

# Helping the Poor in Latin America: Three Studies on Public Transfers, Social Services, and Poverty in Different Institutional Contexts

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# Abbreviations

AFDC	Aid to Families with Dependent Children
ATE	Average treatment effect
ATT	Average treatment effect on the treated
CAS	Ficha de Caracterización Socioeconómica (means test of Chilean social assistance)
CASEN	Encuesta de Caracterización Socioeconómica (socioeconomic household survey applied by Chilean government)
CEDLAS	Center for Distributive, Labor, and Social Studies. Universidad Nacional de La Plata
GDP	Gross domestic product
ECLAC/CEPAL	Economic Commission for Latin America and the Caribbean
EPCASEN	Survey Panel CASEN
ILO	International Labour Organization
IMF	International Monetary Fund
ISI	Import substitution development strategy
LACs	Latin American countries
LAR	Least absolute value regression
LDCs	Less developed countries
LIS	The Luxembourg Income Study
MIDEPLAN	Ministerio de Planificación y Cooperación. Government of Chile
OECD	Organization for Economic Cooperation and Development
OLS	Ordinary least squares estimator
SAP	Subsidio de agua potable (water and sewage subsidy)
PASIS	Pensión Asistencial de Ancianidad (assistance pension)
SEDLAC	Socio-Economic Database for Latin America and the Caribbean
SSA	Social Security Administration
SUF	Subsidio Familiar (family subsidy)
UNRISD	United Nations Research Institute for Social Development
USA/US	United States of America
WIID	World Income Inequality Database. University of United Nations

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*Wer fertig ist, dem ist nichts recht zu machen;  
Ein Werdender wird immer dankbar sein.*

J.W. von Goethe (1977)

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# Chapter 1

## Introduction

### 1.1 Background and Goals

The topic of the present thesis is the impact of public transfers and public provision of social services on poverty in Latin America and how the institutional context shapes the impact of public transfers on poverty in this region. There has never been consensus in the discussion about the impact of social policies on poverty. From the Elizabethan Act for the Relief of the Poor in 1601 in England and Wales to the current conditional transfer programs in developing countries, two opposing arguments have been defended and rediscovered in this discussion. Both arguments are summed up insightfully by an old Chinese proverb: *Give a poor man a fish and you feed him for a day; teach him to fish and he can feed himself for life.*

The first part of this proverb illustrates a redistributive view of social benefits for the poor<sup>1</sup>: Give a poor man a fish. In other words, take from the rich and give to the poor. According to this view, the poor are not to be left to fend for themselves because the poor could never be self-supporting. They need the help of others, either private individuals or the state. This desire to help the poor has inspired one of the most common and criticized anti-poverty public policies: transfer payments or benefits in cash for the poor. Modern poverty scholars have extended the definition of redistribution through public transfers to any public intervention that is concerned with preventing a general decline in living conditions (e.g. Dreze & Sen 1989).

Contrasting with the redistributive view, the second part of the proverb says “*Teach him to fish and he can feed himself for life*”. This line suggests that others have to forget the desire to help; they have to give the poor incentives to help themselves. Put differently, the second part of the proverb goes to the heart of a second set of arguments, a view advocating productive investment in

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<sup>1</sup> In the rest of the dissertation, the adjectives “social” and “public” are used as synonyms.

the poor. This view contends that self-help is the key to getting out of poverty. Similar to the redistributive view, the definition of self-help is based on a particular type of social policy, which aims to develop individual human capital endowments through social services that the state provides to citizens.

As Lindert (2004: 6) notes, the debate between redistributive and productive investment views cannot be resolved easily because “there is no escape from the conflicts involving the desire to help others and the desire to give them incentives for self-help”. However, new facts and evidence can raise the level of the debate and, in doing so, reject flawed arguments, one of the main goals of this dissertation.

To pursue this goal, it is critical to identify the gaps in the literature regarding social policy and poverty that the dissertation wants to fill. If, with respect to the goals of the research project, these gaps remain ambiguous, so will the contributions of the dissertation to the debate between the redistributive and productive investment views. In this vein, one of the most intriguing aspects of the study of social policy and poverty is the enormous cross-national differences in poverty. In recent years, this has been one of the most widely studied topics in the welfare state literature regarding advanced capitalist countries. These studies indicate that a significant cross-national variation in poverty levels exists among these nations. To explain these differences in poverty, the scholars typically contend that the cross-national variation in poverty is driven by the size of the welfare effort and its institutional organization (Andress & Lohmann 2008, Brady 2009, Garfinkel et al. 2010, Korpi & Palme 2004, Nolan & Marx 2009). Recent studies have attempted to understand the socioeconomic consequences of pressure for the liberalization of the institutional contexts in advanced capitalist countries (Esping-Andersen & Myles 2009, Kenworthy 2011, Pierson 1994).

However, cross-national differences in poverty are not significant only in advanced capitalist countries. There is also substantial cross-national variation among developing countries (UNRISD 2010).<sup>2</sup> To evaluate such variation, a particularly interesting developing region is Latin America.<sup>3</sup> In

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<sup>2</sup> “Developing countries” is a term generally used to describe a nation with a low level of material well-being. However, there is no established convention for the designation of “developed” and “developing” countries. In common practice, Africa, North America (excluding Canada and the United States), the Caribbean, Central America, South America, Asia (excluding Japan), and Oceania (excluding Australia and New Zealand), are considered developing regions. In the 21st century, Hong Kong, Singapore, South Korea, and Taiwan are classified as developed countries. See the website of the United Nations Statistics Division: <http://unstats.un.org/unsd/methods/m49/m49regin.htm>

the late 1980s and subsequent decades, a set of reforms were initiated. These institutional changes aimed at reducing the intervention of the welfare state in the economy in many Latin American political economies, deregulating labor markets, privatizing social insurance and health care, decentralizing the public provision of social services, and promoting means-testing in social assistance programs (Barrientos 2004, 2009, Filgueira et al. 2008, Huber 1996). For scholars interested in the socioeconomic consequences of the welfare state's dismantling outside the setting of advanced industrialized nations, the analysis of poverty levels during this period of reform in Latin America is relevant as this analysis carries implications for the relative value that liberal reforms may have for the well-being of populations in developing regions as Latin America.

Figure 1.1 sheds *prima facie* light on cross-national poverty differences among Latin American countries during the period of reform. The figure maps 18 Latin American countries (LACs) for which data regarding poverty exist in the World Development Indicators Database of the World Bank—the leading international data source on poverty in the developing world.<sup>4</sup> Each country is shaded according to its average level of poverty from 1980 to 2000. The average level of poverty is measured in terms of the percentage of the population living on less than two U.S. dollars a day at 2005 international prices (adjusted at purchasing power parity rates)—that is, the headcount ratio.<sup>5</sup> This poverty threshold captures minimum basic needs and is used to measure absolute poverty.<sup>6</sup> I use averaged data for the period 1980–2000 rather than single years to reduce the risk of distortions resulting from shocks that occurred in particular years. We find considerable differences in the extent of poverty among LACs. The highest poverty levels are found in some Central American countries—Guatemala, Nicaragua, and Honduras. These levels comprise more than 40% of the populations. At the other end of the spectrum are Argentina, Chile, and Uruguay, with an average of less than 12% poverty. In between are many countries, among which we see most South American political economies. This picture of poverty levels in Latin America has not changed substantively in recent years (CEPAL 2010).

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<sup>3</sup> Latin America is a region of the Americas where Romance languages, particularly Spanish and Portuguese, are primarily spoken. This region includes twenty countries: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, the Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Puerto Rico, Uruguay, and Venezuela.

<sup>4</sup> Figure 1.1 also maps other countries of the Americas. These are Belize, French Guiana, Guyana, and Suriname.

<sup>5</sup> Figures downloaded in September 2011 from the World Bank's Open Data Initiative.

<sup>6</sup> For a discussion of the concept and measures of absolute poverty, see Section 1.3.



**Figure 1.1.** Average absolute poverty in 18 Latin American countries, 1980–2000

*Note:* Countries without shading represent cases for which there is no information regarding 2 U.S. dollars a day poverty levels in the Dataset of the World Bank.

To understand the cross-national differences in poverty among Latin American countries during the last three decades and the role of social policies as causes of such differences, the literature provides scant guidance. In the 1990s, the dominant perspective in the scholarly community has argued that, with the proper liberal reforms, only economic growth should be necessary to reduce poverty in Latin America. Social policy and its institutional organization should play only a marginal role in poverty reduction (Dollar & Kraay 2002, Perry et al. 2006). In recent years, a new perspective has begun to challenge the hegemonic perspective by stressing the importance of public intervention in the economy. However, most existing research, which follows the second perspective, examines the impact of particular programs on the poverty status of individuals in particular countries or compares such impacts among a small number of LACs (for an

overview, see ECLAC 2009, Hanlon et al. 2010, Raczynski 1995). Only a couple of studies consider the significance of social policy and its embeddedness in different institutional contexts for the explanation of poverty reduction in Latin America (Pribble et al. 2009, UNRISD 2010). Thus, it is not an exaggeration to say that the conventional poverty and social policy literature stops short of confronting the enormous cross-national variation in poverty among Latin American countries during the last three decades and the role of social policies and institutional contexts to explain this variation.

In an attempt to fill in this gap in the literature and, in doing so, to contribute to the scholarly community, this study aims to estimate and to explain the impact of social policies that represent both redistributive and human capital views, on poverty in Latin American countries. Thus, the central question that guides the dissertation is as follows: *How do public transfers and the public provision of social services contribute to poverty reduction?* In answering this question, I conceived the dissertation as composed by two cross-national analyses of Latin American countries for the period 1980–2000 and a single study of social assistance in Chile in the period 2001–2006.<sup>7</sup> In these three studies, general hypotheses are formulated, which I tested in a sample of LACs. This dissertation design implies that Latin American countries are the population of the primary inferences of this study and the temporal domain of inferences is restricted to the last three decades. The analysis of these spacial and temporal domains carries implications for what can be expected from social policies for poverty reduction during the initial period of dismantling the welfare state in many Latin American countries.

In the dissertation, I also examine a second research question. One of the most important areas of current poverty research investigates the extent to which public transfers reduce or increase poverty, depending heavily on context (e.g. Nolan & Marx 2009).<sup>8</sup> To identify the role of context, studies of associations between cash benefits and poverty in industrialized nations have compared countries that represent different institutional contexts or welfare regimes (Brady 2005,

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<sup>7</sup> In the rest of the dissertation, I classify cross-national studies as macro analyses; these are studies in which the unit of analysis is the country. The study of Chilean social assistance considers a micro inquiry because the unit of analysis is the individual.

<sup>8</sup> The debate about institutional context in advanced capitalist countries is characterized by the analytical focus on cash benefits. Scholars ignore the variation between countries in terms of the relative emphasis that welfare states place upon cash benefits and/or social services. For an exception, see Castles (1998).

Korpi & Palme 1998, Lohmann 2009). In the setting of Latin American countries, if we consider the scholarly views about Latin America as a continuous line whose middle point is the institutional approach, it becomes evident that studies of comparative political economy typically occupy the poles. On the one hand, scholars treat these nations as similar cases whose differences have no scientific relevance (Barrientos 2009, Draibe & Riesco 2007). On the other hand, Latin American countries are characterized by an enormous heterogeneity that precludes lumping these political economies together (Huber & Bogliaccini 2010, Rudra 2008).

However, to understand the impact of public transfers among Latin American countries both splitting and lumping approaches present problems. With respect to splitting, this view can be used to explain the impact of public transfers on poverty in particular cases but at the cost of the generalization of the causal effects of public transfers to the population of Latin American countries. At the other extreme, the strategy of lumping produces results that are broad in scope but, if the goal is to estimate the effect of public transfers on poverty, this view should assume unit homogeneity—cases should be completely identical in all relevant characteristics except for the dependent and independent variables of interest. This means that lumping does not recognize any contextual differences within Latin America beyond public transfers and poverty.

Recent research on social policy challenges both approaches and suggests that different institutional arrangements exist in Latin America and in other developing regions (Kwon et al. 2009, Pribble 2008, Rudra 2008). This finding indicates that it is possible to systematically capture differences among Latin American welfare states in terms of the limited number of clusters of nations without losing the goal of producing causal inferences regarding populations beyond particular countries. Moreover, the existence of different institutional contexts in Latin America opens the door to the dependency of the poverty impact of public transfers on such contexts and, thus, suggests that the focus be placed not only on the differences in public transfers and poverty among Latin American countries but also on the role of institutional contexts on the relationships between both variables. In this vein and following studies of institutional contexts, the research question given above will be further elaborated through a second question: *How does the institutional context shape the impact of public transfers on poverty?* To date, little work has been

done to systematically test theories of welfare arrangements developed in the context of advanced capitalist countries in other regional settings. By providing answers to this second research question, an underlying motivation of the present thesis is to extend and adapt the literature about the institutional context, especially different types of welfare states, from advanced industrial nations to new geographic and historical contexts. Furthermore, the dissertation attempts to improve upon previous research of institutional contexts in Latin America.

In this dissertation, I follow a micro-macro modeling perspective, by which I attempt to answer the research questions of the study. This means that the impact of public transfers and the public provision of social services on poverty is explained in terms of the effect of both instruments of the welfare state on the actions and interaction of income groups. Two components of the model are pivotal in understanding the dissertation's findings. First, I suggest that public transfers and benefits in kind are multidimensional concepts and, thus, a set of policy dimensions are distinguished: size or generosity, targeting, and duration. Each one of these dimensions may have different impacts on poverty. Second, I focus on size and targeting and intend to explain the influence of both policy dimensions by indicating three classes of action, which I use as explanatory mechanisms of the relationship between policy and poverty in different institutional contexts. These classes of action are as follows: productive investment, work effort, and public support for social policies in general. The examination of these mechanisms carries implications for expectations of poverty reduction from government programs that are characterized by specific targeting and generosity levels among Latin American countries. For those scholars not particularly interested in Latin America, my hope is that the application of this micro-macro approach will provide a framework that is useful to explain the impact of public transfers and the public provision of social services on poverty in general. For Latin American specialists not particularly interested in the micro-macro approach, my hope is that the empirical evidence of the dissertation will reveal the value of recognizing different types of institutional contexts in Latin America.



The decision to focus the examination of the research questions of the dissertation on Latin American countries is appropriate at least for three reasons.<sup>9</sup> First, Latin American countries are substantively important in the field of social policy and poverty. Here, “substantively important” means “of special social relevance” because of the magnitude of poverty in these nations. As Figure 1.1 shows, poverty affects the well-being of many people in Latin America. Other measures of poverty provide a similar picture. For example, using national absolute poverty lines, the United Nations’ Economic Commission on Latin America and the Caribbean (ECLAC) estimates that about 33.1 percent of Latin Americans lived in poverty in 2009 (CEPAL 2010). This finding suggests not only that poverty shapes the everyday lives of many people in Latin America but also indicates the presence of many social problems, as poverty is associated with multiple social handicaps—such as crime, health problems and weak economic productivity—that can undermine the life in society (Rein & Winship 1999). Thus, it cannot be doubted that the study of poverty in Latin America is socially relevant and, thus, the scholarly community and citizens in general should put the focus in this region to understand poverty and the role of social policy to reduce it and, in doing so, to provide solutions.

The second reason is, in essence, methodological and refers to the advantages that Latin America provides to estimate the impact of social policies on poverty. In general terms, to estimate causal effects in small-N research scholars suggest choosing the cases in a purposive fashion on the basis of information about the independent variable of interest and, at the same time, to control for the influence of confounding factors and to ignore all information on the dependent variable (King et al. 1994, Plümper et al. 2010). Latin America is very well suited to this research design. The countries of this region exhibit many important contextual similarities—such as religion and type of colonialism. It follows that the focus on Latin America helps to control for contextual variables that may substantially shape the effect of social policies on poverty across different regions of the developing world. Furthermore, unlike many other developing countries, Latin American countries exhibit substantial variation with respect to the independent variable of interest: social policies. For example, by measuring social policy in terms of average social expenditures as

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<sup>9</sup> In Section 1.7, I discuss these reasons in more detail, particularly reasons related with the period under analysis, data availability, and the validity of the measure of social policy in Latin America in comparison with other developing regions.

a percentage of government spending for the period from 1973 to 2000, Segura-Ubiergo (2007) shows that the highest figures occur in Argentina, Brazil, Chile, Costa Rica, and Uruguay. In these welfare states, social expenditures range from 42.3% for Brazil to 63.3% for Uruguay. The lowest levels of social expenditures are found in Central American nations and Peru, where the measures range from 24.1% for Peru to 30% in El Salvador. Mexico and the rest of the South American countries (Bolivia, Ecuador, and Paraguay) occupy intermediate positions. This cross-national variation in social policy suggests that Latin America seemed ideally suited for an examination of how different levels of such variation are associated with particular poverty levels. Furthermore, by exploiting cross-national variation in social policy to explain the differences among LACs in poverty, Latin America appears theoretically relevant, as it provides an opportunity to confirm and deepen the theoretical insights developed in the setting of advanced capitalist countries.

I have left the most pragmatic reason for last. In the empirical social sciences, it is a general truth that data availability and knowledge of potential cases has a strong influence on an investigator's choice of the cases under study. Where the substantive knowledge of the investigator is greatest and the evidence of particular cases is richer and more accurate, there is a strong *prima facie* reason for studying those cases. Latin American countries fulfill both conditions. As a Latin American citizen, my prior knowledge of Latin America constitutes a pragmatic reason to examine social policies and poverty in this region. Nonetheless, from the perspective of a potential contribution to social science, this pragmatic reason is insufficient. To produce such a contribution, it is more important that the selection of Latin America and the temporal domain under analysis is driven by the quality and quantity of information about social policy that is currently available. The last three decades in Latin American countries is an evidence-rich environment in which all relevant factors for the topic of the dissertation are relatively precisely measured and rendered in comparable terms across the countries under study.

In the remainder of this introduction, I will present the study's overall conceptual framework. First, I present descriptive information regarding the relationships between social policy, institutional context, and poverty. In doing so, I characterize the explanandum of the dissertation. The second section establishes the concept of poverty that I use in the dissertation. The third section discusses

the dissertation's conceptualization of the main independent variables: public transfers and public provision of social services. The fourth section establishes the concept of institutional context. In the fifth section, micro-macro models of policy impact on poverty are presented in which I explain associations between poverty, social policies, and institutional context. Furthermore, in this section, I present the main hypotheses of the dissertation. The sixth and seventh sections review the research design of the dissertation and the main contributions of this study, respectively. Finally, an overview of the chapters and the findings are presented in the last section.

## **1.2 The Explanandum: The Impact of Public Transfers and the Public Provision of Social Services on Poverty and the Influence of the Institutional Contexts**

Social regularities are the basic explanandum of sociological analysis (Goldthorpe 2001). To establish the phenomena that the scholar will explain (the explanandum), descriptive analysis plays a pivotal role. In this section, I characterize the dissertation's explanandum by providing descriptive evidence of the relationships between social policies, institutional contexts, and poverty among Latin American countries. However, before this descriptive characterization, I highlight the historical context in which these relationships arise.

Modern social insurance systems emerged in some Latin American countries between the early 1990s and 1934. They experimented a strong development between the 1950's and 1970's in countries that followed an import substitution strategy of industrialization (ISI) (Figueira et al. 2008, Huber 1996). This model of economic intervention was implemented with the intention of helping Latin American countries to reduce their foreign dependency through the development of internal markets and industries. ISI pushed the development of social policy—particularly pension systems—but at the cost of a truncation of access to benefits. These mostly favored workers in formal markets and in urban regions, leaving the informal sector and rural workers without protection. On the basis of this characteristic of social policy, scholars suggest that social insurance systems have reproduced economic inequality in Latin America (Mesa-Lago 1978, Schneider & Soskice 2009).

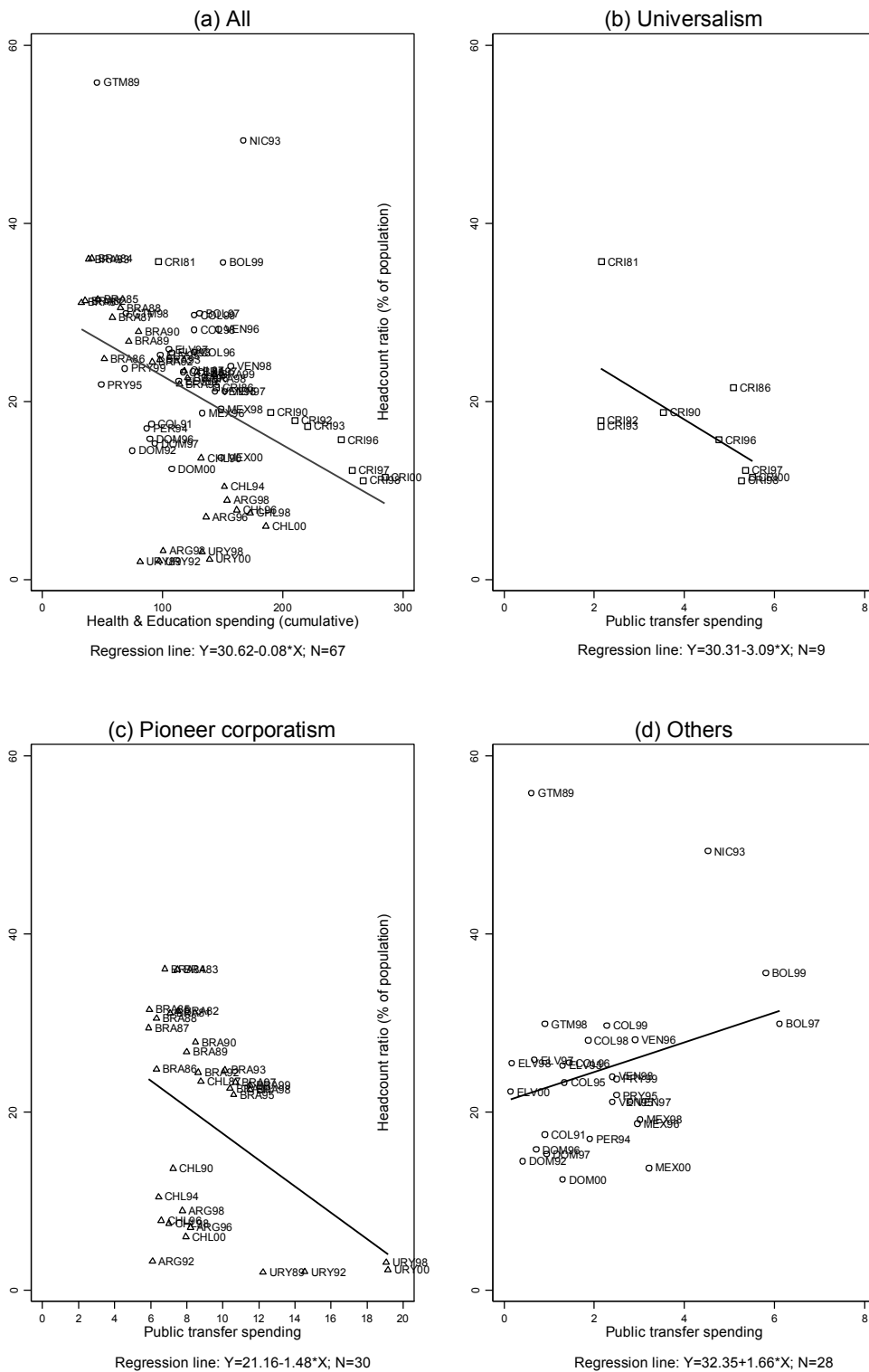
In spite of the significant heterogeneity in the origin and development of welfare state in Latin America (Section 1.5 and Chapter 2), most LACs implemented some social policy programs by the early 1980s. During this decade, however, devastating economic shocks battered the region. Many countries faced severe problems, including economic recessions and hyperinflation. So deep was the crisis that the 1980s came to be known as “the lost decade” in the region (Torche 2010). Discussion of politics and policy linked the economic problems with structural features of the ISI model, so a set of market-oriented reforms was suggested that attempted to dismantle this model of organizing the economy. The liberal impulse dominated the discussion of policy in the 1990s and the 2000s in the region (Rodrik 2006). In the domain of social policy, the social agenda of liberal reforms prioritized the privatization of pension systems, efforts to expand basic social services, and the adoption of social assistance programs (Kaufman & Haggard 2008).

