22 The working poor in Chile during the period 1990–2013*

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22.1 INTRODUCTION

In the last decade, in-work poverty has been increasingly debated in the United States and Europe. Nevertheless, this issue has not attracted a great deal of attention in other regions of the world in terms of the literature on combating poverty (Fields, 2012). In Latin America, academic research into the labor market and poverty has appeared during the last few years. A common point of view among these studies is that access to regular employment has proven to be the most secure route out of poverty (Perry et al., 2006). However, to the best of our knowledge, scholars have not considered the fact that the existence of in-work poverty calls for a critical evaluation of this point of view in Latin American countries.

Our chapter aims to fill this gap through an examination of working poverty in Chile. The study combines in-depth qualitative information on the Chilean institutional context with original analysis of quantitative information from household surveys for the period 1990–2013. We believe that the analysis of this information offers an opportunity to explore a case study that is particularly interesting for several reasons. Chile is an evidence-rich middle-income environment in which most of the factors that are relevant to the topic of working poverty are measured in a relatively precise way and rendered in comparable terms across member countries of the Organisation for Economic Co-operation and Development (OECD). Furthermore, the case of Chile can contribute to the evaluation of the external validity of some of the main hypotheses in the literature.

We focus here on two main topics. First, scholars have argued that institutional contexts explain the differences between countries when it comes to working poverty (Brady et al., 2010; Lohmann, 2009). Chile represents a context that aggregates variations in the evaluation of this institutional explanation. Simple statistics illustrate this point. The OECD (2014) reports that 15 percent of Chilean households with at least one worker experienced in-work poverty in 2010. This figure is one the highest incidences of in-work poverty among OECD countries. To understand this pattern, we argue that the incidence of working poverty in Chile can be explained by the institutional context. This nation represents an institutional mixture of pervasive labor informality, extensive labor market regulations, and a welfare system that syncretizes a conservative male-breadwinner model with a strong means testing-based approach. Some of these characteristics may produce significant levels of in-work poverty. For example, as a result of unstable jobs and the low coverage rates of social insurance schemes, informal-sector workers are often trapped in low-paying occupations. Moreover, as we will show, there is a strong gender gap associated with poverty risks.

Second, in terms of academic discussions of the retrenchment of the welfare state and

continuing labor market deregulation, many authors expect to see an increase in in-work poverty over time. However, the evidence is not conclusive in European countries (Andreß and Lohmann, 2008a). The reason for this inconclusiveness is that more information is needed over a longer period of time, as well as the fact that the retrenchment of the welfare state has been more modest in several advanced European democracies (Huber and Stephens, 2012). The analysis of working poverty outside the setting of advanced industrialized nations may help to qualify the association between retrenchment and working poverty. In contrast to the United States and Europe, many Latin American nations made significant changes to their social policy in order to increase the role of the market in welfare provision during the 1980s and 1990s. As a result of these reforms, many Latin American nations experimented with an increase in vulnerable employment (Carnes and Mares, 2014). In the 2000s, public discontent with reforms, combined with the political left turn in Chile and in other Latin American countries, facilitated the expansion of the welfare state in some key areas such as health and monetary transfers. Based on these changes in Latin American welfare regimes, we might expect that the increase in in-work poverty will be clearer in the countries of this region during the 1990s, but that some decrease in deprivation should have taken place in the first decade of the twenty-first century. To evaluate this hypothesis, Chile is a particularly interesting case study because it represents a bellwether of liberal policy reforms in Latin America. At the same time, during the 2000s, new left-wing governments adopted major initiatives toward a social rights-based social policy (Ewig and Kay, 2011).

22.2 POVERTY, INCOME DISTRIBUTION AND WORKING POVERTY IN CONTEMPORARY CHILE

Economic progress has been one of the most important characteristics of the Chilean economy since the return to democracy in 1990. The country's per capita income experienced significant increases during the 1990s and is currently one of the highest in Latin America (OECD, 2013a). Reflecting this economic progress, Chile has seen a remarkable decline in poverty over the last few decades. The share of people living below the national absolute poverty line decreased from 38.6 percent in 1990 to 7.8 percent in 2013 (Larrañaga and Rodriguez, 2015). In the last few years, Chile has had one the lowest absolute poverty rates in Latin America (CEPAL, 2014).

In comparison with poverty, the picture is different when income distribution is considered in the analysis. Diverse measures of inequality indicate that the progress of Chilean society toward higher social inclusion is limited. On the basis of post-transfers and taxes per capita household income, the Chilean official data show that the Gini coefficient decreased only four points between 1990 and 2013, from 0.521 to 0.488. In comparison with other countries, studies also indicate that these figures are among the highest for OECD countries (OECD, 2015a). A pattern that explains this high level of inequality is the large gap between top and mean incomes. As a result of this gap, the income distribution is narrow at the lower deciles, with many households hovering around the absolute poverty line (Larrañaga, 2009). These characteristics of Chilean income distribution suggest that many households are significantly vulnerable and at risk of falling into poverty.

Strongly linked to economic vulnerability is the working poverty problem. In-work poverty is common in middle- and low-income countries (Barrientos and Unnikrishnan, Chapter 20 in this *Handbook*; Maurizio, Chapter 21 in this *Handbook*). Most literature about in-work poverty in Chile does not differ from this picture. There have been several studies about poverty or informality, but research on the working poor in the Chilean context is scarce in the literature. To our knowledge, the first estimations of working poverty can be found in the study of Sehnbruch (2006). This study presents an analysis of official income data for the period between 1990 and 2003 and shows that the proportion of the working poor decreased modestly from 23.1 percent in 1990 to 20.9 percent in 2003. Most recent studies suggest that in-work poverty in the 2000s is lower than these figures. As mentioned above, the OECD (2014) shows that 15 per cent of Chilean households with at least one worker lived in poverty in 2010, which is one of the highest figures among OECD countries. Duran and Kremerman (2015) go a step further by distinguishing between pre- and post-transfers absolute in-work poverty. Using the Chilean official poverty line, their estimations show that 8.1 percent of workers live in post-transfers income poverty in 2013. This number increases to 17.6 when public transfers are not considered in the estimations. A direct explanatory mechanism of these in-work poverty figures is the low level of earnings of significant segments of workers in Chile. To illustrate, the net minimum wage in 2013 was US$461.4 and the value of the poverty line for the same year was US$1065.9 for the average household (4.43 members).[1] Given these numbers, it follows that an average family with two workers cannot rise above the poverty line if both workers earn the minimum salary. Furthermore, the annual minimum wage in 2014 was US$6998 in Chile, whereas the OECD average was US$14 597 (OECD, 2015b). This suggests that the minimum wage does not ensure a way out of poverty for many Chilean workers.

