided by a private insurance system.

However, initial proposals to establish unemployment insurance in Chile were based purely on individual savings accounts, and contemplated only an additional fiscal subsidy for those who

¹² See Chapters 8-12 in Sehnbruch and Siavelis (2014) for background information on this subject.

¹³ Although a national health insurance does exist in Chile, financed by contributions from lower income workers and the state, even to this day there is little shared funding between public and private insurers. See Infante and Paraje (2010) for details.

¹⁴ Interview with José Antonio Guzmán, President of the Confederación de la Producción y del Comercio (CPC), Chile's principal employer organization, between 1990 and 1996 in *El Diario Financiero*, 19th April, 1993. Quoted in Haagh, 2004.

did not qualify for the insurance payments.¹⁵ It was the 1999 economic crisis, which had doubled the unemployment rate in Chile within the space of one year to over 10%, and had clearly affected the most vulnerable workers most, which finally prompted the centre-left presidential candidate (and later President) Ricardo Lagos to put the issue on the table framed in language more related to social protection:

How is it possible that Chile today still has no [unemployment insurance], how is it possible that faced with a crisis ... the increase in unemployment simply means hunger and privation for many, because we haven't been able to agree on a formula for an unemployment insurance. This is unacceptable. ... My government will legislate on unemployment insurance, learning from the mistakes made in other countries. We will turn this into an indispensable element for creating more social justice for the Chilean working class so that it does not feel that it is dealt the worst blow when a crisis strikes.¹⁶

However, policymakers at the time did not realise the extent to which the formal sector of the Chilean labour market had become flexibilised through non-traditional or short-term contractual mechanisms, such as short-term, subcontracted, or freelance contracts, or simply through open-ended traditional contracts with short durations. This is an extremely important point to bear in mind for countries aiming to copy the Chilean system. At the time, Chile's national employment survey did not include data on the types of contracts or employment relationships under which workers were hired. Similarly, the Chilean household survey had only asked questions about types of contract and durations once in 1996. Furthermore, administrative data on employment relationships did not exist at the time, or could not be analysed across the workforce (Sehnbruch, 2006).

The design of the Chilean UISA discussed in the following section was therefore born out of a political ideology very particular to Chile during the late 1990s, out of a Washington Consensus recommendation to flexibilise labour markets (by replacing severance pay with a more flexible structure of unemployment insurance), and out of an almost complete lack of information on the state of the Chilean labour market. The objective of preventing moral hazard thus outweighed the objective of protecting workers who lost their jobs, and led to a system which imposed such stringent conditions of eligibility on workers claiming benefits that its coverage of the unemployed turned out to be negligible. This is how a system that was only instituted in 2002 already had to undergo a first reform in 2009 in response to the realisation that its real coverage was minimal.

3. The structure of the Chilean UISA

¹⁵ See Ministerio del Trabajo (1997), and Velasquez (1996 and 1998).

¹⁶ Excerpt from a book entitled "My Vision of the Country" published by President Ricardo Lagos of Chile before his election that outlined his policy programme (1999: 63). Quoted in Sehnbruch, 2006a. Note that even President Lagos tries to calm fears relating to any potential abuse of unemployment insurance by promising to learn "from the mistakes made in other countries."

The Chilean UISA is a mixed system which is financed by all three social actors (government, employers, and workers). The system generates two principal funding mechanisms: individual savings accounts for each worker financed by contributions from the worker and employer in the case of open-ended contracts, and only by employers in the case of workers with short-term contracts. In addition, the system generates a solidarity fund (Fondo de Cesantía Solidario), financed by employers and fiscal contributions. Unemployed workers can only receive payments from the solidarity fund if their own savings are insufficient to cover their period of employment.¹⁷

The contributions each worker makes to his or her individual savings account constitute the workers personal savings, withdrawable only by the worker in the case of unemployment, termination of contract, retirement or any other event in which the worker leaves his or her job. The UISA system establishes different methods of financial contributions depending on the type of contract held by a worker. In the case of workers with open-ended contracts, employers pay 1.6% of gross wages into the individual savings accounts of their workers, in the same way as pension contributions are made.

Workers pay an additional 0.6% of their gross wages into their individual savings accounts. This adds up to a 2.2% monthly contribution from the employer and worker into each account. Over the course of one calendar year, these contributions add up to one quarter of a worker's monthly wage. In addition employers contribute 0.8% of their total gross payroll into the solidarity fund, which also receives a predetermined amount from fiscal contributions. Finally, both the individual savings accounts and the solidarity fund are administered by the *Sociedad Administradora de Fondos de Cesantía*.

Figure 1

The structure of the Chilean unemployment insurance system for workers with open ended contracts

¹⁷ For example, 12 contributions during the last 24 months are required.