This dissertation focuses on this period of reform. To highlight the explanandum, Figure 1.2 shows the associations between social policies and poverty in such a temporal domain. More specifically, this figure presents scatter plots with information from fifteen Latin American countries for the period from 1980 to 2000. Poverty is measured by the percentage of the population living on less than two purchasing power parity U.S. dollars per day at 2005 international prices. The measures of social policies are spending figures. In Chapter 3, the indicator of public transfers is public transfer spending as a percentage of the gross domestic product (GDP). This variable is measured on a yearly basis on the grounds that the effect of public transfers on the income of citizens is immediate. The measure of public provisions of social services is government spending on health and education as a percentage of GDP. My theoretical argument in the dissertation assumes that this instrument of the welfare state affects poverty in the long term, so I use cumulative figures of health and education spending from 1970 to 2000.<sup>10</sup>

Regarding the public provision of social services, the scatter plot in the upper left of Figure 1.2 provides some initial evidence of the relationship between the generosity of this instrument of the welfare state and poverty in Latin America. The graph suggests a negative relationship between the

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<sup>10</sup> In Chapter 3, I explain the theoretical grounds and the way in which I estimated cumulative figures.



**Figure 1.2.** Poverty levels and type of social spending, 1980-2000

Note: Triangles refer to pioneer corporatist welfare states, squares reflect universalist welfare state, and circles denote other countries. Labels include the country code plus the year of observation. The codes are as follows: ARG (Argentina), BOL (Bolivia), BRA (Brazil), CHL (Chile), COL (Colombia), CRI (Costa Rica), DOM (the Dominican Republic), ELV (El Salvador), GTM (Guatemala), MEX (Mexico), NIC (Nicaragua), PRY (Paraguay), PER (Peru), URY (Uruguay), and VEN (Venezuela). Sources: see Chapter 3.

public provision of social services and poverty because higher levels of cumulative spending are associated with lower levels of poverty rates.

The rest of the scatter plots in Figure 1.2 illustrate the social regularity that characterizes the association between public transfers and poverty. There is a great deal of variation among Latin American countries. To capture this heterogeneity, I classify the countries on the basis of the typology developed in Chapter 2 (see also Sections 1.5 and 1.9).<sup>11</sup> There are five clusters. The first cluster is composed of Costa Rica (upper right in Figure 1.2), which is the empirical example of the universalist welfare state in Latin America: that is, low program segmentation and high benefit coverage.<sup>12</sup> Argentina, Brazil, Chile, and Uruguay form a quite distinct second cluster (lower left in Figure 1.2). The policy orientations of these nations present a corporatist profile: program segmentation and a focus on social insurance. Because the welfare systems of these nations are the oldest in Latin America, I call this group the “pioneer corporatist welfare states.” The remaining clusters are composed of examples of the productivist welfare model (Central American countries plus Ecuador), which prioritizes the commodification of the labor force, examples of residual corporatism (Colombia, Paraguay, and Peru), and a cluster that presents a mix of corporatism and productivism (Bolivia, Honduras, Mexico, and Nicaragua). Although the policy orientations of these last three clusters differ, in Chapter 3, I argue that their effect on poverty should be similar, so I they are presented together in Figure 1.2.

Figure 1.2 shows that the association between public transfers and poverty differs among the clusters.<sup>13</sup> For the pioneer corporatist and universalist welfare states, there is a negative relationship between public transfer spending and poverty rates. This result indicates that public transfers contribute to poverty reductions in these political economies. Moreover, the slope of the fitted regression line for the universalist systems is higher than the slope for the pioneer corporatist systems (see the equations at the bottom of scatter plots). This finding suggests that the effect of

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<sup>11</sup> For the public provision of social services, I will argue that the impact of this instrument of the welfare state on poverty is the same among Latin American welfare states, so the variation of such effects among institutional contexts is not considered in the analysis of the dissertation. See Chapter 3.

<sup>12</sup> The findings also indicate that Panama presents a significant program universalism. However, the historical particularities of this country raise doubt regarding the classification of the Panamanian welfare system as a universalist welfare state (Chapter 2).

<sup>13</sup> The scatter plots in Figure 1.2 suggest that there are some outliers (e.g. Uruguay in panel c and Nicaragua in panel d) that may influence the direction of the slopes of the regression lines. In Chapter 3, I report on a sensitivity analysis that considers this methodological problem.

public transfers is higher in universalism than in corporatism. For the rest of the Latin American welfare states, however, the slope of the regression line shows a radically different pattern. We see in the graph that this is positive, which suggests that public transfers may contribute to increasing poverty in these welfare states.

This descriptive evidence characterizes the dissertation's explanandum—that is, the association between social policies and the poverty level and the influence of the institutional context on the association between public transfers and the poverty level. More specifically, the evidence indicates that the associations between social policies and poverty reflect regularity among Latin American nations. The effects tend to be either positive or negative. However, descriptive analysis needs to be improved in at least three respects. First, we have to demonstrate that the associations really exist by using statistical methods that introduce control variables to obtain consistent estimations. Second, the measure of public transfers assumes that the effect of this social policy on poverty is immediate. However, scholars indicate the existence of dynamic effects. These effects rely on the fact that cash payments may contribute to the persistence of poverty over time, insofar as the benefits impact the work effort and productive investment of beneficiaries. An area of the welfare state that is particularly inclined to produce these undesired consequences of government programs is social assistance (Chapter 4). Third, we need to explain the regularities that characterize the associations between social policy and poverty. Why do social services reduce poverty? Why do public transfers reduce poverty in universalist and pioneer corporatist welfare states? Why is such an effect positive for a group of Latin American nations? In this dissertation, I contribute to filling these three gaps in the descriptive analysis and, in doing so, to answer the research questions of the dissertation. I estimate the impact of public transfers and social services on poverty and the moderating effect of institutional context on the impact of public transfers by using multivariate cross-sectional and longitudinal analysis. Furthermore, I study the indirect effect of benefits on work effort and productive investment by examining social assistance in Chile. Finally, I explain the associations by suggesting a theoretical framework that conceptualizes social policies as multidimensional factors that affect the actions and interaction of agents. In the following sections, I explain this theoretical framework.

### 1.3 The Dependent Variable: Poverty

In this study, I use poverty in an *absolute* sense. Absolute poverty is usually defined as a condition characterized by severe deprivation of basic physical subsistence needs, but not social needs (Spicker et al. 1999: 7). According to Sen (1985), the criterion of basic subsistence needs is *absolute*, not in the sense that needs must not vary between different social contexts or over time but that social judgment about the needs of the poor regards a minimum standard of living as a threshold of subsistence. If the resources of a person are not enough to reach this threshold, this person is poor. It follows that the comparison of needs between different individuals is not relevant to classify who is poor or not poor in an absolute sense. As Sen (1985: 670) points out, the core element of the concept of absolute poverty is that:

“...people’s deprivations are judged absolutely, and not simply in comparison with the deprivations of the others in that society. If a person is seen as poor because he is unable to satisfy his hunger, then that diagnosis of poverty cannot be altered merely by the fact that others too may also be hungry (so this person may not be, relatively speaking, any worse off than most others).”

In this dissertation, I define and measure absolute poverty for three reasons. First, the main concern of the present thesis is absolute poverty because, as said above, meeting basic needs is an issue for a large portion of Latin Americans (see Section 1.1). This finding suggests that, before knowing the extent to which these people’s standard of living differs from that of well-off citizens (such as through relative poverty measurements), it is necessary to put the prime concern on the ability of the people to afford basic subsistence needs. Specifically, the concept of “absolute poverty” in this dissertation regards individuals whose resources do not satisfy basic subsistence needs *in* Latin American countries.

Second, I examine the indirect effects of government programs on poverty. These effects impact work effort and productive investment for individuals at the micro level as well as economic growth and income distribution at the macro level. There are theoretical reasons to presume that



these indirect effects of government programs may have the perverse effect of increasing poverty (Chapters 3 and 4). To identify these types of effects, it is more useful to employ an absolute measure of poverty because this criterion to identify the poor holds constant over time<sup>14</sup> (Kenworthy 1999, Pontusson 2005). Third, I decided to use a concept and measurement of absolute poverty determined by the existing data of poverty levels in Latin America. I use estimations of poverty levels, which are calculated by Latin American governments and international agencies; most of these organizations provide only information about absolute poverty measures.

Having explicitly marked the conceptualization of poverty as an absolute condition, I go on to the measures of absolute poverty used in the dissertation. This aspect is very important to the present thesis because the measurement considers how I concretely identify the threshold of basic subsistence needs. Following Sen (1981), the measurement of poverty comprises two sequential steps. The first regards the *identification* of the poor by using a threshold, below which people can be considered to be poor. Scholars call this threshold the “poverty line.” To identify the poor in an absolute sense, the determination of the poverty line typically requires the specification of a basket of goods that is the indicator of basic subsistence needs. The second step refers to the *aggregation* of the deprivation of the poor into a poverty index.

There are basically two ways of accomplishing the identification task (Ringen 1988). The first one is an indirect method in which the poor are identified on the basis of their resources. The scholars distinguish between monetary (salary, private and public transfers) and non-monetary resources (physical capital). One of the most used resource indicators to identify the poor is household income, which is a monetary resource. In the indirect method, anyone whose income is lower than the monetary poverty line is identified as poor. The second method is a direct one in which one identifies the poor in terms of the results of resource use. In the origin of this second method, the motivation to use it relies on the fact that, if poverty is defined as low consumption, we should note that “many of those not on low income suffer deprivation in consumption, and far from all the members of low income groups suffer such deprivation” (Callan et al. 1993: 142). In other words, income is not a reliable measure of poverty. The poor must therefore be identified using a

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<sup>14</sup> Over time, Latin American governments usually adjust absolute poverty lines only for inflation but basic needs, which are considered by the poverty threshold, do not vary.

direct measure of standard of living. The most famous application and defense of this approach is the study “Poverty in the United Kingdom,” conducted by Peter Townsend (1979), who measured deprivation by developing a deprivation index on the basis of indicators of lifestyle for British households.

To identify the poor, most Latin American governments follow the indirect method by using expenditures (Mexico), income (Argentina), or a mix of income and expenditures (Bolivia). Cross-national evidence of direct measurement of poverty in a large sample of Latin American countries does not yet exist.<sup>15</sup> The poverty estimations of international agencies for Latin America (e.g. the World Bank) are also based on these monetary indicators of well-being. Because I use official estimations of poverty—data from national government and international agencies—in the analysis of this dissertation, I use the indirect method to identify the poor.

Most Latin American countries calculate two absolute poverty lines: extreme national poverty, which is based on the cost of a basic food basket, and moderate poverty, computed from the extreme poverty lines using the Engel/Orshansky ratio of food expenditures (Gasparini et al. 2007). Despite some similarities, the methodologies for estimating national poverty lines differ substantively across Latin American nations (Perry et al. 2006: 23). Due to these differences in defining poverty, I use the international poverty line of two purchasing power parity U.S. dollars per day to make cross-national comparisons (see Chapters 2 and 3). This poverty line was developed by the World Bank for the purpose of international comparisons (Chen & Ravallion 2004). Table 1.1 presents a measure based on this poverty threshold. The indicator of poverty in the macro empirical analysis of this dissertation is the headcount index in each Latin American country, which aggregates poverty levels in terms of the percentage of the population living on less than two-purchasing power parity U.S. dollars per day at 2005 international prices.<sup>16</sup> The World Bank recommends this poverty threshold to measure poverty in middle income countries such as Latin American countries (see also Section 1.7).<sup>17</sup> Notwithstanding the advantage of this measure of poverty, it is important to mention that the international poverty line of two U.S. dollars does not

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<sup>15</sup> See Battiston et al. (2009) for a study of multidimensional poverty in six Latin American countries.

<sup>16</sup> In Chapter 2, due to change of the particular year of prices that is used to calculate the poverty line, the poverty line is not exactly 2 US dollars but 2.5.

<sup>17</sup> Middle income countries are economies with gross national income per capita between \$1,006 and \$12,275 (U.S. dollars in 2010).

directly refer to a concrete basket of goods but reflects the median value of extreme poverty lines fixed by governments in Latin America. Furthermore, most official poverty estimations in Latin America do not use equivalence scales to take into account economies of scale within households; they are based on per capita household income. Given my use of official poverty estimations, I use this concept of income in the dissertation.

**Table 1.1.** Concepts and measures of poverty in the dissertation

Type of poverty	Definition	Measure	Level of aggregation	Chapter
Absolute poverty (static)	Condition characterized by severe deprivation of basic subsistence needs	Headcount index	Country	2 and 3
Absolute chronic poverty (dynamic)	Condition characterized by mean income over time below absolute poverty line	Index using squared poverty gap	Individual	4
Absolute transitory poverty (dynamic)	Inter-temporal variability in income of the poor	Index using squared poverty gap	Individual	4

In my micro study of the Chilean welfare state (Chapter 4), I analyze two types of absolute poverty status over time. The first is chronic poverty, which is defined in terms of poverty that persists in inter-temporal mean income, which is lower than the absolute poverty line. This concept of chronic poverty denotes a condition characterized by a low level of capital and is associated with insufficient welfare-generating assets that persist over time. By contrast, transitory poverty regards inter-temporal variability in the income of the poor, regardless of persistence. This means that not only do individuals who experience poverty at a particular time point contribute to transitory poverty but the persistent poor may also present some degree of transitory poverty if the income of this last group varies over time. This type of deprivation is associated with short-term financial shocks, which have a negative impact on the accumulation of capital but do not annul the accumulation process.

To measure chronic and transitory poverty, I use the indexes of Jalan and Ravallion (2000), which were estimated using the moderate absolute poverty line computed by the Chilean government. Each individual receives scores on both indexes, which range from zero for the not poor to one for the maximal level of deprivation. The scores are constructed on the basis of the

squared poverty gap. In comparison to the headcount ratio, the advantage of this last measure relies on the fact that the squared poverty gap considers income inequality among the poor. Furthermore, the measure scale of indexes is continuous, which makes it easier to estimate causal effects, particularly in the case of the comparison of causal effects across groups.<sup>18</sup>

#### **1.4 The Independent Variables: Public Transfers and the Public Provision of Social Services**

What do I mean by social policy? Conventionally and narrowly defined, social policy consists, in this dissertation, of public transfers and the public provision of social services or, in other words, benefits in cash and benefits in kind. Both social policies are instruments by which governments pursue the two fundamental goals of the welfare state (Flora & Heidenheimer 1995): security and equality.<sup>19</sup>

Public transfers refer to all state payments in cash that aim at improving the standard of living of individuals who have experienced any type of social risk, including sickness, maternity, unemployment, retirement, and poverty (Esping-Andersen 1999: 40-3).<sup>20</sup> We can distinguish subtypes of public transfers on the basis of two dimensions: the method of financing public provisions and the eligibility criterion by which individuals qualify as welfare state beneficiaries. At first glance, many combinations are theoretically plausible on the basis of both dimensions. However, following a standard classification in the literature of welfare states (e.g. Pontusson 2005), I distinguish two subtypes of public transfers. One of these subtypes is social insurance transfers. These transfers are government benefits in cash,<sup>21</sup> which are financed by contributions with eligibility based on a combination of contributions and belongingness to specific occupational categories, excluding workers who are not attached to the formal labor market. In Latin American welfare states, for example, the most important social insurance transfers in the government budget are pensions (Huber et al. 2006).

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<sup>18</sup> In Chapter 4 and Appendix 3 I discuss the advantages of continuous variables in estimating causal effect.

<sup>19</sup> Flora and Heidenheimer identify a third basic means by which the welfare state pursues its goals: the indirect extension of benefits through tax deductions and credits. I do not consider this instrument of the welfare state in the dissertation.

<sup>20</sup> Following Esping-Andersen (1999: 33), a risk is considered "social" in the sense that it is a matter of state.

<sup>21</sup> For the arguments of the dissertation, the distinction between government and state is not relevant; thus, I use both concepts as synonyms in the following chapters.

The second type of public transfers refers to social assistance transfers. These are benefits in cash with financing based on non-contributory funding where eligibility is not conditional on the payment of contributions by the protected person or by other parties on their behalf. However, there may be a means test as a condition of receipt for some transfers payments. Social assistance transfers typically serve the poor or near poor. As mentioned above (see Section 1.1), one of the motivations to provide this type of social policy is the desire to help others because the poor could not function socially at adequate levels without special assistance.

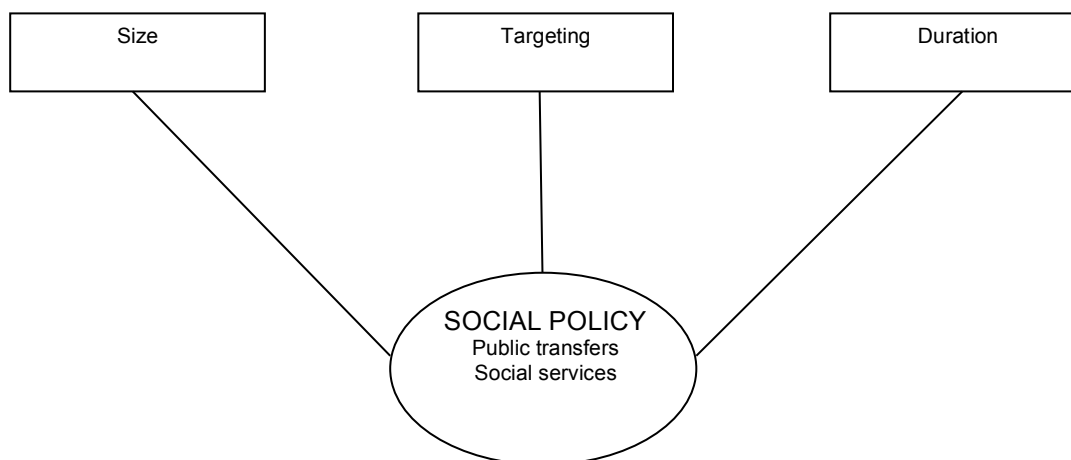
Social services refer to the expansion of individual human capital endowments.<sup>22</sup> In comparison to public transfers, the public provision of social services does not include cash payments. Rather, this instrument of the welfare state involves goods that do not take a tangible and storable form (Black et al. 2009: 408). Furthermore, although public transfers and social services are transfers in the sense that they take purchasing power away from taxpayers and transfer it to beneficiaries, social services can be used only for the purchase of specific goods (Friedman 2002: 81). Public transfers do not have this restriction. Social services include a large range of benefits, but I focus on government investment in education and healthcare in this dissertation. The public provision of both social services is especially important in developing countries such as Latin American nations, as it increases the human capital of the poor (Haggard & Kaufman 2008).

In this thesis, I conceptualize public transfers and the public provision of social services as multidimensional constructs while arguing that an explanation of the impact of public transfers and social services must take into account different dimensions of a given social policy because each one of these dimensions may impact poverty differently. As Figure 1.3 illustrates, I identify three dimensions of a given type of social policy that may be of crucial importance in determining the effectiveness of poverty alleviation in government programs: size or generosity, targeting, and duration (Bäckman 2009, Korpi & Palme 1998, Palme 2006). The remaining portion of this section

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<sup>22</sup> Human capital is the stock of skills and productive knowledge embodied in people that has value as a source of current and future flows of output and income. The return on human capital investments lies in enhancing the productivity and earning power of a person in the market economy (Rosen 2008). Furthermore, another important role of human capital is to facilitate the implementation of technology in the production process. At the heart of the concept of human capital lies improvements in workers' skills based on education, but other sources of progress in human capital involve the improvement of the population's health (Schultz 1961; Barro 1996). See Chapter 3.

explains these three dimensions along with the measures of dimensions, which are used in the dissertation and the following analysis.



**Figure 1.3.** Dimensions of social policy

Size refers to the monetary level of the benefit. For public transfers, it is important to distinguish between size at the micro and macro levels. At the micro stage, the size regards the monetary level of payments to individual or household recipients. A measure of this concept is typically the proportion of household income that is actually paid by the government, indicating a high proportion or high size of transfers. At the macro level, the size of public transfers regards the total sum of the budget that is available for redistribution. A mainstream measure of this last meaning of size is expenditure on transfers. With respect to social services, direct monetary indicators of the size of a social service policy do not exist at the micro level because this type of social policy does not transfer cash, by definition. However, indirect measurements at the macro level indicate how much the state spends on social services. One of the most often-used indicators in developing countries is government expenditures on education and health.