One of the insightful findings of the literature on working poverty in rich democracies is the importance of the institutional context. As Andreß and Lohmann (2008a) point out, the patterns of working poverty that we have described above cannot be examined without an understanding of the institutional context in which they are embedded. Taking into account studies of varieties of capitalism and welfare regimes in Latin America (Huber and Bogliaccini, 2010; Schneider, 2013), the next section tries to connect the institutional characteristics of the labor market and the welfare state with patterns of in-work poverty in Chile.

22.3 THE CHILEAN INSTITUTIONAL CONTEXT

Three core characteristics of institutional models in Latin America can be useful for understanding patterns of working poverty in Chile. One that has received a lot of attention is informal employment, insofar as labor informality is a salient characteristic of Latin American countries (Barrientos, 2009; Huber and Bogliaccini, 2010). There are several ways in which informality is connected to working poverty. Informality is a reflection of mechanisms that exclude individuals from social services and from economic opportunities through a segmented labor market characterized by unstable jobs and low coverage rates of many social insurance schemes. As a result of both kinds of exclusion, informal-sector workers are often trapped in low-paid occupations (Perry et al., 2007).

Table 22.1 Institutional characteristics

	Labor market regulations				
	Size of shadow economy	Individual and collective dismissals	Individual dismissal	Regulation on temporary employment	Public total expenditure
OECD	19.04	2.27	2.03	2.07	21.70
Latin America	41.12	1.93	2.02	2.94	5.70
Chile	19.30	1.80	2.53	2.42	10.00

Note: Sizes of shadow economies are averages for the period 1999–2007. Information of labor regulation is for 2013. Data of social expenditure are for 2013 in the case of Chile and OECD and for 2012 in the case of Latin America.

Source: Schneider et al. (2010) for size of shadow economy, OECD/IAB Employment Protection Database 2013 for data of labor regulation, OECD Social Expenditure Database and ECLAC's Social Expenditure Database for public total expenditure.

Unfortunately, studies of the association between working poverty and informality in Chile do not yet exit.

In spite of this gap in the literature, cross-national data are useful for qualifying the patterns in the informal sector in Chile. We use the index of Schneider et al. (2010) as a proxy of labor informality to provide a comparative picture. This index measures the size of the shadow economies as a percentage of gross domestic product (GDP) and captures economic activities and income that avoid government regulation and taxation.[2] Table 22.1 presents averages for the period 1999–2007.[3] As we can see, the figures confirm the high prevalence of informality in Latin America, with an average value of 41.12 percent of GDP. The size of the shadow economies decreases to 19.3 percent in Chile, which is similar to the average size of the shadow economies in OECD countries. This estimation for Chile is similar to figures on labor informality among Latin American countries, and indicates that the rate of informality in Chile is one of the lowest in Latin America (Tornarolli et al., 2014).

A second core institutional characteristic is labor market regulation. Authors have suggested that labor regulations among Latin American countries are very extensive in comparative terms (Heckman and Pages-Serra, 2000). In the region, the Chilean labor regulation regime is characterized by a contradictory mixture of significant protection to individual workers and limitations to the strength of unions (Carnes, 2014). After the period of liberal reforms during the Pinochet administration, democratic governments introduced initiatives to compensate for inequalities in the labor law regime. The most salient institutional changes occurred during the first administration of Michelle Bachelet (2006–10). The reforms provided financial benefits to the aged and vulnerable workers. Regarding the latter, the left-wing government expanded the coverage of obligatory unemployment insurance – which was introduced in 2002 – to address not only unemployment but also some vulnerable jobs. However, the extension of the coverage was limited, insofar as it did not include independent workers, those in the informal sector, or fixed-term employees who had made low contributions to the insurance system (Ramos and Acero, 2015).

Table 22.1 provides information to qualify the Chilean labor regulation regime in comparison with other national contexts. We use the OECD indicators of employment protection for 2013 (OECD, 2013b). These variables measure the costs and procedures related to dismissing groups of workers or permanent individual employees, and the use of fixed-term or temporary contracts to hire workers. The scale of the indicators is from 0 (least restrictions) to 6 (most restrictions). The information in Table 22.1 indicates that restrictions in Chile and the rest of the Latin American countries are higher than the OECD's averages in the case of temporary contracts. We can also see that Chile presents the highest level of restrictions for individual dismissal of workers with regular contracts. It is only in the case of individual and collective dismissals that there are no clear differences between Chile and Latin America's average, and both figures are lower than the OECD average.

One of the consequences of stricter regulation is the segmentation of the labor market into distinctive sectors. In this vein, Schneider (2013) argues that Latin American labor markets are divided into three segments. The first one comprises informal workers, while the rest fall into two groups of formal workers: a small segment with full protection and high labor regulation, and a large segment characterized by precarious employment conditions and limited access to welfare benefits. Carnes and Mares (2014) have shown that the size of the latter segment has increased in many Latin American economies over the last 20 years. In Chile, the segment characterized by vulnerable employment incorporates self-employed workers and earners with fixed-term contracts who are paid using a *boleta* or receipt. Data for 2015 indicate that both groups represent 28 percent of Chilean workers (Brega et al., 2015).

Our findings about labor regulation in Chile may have implications for the risk of working poverty, which is embedded in this kind of institutional context. Following Schneider (2013), the costs of firms in the informal sector are lower when there are high labor regulations because such regulations increase the opportunity costs of formal employment. As a result of this cost structure, highly regulated labor markets may promote informal markets, which in turn will produce in-work poverty. It follows from this that, given the high levels of restrictions on temporary contracts and individual dismissals, Chile should have significant levels of working poverty in comparison with the OECD average. Furthermore, vulnerable formal segments are also likely to contribute to generating working poverty by putting up barriers against access to public benefits.

The third central institutional characteristic relates to welfare models. In the context of Latin America, Chile belongs to the group of pioneer welfare states that represent the highest levels of welfare generosity in the region, although these are lower than the levels of advanced democracies (Huber and Stephens, 2012). As Table 22.1 illustrates, the public total social expenditure as a percentage of GDP in Chile was 10 percent in 2013, which is 50 percent higher than the mean welfare generosity of Latin America, but lower than the average level of public spending in OECD countries. To explain the middle level of welfare generosity in Chile, scholars distinguish between periods of retrenchment and post-retrenchment reforms (Ewig and Kay, 2011). Although it has been corporatist since the 1920s (Haggard and Kaufman, 2008; Valenzuela, 2006), Chile experienced radical neoliberal changes during the dictatorship of Augusto Pinochet (1973–89). Most importantly for poverty, Chilean retrenchment promoted a strong means-testing social policy that tried to help only the extreme poor. The impact

of this policy on poverty was limited because monetary benefits were small (Huber and Stephens, 2012).