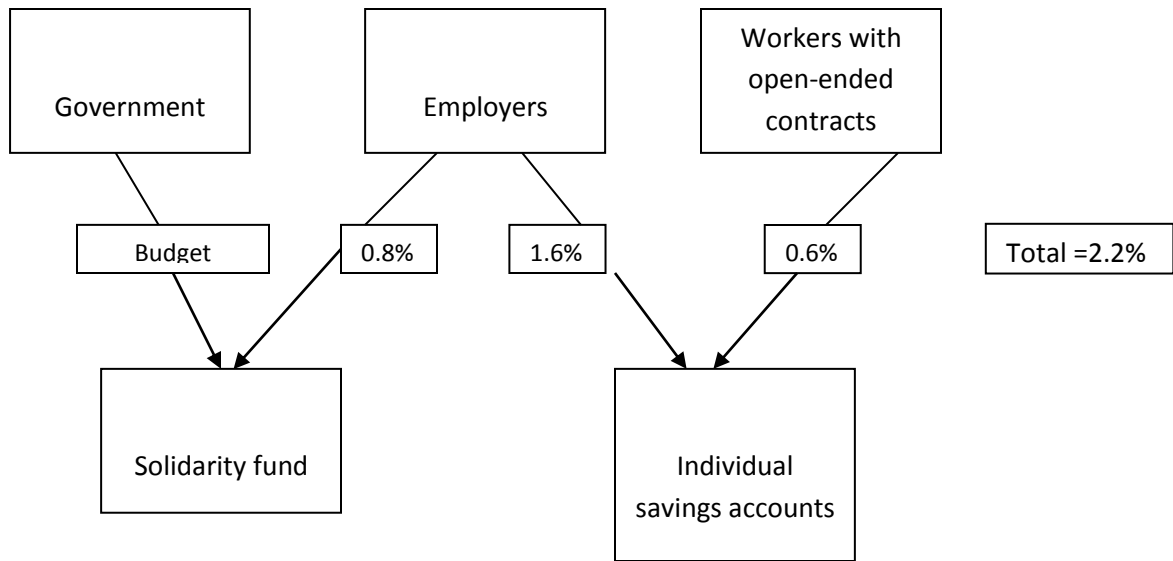


Figure from Sehnbruch 2006.

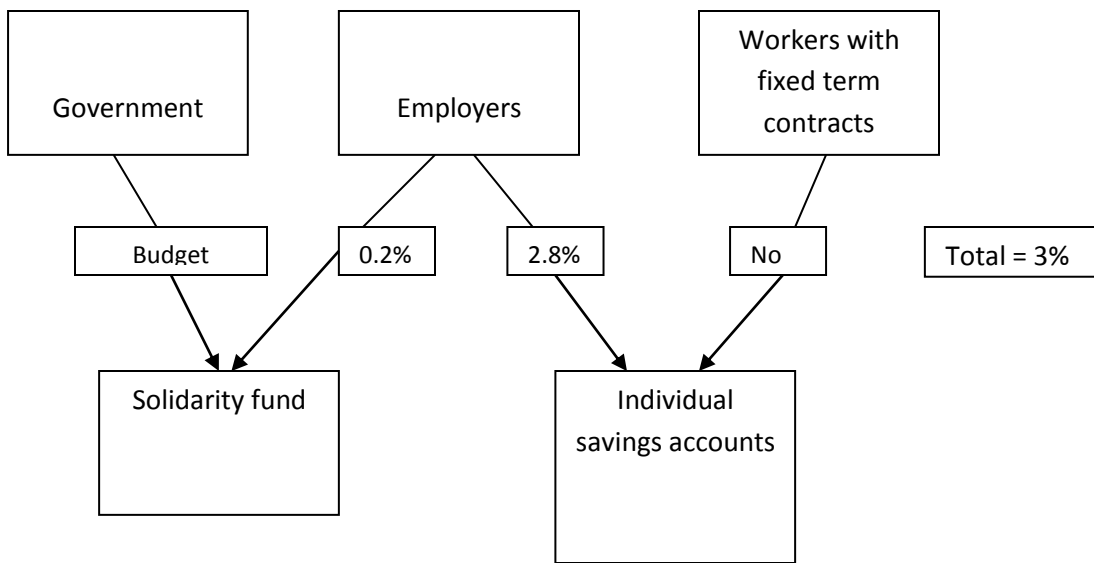
For workers with fixed term contracts the contributions to the UISA system are made by employers in their entirety, and amount to 3% of a worker's gross wage. 0.2% of this contribution is paid into the solidarity fund.

All of these payments are limited to a maximum of 11 years. If a worker stays in the same job for more than 11 years, contributions to the UISA system cease as it is assumed that 11 years allow for a sufficient accumulation of resources in the individual savings accounts that the worker is covered for all the eventualities (Cortázar et al. 1995; Beyer, 2000; Acevedo et al., 2006).¹⁸ Nevertheless, the employer's obligation to contribute to the solidarity fund remains until the end of the working relationship.

Figure 2

The structure of the Chilean unemployment insurance for fixed term workers

¹⁸ In addition, the limitation of unemployment insurance payments to 11 years is related to the structure of severance pay in Chile, which is set at one month's wage per year of service with a limit of 11 months wages. Since accumulated savings from the unemployment insurance system are deducted from severance pay liability, the insurance legislation matched this time period.