Targeting is used to identify which social group is eligible to receive the benefits of a social policy. The target is determined by entitlement requirements associated with social policy. Broadly speaking, studies of the welfare state identify three principles that are the basis of entitlement requirements for concrete government programs (Esping-Andersen 1990, Korpi & Palme 1998,

Pontusson 2005). Targeting comprises these principles. The first is called *means-testing*, and it considers the extent to which public programs are targeted to a specific group, mostly the poor, by using a means test: that is, a test applied as a condition for the receipt of some benefit. The second principle is *social citizenship*, which refers to an egalitarian strategy of paying benefits, i.e. providing the same benefits to all citizens.<sup>23</sup> *Social insurance* is the third entitlement principle, under which eligibility is derived from prior contributions.

The duration of a social policy refers to the time limits of a particular public program. According to Saez (2006), introducing the duration dimension in the design of transfers raises questions that have not yet been studied very extensively. Furthermore, most of the research on the effect of time limits on social outcomes focuses on developed economies, especially the U.S.A (Grogger & Karoly 2005). Unfortunately, there are no studies on the effect of time limits on poverty in Latin America. One of the reasons may be the lack of longitudinal data at the micro level in most Latin American countries. This fact implies that it is impossible to make an empirical cross-national analysis of the effect of time limits on poverty in a large sample of Latin American countries. Given this data problem, my explanations and the empirical analysis of the impact of social policies in the dissertation focus only on the size and the targeting strategy of government programs.

As stated above, to assess the effect of a social policy on social outcomes, we have to take into account a set of public intervention dimensions, not a particular dimension. Table 1.2 presents the effects of poverty that should result from the combination of size and targeting.<sup>24</sup> As Chapter 3 points out, the universalist welfare states are associated with the lowest poverty levels among OECD countries (Korpi & Palme 1998). This poverty impact is associated with the combination of social citizenship and a large size of the redistributive budget. Citizenship-based policy is characterized by high coverage of the population, which means that a significant portion of citizens receive benefits, including low-income segments. It follows that social citizenship should reduce poverty. The size of benefits can be understood as a second mechanism that accentuates this

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<sup>23</sup> Following Korpi (1989: 314), social citizenship refers to “rights that individuals have as an outflow of their status as citizens. These social rights can be claimed without citizens having to demonstrate economic need (for example, via a means test). Instead, claims are accepted if the individual falls into a specific category, such as in terms of age, health, or employment.”

<sup>24</sup> On the grounds of welfare state theory and empirical evidence (e.g. Korpi & Palme 1998), the cell in Table 1.3 that combines social citizenship and small size is unlikely and, thus, empty.

impact. Citizenship tends to encourage the formation of collective interest among citizens and, thus, stimulate public support for public transfers and social services expansion. It follows that citizenship-based policy should have a large size in the redistributive budget.

**Table 1.2.** Expected effect of social policy on poverty

		Size <sup>a</sup>	
		Large	Small
Targeting	Social citizenship	-	
	Social insurance	-	+
	Means-testing	+	-

*Note:* Negative effect is “-”; positive impact is “+”. (a) For social citizenship and social insurance, the size refers to the redistributive budget; for means-testing, I discuss size at the micro (individual or household recipient) and at the macro levels (budget).

The social insurance entitlement criterion includes transfer payments where eligibility is based on contributions. In Latin America, this type of transfer is attached to formal work. This characteristic of Latin America indicates that the poverty effects of social insurance transfers differ by institutional context. In pioneer corporatist welfare states (e.g. Argentina and Uruguay), the coverage of social insurance is high, insofar as a significant portion of the labor force is in the formal sector (Chapter 2). This fact suggests that a large portion of the citizens is eligible for benefits; thus, social insurance transfers in pioneer welfare states should reduce poverty levels at the macro level through the provision of payments to different income groups. However, the negative effect of social insurance transfers on poverty in pioneer corporatist welfare states should be lower than the impact of citizenship-based benefits because the size of benefits is smaller in corporatist systems than in universalist welfare states. Social insurance institutions generate separate interest groups that act on their specific interests. Citizenship promotes common interests among social classes, which increases the redistributive budget. In other words, public support for redistributive policies is higher in citizenship-based regimes than in corporatist arrangements (Chapter 3).

Contrasting with pioneer corporatist welfare states, social insurance transfers may increase poverty levels in welfare systems characterized by low generosity and, most importantly, social insurance-based targeting of transfers that benefits particular interest groups, namely middle- and



high-income groups. In Latin America, residual corporatist welfare states such as Peru or Paraguay present this combination of size and targeting. This benefit favors a minority and increases income inequality and, in turn, poverty.

In Table 1.2, I indicate that the effect of means-testing policy or social assistance transfers is bidirectional. At the macro level, scholars suggest that the size of the government budget assigned to this type of transfer is small because means-testing does not stimulate public support for redistributive policies among citizens (Korpi 1983). In spite of the small size at the aggregated level, social assistance transfers may have a negative effect on poverty because money reaches the poor. For example, in Argentina in the mid-1990s, intense targeting in favor of the poor converged to create a strong negative impact (Lindert et al. 2006). However, the impact of social assistance transfers may be positive when we consider indirect effects. As I discuss in Chapter 4, cash payments based on means-testing may increase poverty, as they raise the incentive for individuals to be poor and qualify for benefits when the size of the benefits assigned to recipient households is similar to their earning capacity.

Once the main independent variables of this study are theoretically defined, I will briefly explain the measures of public transfers and public provision of social services that I used to estimate the impact of social policies on poverty (see Table 1.3). Despite my conceptualization of social policy as a multidimensional construct, the lack of data, unfortunately, precludes measuring the complete set of dimensions, particularly the size of the benefit assigned to individual recipients and citizenship and social insurance targeting. This fact means that each analysis of the present thesis intends to answer the leading questions of the dissertation by evaluating the connections between particular policy dimensions and poverty in empirical examinations. However, it is important to say that in the theoretical arguments, from which I derive the hypothesis for a particular policy dimension, I discuss how the combination of the size and targeting of a given policy contribute to poverty reduction.

In cross-national analyses, the indicators of public transfers and social service policies are measures of social spending as a percentage of GDP (Chapter 3).<sup>25</sup> Social spending measurements capture the size dimension in the sense that they identify how much emphasis the

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<sup>25</sup> Lack of data precludes separate public transfer spending into social insurance and social assistance cash payments (Chapter 3).

government has placed on transfers and/or social services. However, they do not permit an assessment of the targeting. Contrasting with macro social analysis, my micro study of the Chilean welfare state focuses on social assistance transfers that are explicitly targeted at the poor (see Chapter 4). Following the studies of impact evaluation (e.g. Khandker et al. 2010) to assess the impact of transfers on poverty, the indicator of social assistance transfers is a dummy variable for the beneficiaries of social assistance transfers. By using this measure, I intend to capture the effectiveness of benefits based on means-testing in reducing poverty.

**Table 1.3.** Concepts and measures of social policy used in the estimation of causal effects in the dissertation

Type of social policy	Definition	Measure	Level of aggregation	Policy dimension	Chapter
Public provision of social services	Benefits that involve intangible goods; focus on education and healthcare	Health & education spending as a percentage of GDP	Country	Size of government budget assigned to social services	3
Public transfers	State payments in cash	Public transfer spending as a percentage of GDP	Country	Size of government budget assigned to public transfers	3
Social assistance transfers	Non-contributory benefits in cash provided on the basis of a means test	Dummy variable in which receiving cash payments is 1	Individual	Targeting; only means-testing	4

### 1.5 The Moderator Variable: Institutional Context<sup>26</sup>

Context means conditionality in the sense that the effect of a cause on an outcome tends to vary across contexts. By applying this idea to the analysis of institutions, the new institutionalism contends that the effects of social structures are shaped by the institutional structure of the economy and polity (Hall & Taylor 1996). As Hall (1986: 19) states in one influential statement:

<sup>26</sup> An interaction effect hypothesis states that the effect of one variable on a second one depends on the value of a third variable. This third factor is labeled a moderator variable because the first-order relationship is moderated. That is, it changes as the moderator variable changes. A variable operates as a mediator to the extent that it accounts for the relationship between an independent variable and an outcome. In this dissertation, I consider the institutional context only as a moderating variable that influences the association between social policy and poverty.

*“The concept of institutions is used here to refer to the formal rules, compliance procedures, and standard operating practices that structure the relationship between individuals and various units of the polity and economy...Institutional factors play two fundamental roles...[They] affect the degree of power that any one set of actors has over policy outcomes [...and they...] influence an actor’s definition of his own interests, by establishing his institutional responsibilities and relationship to other actors...With an institutionalist model we can see policy as more than the sum of countervailing pressure from social groups. That pressure is mediated by an organizational [i.e., institutional] dynamic that imprints its own image on the outcome.”<sup>27</sup>*

Thus, in an institutional analysis, institutional contexts are variables that shape the processes, translating the social structures of interest into effective political pressures, these pressures into government responses, and those policies into social outcomes (Franzese 2007: 48). In this dissertation, I analyze the impact of the institutional context on this last association - the relationship between social policy and outcomes. Following the contemporaneous welfare state theory (Castles 1993, Esping-Andersen 1990, Korpi & Palme 1998), I use the term “institutional context” to designate clusters of welfare states and to contend that the impact of public transfers on social outcomes, particularly poverty, varies across different clusters in Latin America. To identify these clusters, I develop a typology of ideal welfare states and classify LACs into the identified types (Chapter 2).

In general terms, typologies have several components. One of the core elements is the overarching or primary concept measured by the typology (Collier et al. 2008). In my typology, the overarching concept is the “welfare state.” To define this concept, it is very important to recognize that the welfare state is a “nebulous yet sharply contested concept” (Esping-Andersen 1994: 712). Correspondingly, one finds disputes over the appropriate meaning and definition of the welfare state. In broad terms, conceptualizations of the welfare state can be divided into social rights,

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<sup>27</sup> The text in square brackets is not in Hall’s original statement. Because I do not present the complete statement, I added the text in square brackets to aid in understanding the original statement.

outcome, and policy definitions. To construct the typology of welfare states, I use a policy definition and define the welfare state as the sum total of a nation's social policy repertoire, consisting of political interventions into the functioning of the economy and the societal distribution of life chances that seek to promote the security and equality of citizens in order to foster the social integration of modern societies (Alber 1988: 456). Equalization of opportunities is usually accomplished through public health and educational systems, whereas equalization of results (mainly income) and security against social risks—associated with poverty, sickness, old age, and unemployment—are accomplished through public transfer programs (Castles 1998, Flora & Heidenheimer 1995).<sup>28</sup> According to this policy definition of the welfare state, if a state provides cash benefits and social services to citizens, it is defined as a welfare state.

By using a policy definition, I avoid the problem of conceptual stretching that arises when a given concept is applied to cases for which it is not appropriate. Even the poorest Third World nations have some form of public transfers and social services, which is not the case for social rights-based definitions. Defenders of this last type of welfare state conceptualization contend that social citizenship constitutes the core idea of the welfare state (Esping-Andersen 1990). The idea of social citizenship suggests that the entire social community can claim social rights without having to demonstrate economic need (for example via a means test). However, the extension of social rights—such as protection against social risks (unemployment, old-age, sickness) and improving human capital—is limited in Latin America, where large segments of the population lack access to even the most basic public programs. As Esping-Andersen (1994: 713) points out, “The concept [social citizenship] can hardly be stretched beyond the eighteen to twenty rich capitalist countries in the Organization for Economic Cooperation and Development area.” The limited extension of social rights in Latin America indicates that a policy definition of the welfare state is more appropriate than a social rights definition to understand welfare systems in this region.

Outcomes definitions emerged in the context of the debate about welfare state retrenchment in the 1990s and the 2000s in advanced western democracies. In this setting, the welfare state is

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<sup>28</sup> Price controls and subsidies have constituted important instruments of social protection in Latin America. However, most studies on social policy in this region have not included analyses of both instruments (Huber & Bogliaccini 2010).

defined with reference to certain outcomes. For instance, Korpi and Palme (2003: 428) conceptualize the welfare state in terms of policies to affect the outcomes of distributive processes in the sphere of markets. According to this definition, these authors consider the level of employment as an indicator of the welfare state. Clayton and Pontusson (1998) provide another example that includes social inequality as a dimension of the welfare state. However, outcome definitions are not free of problems. One of the most important difficulties is that many factors other than government interventions affect outcomes. For instance, in economic science, the Phillips Curve shows an inverse relationship between unemployment and inflation in an economy. The multi-causal character of socio-economic outcomes indicates that scholars have to take care with the interpretation of changes in, for instance, inequality and employment as a result of government programs. A second problem of outcome definitions is that this type of definition of the welfare state is inappropriate for analyzing the impact of the welfare state on social outcomes. If analysts wish to study the causal relationship between the welfare state and social outcomes, then the latter must be excluded from the conceptualization of the former.

A second element of a typology is the dimensions around which the typology is organized. In Chapter 2 of this dissertation, the particular types of welfare states are derived from three dimensions. The first dimension is the instruments by which the welfare state pursues its goals. According to my conceptualization of social policies, I distinguish between social assistance transfers, social insurance transfers, and the public provision of social services (Section 1.3). The second dimension is the “public-private mix,” that is, the way in which welfare production is divided among the state, market, and family (Esping-Andersen 1999). Finally, the third dimension is “labor relations,” comprising modes of bargaining between collective actors, such as the state, organized labor, and associations of employers.

In Chapter 2, I identify four types of ideal welfare states on the basis of these three dimensions. The types are understood as full instances of the root definition of the welfare state; at the same time, they are differentiated by having more defining attributes. The first type is the corporatist welfare state, in which the main provider of welfare is the family, while the state performs a subsidiary function. This type is also characterized by corporatist labor relations and by a focus on

social insurance transfers. The universal welfare state is another type. Like the former, labor relations are corporatist. However, the main welfare source is the state, and the main instruments of public intervention are social services. The last two ideal types are the liberal and the productivist welfare states. In the liberal type, labor relations are pluralist, taking the form of agreements between diverse and competing private organizations; meanwhile, the state upholds the principle of non-intervention, leaving the market as the main provider of welfare. The main instruments of public intervention in this ideal type are social assistance transfers. Finally, the productivist type is characterized by a focus on the commodification of the labor force through public investment in social services. Labor relations are also corporatist in this type, but the cooperation between labor and capital is at the firm level. The state and market share the role of the central welfare provider in the productivist welfare state.

To determine the ideal types of welfare states into which Latin American countries can be categorized, I created measures that capture the dimensions of the ideal typology related to the instruments of the welfare state and public-private mix. A lack of data precludes the inclusion of information on labor relations. I collected information on seventeen Latin American countries for the 1990s and used the statistical technique of “hierarchical-agglomerative” cluster analysis to classify the countries. Table 1.4 shows the measures that operationalized the dimensions of the typology that were used to identify the ideal models operating in Latin America. The four measures are continuous variables. In the rest of this section, I briefly present the measures of welfare state types. Chapter 2 discusses the measurement validity of the variables in detail.

The indicator of the role of the market in the public-private mix is the average private expenditures on health as a percentage of total expenditures on health for the period from 1995-1999. This variable captures the liberal emphasis on the market with reference to the importance of private efforts in the health sector. The role of the state in the public-private mix is operationalized by the average of the coverage rates of public pensions and the coverage rates of public healthcare programs for particular years of the 1990s. This indicator captures program universalism. One of the core characteristics of the corporatist welfare state is a subsidiary role in the public-private mix. This role of the state produces status segmentation. To measure this characteristic, I developed an

index that assesses program segmentation in terms of the number of significant pension programs in 1993. To compensate for differences related to the focus on social insurance among Latin American welfare states, the number of pension programs is weighted by social insurance spending as a percentage of total social spending in 1993. The higher the score in the index is, the higher the status segmentation of a welfare state is. Finally, with respect to the aims of economic growth and the international competitiveness of the country's economy, the productivist welfare state stimulates the commodification of the labor force by providing social services—particularly healthcare and education. To capture the focus on social services as an instrument of the welfare state, I used the average health and education spending as a percentage of total public spending for the period from 1990-1999. A productivist welfare state should present a high score for this variable.

**Table 1.4.** Indicators of the typology's dimensions

Dimension	Indicators	Level of aggregation	Chapter
Role of the market in public-private mix	Private expenditures on healthcare as a percentage of total expenditures on health	Country	2
Role of the state in public-private mix	The average between coverage rates of public pensions and coverage rates of public healthcare programs	Country	2
Subsidiary role of the state in public-private mix and focus on social insurance	Summary index of status segmentation	Country	2
Focus on social services	Average health and education spending as a percentage of total public spending	Country	2

Cluster analysis does not use only one variable to identify clusters of countries but, instead, uses all of them. The profiles of the clusters (e.g. corporatist) are then recognized by identifying the variables for which the clusters present high levels. In Chapter 3, I assess the role of clusters as moderators by using dummy variables for the groups of welfare states identified in cluster analysis. The goal of this operationalization is to examine how the institutional context shapes the impact of public transfers on poverty levels with data for the period from 1980-2000. An alternative approach

is to analyze the continuous variables used in the cluster analysis as independent variables in the regression analysis of policy impact in Chapter 3. Unfortunately, with the exception of expenditure data, there are no time-series data for the variables used in the cluster analysis. It follows that, if I used these variables in policy impact analysis, I would have scarce degrees of freedom, so the analysis may have a problem with robustness of findings, insofar as I should include only a small number of control variables.

### **1.6 Micro-Macro Explanations of the Impact of Public Transfers and the Public Provision of Social Services on Poverty: The Arguments of the Dissertation**

Social science almost never is able to show that one factor in isolation from all other factors is *the cause* of a phenomenon. The study of poverty is no exception. The explanation for poverty involves a host of causes. For some, it is an issue of joblessness; for others, it is a lack of opportunities. For still others, poverty is a problem of political representation for citizens without a voice. In fact, claims regarding a causal factor of poverty typically are tentative.

In this dissertation, I do not intend to capture the multitude of poverty causes. Rather, I suggest a set of mechanisms that may be helpful to explain the impact of one causal factor (social policy) on poverty. To this end, three perspectives in social science appear to be relevant. The proponents of the first perspective, the investment-oriented view, assess the impact of benefits on the capital of the poor. Seen from this perspective, capital can be understood as the stock of any type of resources that an actor controls. There are different kinds of capital. For example, physical and human capital typically are analyzed in economics. Policy analysis stresses the direct impact of transfers on the financial capital of households. The literature in other social sciences considers other kinds of capital, including social, cultural, institutional, and political capital (Esser 2000). To predict the impact of a particular social policy on poverty, it is very important to recognize these different types of capital because the effect of a specific social benefit depends on the particular type of capital that the benefits impact. For example, in general terms, the poverty effect of the benefits will be negative when social transfers may improve access to financial or human capital (e.g. Dercon & Clarke 2009, Garfinkel et al. 2010). Nonetheless, the impact of social benefits may



be associated with a higher level of poverty if more redistribution implies decreasing the financial capital of the income groups (middle- and high-income individuals) that have a high propensity to save and invest (Kenworthy 1999).

To understand the impact of social policies on poverty, we should also take into account a second perspective, the work-oriented view. Defenders of this perspective highlight the effect of social policies on the labor supply of the income groups. A standard economic model of labor supply provides clear predictions of this effect. Overlooking the particular assumptions of this model (Chapter 4), it states that the higher the size of the transfers assigned to individual recipients is, the fewer hours will be worked. By extending this prognosis to poverty, modern scholars argue that generous benefits may produce poverty if the difference between the size of the benefits and the wages is insignificant. In such a situation, a beneficiary will choose not to work at all and to profit from public benefits as a lifestyle. In other words, the beneficiary is “trapped” in unemployment, which, in turn, produces poverty (for an overview, see Gebauer 2007).

To fully grasp the impact of public transfers and the public provision of social services on poverty, concentrating only on productive investment and the work decisions of the income groups is insufficient because the choices of actors are not determined only by the motives and interest of the players. Rather, any particular action and interaction must be seen as embedded in a more extensive institutional context. The impact of public transfers and the public provision of social services on poverty presents a prime case of the institutional context approach’s utility, as it emphasizes the contribution of welfare state types to the formation of motives and interests among citizens (Aberg 1989, Korpi & Palme 1998, Nelson 2003). To explain the association between types of welfare states and motivations, the core idea of this institutional approach is the concept of the feedback effects of institutional contexts (Svallfors 2007, 2010). It is argued that, once in place as result of the actions and interactions of social groups, institutional contexts produce effects on the groups from which they have arisen. For the topic of the dissertation, a particular action that is relevant in understanding the contribution of institutional contexts for poverty reduction is concerned with public support for redistributive policies in general among citizens. According to the concept of feedback effects, support for redistributive policy is shaped by the social policy that characterizes a

specific institutional context. Such support may, in turn, if channeled into the political legitimacy of a government aimed at building broad targeting and a generous size of public programs, contribute to future poverty reduction (Nelson 2004). An implication of this argument is that the association between social policy and poverty levels may vary among different institutional contexts because institutional structures generate different levels of public support for redistributive policies in general among the citizens that, in turn, affect the size and targeting of specific social policies.<sup>29</sup>

This dissertation is informed by these three complementary perspectives of productive investment, work effort, and public support for redistributive policy in general. I frame the roles of these three explanatory factors in explaining the impact of social policies on poverty in Latin America and the role of the institutional context by adopting micro-macro modeling (Coleman 1986)—see Figure 1.4.<sup>30</sup> More particularly, I pursue two goals with this micro-macro approach. First, I intend to clearly illustrate the fact that the association between social policy and poverty at the macro level is the result of micro-mechanisms related with productive investment, work effort, and public support for redistributive policies in general. Second, the micro-macro models aim to show the contribution of each dissertation's chapter to the examination of the leading questions of the present thesis.