In the 1990s, democracy was re-established in Chile and a center-left coalition (Concertación) came into office in successive periods up to 2010. On the basis of a social citizenship conception of social policy, the center-left governments implemented a set of initiatives aimed toward universalizing the coverage of healthcare and basic income support against risks. Another innovation was the introduction of unemployment insurance in 2002. As said above, the impact of this on poverty was limited, however, insofar as the coverage was restricted to the formal sector and the transfer's size was modest (Ramos and Acero, 2015). The tax system was likely to also have only modest redistributive effects because the tax take of Latin American countries is low. Indeed, the Chilean system presents the lowest tax burden in the region (Huber and Stephens, 2012).

Although governments in the 1990s introduced several benefits for the poor, an institutionalized anti-poverty policy appeared in the 2000s. This policy began with the Chile Solidario program during the government of Ricardo Lagos (2000–2006). The program sought to establish an integrated system of protection that included non-contributory income security and access to a variety of social services for the extremely poor. In the government of Sebastian Piñera (2010–14), this program was replaced by a new program called Ingreso Etico Familiar. The new program combined unconditional and conditional transfers for people living in extreme poverty. Evaluations show that these programs increased the coverage of benefits, but there is not enough clear evidence to suggest that Chile Solidario helped to reduce poverty (Larrañaga et al., 2015). Due to its newness, no evaluative studies of Ingreso Etico Familiar have yet been carried out.

In addition to social assistance programs, the role of gender in Chile's welfare provision is particularly important for a complete understanding of the Chilean working poor. Chile has one of the lowest employment rates for women among OECD countries. The employment rate of Chilean women in 2014 was 51.7 percent, which is only six points above the average rate of classical familialistic regimes in Southern Europe (OECD, 2015c). In the same fashion as these regimes, one explanation for the low labor activation of women in Chile is the existence of a gender-biased regime characterized by a very strong male breadwinner model. Following Pribble (2006), the classic breadwinner model considers the unit and recipient of family benefits in the Chilean regime to be the household. More specifically, the level of family allowances in this welfare system is lower for working women than for working men, and the coverage of this benefit is limited, because the entitlement is assigned to formal workers who possess open-ended contracts. Childcare offers a similar picture. The coverage of childcare is more prevalent in the formal segment, but additionally, it is restricted to those who have proven their need using a means test. It follows from this that the childcare system excludes several groups of people, including women whose income exceeds the benefit threshold, inactive women, and women who are working in the informal sector. As a result of these exclusions, we can expect that the traditional male breadwinner model may produce significant levels of in-work poverty in Chile. Moreover, the individual risk of experiencing this type of deprivation should be characterized by a significant gender gap. Furthermore, and summarizing the changes over last 30 years, the Chilean society exhibited a strong liberal profile but also it experimented with reforms toward a model based on social rights. On the basis of these institutional changes, we expect increases in in-work poverty in the 1990s, but some decreases should have taken place in the 2000s.

22.4 RESEARCH DESIGN

Data Sources and Variables

The analyses of this study are based on data from the cross-sectional household survey called the Socio-Economic Characterization Survey (Encuesta de Caracterización Socioeconomica, CASEN). This survey is commissioned by the Ministry of Social Development and is used in Chile to evaluate the impact of social policies, and by international organizations such as the OECD and the World Bank. Most importantly for our purpose, this instrument provides the official data on income that are used to measure poverty in the country. The survey has been implemented in 1985, 1987, 1990, 1992, 1994, 1996, 1998, 2000, 2003, 2006, 2009, 2011 and 2013. Its sample design is representative at the national, regional, urban and rural levels. The sample size ranges from 105 189 in 1990, to 218 491 individuals in 2013. Given the data availability, we use data for the period 1990–2013.

Concerning the variables that are used in this study, to identify working-age poverty and working poverty, we follow the income approach and work with monthly total household income after government transfers. We construct post-transfer household income as the sum of income from labor, assets, imputed rent and private transfers plus public transfers.[4] Following the standard approach in studies of income poverty, we examine working poverty for individuals, even though the household is the unit of measurement of income.[5] Regarding economies of scale in intra-household consumption, we use two methods. First, we examine the social changes of in-work poverty over time for the period 1990–2013 by using repeated cross-sectional income data that utilize per capita adjustments. This is the most frequently used method in Chile during this period. Second, the Ministry of Social Development introduced several changes to the measurement of income and poverty in 2013. One of these changes is an equivalence scale that works with an equivalence elasticity of 0.7 for each member of the household. Due to lack of data, we use it only for our cross-sectional analysis, which utilizes data for 2013. Finally, nonresponse and missing incomes of CASEN data are alleviated by imputation procedures (Observatorio Social, 2015).

In this study, we present measures of absolute and relative working-age poverty and working poverty. Regarding relative deprivation, we follow the OECD criterion and use the threshold set at 50 percent of the median equivalized disposable income (OECD, 2015a). In this case, adjusted income is constructed on the basis of an equivalence scale that uses a factor of 0.5. With respect to absolute indicators, we identify poverty using the Chilean national poverty line as defined by the Ministry of Social Development. As mentioned above, the Chilean government introduced several methodological changes in 2013. For the measurement of poverty, the most important change was the actualization of the poverty line. This means that, in practice, the Chilean government works with two thresholds. The first is the old poverty line, which is used with per capita income and was applied until 2013. This threshold depends on the calculation of an extreme poverty line based on the cost of a basic food bundle, and a moderate poverty line which is computed from the extreme line using the Engel–Orchansky ratio of food expenditures. The national poverty line refers to the moderate poverty threshold. It becomes clear that this is an absolute measure of poverty. Specifically, a person is poor when their per capita

household income is lower than twice the value of a basic food bundle in an urban area, and 1.75 times that value in a rural area. These poverty lines were calculated in 1987. In the following years, they were adjusted only in consideration of the inflation factor. In 2013, the values of the national poverty lines were 66 084 and 45 844 Chilean pesos per capita in urban and rural areas, respectively.

The second poverty line is a new absolute threshold constructed on the basis of a new basic food bundle. Because of the use and equivalence scale, there are several poverty lines in practice, depending on the size of the household. The new national poverty line in 2013 was 136 911 Chilean pesos for equivalent persons. In comparison with the old methodology, the new methodology does not distinguish between urban and rural areas. In the present research, it is important to say that the new and old poverty lines are used. More specifically, given that the new methodology does not cover the 1990s, we use the old method for repeated cross-sectional analysis. For analysis with data from 2013, we use the new poverty line.