To withdraw money from the individual savings accounts, workers have to have had a formal written contract and have to have contributed (not necessarily continuously) for 12 months in the case of workers with open-ended contracts, and for six months in the case of workers with short-term contracts over the course of the last 24 months. Also, workers have to be between 18 and 65 years of age, and have to have been unemployed for at least 30 days. This last condition means that workers have to finance the first month of unemployment out of their own pocket. The number of payments that can be withdrawn from the individual savings account depends on the amount of savings accumulated by the worker. Replacement rates decrease in increments of 5% from 50% to 20% over a maximum period of seven months. If a worker has sufficient savings the number of withdrawals that can be made is unlimited although after the seventh month of unemployment the replacement rate is maintained constant at 20%.

If a worker changes jobs without passing through a period of unemployment in between, his status in the UISA system is reset. The worker then has the option of either withdrawing his funds from the savings account or leaving them in the account for future use. In either case this does not affect the obligation of the new employer to contribute to the insurance system.

The conditions under which the UISA system operates described so far apply to all salaried workers regardless of whether his own funds accumulated in his individual savings account are insufficient, and if the worker has registered a minimum of 12 contributions to the solidarity fund during the last 24 months, the last three of which have to have been continuous and from the same employer, he has the right to additional payments from the solidarity fund. The amount and number of payments made by the solidarity fund are calculated according to a matrix stipulated by the law (see Table 14 below). It is this inclusion of a solidarity fund that

distinguishes the Chilean UISA system from other unemployment insurance systems in Latin America and that led to its description as a model for other developing countries¹⁹.

Beneficiaries of the UISA system are also registered by its administrator in municipal employment offices (OMIL). This means that registration with the labour market intermediation services is automatic. For this purpose a national employment exchange was created (Bolsa Nacional de Empleo), which facilitates the process of employment placement services of municipal administrations, thus contributing to a better match between employment demand and supply. Unemployed workers receiving insurance payments and made redundant for economic reasons have preferential access to vocational training programs offered by Chile's national training and employment service, the Servicio Nacional de Capacitación y Empleo (SENCE). Unemployment insurance payments cease if a worker refuses a place on a vocational training program offered and financed by the SENCE. Similarly, insurance payments are suspended if a worker without justification rejects an employment opportunity offered by is local municipal employment intermediation services, which would have allowed him to receive a salary equal or superior to 50% of his last wage.

The UISA system instituted in 2002 and reformed in 2009 is not retrospective. Only formal employment contracts that entered into effect after 2002 become part of the unemployment insurance system. Thus the UISA system will gradually replace the unemployment insurance benefits that existed prior to 2002. Workers hired before 2002 can voluntarily become part of the new system. The UISA system operates in parallel to the severance pay legislation, which entitles workers with open-ended contracts made redundant for economic reasons to 1 month's wage per year of employment duration with a maximum limit of 11 months' wages. The UISA system does not affect severance pay entitlements, except for the fact that savings accumulated by the employer in the individual savings accounts while a worker was employed are deducted from them. UISA contributions can therefore be regarded by employers as a provision for future severance payment costs.

These conditions mean that workers who are self-employed, employers and wage-earners without formal written contracts are excluded by this insurance system, as well as workers under the age of 18 or over the age of 65. Workers, who have not contributed to the insurance for at least 12 months in the case of open ended contracts (and six months in the case of short-term contracts), or workers who are unemployed for than 30 days do not have the right to obtain payments from the UISA system. The four main factors that determine benefits received from the UISA are the reason for unemployment, duration of employment, the wage level, and the contractual status of the worker. Therefore, these are the conditions that we have to take into account when analysing the empirical evidence that relates to the functioning of the Chilean unemployment insurance system.

4. Empirical Evidence from the Chilean UISA

¹⁹ Workers can claim benefits from the solidarity fund only twice in five years. If they become unemployed a third time, they will not be eligible for benefits.

4.1. The Coverage of the Chilean UISA

The most basic question regarding the UISA database relates to the extent of its coverage. As discussed above, the system began operating in 2002, which is generally assumed to introduce a bias into its data as only employment contracts established after this date became part of the system. However, Table 1 below shows how the UISA system has grown since its inception and extended its coverage to a growing part of wage-earners, to the point where it now covers 97.6% of the formal wage-earning labour force eligible for UISA coverage.²⁰ The table relates administrative data from the insurance itself to labour force estimates from official survey data. We can thus estimate that the insurance now covers almost the entire formal wage-earning labour force, and approximately 50% of the total labour force.

From Tables 1 and 2 below, we can see how the UISA system developed in terms of the types of contract that became part of it, as well as the evolution of the average duration of employment and unemployment. The data reflects the fact that the UISA system was rolled out gradually: as we can see, the proportion of contracts that were of a short-term nature initially was greater than the proportion of open-ended contracts. However, this situation reversed in 2006. Since 2009, the proportions of open-ended contracts and short-term contracts have been broadly stable, which shows that the system matured around this time. This coincides with the data presented in Table 1, which shows that the coverage of the UISA system has increased more gradually since 2009.