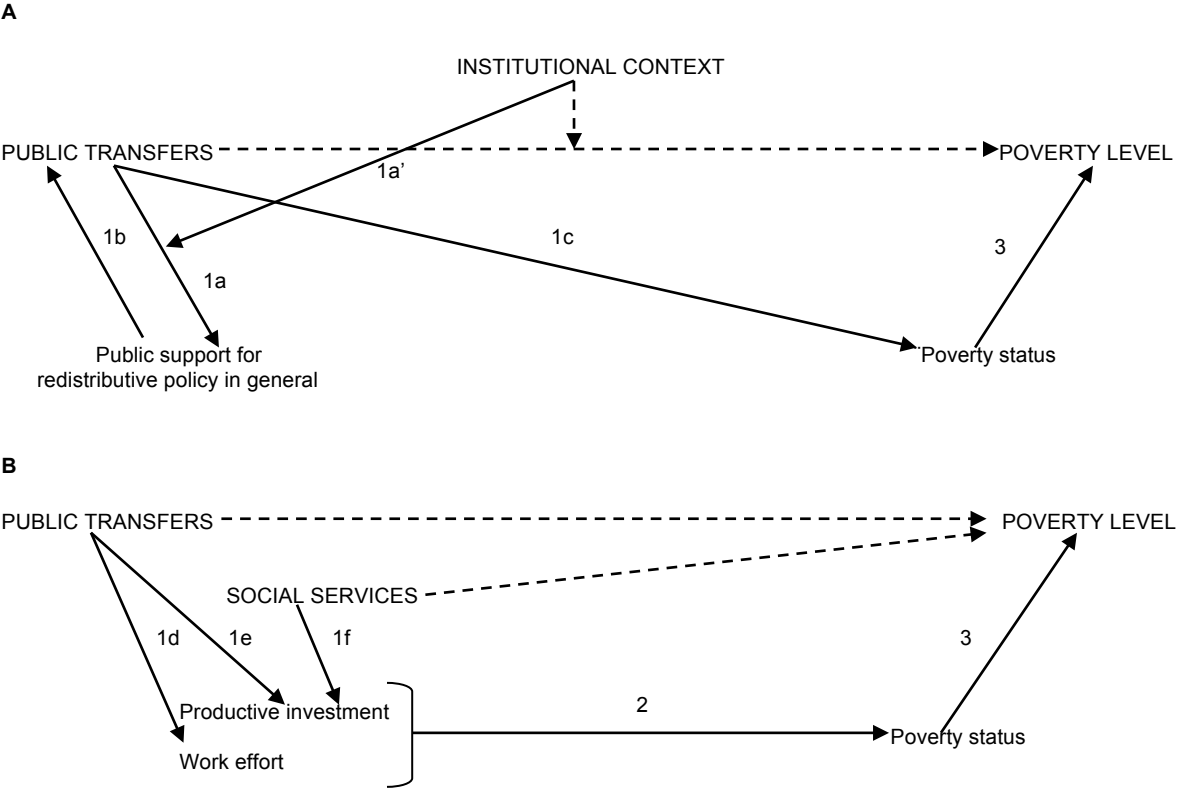
The explanatory models assume two levels. At the macro level, the dotted lines in Figure 1.4 represent the explanandum of the dissertation – that is, the association between social policies and poverty level and the influence of the institutional context on the association between public transfers and the poverty level. Two components of the model are pivotal in explaining these macro-relationships (Section 1.1). First, public transfers and the public provision of social services are multidimensional concepts that have three dimensions: size, targeting, and duration. Each of these dimensions may influence poverty in different ways. Second, in this dissertation, I focus on size and targeting and attempt to explain the influence of both policy dimensions on poverty by indicating three explanatory micro-mechanisms. More specifically, the explanation of the impact of

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<sup>29</sup> The explanatory mechanism associated with the moderating role of institutional context is concerned with the public support of social groups for redistributive policy in general. Scholars, who adopt the institutional approach, stress the term “in general” in the sense of social policy that includes broad categories of citizens. The opposite concept is policy with pronounced targeting, as this includes only specific social groups (Nelson 2004).

<sup>30</sup> Micro-macro models are a standard way of representing micro-macro links in the social sciences. For details, see Coleman (1986).

size and targeting of a social policy on poverty at the macro level entails three steps, as shown in Figure 1.4: how macro-level social policies at one point in time influence the three explanatory mechanisms and how the institutional context moderates the influence of public transfers (arrows with 1); how the mechanisms affect the poverty status (poor or not poor) of individuals (arrow 2); and how a particular level of poverty at the macro-social level at a later time is the macro-outcome of the aggregation of poverty status (arrow 3). The structure of the dissertation reflects different components of these micro-macro models in the sense that each chapter evaluates a particular social policy, mechanism, and step of the models. In the rest of this section, I discuss the components of the models on which the dissertation focuses. Furthermore, by using the models of Figure 1.4 as a general guide, the main hypotheses of the thesis and their justifications are highlighted.<sup>31</sup>



**Figure 1.4.** The basic structure of the theoretical explanations of the dissertation: micro-macro modeling

<sup>31</sup> To make the general micro-macro explanation as simple as possible, models A and B in Figure 1.4 do not show some specific explanatory factors that I suggest in the main arguments of the dissertation. More specifically, Figure 1.4 does not illustrate the role of economic output and income distribution as components of the micro-macro explanations of the policy impact on poverty levels. In Chapter 3, I discuss the role of economic output and income distribution in the micro-macro explanations in detail.

Chapter 2 focuses on step 1 (arrow 1a' in model A). It provides a classification of welfare states in Latin America in the 1990s on the basis of an ideal typology of four welfare states: corporatism, universalism, liberalism, and productivism. In doing so, I characterize the institutional contexts that are used as moderators of the influence of public transfers on micro-explanatory mechanisms in the following chapter. As stated in Section 1.2, the findings of Chapter 2 indicate the existence of five clusters in Latin America (for details of these findings, see Section 1.9): pioneer corporatist welfare states (Argentina, Brazil, Chile, and Uruguay), universalist welfare states (Costa Rica), productivist welfare states (Central American countries plus Ecuador), residual corporatist welfare states (Colombia, Paraguay, and Peru), and mixed welfare states (Bolivia, Honduras, Mexico, and Nicaragua). This classification of welfare models operating in Latin America carries implications for what can be expected from institutional contexts more generally.

Chapter 3 is a second macro study that illustrates the three steps of macro-micro-models. This study evaluates how the size of the redistributive budget that the state allocates to public transfers and social services impact poverty levels and how the institutional contexts shape the poverty impact of public transfers in Latin America in the period from 1980-2000. More particularly, by focusing on the size dimension of policies, this study explains the impact of public transfers and social services on poverty by stressing the macro-to-micro transition in terms of the impact of both social policies on micro-mechanisms—particularly, public support for redistributive policy in general and productive investment—, the micro-relationships between mechanisms and poverty status, and poverty level as a function of poverty status.

In Figure 1.4, model A contains a general explanation of the impact of public transfers on poverty levels. For the institutional context, the dotted line indicates that the impact of the size of the redistributive budget allocated to public transfers on poverty varies across different clusters of welfare states in Latin America. In Chapter 3, I explain the variation of relationships between the size of public transfers in the budget and poverty among different types of welfare states in terms of general public support for redistributive policies among income groups. Arrows 1a and 1b illustrate how this explanatory mechanism works. Following the idea of feedback effects, public transfers influence the public support; this, in turn, affects future policy. Arrow 1a' indicates that the influence

of public transfers on the redistributive preferences of citizens varies among institutional contexts. In specific institutional contexts (see below for details), the welfare state provides cash benefits for the poor and, thus, tends to reduce the likelihood of poverty status among individuals (arrow 1c). Finally, the aggregation procedure of the resulting poverty status should produce a lower poverty level in this specific institutional context. The theoretical reason for this specific micro-to-macro relation relies on the fact that the aggregation procedure that associates poverty level with poverty status (arrow 3) in Chapter 3 is simply the sum of the poverty status of individuals divided by the size of the population. It follows that, if the likelihood of poverty status decreases at the micro level, then the poverty level will also decrease.<sup>32</sup>

More specifically, in Chapter 3, I contend that public transfers should decrease poverty in pioneer corporatist and universalist welfare states because countries with larger welfare states not only have high transfer rates via social insurance programs but also gain legitimacy and public support for increased spending on income-tested transfers, which raises the income of poor households. At the macro level, larger public transfers, then, should decrease the inequality of income distribution, which, in turn, is assumed to reduce poverty levels. This hypothesis is further elaborated with the expectation that, because of different entitlement criteria, the reduction in poverty associated with the public transfers' generosity should be higher in a universalist welfare state than in pioneer corporatist systems. Finally, I argue that the size of public transfers should increase poverty in residual corporatist, productivist, and mixed welfare states because public support for redistributive policies in these welfare systems is low and the targeting of public transfers that predominates among these arrangements implies that the welfare state provides benefits only for middle- and high-income groups. In doing so, public transfers have increased income inequality and, thus, poverty in these Latin American welfare states.

As evident in model A, the institutional theory described above does not consider relationships between the micro variables. In the literature of poverty and social policy these relationships concern additional micro mechanisms: productive investment and work effort. With respect to

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<sup>32</sup> In the literature of poverty, this relationship between poverty status and poverty level involves the "monotonicity" axiom, which specifies that an increase in the income of the poor should lead to a decrease in the measured level of poverty. The headcount ratio index satisfies this axiom when an increase in income pushes the poor out poverty (Foster et al., 1984).

productive investment, I use this explanatory mechanism to explain the impact of the public provision of social services on the poverty level. Model B in Figure 1.4 depicts a general micro-macro explanation of this relationship. Benefits in kind change poverty levels because this social policy (a macro factor) influences productive investment (a micro factor); this then impacts the poverty statuses of individuals (a micro factor), which, in turn, results in a specific poverty level (a macro factor). Using this general model as a guide, I argue in Chapter 3 that the size of the government budget allocated to social services decreases poverty across Latin American countries because the public provision of social services increases the productive investment of income groups, particularly investment in human capital, which, in turn, impels the key to poverty reduction: economic output. In terms of micro-macro modeling, this means that greater human capital, which results from policy investment in social services, stimulates economic output; this then raises demand for workers, which, in turn, increases the earnings of the poor and, in doing so, decreases the likelihood of poverty status. Finally, the aggregation procedure of individual poverty status, illustrated above, should result in a lower poverty level at the macro level.

Chapter 4 evaluates the impact of social assistance transfers on poverty status over time – that is, chronic and transitory poverty—in Chile with household panel data for 2001 and 2006. In this study, I discuss the connections between this type of cash payment and micro-mechanisms related to productive investment and the poor's work effort at the micro level. It follows that Chapter 4 examines a particular targeting criterion: means-testing. Arrows 1d and 1e in model B of Figure 1.4 illustrates these connections in general terms. However, it is important to say that this model does not provide a complete picture of the research design that is used in Chapter 4. This study focuses on micro relations. More specifically, Chapter 4 measures social assistance transfers as a characteristic of individuals. Furthermore, this study does not examine the significance of explanatory mechanisms for poverty at the aggregate level. Rather, Chapter 4 focuses on step 2 (arrow 2 in model B) and evaluates the role of productive investment and work effort on individual propensity to live in chronic and transitory poverty. The findings of the chapter show that social assistance transfers in the Chilean welfare state are characterized by a small payment size assigned to beneficiaries. Moreover, the benefits favored only low-income segments. In such a

context, I argue that social assistance transfers do not affect transitory poverty because the size of the payments is too small to smooth inter-temporal income variability, which defines this type of poverty. By contrast, in spite of the small benefit size, I argue that social assistance transfers have a positive impact on chronic poverty because the design of transfers may increase the incentive for the chronically poor to change their work efforts to qualify for Chilean social assistance benefits. More particularly, cash payments may be associated with incentives for the chronic poor to apply for benefits and to work in the informal sector. Doing so causes chronic poverty.

In empirical research, theoretical explanations typically have assumptions or statements that cannot be tested. To explain this problem, a standard reason involves data restrictions. In such a context, the studies of the dissertation are no exception. Though the explanations of policy impacts on poverty depend on micro-macro models, I provide empirical evidence in the dissertation only for some parts of the models. More particularly, I provide the results of empirical tests for the association of interests—that is, the associations between social policies, institutional contexts, and poverty—but not for associations that involve the explanatory mechanisms. The reason is a lack of data.

However, the lack of an empirical test for the explanatory mechanisms does not invalidate the findings of the dissertation. With respect to the dissertation's aim of estimating the impact of social policies on poverty, we do not need to have any knowledge about mechanisms to know that a causal relationship exists. A classic example in science is helpful in illustrating this point. Aspirin has been known to help with pain since it was discovered by Felix Hoffmann in 1897, but it was not until 1971 that John Vane discovered the mechanism by which the effect of aspirin can be explained. This example shows very well that we can know what is likely to happen if a treatment (aspirin or social policy) is applied without being required to also explain why it is likely to happen. All the same, though, no causal account can be considered complete without an explanatory mechanism being demonstrated or, at the very least, hypothesized (Sekhon 2004: 289).

In this dissertation, I estimate the causal relationships between social policies and poverty and explain such associations on the basis of micro-mechanisms that are suggested only at a theoretical level. Here, "at a theoretical level" means that I explicitly discuss the relevance of

mechanisms to explain the causal relationship under examination and, drawing on this theoretical discussion, I derive empirical implications (hypotheses) regarding the poverty impacts of public benefits. Moreover, I attempt to document the validity of micro-mechanisms by discussing references in the literature and, in doing so, to show their plausibility. In the dissertation's conclusion (Chapter 5), I offer suggestions for further thorough research on explanatory mechanisms.

## **1.7 Research Design**

The studies of the dissertation combine comparative investigations and a micro study of Chilean social assistance. In this section, I discuss the research design of these studies using two basic typologies of research design in the social sciences. The first is factor-centric versus outcome centric research designs; the other one is large-N versus small-N designs. The latter dichotomy refers to the number of observations in the analysis. The dichotomy factor-centric versus outcome centric research is based on another aspect that describes alternative causal inference strategies (Gschwend & Schimmelfennig 2007). A research design is factor-centric if the goal of the study is to estimate the direction and size of a particular causal effect of one or a few independent variables on a dependent variable and to assess their robustness. The research design is outcome-centric if the goal of the study is to explain outcomes by taking into account many explanatory variables and, in doing so, to maximize the explained variance of the dependent variable.

The studies of the dissertation take a factor-centric research design to pursue the main goals of the dissertation. As said above (Section 1.1), one of the main goals of this dissertation is to estimate the impact of two independent variables (public transfers and the public provision of social services) on poverty. To achieve this goal, the association between social policies and poverty is analyzed at two levels. At the macro level, I examine an unbalanced panel of fifteen Latin American countries for the period from 1980-2000 (Chapter 3). In using this type of data set, a moderate sample size ( $n=67$ ) is available for statistical analysis. At the micro level, the analyses are based on a representative and large sample of the Chilean population, which provides panel data for the



years 1996, 2001, and 2006 (Chapter 4). With this data, I examine the impact of social assistance transfers on the poverty status of individuals over time.

Another main goal of the dissertation is to estimate the impact of the institutional context on the association between public transfers and poverty. To achieve this objective, it is first necessary to classify Latin American countries into different institutional structures. A small-N research design is used in which institutional differences that exist between LACs are identified by analyzing seventeen countries with a cluster analysis using data from the 1990s (Chapter 2). The findings of the cluster analysis are used in the policy impact analysis with the panel of Latin American nations.

The focus of these three studies on Latin American countries is appropriate for the examination of the research questions of the dissertation for a number of reasons that I provide in Section 1.1, and I discuss some of them in detail in the rest of this section. First, the selection of Latin American countries is appropriate because they are a new research site that provides the opportunity to evaluate general propositions developed in the setting of advanced capitalist countries. For example, the study of the impact of public transfers and the public provision of social services on poverty at the macro level offers the chance to evaluate general propositions regarding the socioeconomic consequences of institutional arrangements in a new regional context.

At the micro level, Chilean social assistance also constitutes a new research site that is theoretically interesting. In the study of this social assistance system, I evaluate the impact of cash benefits on chronic and transitory poverty. To understand this association, microeconomic theory of the labor market suggests that social assistance transfers should increase chronic poverty because cash benefits decrease the incentive to work (Chapter 4 and Section 1.6). However, most tests of such a hypothesis analyze data regarding welfare beneficiaries in advanced capitalist countries. There have been few attempts to test this hypothesis in other regional settings (Skoufias & Di Maro 2008). To fill in this gap, the Chilean social assistance appears to be an appropriate research environment. This welfare system provides some of the best examples in Latin America to understand the causal mechanism (work effort) underlying the relationship between cash benefits and poverty at the micro level.

More specifically, many skeptical scholars argue that any study of the disincentive effects of welfare programs does not make sense in Latin American countries because social assistance systems are relatively weak and the size of benefits is minimal (Draibe & Riesco 2007). Against such background, however, Chile appears to be a deviant case.<sup>33</sup> This welfare state has experienced a significant development of different social assistance programs since the 1990s (for details, see Chapter 4). This suggests that the study of Chilean social assistance is important, as it is relevant for Chilean policy-makers to evaluate the results of public investment on social assistance and, in doing so, to suggest improvements of such programs (Chapter 4). Furthermore, upon examination of social assistance programs in Chile, this welfare state appears to be relevant for the theory because it provides the opportunity to evaluate the proposition of labor microeconomics in a new context and, in doing so, to examine the generality of the hypothesis regarding the negative impact of benefits on poverty.

With respect to the study of Chilean social assistance, it is, however, important to say that the individuals are the primary domain of inference in this research study. In spite of this delimitation of the micro study's scope, Chapter 4 suggests that the findings of the micro analysis have implications at the country level, particularly for the evaluation of the consequences of the means-testing-based welfare model for poverty during the period of liberal reform in Latin America.

The focus on Latin American countries also is appropriate for methodological reasons. As stated in Section 1.1, to estimate the causal effect of social policies on poverty, the key independent variables, public transfers and the public provision of social services, must vary. Latin American countries, unlike many other developing countries, meet this methodological requirement. This is evident in Figure 1.2. The variation in social policy in this region ranges from pioneer countries with large and old welfare systems, where most of the population has access to social security and social services, to Central American nations with marginal welfare states, where most of the population is not covered by social insurance and assistance schemes. By using this between-country variance, a comparative research study of LACs helps us to identify differences in institutional contexts and social policies that may produce divergent outcomes.

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<sup>33</sup> In recent years, many Latin American countries have invested in social assistance programs. Studies of the disincentive effect of these programs should appear in the upcoming years. See Hanlon et al. (2010).

Another methodological reason relies on the fact that the focus on Latin America helps to control for unknown contextual variables that may substantially shape the effect of social policies on poverty across different regions of the developing world. For example, studies suggest that, whereas Spanish and Portuguese colonialism is negatively associated with long-run development, British colonialism is positively associated with long-run development (Katz et al. 2005). A model that mixes developing countries with different types of colonialism may have serious specification problems if does not control for factors that explain such differences between the types of colonialism because Spanish, Portuguese, and British colonialism may produce particular institutional legacies (e.g. types of redistributive preferences) that, in turn, would generate particular levels of poverty. It follows that it is more reasonable to delineate a population of cases that were subjected to similar styles of colonialism or other contextual characteristics (e.g. religion), such as, Latin American countries.

Methodological reasons are also relevant to justify the decision to concentrate the thesis on Latin America and not on other regions of the world. With respect to advanced capitalist countries, the exclusion of these nations from the analysis is associated with the problem of conceptual stretching. This problem involves the distortion that occurs when a concept does not fit new cases (Collier & Mahon 1993: 845). This problem precludes lumping Latin American and advanced capitalist countries together. The concept of the welfare state used in the dissertation denotes the existence of transfers or social services in a country (Section 1.5). However, for advanced capitalist countries, this definition may be too minimal to capture the different dimensions that public intervention has in these welfare states (Esping-Andersen 1994). Furthermore, unlike in this dissertation, studies of advanced capitalist countries typically analyze relative poverty. It follows that the investigation of a mix of LACs and advanced western democracies will produce stretching problems with respect to the concept of poverty.

A core problem of cross-case comparison is establishing the equivalence of measures used to capture the concepts under analysis (Landman 2000). This problem is particularly relevant for the measurement of poverty. As stated in Section 1.3, the measure of absolute poverty used in the macro studies of the dissertation (2 dollars a day) attempt to capture the well-being of the poor in

middle-income developing countries, as most LACs are (Section 1.3). This means that, by using the same measure of poverty across the cases, I avoid the problem of the equivalence of the poverty measurement. However, the inclusion of other developing regions in the analysis of the dissertation would open to question this cross-case comparison strategy. Studies indicate that poverty has a different magnitude in the developing countries of Africa and Asia. A significant portion of the population in these nations lives in extreme material deprivation. It follows that a measure of poverty that captures well-being not in middle- but in low-income contexts is necessary (UNRISD 2010). In fact, scholars typically use a 1-dollar-a-day measurement of absolute poverty to capture poverty in low-income countries. Thus, the analysis of a mix of Latin American countries and other developing nations may cause a problem with the equivalence of the measures of poverty. To avoid such a problem, the dissertation focuses only on Latin American nations.

The exclusion of African and Asian developing countries from the scope of the dissertation was also determined by pragmatic reasons. In comparative studies, the explanatory power of the concepts can be enhanced if they cover contexts with which the researcher is most familiar (Landman 2000: 35). Following this recommendation, the focus on Latin American countries of the dissertation is commanded by my knowledge of these welfare states. Furthermore, another pragmatic reason regards data availability. The macro studies of the dissertation measure social policies by using government spending (Chapters 2 and 3). However, existing spending data for a large sample of developing countries outside Latin America have not included health and education expenditures, or they cover a limited period of time (Pribble 2008). Contrasting with this situation, Latin America provides rich information about spending. In fact, to my knowledge, the analysis in Chapter 3 is based on one of the largest periods for which information about social insurance and human capital expenditures in the developing world exists (see Chapter 3 for details).

Data availability also justifies the focus of the dissertation on Chilean social assistance and the period under analysis. With respect to the Chilean case, as stated above, tests of the disincentive effects of public programs on work effort are scarce in Latin America. This is somewhat understandable because the test requires longitudinal data, which are expensive and demand a

complex administrative organization.<sup>34</sup> However, Chile appears to be an exception against this background. High-quality cross-sectional and longitudinal data regarding social programs and poverty exist in this welfare state. It follows that Chile provides good conditions to conduct an empirical evaluation of the effect of social assistance transfers on chronic and transitory poverty.

Studies typically do not limit their scopes to spatial domains but also to temporal periods. In this dissertation, the population of Latin American countries is the spatial domain of the primary inferences of the dissertation. The temporal domain is the period from 1980 to 2000 in the macro studies and the period from 2001 to 2006 in the micro study of Chilean social assistance. The selection of these periods is commanded by data availability. A lack of data precludes the analysis of other periods.