To measure working poverty, our analysis depends on strategies to identify poverty and workers. Regarding the poor, we use the absolute and relative thresholds defined above. In the case of work attachments, we follow the International Labour Organization (ILO) criteria. Thus, people who work at least one hour per week are considered to be workers. Furthermore, we restrict the analysis to the working-age Chilean population, insofar as working poverty stands out as a relevant social problem mainly for workers. Following Chilean legal thresholds for retirement, the working-age population is made up of women aged 15–60 years old and men aged 15–65 years old. We utilize this criterion in our analysis. Finally, our definition of working poverty combines the definitions of poverty and workers. As Andreß and Lohmann (2008a, p. 9) point out, this means that a working-poor individual is defined as a working person who lives in a poor household; that is, a household with an income below the absolute and relative thresholds mentioned above.

We present evidence of associations between our measures of deprivation and a set of indicators that operationalize the resources and needs of the individual or the household in which that individual lives. The first group of independent variables relates to the labor market attachments of the respondents and includes employment status, number of workers in the household, occupational condition, economic sector in which the respondent works, educational level of individuals, and a dummy variable in which 1 corresponds to respondents who live in households where one or more members receive social assistance transfers.[6] In addition to unemployed and inactive workers, our measure of employment status distinguishes between formal and informal workers. Following Tornarolli et al. (2014), we identify the latter on the basis of a social protection definition. This means that a worker is in the informal sector if they are not affiliated to the Chilean social insurance system.

A second group of variables includes sociodemographic characteristics and needs. This group uses the gender of the head of the household and the gender of the respondent to control for the gender poverty gap. The other variables are the age of the household head, the age of the respondent, and marital status. With regard to the needs of the household, larger households have greater needs, and these needs differ depending on the age of the household members. Typically, the needs of a household with a large number of children or old people are greater than the needs of a household comprised only of working-age individuals. Given this association between age groups and needs, we use the share of

household members for the 0–5, 6–14, 15–65 and 66+ age groups as indicators of needs. Finally, to control for the role of geographic characteristics in poverty status, we include a dummy variable for people who live in rural areas and fixed effects for regions. We do not include measurements of shocks because the dataset does not contain accurate indicators of unexpected events.

Methods of Analysis

The empirical findings of this chapter are generated from three different analyses. First, we present the cross-national incidence of measurements of poverty in order to evaluate the role of institutional contexts. This analysis was carried out on the basis of descriptive statistics of poverty and working poverty incidence (headcount ratio). Second, we present results of regression analysis based on a repeated cross-sectional design with CASEN surveys for the period 1990–2013. This research design allows us to identify significant social changes of in-work poverty risks over time.[7] Finally, we show cross-tabulations for poverty profiles for 2013 that use labor attachments. The associations suggested for these profiles are examined in more detail using binary logistic regressions that take into account the sampling selection associated with the two-stage process of employment and poverty that defines the working poor. We try to break up the bias associated with this selection process using stabilized inverse probability weights (Hernan et al., 2004). Standard errors of our models take into account the sampling design of CASEN survey.

22.5 EMPIRICAL RESULTS

Cross-National Evidence and Aggregate Social Change of Poverty Risks

The first part of our analysis illustrates the patterns of the Chilean working poor in comparison with OECD countries and the evolution of in-work poverty risks in Chile during the period 1990–2013. Table 22.2 contains cross-country comparisons according to two types of population: the total population and the working-age population. Furthermore, to identify the redistributive effects of welfare states, we distinguish between pre- and post-transfers poverty. On the basis of these estimations, Table 22.2 also presents the extent of poverty reduction via social transfers.[8]

Table 22.2 shows several interesting findings. First, the incidence of working poverty is lower than the risk of standard poverty in Chile, regardless of the type of poverty line and the role of redistribution. For example, 15.1 percent of the Chilean working-age population lived in relative post-transfer poverty in 2011 but only 4.4 percent of this population were post-transfers working poor in 2013. If we consider only workers as the population in question, the incidence of relative post-transfers in-work poverty is 7.3 percent and increases to 12.4 percent when 60 percent of the median is used as the poverty line. Using this latter poverty measure, the Eurostat website reports an average in-work poverty rate of 8.9 percent among 28 European countries in 2013. It follows that the incidence of working poverty in Chile is high in comparison with middle- and high-income European countries.

Second, Chilean pre-transfers poverty rates are lower than the OECD averages. The

Table 22.2 Poverty rates in Chile and OECD

	Before taxes and transfers	After taxes and transfers	Poverty reduction
Total population (relative)			
Chile	22.50	17.80	20.89
OECD	28.60	11.30	60.49
Working age population (relative)			
Chile	17.80	15.10	15.17
OECD	20.90	10.40	50.24
Working poverty in Chile			
Relative	5.12	4.42	13.67
Absolute	6.27	5.01	20.09

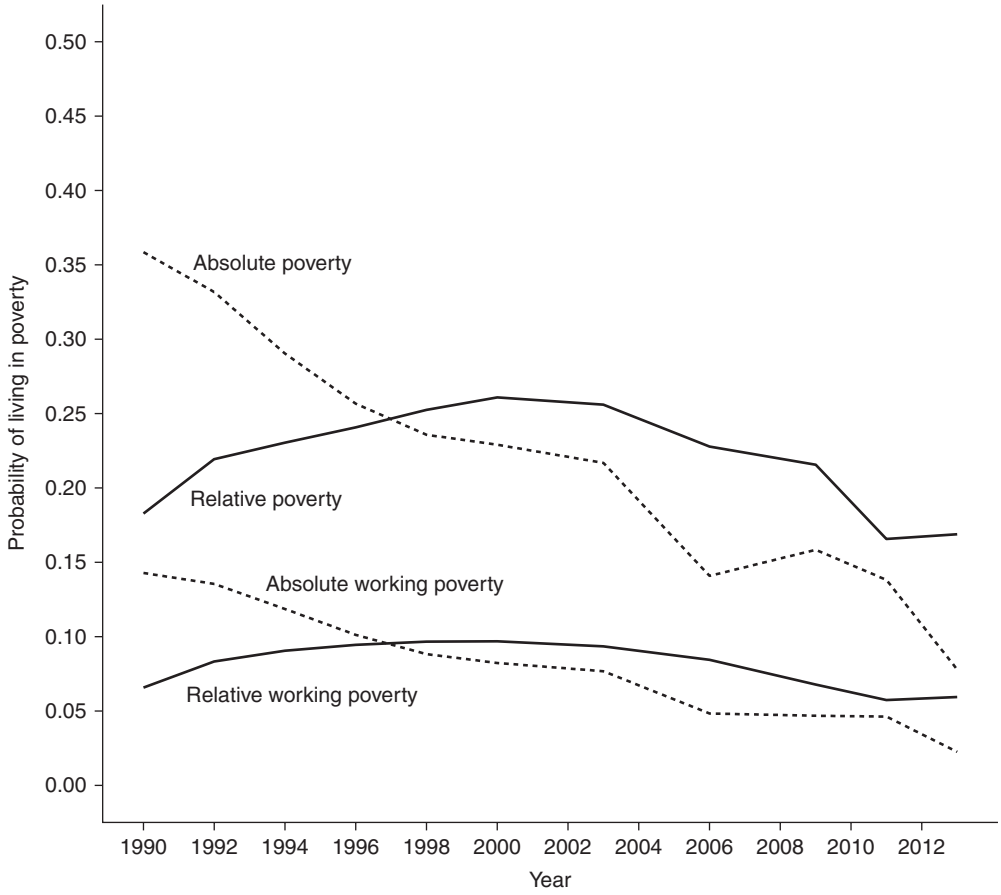
Note: Working poverty estimations for Chile based on the new methodology of Chilean government. These estimations consider only working age Chilean population and use population weights. In the case of Chilean relative working poverty, estimations are based on OECD's methodology (50% line and equivalence elasticity of 0.5). In the case of OECD, figures are country averages relative poverty rates (50% line). Before transfers data do not include Hungary and Japan, post-transfers information does not consider Japan.