Table 2 shows that 63% of the formal workforce had an open-ended contract, while 37% were hired on a short-term basis. These short-term contracts on average earn approximately 55% of their open-ended equivalents, or 63% of the mean open-ended wage. This is to say that income levels of workers with open-ended contracts are significantly higher than those of workers with short-term contracts. The table also shows how both the duration of employment and the duration of unemployment have developed since the inception of the UISA system. Again, we can see that while the system was being rolled out, the contracts that first became part of it were of an extremely short duration. Although this duration has increased since inception, it has plateaued at a very low level of just above two years for open-ended contracts and at seven months for short-term contracts. Another noteworthy fact is also that the average duration of unemployment in months is persistently higher than the average duration of employment in years for both types of contract, but especially for short-term ones²¹. This means that on average workers do not have enough savings in their individual savings accounts to cover the period during which they are unemployed, and should therefore receive insurance benefits from the solidarity fund, provided that they did not resign voluntarily. As we will see in the more detailed analysis below, however, this is not the case in practice.

²⁰ By "formal wage earning labour force" we mean salaried workers employed under a formal written contract. This universe used for this calculation also excludes workers under the age of 18 or over the age of 65, public sector workers (including the armed services), and domestic service employees. We have only included this calculation from the year 2010 onwards, as the New National Employment Survey was launched in that year.

²¹ This tends to be diminishing for open-ended contracts as can be seen for year 2012 in Table 2. This is due to sample bias for short unemployment durations, as data only extends to February 2012.

We should note that job rotation levels among wage earners are extremely high in Chile, in part due to a mechanism that is known as the “Multirut”, where companies use multiple tax IDs within a single holding structure. Workers can therefore be rotated between one tax ID and another, sometimes on a continuous basis, and sometimes not. From an administrative perspective, however, each contract counts as a new employment relationship, and associated benefits such as severance pay entitlements, are calculated based on the dates of contracts. Unfortunately, we cannot estimate the real extent to which the Multirut mechanism has been used, and therefore do not know exactly how many workers are affected by it. Nevertheless, we can be certain that this mechanism has a significant impact on how the UISA system functions, in particular in terms of its coverage levels, which are discussed in more detail in section 5.²²

²² In April 2014, the Chilean government introduced new legislation to Congress that would significantly restrict the use of these “Multiruts”. This legislation was officially passed on July 2014.

Table 1: Proportion of total work force and unemployed covered by the unemployment insurance system (In thousands)

Year	Open-ended contracts in UI	Short-term contracts in UI	Total contracts in UI	Wage earners (NENE)	Administrative data coverage of wage earners	Total labour force (NENE)	Administrative data coverage of total labour force
2003	199.8	596.3	796.1			6,370.0	12.5%
2004	587.3	853.5	1,440.9			6,509.2	22.1%
2005	938.6	1,005.4	1,944.0			6,776.7	28.7%
2006	1,258.1	1,127.0	2,385.2			6,852.1	34.8%
2007	1,546.9	1,212.6	2,759.5			6,925.2	39.8%
2008	1,854.7	1,266.2	3,120.9			7,180.1	43.5%
2009	2,048.9	1,218.7	3,267.5			7,276.7	44.9%
2010	2,191.6	1,253.3	3,444.9	3,708.6	92.9%	7,613.8	45.2%
2011	2,377.4	1,381.2	3,758.6	3,922.5	95.8%	7,996.1	47.0%
2012	2,601.7	1,452.0	4,053.7	4,131.9	98.1%	8,150.5	49.7%
2013	2,731.7	1,407.1	4,138.8	4,241.2	97.6%	8,240.7	50.2%

Source: Author's calculations based on unemployment insurance database. Data used is for February of each year for the UI database and data from the New National Employment Survey (NENE), which was introduced in 2010, for the January-March period. NENE wage earners exclude workers unable to access UI benefits: public servants, workers under 18, apprenticeship contracts and domestic service workers. Prior to 2010, we used data from the previous National Employment Survey (ENE), but since these databases are not readily available and not directly comparable, we were unable to calculate the exact universe of the wage-earners covered by the insurance.