At first glance, the period under analysis in the macro studies (1980-2000) of the dissertation suggests that the findings are not relevant for contemporary poverty levels in Latin America, particularly when considering the liberal reforms of Latin American welfare states in the last three decades. However, this dissertation examines the moderator role of institutional contexts, and scholars suggest that there is likely to be a considerable time-lag between important institutional changes in welfare systems and their observable socioeconomic outcomes (Pedersen 1999). For example, the effect of changes in pension systems on income distribution takes a generation to mature. The same pattern is expected for the reform of social services, as the return on investment for human capital is expected by definition in the future (Chapter 3). It follows that the current poverty levels reflect institutional changes that occurred in the past. With respect to the relevance of the dissertation's findings, adding information from the 2000s should not affect the analysis of institutional contexts, as it will take a lifetime, particularly with respect to the pension system, to clearly perceive the socioeconomic consequences of the institutional changes of the 1990s and the 2000s. Overall, by examining data for the last three decades, the studies of the dissertation provide a picture of the relationship between social policy and poverty in the initial period of liberal reforms and, in doing so, they may supply useful insights into the current debate about the welfare state and socioeconomic inequality in Latin America.

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<sup>34</sup> However, it is important to say that the number of developing countries undertaking panel household surveys in recent years is increasing. See Baulch (2011).

## 1.8 Contributions

The purpose of all research is scientific progress. However, if social science is to matter to policymakers or citizens, researchers also must be clear about the social contribution of their research. Scholars have to demonstrate how the findings of their studies can solve social problems (Gschwend & Schimmelfennig 2007). Accordingly, the findings of my dissertation can be commended for their scientific and social contributions. From a social standpoint, the findings of this study are important because Latin America's high level of poverty is one of the deepest and most persistent social problems in the region (Section 1.1), and therefore, estimating and explaining the impacts of social policies on poverty is of critical importance for scholars, policy-makers, and citizens. In fact, following one of the principles of the philosopher John Rawls (1999), it can be argued that the study of intersections between social policy and poverty may provide a powerful diagnosis of the success of the entire system of social protection. In the conclusions of this dissertation (Chapter 5), I discuss a set of concrete policy implications that are suggested by the findings of this thesis.

At the scientific level, current approaches to poverty focus on the measurement of "things" and often ignore the causes of poverty (UNRISD 2010: 2). This situation is particularly true for policy studies, which do not sufficiently take into account the different ways in which social policies produce poverty. To fill this gap, the general contribution of this dissertation is to provide empirical tests of a set of hypotheses on public transfers and the provision of social services as causes of poverty (Section 1.6). In doing so, this study improves the scientific understanding of the association between social policies and poverty in developing countries such as LACs.

I also would like to stress three particularly important contributions in this introduction.<sup>35</sup> First, studies of social policy and poverty in Latin American countries and other developing countries are dominated by evaluations of specific government programs (Section 1.1). However, if we aim to unravel the redistributive mechanism of the welfare state, it is of interest to know not only the impact of specific programs but also the institutional structures and how these structures produce poverty. In this vein, following the growing interest in the institutional structure of social policies in advanced

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<sup>35</sup> I point out more specific and technical contributions in the following chapters.

democracies, this dissertation fills the gap of the scarce institutional analysis of social policy in developing countries by assessing how poverty and other socioeconomic outcomes are related to institutional structures (types of welfare states).

Second, most studies in Latin America analyze direct and static impacts of social policies on poverty. The problem with this corpus of research is that it may hide indirect dynamic effects of government programs—specifically the possibility that such programs reduce work effort and productive investment, and therefore, hurt the poor (Kenworthy 1999: 1123). As stated above (Section 1.6), I examine in this dissertation these kinds of dynamic and indirect effects. While, at the macro level, I analyze the long-term impacts of social services policy on poverty levels, at the micro level, this study provides evidence of the poor’s behavioral responses to social assistance programs.

Third, while recent studies of poverty in Latin America are dominated by the hegemonic consideration of economic growth as a key causal factor of deprivation, the study of social policy and institutional contexts allows me to add nuance to this view (Section 1.1). The findings indicate not only the relevance of both factors to poverty reduction but also suggest that the universal-citizenship approach of welfare provision is the most successful policy intervention in reducing poverty. This result verifies the evidence for advanced nations and suggests that the socioeconomic consequences of certain institutional contexts do not depend on the geographic and historical characteristics of a single country.

## **1.9 Organization of the Dissertation**

The remainder of this dissertation is composed of four chapters. As stated above (Section 1.6), the position of each chapter in the dissertation plan is organized on the basis of the micro-macro models. In doing so, the chapters are related through the dissertation’s organization, which goes from the characterization of institutional contexts (Chapter 2) to the study of impacts of policy on poverty at the macro level (Chapter 3) to the analysis of such impacts at the micro level (Chapter 4). The dissertation presents general conclusions in Chapter 5. It is important to note, however, that each of the studies that comprise the dissertation contributes to answering the leading questions of

the dissertation through particular research questions, so they also can be taken as independent studies.

The focus of Chapter 2 is on the macro-to-micro transition (step 1). To understand the macro-micro link, it is necessary to determine the characteristics of the institutional context (types of welfare state) that may shape the beliefs, desires, and opportunities of the actors and, in doing so, moderate the impact of social policies on poverty. Policy analysis uses classifications of countries into different social policy clusters or welfare regimes to identify such characteristics (see Arts & Gelissen 2010). These classifications in the comparative analysis of policy are relevant, as they help us to understand why there are differences between welfare states and how social structure affects differences (Korpi 2000).

In such a context, Chapter 2 develops a classification of Latin American welfare states. This chapter attempts to answer two research questions and, in doing so, to contribute to the comparative study of social policy in Latin America. First, this chapter asks whether there are different policy orientations in Latin American countries and whether these policy orientations can be summarized in a typology of welfare states. Second, to illustrate how types matter or, in other words, to validate the typology, Chapter 2 asks whether the types of welfare states found in the analysis are connected with a set of different social-economic outcomes. In answering both research questions, I suggest a typology of ideal welfare states (Section 1.5) and determine the welfare state types into which Latin American countries can be categorized using a “hierarchical-agglomerative” cluster analysis with measures of the typology’s dimensions in a sample of seventeen Latin American countries for the period of the 1990s. Finally, I present empirical evidence of the connections between the findings of the cluster analysis and socio-economic outcomes.

The results of Chapter 2 suggest that there is some support for the ideal typology. However, there are also some countries that fit more poorly than others. More particularly, the social policy orientations of Latin American countries with pioneer welfare systems, which were designed between 1900 and 1925, approximate the ideal corporatist model (Argentina, Brazil, Chile, and Uruguay), involving program segmentation and significant policy intervention in the economy.



Because of the comprehensive public coverage of pensions and healthcare, Costa Rica appears to be a unique instance of the universal welfare state in Latin America. Panama also presents significant program universalism. However, because of the particular historical characteristics of this country, the classification of Panama as a universal welfare state is open to question. The Central American countries (Dominican Republic, El Salvador, and Guatemala) plus Ecuador approximate productivist policy orientations.

The typology represents models that are ideal types. It follows that there are also bound to be ambiguous cases among real welfare states. In this vein, the results of the cluster analysis indicate the existence of a fourth cluster (Colombia, Paraguay, and Peru), which is characterized by program segmentation but with low priority of social insurance into the government budget, which indicates a marginal welfare state. Contrasting with this last characteristic, the corporatist ideal type assumes a focus of the welfare state on social insurance. I interpret this ambiguous combination of status segmentation with marginal government intervention as a residual version of the corporatist model. A fifth cluster appears to be a mix of corporatism and productivism (Bolivia, Honduras, Mexico, and Nicaragua). Finally, the results also show the coexistence of liberalism with other type of welfare provision. This finding indicates that a liberal cluster, which is quite distinct from all other groups of nations, does not exist in Latin America. I suggest that this coexistence and the presence of the hybrid welfare arrangement in Latin America indicate regime-shifting in the region. Furthermore, I explore the connections between the five identified clusters of welfare states and a set of social economic outcomes. The results indicate that corporatist and universal welfare states seem to progressively reduce poverty, child mortality, and informal work.

Chapter 3 focuses on one outcome of social policy (reducing poverty) and intends to answer the leading questions of the dissertation by examining the impact of the size of the redistributive budget allocated to public transfers and social services on poverty levels in Latin America. The research questions of this study seek to understand how the size of the budget allocated to public transfers and the public provision of social services contribute to poverty reduction and how the institutional context shapes the impact of the public transfers' size on poverty. More specifically, by using the findings of the description of institutional contexts in Chapter 2, I illustrate the three steps

of the micro-macro models (Section 1.6) and derive hypotheses based on the explanatory roles of institutional contexts and micro mechanisms—particularly public support for redistributive policy in general and productive investment. These hypotheses are tested in a sample of Latin American countries

In Chapter 3, using data from 1980-2000, I conduct a regression analysis with an unbalanced panel of fifteen Latin American countries. The findings suggest that public transfers reduce poverty only in corporatist and universal Latin American welfare states, having a stronger impact in the universal model. In contrast with both institutional contexts, the payment of cash benefits increases poverty levels in productivist, residual corporatist, and mixed welfare arrangements. The generosity of redistributive budgets allocated to social services does not have a statistically significant impact on poverty levels.

Chapter 4 takes a different angle, looking at the impact of social policy on absolute poverty status over time—that is, chronic and transitory poverty—at the micro level. This study contributes by reaching the primary goal of the dissertation: to estimate and explain the impact of public transfers and the public provision of social services on poverty. It does so by analyzing indirect effects of means-testing benefits on poverty that operate through productive investment and work effort in Chile. As stated in Section 1.6, it follows that Chapter 4 focuses on step 2 of the micro-macro explanations. In other words, this study discusses how the poor assimilate the impact of social assistance transfers on both actions and, in doing so, how this type of public transfer affects poverty status over time.

In concrete terms, Chapter 4 asks the following research question: How do social assistance transfers contribute to reducing chronic and transitory poverty? Regression analysis of Chilean household panel data for the years 2001 and 2006 suggest that social assistance transfers increase absolute chronic and transitory poverty in Chile, with a stronger impact in the case of the chronically poor. I explain such effects in terms of the effect of social assistance transfers on the work efforts of beneficiaries.

Finally, Chapter 5 reviews the study's findings and arguments while reconsidering its theoretical and social relevance. It stresses the study's contribution to a better understanding of the

complex influences of particular dimensions of social policy on the productive investment and work efforts of the poor in different institutional contexts. I also highlight policy implications and potential areas for future research.

## Chapter 2

# Institutional Contexts in Latin America: Findings of Cluster Analysis

### 2.1 Introduction

A grand tradition in welfare state research is aimed at clustering nations in terms of distinctive social policy profiles. In the setting of advanced industrialized democracies, one of the most central and most-cited recent expressions of this tradition is Esping-Andersen's (1990) typology of social democratic, conservative, and liberal "worlds" of welfare capitalism. Much discussion has focused on whether there are more than these three clusters and whether particular welfare states have been correctly classified. Less attention has been paid to the questions of why there are differences between welfare states and what effects can be expected because of these differences. These gaps in the literature are a critical problem for "the welfare modeling business" as the relevance of a typology depends on the answers to these questions. As Korpi (2000) points out, typologies in the comparative analysis of policy are relevant not because they reduce the complexity into a limited number of constructs but because they help us understand the causes of the differences among existing welfare systems and their connections to socioeconomic outcomes.

In Latin America, recent efforts to identify and characterize social policy orientations have been stimulated by the Esping-Andersen typology,<sup>36</sup> yet there is little consensus among the scholars about the number of clusters in this region (Barrientos 2009, Filgueira 1998, Martínez Franzoni 2008, Schneider & Soskice 2009). Furthermore, although analysis of causes and consequences of social policy clusters is crucial to an understanding of the relevance of the typologies, most studies

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<sup>36</sup> "Social policy orientation" is defined in this dissertation as a general tendency of social policy towards a certain type of welfare state.

about social policy arrangements have focused only on the description of cluster's characteristics. Only a few authors have primarily assessed causal factors associated with the emergence of social policy clusters and the connections of these arrangements with particular socioeconomic outcomes in Latin America (Martínez Franzoni 2008, Pribble 2008, Rudra 2008, Segura-Ubiergo 2007). Against such a background, this study attempts to fill some of these gaps in the comparative research of Latin American social policy. This study focuses on two issues. First, the study presents an ideal typology of welfare states and classifies social policy orientations in Latin American countries into the types that compose the typology. Second, it also provides an evaluation of the connections of the types of welfare states operating in Latin America with a set of socioeconomic outcomes. The leading questions are whether there are different policy orientations in Latin American countries and whether these policy orientations can be summarized in an ideal typology of welfare states. Moreover, to illustrate how the types matters—or, in other words, to validate the typology—this study also asks whether the types of welfare states operating in Latin America are connected with a set of specific socioeconomic outcomes.

In this study, the term *welfare state* designates the sum total of a nation's social policies that seek to promote the security and equality of citizens to foster the social integration of modern societies (Alber 1988, Flora & Heidenheimer 1995). Drawing on this definition, I suggest an ideal typology of welfare states in which social policy orientations of Latin American countries can be classified. This typology consists of three dimensions. The first dimension includes the instruments of the welfare state. These are social assistance transfers, social insurance transfers, and the public provision of social services. The second dimension is the public-private mix; that is, the way in which welfare production is divided among state, market, and family. The third dimension denotes the labor relations, comprising modes of bargaining among collective actors.

I classify the social policy orientations of seventeen Latin American countries into the ideal typology using the technique of hierarchical-agglomerative cluster analysis with measures of the dimensions that compose the typology for the 1990s. Lack of data for these measures precluded the analysis of additional decades. Furthermore, I discuss in detail the historical development of social policy in some countries that represent empirical realizations of ideal types in Latin America.

The findings of the chapter suggest considerable support for the typology and demonstrate the relevance of the suggested typology by showing systematic connections of clusters operating in Latin America with socioeconomic outcomes—in particular, poverty and informal labor.<sup>37</sup> The analysis carries substantial implications for fruitfulness of an institutional approach of social policy in Latin America.

This study's contribution to the scholarly discourse is threefold. First, in general terms, the central components of a typology regard the overarching concept that is captured by typologies (e.g., welfare state) and dimensions around which typologies are organized (Collier et al. 2008). In the discussion of the institutional context in Latin America, however, most existing classifications of LACs do not explicitly discuss the central components of typologies. In such a context, this study contributes by explicitly providing the central components of a welfare state typology in which Latin American countries can be characterized as belonging and, in doing so, provide clear conceptual grounds for the classification that I propose herein. Second, studies do not use only social policy indicators to measure policy profiles in Latin America; they also use outcome variables (Martínez Franzoni 2008, Pribble 2008, Rudra 2008). These studies, however, present the following methodological problem: in addition to the social policies, other factors might determine outcomes. This suggests that the validity of outcomes as indicators of social policy orientations is open to doubt. To avoid this problem, I measure the dimensions of the typology by using only social policy variables. Third, in the 1990s and early 2000s, the study of socioeconomic outcomes in Latin America was dominated by a focus on economic growth as the key causal factor. As noted above, there is scarce evidence about connections among institutional models and socioeconomic outcomes in Latin America (Huber & Stephens 2010). This study fills this gap and, in doing so, stresses the importance of institutional factors in explaining these outcomes.

The remainder of this chapter is organized as follows. The first section discusses the main arguments and gaps of studies about welfare arrangements in Latin American nations and other less-developed countries. The second section derives an ideal typology of welfare states and discusses some countries as empirical realizations of the ideal types in Latin America. On the

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<sup>37</sup> In the rest of the study, the term “type” refers to the ideal-theoretical construct and the term “cluster” denotes the group that is a result of the empirical analysis of the measures of the typology's dimensions.

grounds of this classification, I conduct an empirical analysis. In this vein, the third section details the data and methods used in this study. The fourth section shows the results of the empirical analysis regarding classification of welfare states in Latin America and the evaluation of its effectiveness for outcomes associated with equality and security. Finally, I conclude by going back to a general theoretical discussion and I provide some suggestions for future research.

## **2.2 Review of Literature**

### **2.2.1 Informality, Conservative Policy Profile and Liberal Reforms as Distinctive Features of Welfare States in Latin America**

Scholars argue that Latin American welfare states share a set of common elements that distinguish the region from the rest of the world. One of these is the high percentage of workers engaged in informal labor markets. Most self-employed people and those working in the informal sector either remain formally excluded from the social insurance system by lack of legal coverage or are excluded *de facto* by their lack of effective contributions to the social security system (Huber 1996). Because of this characteristic, when speaking about Latin American welfare states, some authors use terms such as “truncated welfare states” (Lindert et al. 2006) or “informal welfare regimes” (Gough et al. 2004).

Another common element is the conservative profile of Latin American welfare states in the period leading up to the 1980s. The conservative profile seems to rely on the fact that Latin American welfare states have taken the shape of the male breadwinner model of family that is common in southern European countries and have protected this model by introducing stratified and corporatist social insurance schemes and job protection (Barrientos 2004). In corporatist Latin American welfare states, pension systems were organized in terms of pay-as-you-go (PAYG) schemes. A distinctive characteristic of these schemes is that they are administrated by the state, and the financing regards taxes and contributions. Pensions of the beneficiaries are paid by their former employers, by contributions from those still in employment or from general taxation (Black et al. 2009).

In the 1980s, Latin America suffered the most severe economic crisis since the Depression in the 1920s. Many countries of the region underwent drastic reductions of their export earnings, leaving the Latin American economies with chronic deficits of balance of payments and strong inflationary pressures. The problems of payment's balance affected the welfare states, which had serious problems of financial stability, particularly in social insurance (Barrientos 1998).

In this context of economic crisis and problems of financial solvency, the need of social policy reforms emerged in Latin America. The reforms were designed by a hegemonic neoliberal view, emphasizing the importance of a business-friendly environment and openness to globalization through the privatization of state enterprises and deregulation of trade, financial flows, and prices (Huber 1996, Rodrik 2006). In regard to Latin American welfare states, several Latin American countries shifted their social policy profiles in the late 1980s and 1990s to a more liberal welfare arrangement. The domain per excellence in which the liberal spirit attempted to produce a shift was the pension systems. In many Latin American countries, PAYG schemes were replaced by individual savings plans offered by private firms (Calvo et al. 2010). Other central aspects of social policy liberalization were decentralization of social services, deregulation of the labor market, increases in private health insurance, and focalization of social assistance programs on low-income groups (Del Valle 2010). Barrientos (2009) argues that such changes in social policy in Latin America provide a rare example of shift in welfare regimes from a "conservative/informal" profile to a "liberal/informal" arrangement. This shift in social policy profiles in Latin America differentiates this region from more developed countries, where welfare regimes show a strong path dependency (Castles & Obinger 2008, Pierson 1994).

Martínez Franzoni (2008) points out that one limitation of studies that focus on informality is an overgeneralization that positions all Latin American countries together under one single welfare regime. However, the evidence shows a quite heterogeneous region, especially regarding social expenditures. In this sense, it is hardly surprising that pioneer countries show lower rates of informality (Gasparini & Tornarolli 2007). Regarding liberal reforms, Martines Franzoni and Voorend (2009) argue that historical paths of welfare states filter such pressures of policy reform. As a result, different countries react in different ways to liberal stimuli. In fact, Filgueira, Errandonea, and



Katzman (2008) show that corporatist benefits—which emerged between the early 1900s and 1925 in some LACs—have remained among Latin American welfare systems, even after the liberal wave in the 1980s and 1990s.<sup>38</sup> In this sense, the notion of a change of policy profile in Latin American welfare states would be an overgeneralization.

### **2.2.2 Different Welfare Arrangements in Latin American and in Other Developing Regions**

In the 1990s and the 2000s, the cross-national welfare state research in developed countries underlined the importance of institutional variations for social policy. One of the most-cited studies of institutional variation is Esping-Andersen's *Three Worlds of Welfare Capitalism* (1990). This author deduces his famous typology of welfare regimes using three dimensions: (1) the degree of decommodification (i.e., the extension of social rights independent of market mechanisms); (2) the system of stratification (i.e., inequality of social status); and (3) the public-private mix, that is, the way in which welfare is produced and allocated between state, market, and family. Clustering of West European and North American countries along the three dimensions was clear on several indicators. Esping-Andersen identified three welfare regimes: the liberal model, the conservative model, and the social democratic model. In the latter, the state is the main provider of welfare, manifesting high levels of decommodification and guaranteeing universal rights to all citizens. The liberal model limits the role of the state in intervening in the market to supply basic social provisions for the needy. The conservative model manifests a moderate degree of decommodification, and the state has a commitment to subsidiarity and the preservation of traditional family structures.

In the setting of Latin America—despite the common elements across the political economies—during the 2000s, there emerged a set of studies that suggests that LACs and developing nations of other regions are distinctively clustered in terms of logically coherent policy profiles. These studies typically were built on the theory of welfare regimes developed by Esping-Andersen (1990; 1999). However, these scholars have developed classifications of welfare states in developing countries based on particular dimensions of Esping-Andersen's typology. Most of these studies focus exclusively on the decommodification processes (Pribble 2008, Rudra 2008,

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<sup>38</sup> In Uruguay, the first pension law is dated in 1829.

Wibbels & Ahlquist 2007). Only a couple of studies consider the effects of stratification and the public-private mix (Gough et al. 2004, Martínez Franzoni 2008).

I distinguish two assumptions that inspire the studies of welfare arrangements in developing countries. The first assumption builds upon theoretical principles of the institutionalist approach (Hall & Taylor 1996). One of these concerns the idea of institutional complementarities. Following Hall and Soskice (2001: 17), there is complementarity between two institutions “if the presence (or efficiency) of one increases the returns from (or efficiency of) the other.” The concept of institutional complementarities leads us to the first assumption, which is that welfare regimes in developing countries are institutional complements of particular models of economic development.

A second assumption is that a welfare regime is the result of an aggregation of the preferences for particular social policies of actors. Although it is not clear from the studies how the aggregation process operates in reality, this assumption reveals the importance of distinguishing particular actors. The Marxist political economy puts the focus on the relationship between capital and labor. Studies of welfare regimes in developing countries include other actors. Wibbels and Ahlquist (2007) argue that the bargaining among capitalists, workers, and landowners defined development strategies in developing countries, thereby shaping the preferences of the agents with regard to social insurance in the 1960s and the 1970s. The resulting social spending regime fostered the emergence of a labor force that complemented the development strategy. Filgueira (1998) argues that the state is also a relevant agent in understanding welfare regimes in Latin America. During the post-World War II period, the state had an active role in the emergence of development strategies in this region through the provision of incentives for the development of the national industrial sector and public employment.