Source: Own estimations of working poverty in Chile based on CASEN survey for 2013. Data of total population and working age population based on OECD's Income Distribution Database for 2012 in the case of most countries. Information for 2011 or 2010 were used when data for 2012 are not available.

differences between the Chilean situation and that of developed economies are six percentage points (28.6 – 22.5) for the total population and three points (20.9 – 17.8) for the working-age population. The picture is the opposite if we consider public transfers. In spite of a reduction in poverty for all cases, Chile presents the highest poverty rates. In other words, as the measures of poverty reductions indicate, the redistributive effects of transfers are lower in Chile in comparison with the OECD averages. In the case of working poverty, poverty reductions for absolute poverty are around seven points higher than the reductions for the relative measure. This divergence relies on the fact that means-testing instruments in Chile are based on measures that capture the permanent income of households, which is strongly related to absolute deprivation.

In addition to cross-national comparisons, we present here risks for different types of poverty in Chile at the individual level, which were estimated on the basis of a repeated cross-sectional design with CASEN surveys for the period 1990–2013 and logistic regressions. Figure 22.1 indicates that relative and absolute measures give very different pictures. The evolution of absolute indexes indicates very strong and similar period effects for working poverty and working-age poverty. We observe a dramatic decrease of approximately 0.12 points of probability between 1990 and 2013 for the former, and 0.28 percentage points for the latter. However, these trends are not monotonic over the complete period under analysis. Instead, they indicate that the declines in the poverty risks were very strong during the 1990s and the first years of the 2000s, but there was a stagnation of the trend for absolute working poverty between 2006 and 2011, and an increase in the average risk for absolute working-age deprivation between 2006 and 2009. The risks decreased after 2011.

The association between risks and periods is clearly non-linear for both types of rela-



Note: Estimations based on 1,456,497 observations which were analyzed by logistic regression with cubic splines for period effects. Estimations consider only working age Chilean population and per capita household income.

Source: Own calculation on data of CASEN surveys, 1990–2013.

Figure 22.1 Predicted probabilities of post-transfers poverty and in-work poverty (absolute and relative measures)

tive poverty. We note an increase of risk of around 0.03 points between 1990 and 2000 for working poverty, and of 0.08 points for working-age poverty. Thereafter, a decrease of the risks began, until 2011. The reductions were 0.04 and 0.10 for working poverty and working-age deprivation, respectively. A slight increase in risks can be noted between 2011 and 2013. As a consequence of this negative trend in the 2000s, we observe a return at the end of the period under analysis to the poverty levels that characterized the beginning of the 1990s.

These findings and the differences in the social change in poverty risks suggest very interesting aspects of the evolution of working poverty in Chile. First, as studies of

general poverty point out (Larrañaga and Rodriguez, 2015), the strong decrease in absolute working poverty risk in the 1990s may be associated mainly with the strong economic growth of the Chilean economy during this period. The stagnation of risks during the second part of the first decade of the 2000s may be explained by the international economic crisis in 2008 and 2009. Second, the relative measure is primarily a component of income inequality (Blackburn, 1994). It follows that the trend of relative in-work poverty should denote that the evolution of income inequality was detrimental for low-income groups during the 1990s. As the case of Ireland's economic boom indicates (Nolan, 2008), many members of groups at the bottom of the income distribution may move into low-paid jobs during periods of rapid economic prosperity, but not all will be brought above relative poverty lines linked to average income. The positive prospects of the working poor in the 2000s suggest that post-retrenchment reforms during left-leaning regimes reversed the negative trend in some way and may have helped to reduce working poverty and poverty in general.

Who are the Working Poor in Chile?

In this section, by analyzing the CASEN survey for 2013 we provide descriptive evidence regarding the associations between indicators of poverty and the independent variables. In doing so, we present the profiles of different types of poor people in contemporary Chile. We also present a profile of the working-age population for comparative purposes. These profiles are useful for examining several ideas found in the literature relating to the labor market and to welfare states in Chile and other Latin American countries.

As mentioned in the discussion of the literature, one of these beliefs is that vulnerable employment has characterized significant portions of Latin American labor markets during recent decades. Information about informality in Table 22.3 can help to qualify this idea. In Table 22.3, we can see that the distribution of employment status differs between poverty and working poverty in Chile. Formal workers prevail among the working poor, but a significant number of the working poor are attached to the informal sector. As Table 22.3 shows, one in four workers who live below the relative and absolute poverty lines are in informal employment (second and third columns). The presence of informal workers is clearly lower among the working-age poor and the working-age population. In the case of the former, only about 10 percent are informal workers, 29 percent are formal workers, just over half of this population are inactive, and only 11 percent are unemployed regardless of the line of poverty used (fourth and fifth columns). For the working-age population, we note that most of the individuals are formal workers (sixth column).