Table 2: Total coverage of the unemployment insurance system in terms of its contributors and beneficiaries

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Open-ended Contracts (OCs)	23.6%	39.2%	46.8%	51.3%	54.6%	58.1%	61.5%	62.4%	62.1%	62.9%
Atypical Contracts (ACs)	76.4%	60.8%	53.2%	48.7%	45.4%	41.9%	38.5%	37.6%	37.9%	37.1%
Average income for ACs as % of average income for OCs	63.4%	68.1%	65.1%	64.0%	60.9%	58.7%	57.9%	57.8%	56.3%	55.5%
Median income for ACs as % of median income for OCs	82.2%	84.5%	78.4%	75.6%	72.2%	69.0%	66.6%	66.0%	63.8%	62.8%
Average duration of employment (months) for OCs	2.7	7.1	10.6	13.9	16.4	18.8	21.6	24.9	27.3	28.4
OCs, % 3 months or less	67%	30%	23%	18%	18%	15%	13%	12%	12%	12%
Average duration of employment (months) for ACs	2.4	4.6	5.5	6.3	6.5	6.7	7.2	7.2	7.3	7.4
ACs, % 3 months or less	76%	56%	54%	52%	54%	53%	50%	52%	52%	52%
Average duration of unemployment (months) for OCs	-	2.4	2.6	2.7	3.0	3.2	4.0	3.8	3.7	3.7
Unemployment over three months	-	30.6%	27.8%	20.1%	33.3%	41.7%	51.1%	49.8%	48.2%	48.2%
Average duration of unemployment (months) for ACs	1.0	1.0	1.0	1.0	1.0	1.1	1.3	1.7	1.8	1.9
Unemployment over three months	0.0%	0.0%	0.0%	0.0%	0.6%	1.7%	4.0%	8.2%	7.2%	7.7%
Duration of unemployment (in months) relative to the duration of employment (in years) for OCs	-	4.0	2.9	2.4	2.2	2.0	2.2	1.9	1.6	1.6
Duration of unemployment (in months) relative to the duration of employment (in years) for ACs	5.0	2.6	2.2	1.9	1.9	2.0	2.2	2.9	3.0	3.1

Source: Authors' calculations based on the UISA database for each employee's principal employment. Data for February of each year. Following the methodology used by the supervisory body of the UISA system, we excluded data for open-ended contracts with only one month of contribution and which appear only once in the database, as these payments represent irregular one-off payments.

Table 3: Information on use of UI benefits (All contracts)

Year	Number of People who drop out of database "unemployed"	Number of ui requests approved	Percentages of ui requests approved	Short-term contracts as percentage of requests approved	Open-ended contracts as percentage of requests approved	Average Number of payments received	Payments received only from ISA	Payments received only from SF	Payments received from both ISA and SF	Total Replacement Rate
2003	39,163	7,306	18.7%	73.7%	26.3%	2.06	95.5%	0.01%	4.5%	35.5%
2004	71,305	22,868	32.1%	60.8%	39.2%	2.12	93.8%	0.02%	6.2%	37.9%
2005	96,128	35,044	36.5%	52.1%	47.9%	2.32	93.2%	0.01%	6.7%	39.2%
2006	118,029	44,401	37.6%	47.9%	52.1%	2.42	93.0%	0.00%	7.0%	39.8%
2007	136,531	48,550	35.6%	44.3%	55.7%	2.52	92.3%	0.01%	7.7%	40.7%
2008	154,476	53,526	34.7%	41.5%	58.5%	2.56	91.2%	0.01%	8.8%	42.0%
2009	161,776	54,736	33.8%	42.7%	57.3%	2.58	90.3%	0.01%	9.7%	40.8%
2010	170,870	43,111	25.2%	39.1%	60.9%	2.65	89.5%	0.00%	10.5%	40.6%
2011	186,516	45,825	24.6%	46.7%	53.3%	2.36	90.6%	0.00%	9.4%	39.6%
2012	201,122	34,144	17.0%	55.9%	44.1%	2.09	92.2%	0.00%	7.8%	38.4%

Table 3 above shows the extent to which the Chilean unemployment insurance system makes payments to people who claim benefits from the system, in terms of its individual savings account mechanism and solidarity fund. Unfortunately, we cannot analyse the situation of *all* unemployed workers, as the UISA system only registers people who actually claim benefits. The data shows that 92.2% of the unemployed receive payouts from their individual savings accounts, while less than 0.01% of the unemployed receive contributions only from the solidarity fund. Another 7.8% receive mixed payments from both their own account and the solidarity fund. This means that very few unemployed are actually covered by the “insurance component” of the UISA system, i.e. by some form of payment from the solidarity fund.

The analysis of this data highlights two variables that are key to the functioning of Chile’s UISA system: On the one hand, a high proportion of workers have short-term contracts, and, on the other, the duration of employment contracts is very short, even for workers with open-ended contracts. Given the conditions of the UISA system described in section 3 that govern who can receive benefits from the system or not, the data presented above prompts the question of how many unemployed workers are actually covered by the system and to which extent.

The tables that follow estimate the coverage of the UISA by asking how many workers of those contributing to the system would be covered if they were to lose their job. To simplify matters, the tables below only include each worker’s main job.²³ Table 4 presents coverage levels of the employed labour force, while Table 5 estimates the extent to which “unemployed” workers would be covered by the insurance system. For the purposes of this calculation, we have defined unemployed workers as those who cease contributing to the UISA system during the month of February of each year, and that does not reappear with the same job relationship (same employer and contract).