Given the two assumptions, it is not surprising that studies provide similar characterizations of welfare regimes in developing countries. Scholars provide such characterizations in terms of ideal types. In this vein, Wibbels and Ahlquist (2007) distinguish two models of economic development in the developing world. The first is the import substitution development strategy (ISI). Under this type of economic production, the state has a central role in the economy, and it stimulates domestic markets and national firms. Scholars argue that the welfare regime that interacts with ISI is a fusion

of Esping-Andersen's categories of corporatist and social democratic arrangements (Rudra 2008). By stimulating decommodification, in this type of welfare arrangement, the leaders promote social benefits as a strategy to legitimize the authority of state and to create social divisions among social groups. Countries with pioneer social security schemes in LACs approximate this ideal type (Argentina, Brazil, Chile, Cuba, and Uruguay). These schemes were granted between the early 1900s and 1925 to key occupational sectors (Mesa-Lago 1978). Huber (1996) argues that the welfare systems in most of these nations were created and reproduced along corporatist lines between the early 1900s and the 1970s. Later, gradual or radical management of economic crises in the 1980s led these nations on one of two roads: either a state-oriented strategy (Costa Rica and Uruguay) or a market-oriented strategy (Argentina and Chile).

The second development strategy focuses on export-oriented policies and international competitiveness. As a complement to this strategy, the welfare regime that interacts with this system of production prioritizes commodification of the labor force through public investment in human capital. Because of the trust in markets, this welfare regime shares elements of the liberal model. Following Rudra (2008), the state-market relationship is complementary rather than adversarial in export-oriented models. The goal of the social policy is to stimulate the commodification without providing disincentives for the business of private actors. Empirical cases that approximate this ideal-type are newly industrializing East Asian countries.

Empirical analyses suggest that welfare states in developing countries are grouped in two regimes that are consistent with the two welfare regimes outlined above (Rudra 2008, Wibbels & Ahlquist 2007). Results also indicate the presence of a third cluster that represents a mix between the ideal types of inwardly oriented and externally oriented development strategies, although most political economies in this third cluster follows partial variants of domestic markets strategies. In the setting of Latin America, empirical studies confirm the theoretical expectation that pioneer countries form a cluster that approximates the conservative-corporatist ideal type; at least they have until recent reforms (Huber & Bogliaccini 2010, Segura-Ubiergo 2007). However, there is little consensus about how many clusters exist in the rest of Latin American nations (Martínez Franzoni 2008, Pribble 2008).

### **2.2.3 Outcome Effects of Welfare Arrangements in Latin America**

One of the central claims of welfare regime theory is that a welfare arrangement refers not only to social policies but also to the effects of a welfare mix on the social structure (Esping-Andersen 1990, p. 2). In fact, the findings of studies suggest the superior capacity of Scandinavian welfare states and, in a lower extension, conservative-corporatist Central European nations to reduce inequality and poverty in advanced OECD countries (Esping-Andersen 1994, Korpi 1989, Korpi & Palme 1998). The distinctiveness of the Scandinavian institutional models regard, first, the fusion of generosity with universalism and, second, a pooling of the risks and resources of all citizens. Because of this characteristic, Scandinavian welfare states generate large redistributive budgets. Corporatist welfare systems also reduce poverty and inequality by generating large budgets but in a different context. These welfare states segment different occupational categories by providing earnings-related benefits.

In the setting of Latin America, although a large number of studies have analyzed the effect of specific social policies on socioeconomic outcomes (e.g. Lindert et al. 2006, Perry et al. 2006), impact evaluation of welfare arrangements is scarce in the literature. Studies analyze simple correlations and do not consider explanatory mechanisms to explain these connections among welfare models and outcomes (Marcel & Rivera 2008, Martínez Franzoni 2008). To my knowledge, only Rudra (2008) offers a multivariate assessment of the impact of institutional arrangements on areas of policy effectiveness in a large sample of developing countries. The findings of this study indicate that decommodification is not associated with poverty in these countries.

In such a context, despite the analysis of simple statistical correlations, Huber and Stephens' (2010) study stands out above the rest since they analyze the connections of different types of welfare states with a large set of socioeconomic outcomes in Latin America over a lengthy period, 1970–2001. By developing the concept of social policy regime to denote the totality of social programs, the findings of this study suggest that Argentina, Chile, Costa Rica, and Uruguay have clearly developed the most effective social policy regimes. They are consistently in the top range in both outcomes and welfare effort indicators. These countries have the lowest poverty rates, the

lowest Gini indexes, the highest average years of education, and the highest literacy rates among the adult populations in Latin America.

To sum up this literature review, a set of studies suggests that Latin American welfare states cluster in a limited number of social policy profiles, but the size of the number is itself not clear. Moreover, studies typically derive typologies only from the decommodification dimension; few consider stratification effects, the public-private mix, or the impact of welfare arrangements on socioeconomic outcomes. In the following sections I attempt to fill some of these gaps. Specifically, I develop an ideal typology of welfare states, considering the public-private mix as a dimension of this. Furthermore, I examine the connections of socioeconomic outcomes with the empirical clusters, which represent in Latin America the ideal types of welfare states. I leave the study of the kind of stratification system that is promoted by social policy for future research.

### **2.3 Typology of Welfare States**

In this section, I provide a typology of ideal welfare states. In broad terms, a typology has three central components (Collier et al. 2008): (1) the overarching concept that is captured by the typology, (2) the dimensions around which the typology is organized, and (3) the types that result from combinations of the dimensions. The overarching concept of my typology is “welfare state,” which can be interpreted in sociological terms as a response to two developmental problems arising in the course of modernization (Flora & Heidenheimer 1995). The first problem is the demand for socioeconomic security in the context of increasing division of labor and the weakening of family as welfare provider. The second regards the demand for equality related to democratic societies. Equality might be interpreted either as the provision of equal opportunities or as an equalization in the disposal of resources.

On the basis of this sociological perspective, in this study, *welfare state* is defined as the sum total of a nation’s social policy repertoire, consisting of political interventions in the functioning of the economy and the societal distribution of life chances that seeks to promote the security and equality of citizens in order to foster the social integration of modern societies (Alber 1988: 456). Security and equality are usually accomplished through the direct payment of cash benefits and the direct

provision of social services (Castles 1998, Flora & Heidenheimer 1995).<sup>39</sup> According to this policy definition, if a state provides cash benefits and social services to the persons, it is defined as a welfare state.<sup>40</sup>

The dimensions of my typology of a welfare state are threefold. The first dimension regards the instruments by which the welfare state pursues its goals. On the basis of the definition of welfare state, I distinguish between social assistance transfers, social insurance transfers, and social services or benefits in kind (Chapter 1). Social assistance benefits are payments in cash from the government to private actors based on non-contributory funding. The eligibility to receive social assistance transfers is not conditional on the payment of contributions by the protected persons or by other parties on their behalf. There may, however, be other eligibility criteria, such as a means test, resulting in flat-rate benefits to those who fall below the poverty line. Social insurance transfers are also payments in cash, but they involve contributory funding and eligibility is based on a combination of contributions and belongingness to specific occupational categories; thus, it excludes informal workers. This instrument typically includes provision for retirement pensions, disability insurance, survivor benefits, and unemployment insurance.<sup>41</sup> According to Lindert and colleagues (2006), the reason for classifying these benefits as public transfers in LACs is that many pension systems in this region incur significant budget deficits and thus are financed by the state. In other words, social insurance transfers include subsidies from the government to beneficiaries. The third basic instrument of the welfare state is the direct provision of services in kind. In contemporaneous welfare states, four services predominate: education, health care, social care and advisory services, and housing. Social services, especially education and health care, are often granted as citizenship rights and thus provide better coverage than transfers for all groups of society (Pribble et al. 2009).

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<sup>39</sup> Flora and Heidenheimer (1995) identify a third instrument of welfare state. This is the indirect extension of benefits through tax deductions and credits. Price controls and credits have constituted important indirect means of social protection in Latin America. However, studies of these instruments are rare in Latin America (Huber & Bogliaccini, 2010).

<sup>40</sup> In addition to policy definitions, I find other definitions of welfare state in the literature (Chapter 1). For example, Esping-Andersen contends that social citizenship constitutes the core idea of a welfare state. However, as Esping-Andersen (1994) recognizes himself, the concept of social citizenship can hardly be stretched beyond OECD countries. This certainly applies for Latin America, where large segments of the population cannot satisfy basic human needs. However, regarding social policy definitions, even the poorest Third World nation has some form of social policy. Thus, in comparison with social citizenship conceptions of the welfare state, policy definitions are more appropriate to understanding welfare states in developing countries since they avoid the conceptual stretching problem of the social citizenship definition.

<sup>41</sup> The dominant criterion of eligibility for unemployment insurance is based on voluntary contributions that give membership in the respective schemes. As Korpi and Palme (1998) point out, it has never worked in the area of pension.

The public-private mix is the second dimension of the typology; that is, the way in which welfare production is divided among state, market, and family (see Section 2.2). Following Esping-Andersen (1999: 34), studying only the state as the provider of welfare leaves a huge “welfare residual” unaccounted for. To remedy this, during the 1980s, several studies emerged that examined the interplay of public and private provisions (e.g. Rein & Rainwater 1986). In this study, I distinguish the theoretical types of welfare states by identifying which of the three sources of welfare is the main provider of social support in each type. By doing so, my typology does not presume that the state is the main source of welfare.

Studies of welfare regimes in developing countries indicate that a particular welfare arrangement refers not only to a specific public-private mix but also it is the result of decisions of collective actors (Section 2.2). Furthermore, according to Korpi and Palme (1998), we can expect that public-private mixes are of significance for the formation of interests and preferences of actors. These feedback effects between the public-private mix and relations of collective actors suggest that this last factor should be included as a third dimension of my typology. By building on an institutionalist approach (Ebbinghaus 2006), I include the relationships of collective actors in the form of labor relations between the state, organized labor, and associations of employers.

Labor relations refer to modes of interest intermediation that shape the relations among collective actors (Collier 1995). Following Crouch (1993), I distinguish two modes of interest intermediation: pluralist bargaining and corporatism.<sup>42</sup> In pluralist bargaining, the state upholds the principle of non-intervention. Under such mode of interest intermediation there is mutual acceptance among collective actors. This takes the form of agreements between diverse and competing private organizations. However, these agreements suffer from short-termism and particularistic interest representation. A second mode of interest intermediation is corporatism, which means that the “state shares its public-order functions with organized business and labor” (Traxler 1999: 56). Under corporatist relations, there is also mutual recognition but it is among

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<sup>42</sup> To understand labor relations in developed democracies, Crouch (1993) also identifies a third mode of collective intermediation, which he calls “contentious relations.” This mode is characterized by an antagonistic conflict of interest between labor and capital along with active state interference on terms of employment and working conditions. Although the combination of contentious relations and different welfare sources is theoretically plausible, there are no real welfare states—at least not in democratic Western countries—that result from this mode of interest intermediation. For example, France is typically quoted as an empirical case of contentious labor relations. However, this nation has a strong corporatist welfare system. See Ebbinghaus (2006).

centralized organizations of interest. Conflicts of interest are handled as positive-sum agreements that are based on long-term common interests. State interference is active but usually in consultation with organized labor and capital.

Table 2.1 illustrates the ideal types of welfare states that have been constructed on the basis of these three dimensions. They have been constructed by idealizing distinctive empirical realities in developed and developing nations. Following in this section, I discuss each one of these ideal types in detail and present some real Latin American welfare state as examples of ideal types. I selected these countries because there is some consensus in the literature about their policy profiles. Furthermore, the information about the development of social policy for the selected real Latin American welfare states is richer and more accurate than for other LACs.

**Table 2.1.** Ideal types of welfare states

	Liberal	Corporatist	Universalist	Productivist
Role of:				
Family Market State	Marginal Central Marginal	Central Marginal Subsidiary	Marginal Marginal Central	Marginal Central Central
Labor relation	Pluralist	Corporatist	Corporatist	Corporatist
Type of benefits	Social assistance	Social insurance	Social services	Social services
Modal examples	Chile	Argentina	Costa Rica	El Salvador

*The liberal welfare state*

The first ideal type is the liberal welfare state, where the market dominates the provision of welfare. In this regime, the public provision of welfare is marginal and takes the form of means-tested social assistance for low-income groups. Means-tested assistance goes together with pluralist labor relations, which reinforce the principle of the market as the main welfare provider by emphasizing the free competition of autonomously organized groups, each seeking its own advantage. Since the early 1990s, LACs have experienced similar pressure toward liberalization of their economics and state retrenchment (Section 2.2.1). However, the countries present different reactions to liberal stimulus (Martinez Franzoni & Voorend 2009).



Chile is the Latin American political economy most approximating the liberal ideal type; that country pursued a radical neoliberal economic course during the 1970s and the 1980s. The adoption of the liberal model broke with the corporatist welfare state that emerged in the first half of twentieth century. The origins of the corporatist system were in the 1920s, during the first government of Arturo Alessandri (1920–1925). The first benefits included the provision of different social insurance programs that reflected a deliberate strategy of government and the conservative party to reach support of the labor movement and control it (Valenzuela 2006). This policy development clearly suggests that the Chilean welfare state emerged as a corporatist system. The corporatism was expanded in the subsequent decades. In the 1960s and the 1970s, the policy development was dramatically accelerated when a series of electoral reforms increased the franchise (Kaufman & Haggard 2008). By the early 1970s, the intervention of the Chilean welfare state reached many domains of society; in fact, the welfare system provided a comprehensive set of social services and transfers, offering coverage to 70 percent of the population (Huber 1996).

The liberalization of the Chilean welfare state occurred during the dictatorship of Augusto Pinochet (1973-1989). The social policy reform was part of a package of interventions aimed to reduce the role of the state in the economy. The most dramatic reforms of the welfare state came in the 1980s, including the privatization and decentralization of the health system, the introduction of competence in education, the exchange of the state's role as regulator of education by the market, and the focus of social policy on mean-testing. The focalization of social policy attempted to confine the public intervention of the welfare state into the limits of social assistance.

The most cited example of the liberalization of the Chilean welfare state in the literature occurred in social insurance, which is the domain per essence of the corporatist welfare state (Barrientos 1998, Castiglioni 2005, Draibe & Riesco 2007, Filgueira et al. 2008, Hertel-Fernandez 2009, Pribble 2008). In the 1980s, policy reforms ended the pay-as-you-go social insurance system that had persisted since the 1920s and established a system based on individual contributions and compulsory private insurance, to be administrated by a private pension fund (*Administradora de fondos de pensions*, AFP). The new system does not receive contributions either from employers or

from the state, except for the guarantee that is provided by the state to those with 20 years of contributions (Huber 1996).

In spite of the radical shift that represents the liberalization of social insurance, some legacies of the old corporatist system remained. The pension reform permitted the possibility of staying in the old corporatist systems for workers already under older programs and maintained the corporatist benefits for certain interest groups, such as members of the army and some public servants. It follows that the Chilean welfare state did not drastically shift toward a liberal model. Rather, corporatist and liberal policy orientations were actually allowed to coexist in Chile (Valenzuela 2006).

In the 1990s and the 2000s, democracy was reestablished in Chile, and the center-left *Concertacion* coalition came into office in successive periods until 2010. These governments pushed a set of equity-oriented reforms that expanded the role of the state in welfare provision in health and pension (for an overview of these reforms, see Larrañaga 2010). However, the reforms avoided affecting the main pillars of the liberal model in Chile; that is, privatization of social insurance and health systems, deregulation of education, and focus on social assistance.

#### *The universalist welfare state*

The universalist welfare state is defined by the role of the state as the main provider of welfare. The state is particularly committed to minimization of market dependency through the provision of generous benefit levels. This departure from a pure market economy reflects corporatist labor relations, characterized by strong centralized unions. Workers and employers recognize each other and are also consulted by the state in political decision-making. Besides the high levels of public transfers, what is unique in the universalist welfare state is the combination of generosity with comprehensive coverage of the population through the provision of public transfers and social services granted universally as a citizenship right. This implies a high degree of equality in the benefit provision; that is, similar replacement rates among citizens. In the setting of advanced democracies, the universalist type is represented by Scandinavian countries, which complement

standard income protection with the public provision of social services and generous income support for working women (Esping-Andersen 1999, Huber & Stephens 2001).

Costa Rica is the only Latin American welfare state conforming to the principles of universal coverage and extensive public investment in social services. Compared with pioneer countries, the initiation of this welfare state came 20 years later. In 1941, the government of Rafael Calderon (1941–1945) instituted a social insurance program that was compulsory for all employees below a certain income threshold. Unlike the corporatism based on the grounds of pension programs in pioneer Latin American welfare states, social insurance benefits in Costa Rica were unified in a single fund that insured the great majority of beneficiaries. However, the extension of the program's coverage was slow. In 1960, only a quarter of the economically active population was beneficiary of the social insurance program (Huber 1996).

The first big impulse for the universalization of social insurance coverage passed in 1961. The National Liberation Party, a political party with a social democratic ideology, promoted a reform that took the form of a constitutional amendment enacting the universalization of coverage. This universalization had to be reached within a decade (Segura-Ubiergo 2007). As a result, in subsequent decades, the Costa Rican welfare state expanded. Moreover, during the governments of Jose Figueres (1970–1974) and Daniel Oduber (1974–1978)—both candidates of the National Liberation Party—many additional policy developments emerged. These consisted of obligatory pension coverage for self-employed workers, extension of healthcare and education coverage, housing programs, family assistance to all sectors of the population, and non-contributory old-age pensions for indigents (Kaufman & Haggard 2008). At the end of the 1970s, the architecture of the universal welfare state in Costa Rica was consolidated: it had targeted programs and four primary pillars of program universalism—education, health, pensions, and housing (Martinez Franzoni & Voorend 2009).

This architecture of the Costa Rican welfare state experienced limited change during the last three decades. Following Kaufman and Haggard (2008), two factors help us understand this resistance of the universalism in Costa Rica. First, the effect of debt crisis of the early 1980s was lower in this country than in other nations of the region (e.g. Argentina and Mexico). Early

stabilization efforts avoided large fiscal deficits and high inflation. Second, distributional coalitions and the labor movement operated to make difficult any substantive changes to the welfare state. However, that does not mean attempts to reform the welfare system were nil. In 2000 and 2005, two reforms of the pension systems were carried out. The major change was the creation of a mixed system, which opened the chance for citizens to choose between the collective scheme and individual retirement accounts (Martinez Franzoni 2008).

### *The corporatist welfare state*

The essence of the corporatist welfare state lies in status segmentation and the centrality of family as welfare provider. While the family is ultimately responsible for its members' welfare, the state upholds the principle of subsidiarity; that is, to limit the intervention of state only to those situations in which the family fails as a welfare source (Esping-Andersen 1999). Because modernization involves an increase of dislocations in welfare support by the family, the size of the corporatist welfare state within the economy goes up during modernization processes, being high in modern societies. Like the universalist welfare state, corporatism dominates labor relations under this ideal type. However, in comparison with universal welfare states, unions are more fragmented and not powerful enough to enforce a strongly redistributive agenda. This union fragmentation illustrates the basic idea of the state corporatist model (Korpi & Palme 2004): to create "occupational communities" within different sectors of the labor force and induce cooperation between labor and capital within these sectors. The eligibility of public benefits is based on contributions and membership in specific occupational groups, excluding economically non-active citizens and workers in the informal labor market. This results in a welfare state that displaces the market as a welfare source by providing separate social insurance programs organized for different occupations, creating a status segmentation among occupational groups. This indicates that the domain per essence of the corporatist welfare state is social insurance. Scholars argue that in Latin America, corporatism has been an enduring characteristic of Latin American politics in the twentieth century (Burchanan 1985, Malloy 1977). Central features of corporatism in the region are the lack of social insurance coverage of informal workers and the attempt of government to control unions

through high levels of state intervention in the organization of the labor movement (Collier & Collier 1979, Murillo 2000). Corporatism in Latin America has been less central to understanding associations of employers (Collier 1995).

Argentina is an example of the corporatist welfare state in Latin America. The first social insurance programs in this country were enacted in 1904. However, the coverage was confined mainly to the military, white-collar workers, and a few strategically situated blue-collar unions. Thus, the Argentinean welfare state was limited in scope in its origin. The break point that impelled the development of social policy in Argentina was the first period in office of Juan Domingo Peron (1946–1955). To establish popular political support, Peron promoted an aggressive strategy of import-substitution. Further, in the vein of the essence of corporatism, he developed several particular social insurance programs for different interest groups. These social benefits took the form of PAYG schemes. In respect to corporatist orientations of the benefits, these were used to gain political support of interest groups, particularly the labor movement, and to control them through a set of institutional mechanisms—such as labor legislation and the organization of the state apparatus responsible for administering the interests of particular social groups (Burchanan 1985, Kaufman & Haggard 2008). The pension system covered about 70 percent of the labor force by the 1950s. Another social policy development was the expansion of health insurance to low-income segments of the population (Mesa-Lago 1978).

In spite of recurrent restrictions on democracy, the corporatist welfare system of Argentina was not fundamentally challenged until the 1980s. In this decade, the country underwent a democratic transition that opened the door for the expansion of the welfare state. However, the chance to expand the welfare system was restricted by severe economic crises. An important problem for the welfare state was the large deficit because of the widespread evasion of contributions while the pension system continued to run (Huber 1996). These economic problems provided the context that allowed the emergence of deep reforms of the welfare state aimed to produce a shift toward a liberal policy profile. Such reforms were taken during the governments of Carlos Menem (1989–1995 and 1995–1999) and focused mainly on the privatization of public firms and the liberalization

of the pension system.<sup>43</sup> Unlike social insurance, the influence of liberal reforms in health care and education was lower. It proved harder to conciliate these reforms in the domain of social services with the interest of unions, which until the reform's attempt, received generous benefits from their participation in the health sector in particular (Kaufman & Haggard 2008: 279).

The reform of pension programs implemented a mixed system, in which mandatory-funded individual retirement accounts complemented PAYG schemes. However, the attempts to change the policy profile of the welfare state did not minimize the role of unions in the bargaining of reforms. Rather, they were taken into account by government, and unions cooperated with the implementation of market reforms. Due to this cooperative behavior, unions were able to negotiate concessions on reforms of social insurance and privatization (Murillo 2000). It suggests that corporatist relationships still were relevant in the liberalization of the Argentinean welfare state. In 2008, the liberal elements of social insurance provision were replaced by a model along lines of the old corporatist model; that is, a full PAYG scheme was implemented (Calvo et al. 2010).