Information about the type of occupation and the sector of the economy provides additional insight into the association between vulnerable employment and working poverty in Chile. Regarding the economic sector, Table 22.3 shows that the service sector accounts for over half of in-work poverty and poverty in general. The agricultural and industrial sectors each account for a quarter of the poor population. Furthermore, we can also see in Table 22.3 that the types of occupation are distributed in a similar manner between workers in poverty and poor people for both poverty definitions. In terms of poverty and in-work poverty, around two-thirds of the studied population have some kind of contract. Slightly more than half have open-ended contracts. Most importantly for the idea of vulnerability, about one-third have fixed-term contracts and about one-third

Table 22.3 Post-transfers poverty and in-work poverty profiles: labor market attachments (proportions and means)

	Absolute in-work poverty	Relative in-work poverty	Absolute poverty	Relative poverty	All
Employment status					
Formal worker	76.30	74.78	29.34	28.64	52.91
Informal worker	23.70	25.22	9.11	9.66	7.49
Unemployed			10.60	11.01	5.28
Inactive			50.95	50.70	34.32
Number of workers (mean)	1.43	1.37	1.05	0.97	1.78
Type of ocupation					
Employers	0.82	0.79	0.82	0.79	1.86
Self-employed	30.65	33.03	30.65	33.03	17.78
Open-ended contract	36.27	33.92	36.27	33.92	59.82
Fixed-term contract	32.26	32.25	32.26	32.25	20.54
Economic sector					
Agriculture	22.60	23.23	22.60	23.23	9.09
Industry	24.54	23.71	24.54	23.71	24.34
Service	52.39	52.61	52.39	52.61	65.84
Sector not adequately defined	0.47	0.45	0.47	0.45	0.74
Educational level					
Primary education	42.10	43.09	36.50	37.77	20.33
Secundary education	51.53	50.60	52.93	51.60	50.04
Tertiary education	6.37	6.31	10.57	10.63	29.63
Social assistance transfers					
Non welfare benificiary	27.22	30.02	26.95	29.26	49.12
Welfare benificiary	72.78	69.98	73.05	70.74	50.88
N	8,410	7,458	22,167	19,777	142,639

Note: Estimations are based on the new methodology of Chilean government and consider only working age Chilean population. Estimations include population weights. In the case of economic sector, sample sizes are 8,410 for absolute poverty and 7,458 for relative poverty.

Source: CASEN survey for 2013.

are self-employed. The picture is different for the general population: the proportion of open-ended contracts dominates, and the level of self-employed and fixed-term contracts is clearly lower than the levels of both employment relationships among the poor.

Table 22.3 also shows in-work poverty and poverty proportions in relation to labor market characteristics associated with resources. One of these characteristics is the average number of workers in the household. It is not surprising that the average number of workers is for working poverty than for the population in general. However, differences between absolute and relative measures appear in our results. As Table 22.3 indicates, the number of workers in working poor households is higher for the absolute measure (1.43 workers) than the relative measure (1.37 workers). This gap is still there in the poverty

measures: 1.05 versus 0.97 workers. This finding suggests that relative measures may capture lower levels of labor activation in poor households.

Additional measures of resources are human capital and public transfers. In general terms, Table 22.3 shows that the working poor present deficiencies in human capital. More specifically, the distributions of education levels using both poverty lines are similar for the working poor and the poor population. For example, the proportions of people who possess a primary-level education are 42 percent for absolute in-work poverty and 37 percent for absolute poverty. People who completed school at the secondary level represent around 52 percent for both the absolute working poor and the absolute poor population. The proportion of absolute poor people who have a tertiary level of education is 11 percent, and less than 10 percent for the absolute working poor. Furthermore, Table 22.3 does not show a difference between social assistance transfers for these groups of poverty regardless of the poverty threshold. Indeed, more than 70 percent of the in-work poverty population and poverty population live in households with welfare beneficiaries. This proportion is lower for the general population at 51 percent. This finding confirms the evidence of a strong focus of means-testing policy for low-income groups in Chile.

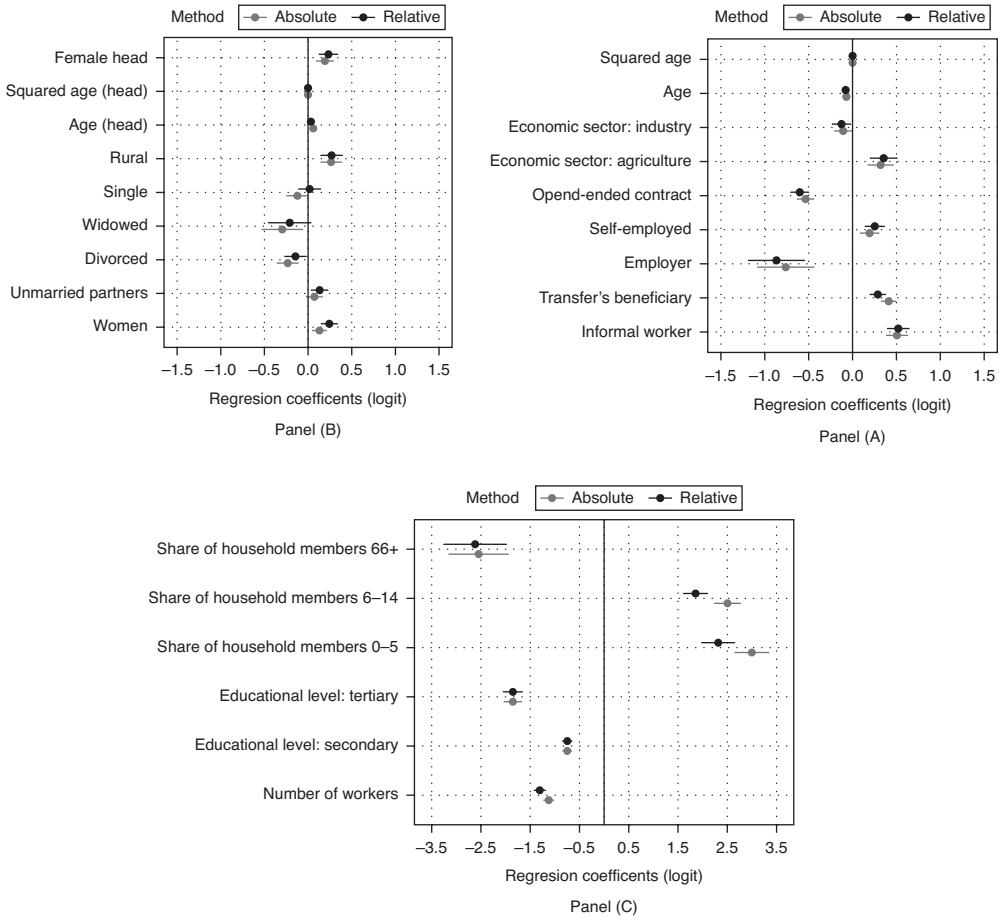
In sum, these profiles indicate that informality and atypical employment relationships are clearly related to working poverty in Chile, but a significant proportion of the working poor work in the formal sector, particularly in the service sector. However, we have to be careful when it comes to interpreting these profiles because they are based only on descriptive information. Using regression models, in the following section we provide the findings of the statistical tests of the associations suggested by the descriptive analyses, and evidence for other variables such as socio-demographic characteristics and needs.