The first group of workers presented by the tables 4 and 5 below, is the proportion of workers who are not entitled to UISA benefits because they did not contribute a sufficient amount of time to the system. Within this category, the data distinguishes between open-ended and short-term contracts with an insufficient number of contributions: at least 12 and 6 months, respectively, during the last 24 months, and at least 3 of them with the same employer. ‘Other reasons’ consider people without enough savings to receive at least one payment and that can’t use the solidarity fund because of not satisfying duration requirements).

Another group of workers are those who are entitled to UISA benefits, and the tables that follow distinguish between their different types of contract and by whether they are entitled or not to receive payments from the solidarity fund or only from their own savings account.

Table 4 shows the extent to which employed workers are covered by the UISA. For this table, we consider the relationship between a worker's current job, and all of his or her accumulated savings in the UISA system, regardless of whether these were accumulated during the current job, or previous job(s). As we can see, 50,3% of all workers employed in February 2012 would not have the right to receive any benefits

²³ An analysis of the UISA database reveals that between 5% and 6% of workers in Chile contribute to the system from multiple jobs. This proportion has remained broadly stable since 2007.

from the UISA system at all if they were to become unemployed at that particular point in time because the short duration of their jobs did not allow them to make enough contributions to the system to be able to claim a benefit.

The remaining 49.8% of workers would be entitled to some form of payment from the UISA system. Of these workers, 18.% would benefit because they have enough savings accumulated in their own accounts. 31.4% of workers who are covered by the insurance system would be entitled to some form of benefit from the solidarity fund.

Table 4:
Coverage of the UISA of all employed workers (currently working only)

	2010	2011	2012
Open-ended contracts with insufficient contributions	11.6	13.8	18.8
Short-term contracts with insufficient contributions	17.8	22.0	30.1
Other reasons	0.5	0.6	1.4
Subtotal	29.9	36.4	50.3
Open-ended contracts - Right to Solidarity Fund	22.2	22.7	16.9
Short-term contracts - Right to Solidarity Fund	8.4	10.5	14.5
Open-ended contracts - Enough savings, no Solidarity Fund	29.4	19.6	9.9
Short-term contracts - Enough savings, no Solidarity Fund	10.1	10.9	8.5
Subtotal	70.1	63.6	49.8
Total	100.0	100.0	100.0

Source: Author's calculations based on unemployment insurance database considering all UI savings in their labour history and including only their main employment. Data for February of each year for job relations that also appear on march of the same year. Contributions are built using each worker's job history. Based on duration and the amount in their savings account, we classify each worker into each of the categories (all amounts are in real terms). To access any benefit, each worker must have terminated his or her previous employment relationship, have 6 or 12 non-continuous contributions (for open-ended and short-term contracts respectively, after their last UI request. To access the solidarity fund each worker needs 12 contributions in the last 24 months, of which the last three must be continuous and from the same employer.

However, the data presented in Table 3 shows that the actual payouts made by the UISA system are much lower, both in terms of the proportion of workers receiving funds from the system overall, and in terms of the use made of the solidarity fund. We therefore simulated the coverage of the UISA system of those people who actually are "unemployed" (i.e. who disappear from the database for more than one month), and who should therefore be entitled to receiving some form of benefit, provided they have accumulated enough savings in their individual accounts. By examining the relationship between different types of contracts, dismissal clauses, the minimal contributions that must be made to the UISA system before being able to claim benefits, we can estimate that only 14.9% of the unemployed would actually receive a payment from the system. Of these recipients, 9.1% would receive a benefit from the solidarity fund, while the remaining beneficiaries have accumulated enough savings in

their individual accounts. The other 85.1% do not accumulate enough contributions given their respective types of contract to be entitled to a payout. This can be explained by the fact that (as shown in table 2), 52% of short-term contracts last less than three months.

Table 5:

Coverage of the UISA of all employed workers (last month of employment)

	2010	2011	2012
Open-ended contracts with insufficient contributions	24.7	24.3	24.8
Short-term contracts with insufficient contributions	59.1	60.0	59.9
Other reasons	0.3	0.4	0.4
Subtotal	84.2	84.7	85.1
Open-ended contracts - Right to Solidarity Fund	3.6	3.2	3.1
Short-term contracts - Right to Solidarity Fund	6.2	6.4	6.0
Open-ended contracts - Enough savings, no Solidarity Fund	1.6	1.6	1.7
Short-term contracts - Enough savings, no Solidarity Fund	4.4	4.2	4.0
Subtotal	15.9	15.3	14.9
Total	100	100	100

Source: Author's calculations based on unemployment insurance database considering all UI savings in their labour history and including only their main employment. Data for February of each year for job relations that also appear on march of the same year. Contributions are built using each worker's job history. Based on duration and the amount in their savings account, we classify each worker into each of the categories (all amounts are in real terms). To access any benefit, each worker must have terminated his or her previous employment relationship, have 6 or 12 non-continuous contributions (for open-ended and short-term contracts respectively, after their last UI request. To access the solidarity fund each worker needs 12 contributions in the last 24 months, of which the last three must be continuous and from the same employer.