### *The productivist welfare state*

As noted above (Section 2.2), scholars distinguish between a substitution development strategy and an export-oriented development strategy. The productive welfare state is an institutional complement of the latter variety of capitalism. The aim of export-oriented development strategies is to stimulate economic growth and international competitiveness of domestic firms. The interventions of the productive welfare state are circumscribed by this goal. The distinctive characteristic of the productivist ideal type is that the state and the market share responsibility for providing welfare for citizens. The market provision of welfare lies with the firms—particularly the larger companies—which are organized as communities that provide welfare for employees and employers (Becker 2009). In respect to the state, public interventions focus on the commodification of the labor force by increasing human capital—especially, education and the health of citizens—through the provision of social services (Chapter 3).<sup>44</sup> When the productivist welfare state increases citizens' human capital, it instigates economic growth and international competitiveness as higher

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<sup>43</sup> The government promoted additional reforms regarding trade liberalization and the convertibility law in 1991.

<sup>44</sup> Commodification refers to activities and efforts that increases individuals' reliance on the market for their well-being.

education and better health among the population increases productivity of the labor force and facilitates technological innovation (Rosen 2008, Schultz 1961).

Unlike the corporatist model, the state-organized social insurance is only supplementary in the productivist welfare state. However, both types of institutional contexts present corporatist labor relationships. Regarding the productivist model in firms, the relations between employers and employees are cooperative and consensual. It means that labor relations in the productive welfare state can be said to be corporatist, but the cooperation between labor and capital is at the firm-level. Furthermore, in labor relations of the productivist type, the state promotes worker loyalty without hindering business activity (Rudra 2008). East Asian countries, such as South Korea, are typically mentioned as examples that approximate this ideal type. In these countries, the welfare state, with the aims of economic growth and international competitiveness, particularly invests in secondary and tertiary education (Holliday 2000, Kwon et al. 2009, Wibbels & Ahlquist 2007).

In Latin America, productivism appeared by the 1990s in the context of liberal reforms that emphasized the importance of a business-friendly environment and openness to globalization (Section 2.2.1). To reach such aims, productivism emerged in some Latin American welfare states in terms of public attempts to commodificate the labor force through public provision of social services, particularly basic education and health service access (Perry et al. 2006). Furthermore, the liberal reforms of the 1990s attempted to minimize the role of the state as welfare provider in favor of the market, preserving the state only for the provision of basic social services. This means that the level of state's intervention into the economy, which characterizes the Latin American productivism, is limited in scope and leaves a significant portion of welfare provision to the market.

Unlike the productivist ideal type, corporatism in terms of cooperation between workers and capital at the level of firms is also scarce among LACs. As stated above (see also Chapter 3), Latin American corporatism is characterized by the absence of employers in bargaining between workers and the state. This characteristic of Latin American corporatism suggests that the productivism that emerged in some countries of the region in the 1990s is lacking some elements of the productivist ideal model.

El Salvador is an example of the Latin American version of productivism. During the twentieth century, the Salvadoran economy experienced virtually no industrialization (Rueschemeyer et al. 1992). It was a mono-export economy focused on coffee as its main exportation (Halperin 1990). The welfare state in El Salvador, which reflected this style of economic organization, was characterized by a residual size, leaving most of the population without public assistance (Pribble 2011). Furthermore, the development of the welfare state was inhibited by long periods of political violence. Particularly relevant for the socioeconomic development of El Salvador was the civil war in the period 1980–1992 in which some 75,000 people were killed. By the end of the war, approximately one half of the population lived on less than two U.S. dollars a day.<sup>45</sup>

Since 1992, when the peace accords were signed and democracy emerged, social policy development became significant in this country (Martinez Franzoni & Voorend 2009). One of the main goals of social policy was to contribute to reducing poverty by impelling economic growth. At that goal, the Salvadoran welfare state adopted a clear productivist orientation. We note the productivist orientation of policy in the relevance that took human capital as an instrument to helping the poor. As the World Bank (2005: 47) points out, one of the main goals of the welfare state in this country over the last two decades has been “to strengthen the capabilities of the poor and to ensure that the poor are able to take best advantage of emerging economic opportunity in El Salvador.” Put otherwise, the Salvadoran welfare state adopted a “human capital for poverty” agenda, was complemented with “human capital for growth” strategies.

To commodificate the labor force, education is one domain of human capital in which El Salvador has made considerable progress. A central public intervention in this domain was educational reforms in the 1990s that decentralized the educational system. As a result of this reform, progress was made in access to education among the poor, particularly for basic education. Net enrollment rates in basic education of 7- to 15-year-old children rose from 74.3 percent in 1991 to 85.1 percent by 2002. Progress is noted in other relevant areas for human capital such as health (life expectancy and health service access) and safe water (World Bank 2005).

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<sup>45</sup> Figures downloaded in September 2011 from the World Development Indicators Database of the World Bank, available from <http://data.worldbank.org/data-catalog/world-development-indicators>.



In spite of the public investment in education and health care, the Salvadoran welfare state illustrates well the incomplete character and the limitation of scope related with productivism in Latin America. An industrialization that foments the role of firms as welfare providers is still absent in the last decades (Pribble 2011). Furthermore, unions are not allowed among public employees, trade unions are limited to specific sectors, and one half of the workers is employed in the informal sector without rights to public benefits (Gasparini & Tornarolli 2007, Martinez Franzoni & Voorend 2009). These characteristics indicate a corporatist type of labor relationship in which capital and labor cooperate at the firm level lacks in the current Salvadoran welfare state.

In respect with the scope limitations, El Salvador has made considerable progress in raising basic social services since the early 1990s, but there are still serious problems with regard to coverage and quality of services. For example, by 2002 about 50 percent of the poor lacked access to water (World Bank 2005). Furthermore, on the grounds of social insurance targeting, until the 1990s the pension system covered only employees in industry and commerce (SSA 1993). In 1996, pensions went from a collective pay-as-you-go system to one based on private individual savings (Calvo et al. 2010). This institutional change indicates that productivism in El Salvador is characterized by the focus of state intervention on social services, leaving a significant quota of welfare provision to the market.

#### **2.4. Research Design**

In the last section, I developed an ideal typology of welfare states. In the following, I also measure dimensions of the typology and socioeconomic outcomes that might be connected with the ideal types operating in Latin America. To do this, I use data for seventeen LACs. The sample-selection criterion is a simple one: It included all Latin American countries for which I found information for each indicator used in the analysis. According to this single criterion, the following countries were selected: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, and Uruguay. Furthermore, in the following analysis, I focus on information from the 1990s because high-quality data for each of the measures used in this chapter exists for this last decade of the twentieth

century. Lack of data precluded analysis of a longer time period. Most indicators are average data for the period 1990–1999, rather than data for single years, to reduce distortions from idiosyncratic factors (e.g., exogenous shocks) and to focus on between-country variance. I used single-year measurements only when I did not find time series for the indicators or on the ground of theoretical reasons (see below). In the rest of this section, I will discuss the indicators and the method of analysis I used.

### *Indicators and Data Sources*

#### *a) Measures of typology*

To classify Latin American countries, I used a set of indicators to measure the dimensions of the ideal typology (see Table 2.2). In broad terms, these variables capture the dimensions related to the instruments of welfare states and to the public-private mix. Due to the unavailability of data, the measures do not include information on labor relations. Furthermore, measures of the dimensions do not include information about socio-economic outcomes. In doing so, I avoid two problems. First, in measuring the public-private mix in developing countries, scholars use outcome variables (e.g. poverty rates) (Gough et al. 2004, Martínez Franzoni 2008, Pribble 2008, Rudra 2008). However, these variables might capture not only aspects of the public-private mix but other type of sources (e.g. economic situation), as outcomes should be affected by many factors. It suggests that the validity of outcomes as indicators of the public-private mix is open to doubt. Second, I wished to classify not only Latin American welfare states but also examine the connections between types operating in Latin America and outcomes, so it is recommendable that the latter be excluded from the measure of the typology's dimensions (Adcock & Collier 2001). Put otherwise, if I included information of outcomes in the measure of typology's dimensions, I could not analyze the association between both variables because I would have only one.

The role of the market as welfare provider in the public-private welfare mix was measured by private expenditure on health care as a percentage of total expenditure on health. This indicator is an average for the period 1995–1999, and it captures the liberal emphasis on market solutions in the sense that the larger the size of the private healthcare sector, measured in terms of

expenditure, the larger the role of the market. The indicator was taken from National Health Accounts' online database (World Health Organization).<sup>46</sup>

**Table 2.2.** Indicators of typology's dimensions

Indicators	Dimension
Private expenditure on health care as a percentage of total expenditure on health	Role of the market in public-private mix
The average between coverage rates of public pension and coverage rates of public healthcare programs	Role of the state in public-private mix
Summary index of status segmentation	Subsidiary role of the state in public-private mix and focus on social insurance
The average health and education spending as a percentage of total public spending	Focus on social services

My measure of the role of state in the public-private mix was intended to capture the degree of program universalism by using the average between coverage rates of public pension and coverage rates of public healthcare programs. I used coverage rates for different single years of the 1990s. Lack of data precluded the use of the same year for both types of coverage.<sup>47</sup> The values of this measure should be interpreted in the sense that the higher the average coverage, the higher the role of the state in welfare provision and, following the definition of the universalist welfare state, the higher the universalism of social policy. The data of coverage rates were taken from Rofman and Lucchetti (2006) and Mesa-Lago (2005).<sup>48</sup>

On the grounds of criterion validity I selected the indicators of the roles of market and state in public-private mix. It means that these indicators are the standard of reference to evaluate measures of liberalist market provision and program universalism in literature and, thus, they are considered reliable measures of the phenomena of concern (Bambra 2007, Scruggs & Allan 2008). In fact, they were used by Esping-Andersen in his classic study of worlds of welfare capitalism to capture both aspects of the public-private mix (Esping-Andersen 1990).<sup>49</sup>

<sup>46</sup> Figures downloaded in January 2011 from <http://www.who.int/nha/country/en/>.

<sup>47</sup> The universalist welfare model is also characterized by high benefit equality. To measure this aspect of the universalist welfare state, for example, Esping-Andersen (1990) uses the ratio of standard to maximum income replacement rate in national unemployment, sickness, and public pension programs. Unfortunately, I did not consider "benefit equality" in the measure of universalism because, to my knowledge, there is no public information of replacement rates in most countries of sample analyzed in this study.

<sup>48</sup> I provide details of the measures of coverage rates in the Appendix 1.

<sup>49</sup> In respect with private expenditure on healthcare, Esping-Andersen (1990) uses this indicator plus measures of means-tested benefits and private pension spending for his index of liberalism. The source, which Esping-Andersen used, was the

Corporatism is defined by the subsidiary role of state in public-private mix and the focus on social insurance as instrument of the welfare state (Section 2.3). To measure both attributes, I created a summary index on the basis of two variables. First, one of the core characteristics of a corporatist state is the reinforcement of status segmentation by providing different social insurance plans for different occupational groups. I captured the level of status segmentation through the number of significant public pension funds for the year 1993. A high number of programs should indicate high status segmentation and, thus, high subsidiary role of the state. This variable was elaborated on the basis of information in the Social Security Administration (1993).

Second, the variable designed to identify the focus on social insurance as instrument of the welfare state was public transfer spending as a percentage of total public spending in 1993. Public transfer spending includes not only social insurance transfers but also social assistance transfers. However, this does not invalidate public transfer spending as measure of social insurance because the largest portion of this spending goes to social insurance in Latin American welfare states (for details, see Appendix 1). This measure captures the focus on social insurance transfers in terms of the priority of social insurance within the government budget. Although the standard approach in the OECD is to measure spending as a share of GDP, I use spending relative to the total budget because this measure of spending more clearly reveals differences among developing countries (Rudra 2008, Wibbels & Ahlquist 2007). The source was Avelino et al. (2005), who took spending figures compiled by the United Nations Economic Commission for Latin America and the Caribbean (ECLAC/CEPAL).<sup>50</sup>

In the summary index, the number of pension programs was used as the baseline because it captures the essence of corporatism; that is, status segmentation. Furthermore, there is justification for using this indicator to measure the subsidiary role of the state because it is a direct measure of status segmentation in the literature of the welfare state (Bambra 2005, Esping-Andersen 1990,

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publication of the International Labour Organization (ILO) "The Cost of Social Security" for the year 1981. However, after 1990, ILO no longer collected separate data for both additional indicators, so I was unable to collect data for these two additional indicators of liberalism for Latin America in the period under analysis.

<sup>50</sup> For Chile, I took only information of old social insurance systems; thus, the summary index does not capture the liberalization of pension provision in this country. By doing so, I minimize the measurement error of the connections of clusters with outcomes because pension information for Chile regards only one type of pension system. See Appendix 1 for details about the index.

Scruggs & Allan 2008). The number of pension programs was then weighted by the public transfer spending. In Appendix 1 I show that the higher the score in the index, the higher the status segmentation and, thus, the greater the degree of the role of state in the public-private mix. On the basis of the definition of the corporatist welfare state, a high score in the summary index should suggest high corporatism.

In respect to the role of weights in the summary index, weights compensate for the relevance of social insurance as instrument of the welfare state. By doing so, I solved the following problem of the measure of corporatism in Latin America. As shown in the empirical analysis of this chapter (see below Section 2.5), there are many Latin American welfare states that present high score in the index status segmentation but low priority of social insurance within the government budget. It follows that if I were to use only the number of pension programs to capture corporatism, I would have countries with status segmentation but low priority on social insurance. This clearly contradicts my definition of the corporatist model. The weighting procedure solves this problem by giving more weight to countries where the priority of social insurance is high and less weight to countries with a low priority.

Finally, I used a measure to capture the relevance of social services as instrument of the welfare state. The measure is the average health and education spending as a percentage of total public spending for the period 1990–1999. A high score in health and education spending indicates a high focus of the welfare state on social services. By assessing the role of social services as instrument of the welfare state, this indicator also captures the level of commodification of the labor force; that is, the core idea of the productivist welfare state. Social services are used by the productivist welfare state to increase human capital in the economy; doing so, stimulates economic growth and international competitiveness of a given country (Section 2.3).<sup>51</sup> The data source was Avelino et al. (2005).<sup>52</sup>

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<sup>51</sup> Health and education spending also might capture the focus of the universalist welfare state on social services. On the basis of hypotheses, herein I illustrate how the measures, which I used in cluster analysis, discriminate the different welfare state models.

<sup>52</sup> One of the characteristics of social services is that these are provided as citizen rights and should have a large coverage of population. Spending figures perhaps do not capture this universalist aspect of social services. To test the role of coverage in human capital spending, I weighted the measures of productivism by indicators of the coverage of health and educational systems. Following Pribble (2008), the indicators were deaths among newborn infants (during the first 27 days) for health spending and literacy rates of adult populations between 15- and 24-years-old for education spending. In cluster

The variables chosen therefore covered different aspects of the public-private mix and different instruments of the welfare state. By doing so, they should also be good discriminators of ideal models of welfare states operating in Latin America because they measure different conceptual referents. In the rest of this section, I present hypotheses that relate the above-described indicators to the elements of the typology (see Table 2.3). These hypotheses also guide the interpretation of the findings of analysis.

**Table 2.3.** Measure hypotheses of the associations between indicators and ideal models

	Universalism	Corporatism	Liberalism	Productivist
Private expenditure on healthcare as a percentage of total expenditure on health	Low	Low	High	High
Average between coverage rates of public pension and coverage rates of public healthcare programs	High	High	Low	Low
Summary index of status segmentation	Low	High	Low	Low
Average health and education spending as a percentage of total public spending	High	--	Low	High

Corporatist and universalist welfare states are expected to exhibit similar patterns. They should show high levels of program universalism (averaged coverage rates) and low levels of private healthcare spending because the state has an important role as welfare provider in both welfare arrangements—either as subsidiary state or on the basis of citizenship. However, corporatist and universalist welfare states are expected to have different levels of status segmentation and health and education spending. Corporatist welfare states should show high levels in the summary index. By contrast, countries that approximate the universalist type are expected to have low levels of such an index because the citizen’s right criterion of entitlement implies low social segmentation (e.g., low number of pension programs). Furthermore, because social services are granted on the basis of social citizenship, universalist welfare states are expected to have high levels of human capital spending. I have no a priori prognosis about the relationship between the corporatist type and health and education spending. Corporatist welfare states tend to place more emphasis on social insurance transfers. However, the evidence for advanced nations confirms this association

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analysis, there are no substantive differences between estimations with and without weight. In this article, I present the result without weights.

only for health care. Studies also suggest that the level of educational spending of this welfare state type is at the middle of the hierarchy, with Scandinavia and North America at the top and Southern European countries at the bottom (Castles 1998).

Liberal welfare states are expected to have high levels of private healthcare spending, as this indicator captures the role of the market. Furthermore, this type should show low-levels status segmentation, health and education spending, and program universalism, insofar as these three measures take the role of the state either as transfer provider or social services source. Finally, productivism in Latin America is characterized by a state that, at the aims of the commodification of labor force, puts the focus of its instruments on social services—particularly basic education and health service access. However, in Latin America, the state assumes such functions in the context of increasing importance of market as welfare provider (Section 2.3). It follows that productivist welfare states in these regions should show high priority of health and educational spending in the government budget, as this type of expenditure should reflect a focus on basic social services. Furthermore, Latin American productivism should exhibit low levels of the summary index of status segmentation and low degrees of averaged coverage rates because the emphasis of the productivist type is on commodification of the labor force. Regarding private healthcare spending, the discussion of productivism in Latin America in this chapter suggests that there is considerable welfare effort for improving the human capital of citizens; nonetheless, there are still big problems of access to social services and serious attempts to transfer a significant portion of welfare provision to the market in those Latin American welfare states that exhibit productivism in policy orientation. These characteristics of productivism suggest thus that the productivist welfare state should exhibit high level of private healthcare spending in Latin American productivist welfare states.

*b) Measures of socioeconomic outcomes*

To measure outcomes, I selected the following indicators, which are averages for the period 1990–1999.<sup>53</sup> A principal aim of the welfare state is to promote the security of citizens (Section 2.3).

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<sup>53</sup> The selection of measures was on the basis of empirical relevance of the socioeconomic outcomes in prior research. However, they are a sample of the outcomes that must be complemented with other areas of the welfare state intervention. Specifically, my approach to the labor market was limited. I have focused only on the informality and female labor force

To evaluate the success of welfare state types for security, I considered social risks that hurt a particular type of security—income security. Specifically, two types of social risks were analyzed. The first was poverty, which is measured as the headcount index given by the percentage of the population living in households with a per capita income below the international poverty line of 2.5 U.S. dollars per day at 2005 international prices (adjusted at purchasing power parity exchange rates). This poverty line is an absolute poverty measure and coincides with the median value of extreme poverty lines fixed by governments in Latin America (CEDLAS 2011).

The second type of social risk regards the labor market. In the analysis, I included two measures of labor market risks. First, informal work is associated with absence of smoothing mechanisms against social risks (e.g., social insurance protection) and, thus, it should reflect increasing income insecurity. Then I analyzed informal work, which is measured by the portion of workers in informal jobs as a percentage of the labor force.<sup>54</sup> For poverty rates and informal work's indicators, the data source was the same: the Socio-Economic Database for Latin America and the Caribbean (CEDLAS and World Bank). Second, studies indicate that a large portion of poor households in Latin America have a female head (Martínez Franzoni 2008). In such a context, female work might contribute to increased income security, as working women might provide additional resources in the household. I analyzed this area of the welfare state's contribution for security by using the economically active female population aged 10 years and older as a percentage of the total female population aged 10 years and older. This measure in itself is not a social risk, but it captures income security's success. I have taken data on female labor participation and the measures of human capital, discussed below, from Huber, Stephens, Mustillo, and Pribble (2008). Overall, the connections of welfare state clusters with the measures of poverty and labor market risks should be interpreted in terms of better performance of a particular welfare state cluster in reducing poverty and informal work, and increasing female work results in the higher success of that cluster to provide income security among citizens.

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because studies indicate that it is a central characteristic of welfare states in Latin America (Barrientos, 2009). In fact, I did not find considerable differences in unemployment among the different types of welfare states operating in LACs.

<sup>54</sup> An individual is considered an informal worker if (s)he belongs to any of the following categories: (i) unskilled self-employed, (ii) salaried worker in a small private firm, and (iii) zero-income worker.



Another fundamental aim of the welfare state is equality, either in the sense of the equalization of opportunity or in terms of equalization of results (Section 2.3). Provision of equal opportunities is most relevant in the field of social services (e.g., health care and education). In this manner, I considered the performance of welfare state types in equality of opportunities by considering two measures of social service's outcomes: the number of deaths before the age of 5 per 1,000 live births and the average years of education for the population aged 25 and older. These variables measure stocks of healthcare and education capital, respectively. Finally, equalization of results regards the redistribution of resources or income. To evaluate the effectiveness of different institutional models in this last type of equality, I used the post-transfers Gini index as an indicator of income inequality. Welfare states with lower income inequality were interpreted as more successful in redistributing income and, in doing so, in providing equal results. The data source is the Socio-Economic Database for Latin America and the Caribbean (CEDLAS and World Bank).<sup>55</sup>

#### *Method*

In the welfare state literature, cluster analysis is one of the most widely used techniques to classify policy orientations of countries (for an overview, see Barrientos & Powell 2004). Following this tendency, I used this technique to determine which Latin American countries can be characterized as belonging to which ideal welfare state types. Cluster analysis is a heuristic tool that seeks to discern groups showing great internal homogeneity. In this study, these empirical groups or clusters were classified into the ideal typology of welfare states and showed how the ideal types operate among real Latin American countries. There are many methods of cluster analysis; I used the hierarchical-agglomerative cluster technique because it does not predetermine the number of clusters.