Determinants of Working Poverty Risks

Figure 22.2 shows the associations between a set of independent variables and the risk of living in working poverty. The plots use dots to indicate point estimates (logit regression coefficients) and lines to illustrate 95 percent confidence intervals from binary logistic models. Here the coefficients are interpreted as odds ratios. Hence, a value greater than one indicates a positive effect. The vertical black lines in plots denote the absence of association (coefficient equals zero). For categorical variables, we omit the reference category. The full regression models are displayed in Appendix Table 22A.1. In general terms, in-work poverty risk models show a high statistical significance for all the variables included, except for marital status of unmarried partners and single.

The direction of the coefficients associated with resources and needs are in line with the current poverty research. Panel (C) in Figure 22.2 shows the measures of both constructs. Resources such as human capital and the number of workers are inversely related to the working poverty risks. Additionally, the point estimates of our indicators of needs indicate that a higher number of children increases the working poverty risks, with the effect being stronger in the case of absolute deprivation.

Panel (A) provides evidence of measures that capture labor market segmentation and vulnerable employment. In comparison with formal workers, informality is clearly associated with higher poverty risk. Indeed, working in the informal sector increases the odds of living in working poverty by 67 percent. Point estimates for types of occupation also confirm our descriptive analysis. In comparison with the fixed-term contract condition,



Note: Estimations based on regression models of Table 22A.1 in the Appendix.

Figure 22.2 Determinants of post-transfers working poverty risks in 2013

being a worker with an open-ended contract or employer clearly decreases the chance of living in working poverty. In contrast, being a self-employed worker involves a higher in-work poverty risk. Furthermore, workers in the service sectors are more vulnerable to falling into poverty than employees in the industrial sector, but not in comparison with jobs in agriculture. Panel (A) also reports coefficients of age and having a beneficiary of public transfers in the household. For the former, the findings do not confirm the picture suggested by descriptive profiles, insofar as point estimates indicate that poverty risk declines as workers get older, but with a slightly decreasing rate. This finding is perfectly in line with labor market research postulating that age measures the effect of experience. We also note that having a public transfers beneficiary in the household increases the poverty risk, but this result does not indicate causality. In fact, this result is suggestive of the strong means-testing of social assistance benefits in Chile.

Now we turn to socio-demographic characteristics. Panel (B) reports various regression coefficients of these measures. We find evidence that the gender of workers matters, with women and female household heads having a higher chance of living in working poverty, regardless of the poverty thresholds. Scholars typically interpret this gap in terms of women's lower human capital. Women build up less human capital because they interrupt their careers more often. Furthermore, the earnings of women in the labor market may be lower because of discrimination. Turning to marital status, we observe that marriage is associated with lower in-work poverty risk only in comparison with unmarried partners. For the rest of the marital statuses, marriage does not provide financial protection against poverty. As we can see, the coefficients are negative, but with high statistical uncertainty when the relative line is used.

Finally, we also examined the determinants of working-age poverty. The regression estimates are shown in Appendix Table 22A.1. Our findings are in keeping with research on working poverty in Europe (Andreß and Lohmann, 2008b). There are no substantive differences between patterns of working-age poverty and working deprivation. It follows that most patterns of general poverty can be used to describe in-work poverty in Chile.

22.6 CONCLUSIONS

The present chapter examined patterns of working poverty in Chile in recent decades. In this respect, one of our main findings confirms significant levels of working poverty in Chile. The incidence of this kind of deprivation is higher in this country than the average working poverty level in OECD nations. To explain this pattern, we related the incidence of the working poor with three institutional features of the Chilean context. The first regards labor informality. We suggested that informal employment may produce working poverty. The findings confirm this hypothesis. Although the Chilean rate is one of the lowest in Latin America, the results show that a significant segment of the labor force is in the informal sector. Furthermore, micro analysis indicates that informality is clearly associated with a higher risk of working poverty.

The second institutional characteristic is labor market regulation. We argued that extensive regulations also help to produce in-work poverty, insofar as extensive regulations produce labor market segmentation, generating not only informality but also vulnerability for some workers in the formal sector. Comparative analysis confirms that Chile presents high levels of restrictions on temporary contracts and individual dismissals. The poverty profiles and multivariate analysis complement this macro evidence by indicating that vulnerable and low-paying jobs – informal work, fixed-term contracts and self-employment – involve a higher risk of in-work poverty. It follows that some Chilean workers are poor because their earnings are low.

The last institutional dimension regards the welfare system. We argue that a mixture of means-testing and a conservative male-breadwinner model may also contribute to produce a significant level of working poverty. With respect to transfers, Chilean poverty policy is characterized by strong means-testing; as suggested by the literature, this kind of intervention may produce significant levels of poverty because both the coverage and the monetary value of benefits are low. As our literature review points out, studies have confirmed this kind of welfare provision in the case of Chile. We also

see limited poverty reductions compared with OECD averages. Regarding the family policy profile, the findings suggest only indirect evidence. They show that working poverty risks are related to a strong gender poverty gap. Following the existing evidence, we think that the prevalent male-breadwinner model in the Chilean welfare regime reinforces this gender gap in the labor market by discouraging many women from engaging in formal work, and pushing them into vulnerable employment or the inactive labor market sector. However, the present research discusses only descriptive and secondary evidence of this institutional feature. To explain connections between this policy profile and the gender employment gap, new studies would be a central avenue for future research.

A second main hypothesis in the literature points out that many countries may show an increase in in-work poverty over recent decades, insofar as their institutional contexts have suffered from the retrenchment of welfare states and labor market deregulation. Analysis based on a relative threshold strongly confirms this expectation. However, results based on absolute poverty offer another picture: they indicate a negative trend with stagnation in the last years.

What substantive implications do these findings have? Our longitudinal evidence for the 1990s and 2000s illustrates that rapid economic growth does not guarantee declining poverty, at least when a relative threshold is used. Following studies of the Irish case (Nolan, 2008), our findings suggest that relative poverty may rise as incomes increase. Thus, some groups may be left at the bottom of the income distribution during a period of fast-growing economic prosperity, such as the 1990s in Chile. The decrease of in-work poverty risks during part of the 2000s may be associated with equity-enhancing governmental initiatives; however, existing evidence about these mechanisms is not yet conclusive. It follows that further research is necessary to explain the evolution of in-work poverty and general poverty in the recent history of Chile.