Overall, this low coverage of the "unemployed" can be explained by the fact that on average their employment conditions (in particular their type of contract, level of income and duration of contract) are significantly more precarious than the conditions of workers who do not become unemployed. Put differently, the Chilean UISA protects vulnerable workers the least and less vulnerable workers the most. Although this is typically true of most unemployment insurance systems in the world, the regressive structure of the Chilean system is particularly pronounced because of the extremely precarious nature of such a large proportion of Chile's formal labour market. Given the levels of job rotation and the proportion of short-term contracts that characterise the formal Chilean labour market, it would be difficult to design any social protection system that could function appropriately.

In addition, it is important to highlight that in developing countries such as Chile, unemployment insurance systems such as they are, are not complemented by welfare

benefits in the same way that they are in developed countries. Chilean workers not covered by this UISA system, especially during an economic crisis when unemployment rates can increase dramatically, can therefore be left wholly unprotected should they find themselves unable to find a new job quickly.

5. Conclusions

The Chilean case illustrates how difficult it is to establish a functioning unemployment insurance in developing countries that guarantees appropriate levels of coverage and benefits, has low administrative costs, and provides the right balance of incentives between protecting the income levels of the unemployed and avoiding any kind of abuse. However, even bearing in mind that public policy mechanisms are often imperfect, especially in developing countries, the Chilean system does not really live up to the expectations it generated in the academic and policy-making literature: The originators of the Chilean unemployment insurance had hoped that they had come up with an innovative system that combines individual savings accounts with pooled risk sharing, which would function with low administrative costs and avoid the typical “moral hazard” pitfalls associated with traditional unemployment insurance systems, while at the same time protecting the unemployed. However, once the unemployment insurance system began to function, it became evident that the proportion of short-term contracts among Chilean wage-earners was much higher than expected, and that job rotation levels (regardless of the type of contract) were also extremely high.

While the system has thus definitely succeeded in avoiding moral hazard, coverage levels and benefit payouts (replacement rates) are so low that the system cannot in good conscience be described as an unemployment insurance system, as its insurance component is extremely limited. This is why this paper has consistently referred to this programme as an unemployment insurance savings account system. This issue leads us to the central question that springs from the Chilean UISA system: can it serve as a model for other developing countries?

The first lesson that we must learn from the Chilean case is an obvious one, and it should be superfluous to have to state it, were it not for the fact that the world of policy-making in developing countries is frequently driven by short-term political interests or necessities rather than long-term planning. Results are often therefore unpredictable and haphazard. Despite political pressures, governments should not design public policies off-the-cuff without first gathering appropriate information. In this case, Chilean policymakers clearly instituted an unemployment insurance system (in response to a political necessity) without reliable information on the combination of salary levels, types of contracts, employment durations, and unemployment durations. They could not, therefore, accurately estimate the coverage, benefits or potential impact of the new system at the time, and ended up with an “insurance” system that is not an insurance.

The second lesson that can be drawn from this case is that the absence of reliable data frequently creates a space for ideological distortions, which can significantly skew policy debates. This is how the international development literature on unemployment insurance typically focuses on moral hazard issues rather than on protecting workers or enhancing their capabilities. In fact, since little systematic analysis has been

undertaken with the administrative data from this UISA system, analysts are still ignoring the fundamental disconnect between moral hazard theory and the reality of Chile's labour market (references). Given the low levels of coverage of this system, studies attempting to detect changes in the behaviour of the unemployed (such as increased moral hazard) in response to regulatory changes in the UISA, seem beside the point.

Third, whether other countries should copy the Chilean model or not depends on the characteristics of their own labour markets. Given job rotation levels in Chile, it would be difficult for any unemployment insurance (traditional or otherwise) to provide adequate coverage. This leads us to an important conclusion: while the current UISA system could probably be improved by reducing contribution requirements and increasing potential benefit levels, the current system is neither particularly onerous in terms of its eligibility criteria, nor particularly stingy in terms of its replacement rates if compared with other systems in developing countries. Furthermore, making the Chilean UISA more generous is unlikely to solve the fundamental problem generated by the high levels of job rotation in the Chilean labour market. As it seems that other developing countries, especially in the Latin American region, have similar problems with job turnover, we must therefore begin to think about using unemployment insurance mechanisms as a policy tool that could actually incentivise more stable jobs and greater investment in vocational training.²⁴

In the United States, for example, the unemployment insurance system charges higher rates to employers whose workers use the insurance more frequently (called an imperfect experience rating system as the rates are based on sections rather than on each individual company decision, Topel (1984)). Analysis suggests, however, that employers view the higher premium simply as a sunk cost, so that this system has little impact. Furthermore, in Chile as well as in other developing countries, such a premium system is unlikely to work given the low levels of coverage achieved by existing unemployment insurance systems.