In emphasizing the relevance of informal jobs and vulnerable work, the findings also indicate some important implications for policy and research. The results suggest that employment is not in itself a secure way out of poverty, especially in segmented labor markets such as Chile. In such a context, positive interventions could support the activation of the female labor force by developing family-friendly policies such as paid maternity leave that cover not only formal employment but also some vulnerable jobs (for example, fixed-term occupations and independent workers). Furthermore, strategies against vulnerable employment such as the promotion of formal work can also help to reduce working poverty. Social programs in Chile, for example Ingreso Etico Familiar, include such incentives by offering special transfers at the beginning of the intervention (Larrañaga et al., 2015). An extension of these benefits could increase the incentives for formal work. Finally, the present study shows descriptive and multivariate evidence for some micro and macro explanatory mechanisms. Future research should evaluate these explanations by using a more robust causal and cross-national design.

NOTES

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1. Measured at purchasing power parity (PPP).
2. Informal employment and informal sectors of the economy are different phenomena, but are strongly correlated. Due to lack of data for countries outside Latin America, we present data on the informal sector as a proxy of informal work.
3. The OECD's means are estimated on the basis of scores for 34 countries. Estimations for Latin America consider 18 countries in this region.
4. In comparison with the procedure of income construction in industrialized countries, we did not extract taxes from disposable income, which is obtained through socio-economic surveys, in the case of Chile because the survey asks respondents for their net income.
5. A main particularity of the CASEN survey is that the income data are adjusted to provide income estimates that match the national accounts. In recent years, the Chilean government excluded this correction and modified data for the period 2006–14, but income data for the past few years have included it. Studies indicate that this adjustment may underestimate the poverty rate and affect comparability to the income measurements of other OECD countries (Bravo and Valderrama, 2011). In the case of our analysis, we do not consider national accounts adjustments for analysis with data from 2013, but the analysis for the period 1990–2013 includes it.
6. Studies indicate that CASEN 2013 underestimates the level of benefits, especially for old people (CEPAL, 2013). However, we think that our indicator should not introduce a severe bias because it captures the presence of benefits but not their magnitude.
7. In 2006, the labor module of the CASEN questionnaire underwent several changes. Most importantly for the measurement of working poor, the change in the questionnaire should mainly affect the indicators of unemployment and inactive labor status; but not the measurement of workers, insofar as the indicator of this construct did not suffer substantive changes.
8. The measure of redistribution is calculated as 100*(1 − [(*post-tax/transfer poverty rate*)/(*pre-tax/transfer poverty rate*)]).

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APPENDIX

Table 22A.1 Determinants of post transfers poverty risks: binary logistic regression (logit coefficients) (working age population in 2013)

	Working poverty: absolute	Working poverty: relative	Absolute poverty	Relative poverty
Employment status (ref: employee)				
Informal worker	0.51	0.52	0.82	0.90
	(0.06)***	(0.06)***	(0.04)***	(0.04)***
Unemployed			0.72	0.57
			(0.04)***	(0.04)***
Inactive			0.32	0.17
			(0.02)***	(0.02)***
Number of workers	–1.12	–1.31	–1.17	–1.41
	(0.05)***	(0.06)***	(0.03)***	(0.03)***
Type of ocupation (ref: fixed-term contract)				
Employer	–0.76	–0.87		
	(0.17)***	(0.16)***		
Self-employed	0.19	0.25		
	(0.06)***	(0.06)***		
Open-ended contract	–0.54	–0.60		
	(0.05)***	(0.05)***		
Economic sector (ref: service)				
Agriculture	0.32	0.35		
	(0.07)***	(0.08) ***		
Industry	–0.11	–0.13		
	(0.05)**	(0.06)**		
Educational level (ref: primary)				
Secondary	–0.75	–0.75	–0.71	–0.73
	(0.05)***	(0.05)***	(0.03)***	(0.03)***
Tertiary	–1.85	–1.85	–1.59	–1.58
	(0.09)***	(0.10)***	(0.05)***	(0.05)***
Social assistance transfers (ref: non-beneficiary)				
Beneficiary	0.41	0.29	0.48	0.36
	(0.04)***	(0.05)***	(0.04)***	(0.04)***
Age	–0.07	–0.08	–0.02	–0.03
	(0.01)***	(0.01)***	(0.00)***	(0.00)***
Squared age	0.00	0.00	0.00	0.00
	(0.00)***	(0.00)***	(0.00)	(0.00)***
Women	0.13	0.24	–0.02	0.04
	(0.04)***	(0.05)***	(0.02)	(0.02)**
Marital status (ref: married)				
Unmarried partners	0.07	0.13	0.16	0.22
	(0.05)	(0.05)***	(0.04)***	(0.04)***
Divorced	–0.23	–0.14	–0.10	–0.05
	(0.06)***	(0.06)**	(0.04)**	(0.04)

Table 22A.1 (continued)

	Working poverty: absolute	Working poverty: relative	Absolute poverty	Relative poverty
Widowed	–0.30	–0.21	–0.36	–0.29
	(0.12)**	(0.13)*	(0.07)***	(0.08)***
Single	–0.12	0.02	0.09	0.16
	(0.06)*	(0.07)	(0.04)**	(0.04)***
Geographical area (ref: urban)				
Rural	0.26	0.27	0.49	0.51
	(0.06)***	(0.06)***	(0.06)***	(0.06)***
Characteristics of household				
Age (head)	0.06	0.03	0.03	0.02
	(0.01)***	(0.01)***	(0.01)***	(0.01)**
Squared age (head)	–0.00	–0.00	–0.00	–0.00
	(0.00)***	(0.00)***	(0.00)***	(0.00)***
Female head	0.19	0.23	0.25	0.30
	(0.05)***	(0.06)***	(0.03)***	(0.03)***
Share of household members 0–5	3.00	2.32	2.89	2.18
	(0.18)***	(0.17)***	(0.12)***	(0.12)***
Share of household members 6–14	2.50	1.86	2.27	1.60
	(0.14)***	(0.13)***	(0.10)***	(0.10)***
Share of household members 66+	−2.55	−2.62	−2.20	−2.15
	(0.31)***	(0.33)***	(0.17)***	(0.15)***
Intercept	−0.41	0.64	−1.22	−0.31
	(0.33)	(0.32)**	(0.23)***	(0.21)
Deviance	44 142.43	40 532.78	90 007.72	82 702.96
AIC	44 369.82	40 770.46	90 277.11	82 984.92
Num. obs.	82, 263	82, 263	142, 259	142, 259

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Models include fixed effects for Chilean regions and stabilized inverse probability weights to correct selection bias. Standard errors in parenthesis and adjusted by sampling design. Estimations consider only working age Chilean population for general poverty and only workers for working poverty.

Source: Own calculations on CASEN survey for 2013.