However, the idea of charging employers for excessive job rotation should not be ignored, especially because all evidence seems to indicate that excessive job rotation leads to lower levels of productivity (OECD, 2014). Instead of charging a "job rotation premium" therefore, higher contributions to an unemployment (or pension) system could be charged at the beginning of an employment relationship and subsequently decrease over time if the relationship proves to be stable (thus not affecting overall costs to employers), this would likely create an incentive for employers to invest in more stable employment relationships. To prevent higher contributions from discouraging the generation of new jobs, these contributions could be offset against investment in training workers. Thus, unemployment insurance could be used as a tool to improve both the quality of employment and worker productivity.

In addition, the quality of jobs and the functioning of social protection systems in Latin America and in other developing countries, is likely to improve if unemployment insurance systems (together with higher contributions to pension systems so that workers do not lose out), were to replace existing severance pay rights. This would

²⁴ See OECD, 2013.

have the additional advantage of decreasing differences between open-ended and short-term contracts, and would obviate the excessive use of the latter.

The Chilean case shows how important the interrelationship is between the conditions of a social security system and the employment conditions on which it is based. If employment conditions are too precarious, social security systems cannot function appropriately, and require increasingly costly fiscal contributions from governments in developing countries with limited resources which, thus, end up inadvertently subsidising job rotation and low productivity. This is why we should begin to consider the potential for using social protection mechanisms not only as savings mechanisms, but also as policy tools which have the potential to impact – positively or negatively – how labour markets function.

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Characteristics of the unemployment insurance database

To study how unemployment insurance systems work in practice, some basic variables are essential to the analysis. Since unemployment insurance contributions and benefits generally depend on a worker's income level, occupational status or type of formal contract, the duration of contributions, and the duration of unemployment, these are also the variables that allow us to assess the functioning of an insurance system.

When Chile designed its unemployment insurance system between 2000 and 2002, data from the household survey at the time significantly overestimated the proportion of open ended contracts in the labour market. At the time, data from the official labour market survey did not even include the variable type of contract. Policymakers therefore designed the insurance system based on estimates from the household survey, Casen, which were shown to be highly inaccurate once the insurance system began to operate and deliver administrative data. When the first administrative data from the unemployment insurance system became available, public officials were extremely surprised, and had to admit that the Chilean labour market was more precarious than they had previously assumed.²⁵

The administrative data from Chile's unemployment insurance system is the most accurate and extensive information available on Chilean wage-earners. While the information is by no means complete, it is the best source of information on the functioning of the formal segment of the Chilean labour market. The data is also the best source of information for analysing how the unemployment insurance system is working in practice.

This section proceeds by first describing the data available from the Chilean unemployment insurance and the type of analysis we can undertake with it. It then proceeds to analyse the data itself, both in terms of how the unemployment insurance has evolved over time and in terms of the job characteristics, contributions and benefits of its workers. We then examine the data from an analytical perspective and discuss its implications for the functioning of the Chilean labour market.

The database of the USA system consists of administrative data on all workers who have contributed to the system since 2003. The database consists of six separate databases, which contain data on different aspects of a worker's contribution history such as salaries, type of contract, periods of contribution (employment) and non-contribution (unemployment), and benefit history. By matching the databases with each other, we were able to reconstruct the employment trajectories of individual workers. This allows us to analyse movements between employment and unemployment or inactivity, as well as movements between different types of contracts. We also have basic information on a worker's personal characteristics, such as age, gender and level of education. Appendix 1 contains a complete list of variables

²⁵ This statement is based on numerous interviews undertaken by the author between 2002 and 2006 with officials at the Ministry of Labour and the Superintendencia de AFP.

contained in the databases as well as an explanation of how they were merged with the relevant do files.

However, it is as important to describe the data not contained in the unemployment insurance system as it is to describe the data that is included. The following is a list of the information on workers contributing to the unemployment insurance system that we do not have:

1. We have no information on the employers that workers work for, such as the size of the firm, its turnover, or economic sector.
2. We cannot associate employer tax identification numbers that belong to a single holding company. This means that we cannot identify when employees are rotated between different tax IDs within a firm, a phenomenon that in Chile is known as the “Multirut”, and which will be discussed in more detail below.
3. While we can analyse the employment history of workers and reconstruct their movements between different jobs or types of contract, we have no way of knowing whether a worker was employed informally during those periods during which he or she did not contribute to the unemployment insurance.
4. Similarly, we do not know from the data whether workers claiming benefits are genuinely unemployed or whether they are working informally while claiming benefits.
5. Approximately 15% of workers contributing to the unemployment insurance do so from more than one job (The maximum number of jobs held by a single individual is 7). While we can sum up their income levels from each job, we cannot analyse this phenomenon in any other way. In some cases, the contributions may be coming from two different tax identification numbers within the same employer.
6. We have no information on hours worked so wage levels cannot be calculated on an hourly basis. This means that, for example, we cannot explain why 16.3% of all workers in the database earn less than the required minimum wage, which is a surprising statistic given that all jobs contained in the database are supposed to be formal. The only way to explain this is if these jobs are part-time. However, we have no data with which to back up this assumption.
7. We have no information on whether workers have received some form of vocational training through the unemployment insurance system, a point which will be discussed in more detail below.