Hierarchical cluster analysis proceeds as follows. In the first step, a set of variables is chosen. Next, a distance matrix is computed on the basis of calculations of either a measure of similarity or a distance measure for all variables and for all units of observation. I applied the squared Euclidean

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<sup>55</sup> Figures for poverty rates, informal work, and Gini index were downloaded in May 2010 from <http://www.depeco.econo.unlp.edu.ar/cedlas/eng/index.php>. Like the poverty rate, the Gini index is calculated from the per capita household income. The unit of analysis of the poverty rate and the Gini is individual. With the exception of Argentina and Uruguay, the area of coverage of poverty and inequality indicators is national. In Argentina and Uruguay, poverty and inequality measures cover only urban areas.

distance, which is one of the most common representations of distance (Aldenderfer & Blashfield 1984). For example, if two cases have the same score for each variable, this measure is zero; that is, there is no distance between the cases, and, thus, they are deemed identical. Based on the resulting distance matrix, the units of observation are then combined into clusters by using a clustering algorithm called a linkage method. Several agglomerative linkage methods exist in cluster analysis. In the literature of welfare regimes, the most used linkage algorithm is Ward's method (e.g. Barrientos & Powell 2004, Castles & Obinger 2008, Pribble 2008). Following this literature, I used this linkage method. In the first step, Ward's method considers all  $N$  units as  $N$  individual clusters and joins two given units into a first cluster such that they minimize within-cluster variance, producing  $N-1$  total groups. This variance is measured as the error sum of squares of distances between all objects in the cluster and the mean of that cluster. Then, the resulting clusters ( $N-1$  groups, one of size 2 and the rest of size 1) are further combined in successive steps by using the same procedure of minimization. The algorithm stops when all sample units have been combined into a single large cluster. This process creates a hierarchy of clusters that can be visualized by means of a graphic called a *dendrogram*. In general, the Ward method performs well in recovering true clusters (Rudra 2008). However, I tested the robustness of the findings using two additional linkage methods: the complete and average linkage procedures.<sup>56</sup>

All hierarchical algorithms suffer from several problems. One is that cluster methods are sensitive to the scale of variables. Z-standardization is a widely used method for removing the disparity of variable scales; nonetheless, this method has the severe disadvantage of distorting the intrinsic cluster structure of the unstandardized data since this method forces variables to have the same variance and, in so doing, eliminates differences in variability among them. Put otherwise, if I used Z-standardization, I assumed that the sample of Latin American nations should have the same variance in the indicators of the typology's dimensions. However, I did not have a theoretical reason to defend that assumption. Rather, following Moisl (2010), I used an alternative standardization method, which is mean-standardization. This technique involves division of the values of variables

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<sup>56</sup> To test the robustness of the findings, I do not use the single linkage method, as this technique tends to form clusters that which include a large number of units and to group relatively dissimilar cases (Pribble 2011).

by their mean. Moisl has shown that this method eliminates the distorting effect of the disparity of variable scales on clustering and preserves original variability.

After the variables were standardized, they were “winsorized” to moderate the influence of extreme scores because the latter have a strong impact on the computation of distance measures in cluster analysis. A measure is *winsorizing* when its most extreme values are recoded to values that are less extreme (Ragin 1994). My procedure was to recode a variable at the 20 % level. This means that all values above the 80th percentile were recoded to the value of the case at the 80th percentile; all values below the 20th percentile were recoded to the value of the case at the 20th percentile. Varying the value of winsorizing (15% and 25 %) does not alter the findings of this study.

One of the most severe problems of cluster analysis is the determination of the number of groups. For hierarchical-agglomerative cluster analysis, there is no statistical basis on which to prefer a particular clustering solution for the number of clusters over another. Following the literature (Ahlquist & Breuning 2009), I determined the appropriate number of clusters by using a combination of visual representation of possible grouping in the dendrogram, expert judgment of the researcher, and stopping rules. These rules are a more formal way of determining the number of clusters. There are more than thirty stopping rules; however, studies suggest that Duda and Hart’s (2001) procedure is one of most effective in determining the true number of clusters; thus, I used this stopping rules to identify the number of clusters in the following analysis of this chapter (Milligan & Cooper 1985, Rudra 2008). The Duda and Hart’s stopping rule uses the  $Je(2)/Je(1)$  and a pseudo T-squared statistic. To determine the number of clusters that capture the structure of the data, the conventional rule is to determine the number of clusters associated with the largest  $Je(2)/Je(1)$  that corresponds to a low pseudo T-squared value that has a higher value above and below it (see Appendix 2).

## **2.5. Empirical Results**

### *Classification of Latin American Welfare States*

Can social policy profiles described in the ideal typology be discerned among the welfare states existing in Latin American countries? A first attempt to identify to what extent the types of welfare

states exist was the correlation matrix presented in Table 2.4. In general terms, strong correlations among variables constitute evidence that supports interpreting the variables as measuring the same concept, whereas weak correlations support the claim that they capture different concepts (Adcock & Collier 2001: 540). As we see in Table 2.4, most correlations are weak, thus suggesting that the selected variables measures different aspects of typology's dimensions. This finding indicates that they may discriminate different models of welfare states operating in Latin America. The exception was the correlation between the index of segmentation and program universalism (averaged coverage rates). As noted above, both variables correlate positively (0.45). However, because of the conceptual differences between the corporatist and universalist types (Section 2.3), I did not combine these indicators into an overall empirical measure. Moreover, the differences between the corporatism and universalism appeared in an indirect way by examining the correlations. The distinctiveness of corporatist policy orientations was evident in that the index of status segmentation was unrelated to the liberal attribute (correlation was 0.09). By contrast, the universalist measure was negatively related to the liberal attribute (correlation was -0.26).

**Table 2.4.** Bivariate correlations matrix of welfare states measures for 17 Latin American countries

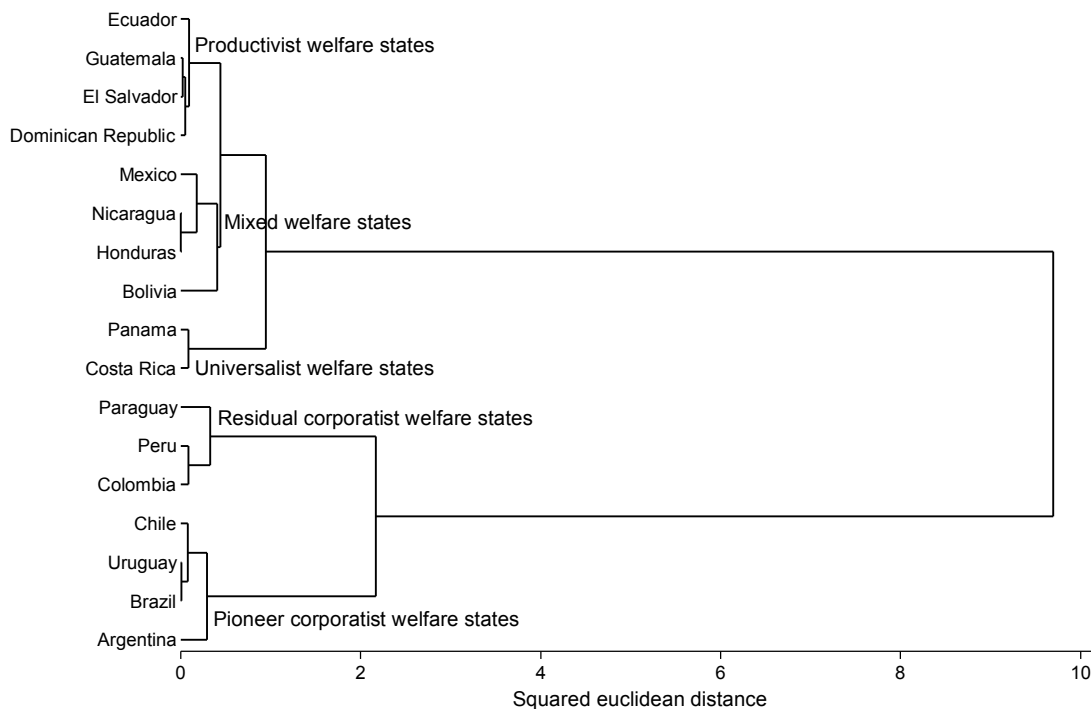
	Index of status segmentation	Averaged coverage rates	Healthcare private expenditure	Health and education public spending
Index of status segmentation	1.00			
Averaged coverage rates	0.45	1.00		
Healthcare private expenditure	0.09	-0.26	1.00	
Health and education public spending	-0.29	-0.08	-0.10	1

*Note:* Mean-standardized and winsorized measures. Measures use data for different years of the 1990s.

The results of this cluster analysis are shown in Figure 2.1. Here, one must remember that an ideal typology can never fit the real world exactly (Weber 1972). We also must recognize the existence of hybrid cases, which share features of more than one ideal type. Furthermore, the institutional structures of welfare states change over time. Thus, the findings of cluster analysis are a guide to classify empirical cases, but they do not provide perfect-cut criteria close to ideal types.

Figure 2.1 should be interpreted as follows. The more one moves to the right on the x-axis, the more dissimilar the clusters are. Thus, the lengths of the horizontal lines linking clusters show how dissimilar the clusters are. Five clusters appeared to be distinct from one another based on visual

inspection of the dendrogram, the revision of literature, and Duda and Hart's stopping rules.<sup>57</sup> As I show below, two clusters regard different empirical realizations of the corporatist welfare state. More specifically, there is a cluster consisting of Argentina, Brazil, Chile, and Uruguay—the pioneer welfare systems. A second cluster is composed of Colombia, Paraguay, and Peru, which may represent a residual version of the corporatist type. The rest of the nations conform three different clusters. Costa Rica, the modal example of the universalist welfare state in Latin America, forms a joint with Panama to create a quite distinct third cluster. A fourth cluster is composed of Bolivia, Honduras, Mexico, and Nicaragua. Finally, Central American nations (Dominican Republic, El Salvador, and Guatemala) plus Ecuador make up a fifth cluster of their own.<sup>58</sup>



**Figure 2.1.** Classification of Latin American welfare states in the 1990s

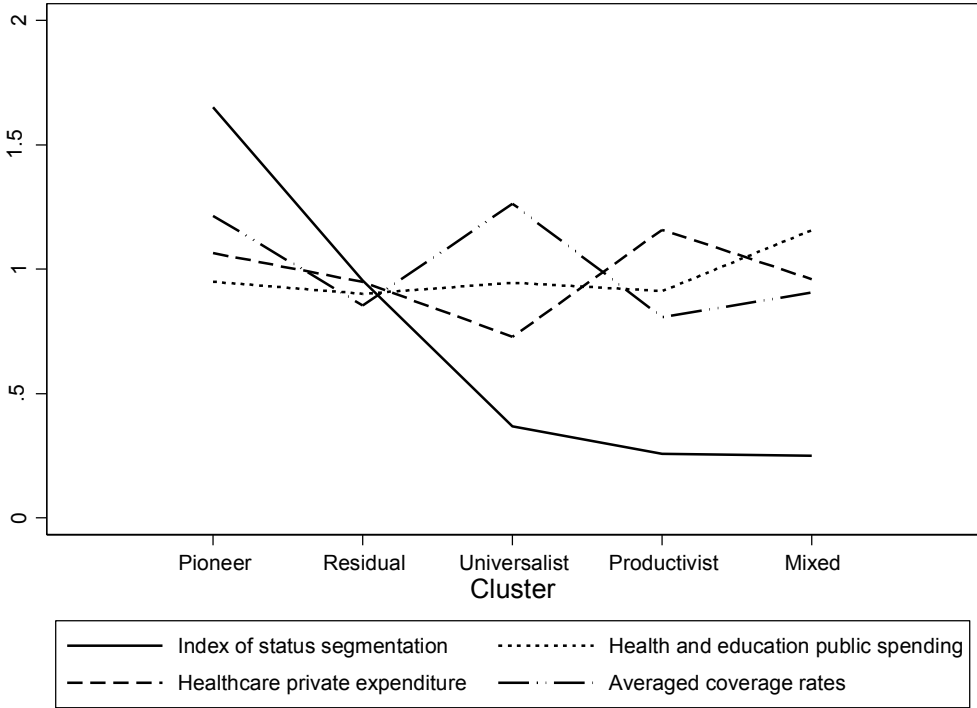
Notes: Dendrogram using Ward's method.

<sup>57</sup> Findings of cluster analysis are highly robust compared to alternative linkage methods. The results of cluster analysis using complete and average linkage techniques do not substantively differ from the findings of Ward's method. See the Appendix 1.

<sup>58</sup> The results of Duda and Hart's stopping rule suggest a cluster solution of four clusters. My interpretation of the cluster analysis's findings follows this cluster solution, with the exception of one cluster. Duda and Hart's procedure includes in the same group the productivist and mixed clusters. I split this group into two different groups because the analysis of measures of welfare state dimensions suggests that these two groups represent different empirical realizations of the ideal typology of welfare states. See Figure 2.2 and Appendix 1 for results of stopping rules.

To interpret the findings of cluster analysis, Figure 2.2 reports cluster performance for the four measures used in cluster analysis, using all variables to identify the groups. The profile of each cluster is identified on the basis of the measures in which the clusters present the highest scores and the associations between indicators and ideal models that the measure hypotheses indicate (Section 2.4). Moreover, the specific percentages or scores for particular countries or clusters that are reported in the following of this section also are available in Appendix 1.

The findings suggest that the cluster composed of pioneer countries clearly approximate the corporatist model, as this cluster has the highest average level in the index of status segmentation. However, there is a high index variation among the members of this cluster, ranging from 1.78 points (Argentina) to the maximum of 6 points (Uruguay). Moreover, the expenditures figures indicate that this cluster clearly focuses on social insurance, leaving behind productivist orientations. The average percentage of spending within the government budget for the cluster is 37.20 for public transfers and 22.19 for social services.



**Figure 2.2.** Measures of typology's dimensions by clusters

Notes: Measures of typology's dimensions are mean-standardized and winsorized. Scores of measures for each country are in Table A1.2 in Appendix 1.

The figures of program universalism for the pioneer cluster also confirm my hypothesis that benefits of corporatist welfare states cover a large portion of the population. I estimated an average coverage rate of 56.06 for the pioneers. The hypothesis for healthcare private expenditure is not confirmed, as this cluster presents a high score in this indicator. Pioneer countries are in second position in the rank-order (52.13 percent) after the productivist cluster (60.53 percent). The explanation of this finding might be related to the fact that, although there is large coverage of the population, there are still significant segments of the population that do not have access to public benefits and, thus, depend on the market as welfare provider. This factor, however, does not invalidate the interpretation of pioneer countries as corporatist welfare states. Rather, it reveals that the truncated nature of Latin American corporatism yet persists (Section 2.2.1). An alternative explanation refers to the shift from corporatism to liberalism in the pioneer clusters. The high score on healthcare private expenditure for this group would reflect that shift. However, because these reforms were so recently born in the 1990s in many Latin American nations, it is unlikely to clearly capture their impact on social policy orientations by using measures for the 1990s.

In Figure 2.2, the score of the index of status segmentation suggests that the cluster consisting of Colombia, Paraguay, and Peru presents a significant corporatism. In spite of this characteristic, these countries fit in the corporatist type more poorly than the pioneer systems. The corporatist ideal model is defined not only by status segmentation but also by a considerable focus on social insurance. However, that is not the case with Colombia, Paraguay, and Peru. The findings indicate that the focus of this welfare states' cluster on social insurance is lower than the priority of social insurance in pioneer corporatist welfare states. Public transfers spending as percentage of budget is on average 37.20 percent in pioneer nations and only 13.90 in the cluster that form these three countries.<sup>59</sup> This result suggests that Colombia, Paraguay, and Peru compose a cluster characterized by residual corporatist welfare states.

Contrasting with this last cluster, the cluster formed by Costa Rica and Panama shows the highest average coverage rate, the lowest level of privatization of health care, and a low average

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<sup>59</sup> The number of pension programs in Chile is actually underestimated. In addition to the main special programs, the Social Security Administration (1993) reports as one category "programs over 35 other occupations." To avoid problems of outliers in the analysis, I considered this category as only one program.

level of status segmentation in the sample of LACs. Moreover, although the level of productivism is clearly not as high as I expected in the Latin American context, figures of healthcare and education spending and the scores of public transfer expenditures suggest that Costa Rica and Panama prioritize investment on social services since the provision of public transfer expenditures is lower: cluster averages of 23.07 for social services and 14.10 for public transfers. Overall, these results provide evidence for the measure hypotheses related to the universalist welfare state and indicate significant universalism in the social policy orientations of Costa Rica and Panama.

Despite the common characteristics of Costa Rica and Panama, scholars indicate that both countries differ in the origins of their welfare states. Program universalism in Costa Rica has emerged in terms of the expansion of citizens rights during successive democratic governments (see Section 2.3). In contrast, the program universalism of Panama might not reflect citizen right's expansion but rather reflect the foreign intervention associated with the Canal Zone (Huber & Stephens 2010). Furthermore, the development of the Panamanian welfare system occurred during military dictatorships that governed this country from 1968 to 1988. In the 1990s, democratic governments came in office (Przeworski et al. 2000). However, it is not clear if social policy in democracy reflected demands of citizens or that the old welfare compromises were maintained. These characteristics suggest that this country is a special case of social policy development in Latin America and cast doubt on putting Costa Rica and Panama together in the same institutional contexts.

The cluster of Central American countries (Dominican Republic, El Salvador, and Guatemala) and Ecuador approximate the productivist type of welfare state. The findings highlighted by Figure 2.2 suggest that the productivism of these nations seems to rely on the fact that, as the measure hypotheses suggest, the average coverage rates and status segmentation are low. Furthermore, this cluster presents a high score in healthcare private expenditure and, as such, also confirms the hypothesis for the association between this indicator and the productivist model. Finally, although the levels of health and education public spending are not particularly high in comparison with the rest of clusters, we should note that the distinctiveness of the cluster of Central American nations, plus Ecuador, seems to rely on the levels of health and education spending that are higher than the



levels of public transfer spending. The priorities of both expenditures in the government budget are 22.26 percent for social services and 7.33 for transfers (see Table A1.2 in Appendix 1). In the vein of the productivist ideal model, this finding suggests that this cluster focuses the welfare effort on the commodification of the labor force, leaving behind the protection against social risks through public transfers.

The last cluster—the group composed of Bolivia, Honduras, Mexico, and Nicaragua—approximates neither ideal type. Rather, this cluster is a mix of corporatist and productivist policy profiles. Because of this hybrid character, I call the countries in this last group “mixed welfare states.” On the one hand, the cluster of mixed welfare states presents the highest level of health and education public spending in the sample, indicating the mixed systems’ focus on commodification of the labor force. On the other hand, the scores in the measure of status segmentation suggest that these welfare states are similar to the residual corporatist systems, as the corporatism in both arrangements combines high program segmentation with residual priority of public transfers in the government budget.<sup>60</sup> In this vein, the scores for the indicators of both variables illustrates that the members of the mixed cluster show the highest average number of pension programs but the lowest average level of social security spending among LACs.

Mexico illustrates the mixed policy profile well. This welfare state approximated the corporatist model until the debt crisis of the 1980s. A distinctive aspect of the Mexican corporatism was the exclusion of the peasantry and the urban poor from the welfare systems (Murai 2004). Mexico suffered a set of reforms during the 1990s that attempted to liberalize the economy and transfer a significant portion of welfare provision to the market. In such a context, the state made significant public investment on education to commodify the labor force and, in doing so, increase the competitiveness of the economy. As a result of this policy orientation, public spending in education showed a steep increase during the 1990s. In fact, at 24 percent in 2006, the share of public spending invested on education of Mexico was the highest among OECD countries (OECD 2006). In this context of strong productivism, the persistence of a considerable corporatism—indicated by

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<sup>60</sup> Scores of universalism also indicate that Mexico is an exception in the mixed clusters in the sense that this country also presents high healthcare coverage. Scholars suggest that Mexican universalism is related to the importance of corporatist labor relations in this welfare state (Collier & Collier, 1991).

the figures of number of programs (see Table A1.2 in Appendix 1)—suggests a shift of welfare state model in which corporatism is a legacy of the past.

From the data, I cannot conclude that a distinctive liberal welfare state exists in Latin America. The reason might regard on the measures used in cluster analysis—particularly, the measure of characteristics related with pension systems, which were the domain per excellence of liberal reforms in the region (Section 2.2.1). In this chapter, characteristics of pension systems are considered in the summary index of status segmentation and the indicator of program universalism, which include information for the 1990s. However, to capture the emergency of a liberal model in Latin America, perhaps it is necessary to analyze information of pensions for the 2000s because, as stated above in the discussion of the pioneer cluster, the 1990s is might be too recent to see the impact of policy reforms in LACs.

However, the inexistence of a liberal model operating in Latin America might not reflect a measure problem. Rather, the results confirm the view of some scholars (Filgueira et al. 2008, Valenzuela 2006), who argue that the claim of a shift of policy profile in Latin America toward a liberal model is an overgeneralization (see Section 2.2.1). Further research should discriminate between this view and the explanation related with the measurement of liberalism in policy orientations among Latin American welfare states.

#### *Connections between the Classification of Welfare States and Socioeconomic Outcomes*

Scholars contend that there are significant associations among welfare state models and socioeconomic outcomes in advanced OECD countries (Section 2.3). In this section, I evaluate these associations in Latin America by analyzing dot plots that show the performance of clusters in respect with socioeconomic outcomes. In view of the small number of countries for which information is available, statistical analyses have been kept to a minimum.

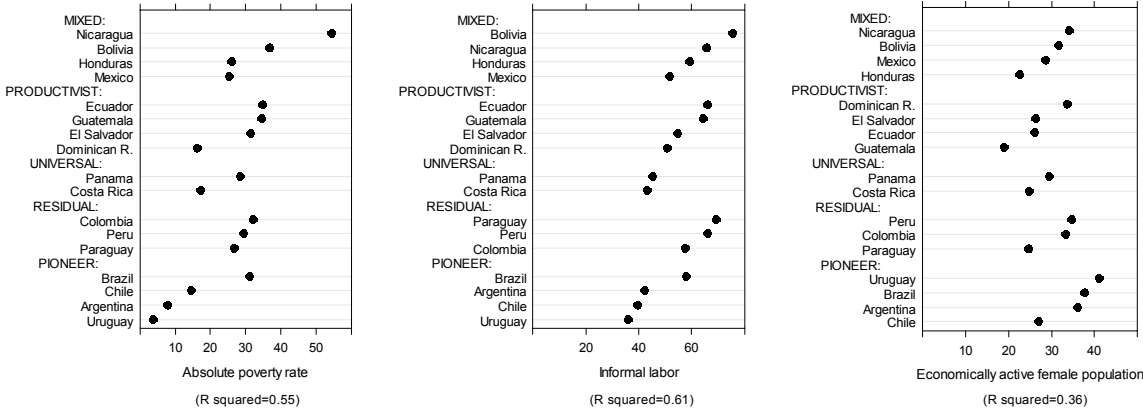
Figure 2.3 shows the overall relevance of my classification of Latin American welfare states for outcomes associated with income security and equality.<sup>61</sup> Note that this classification is particularly

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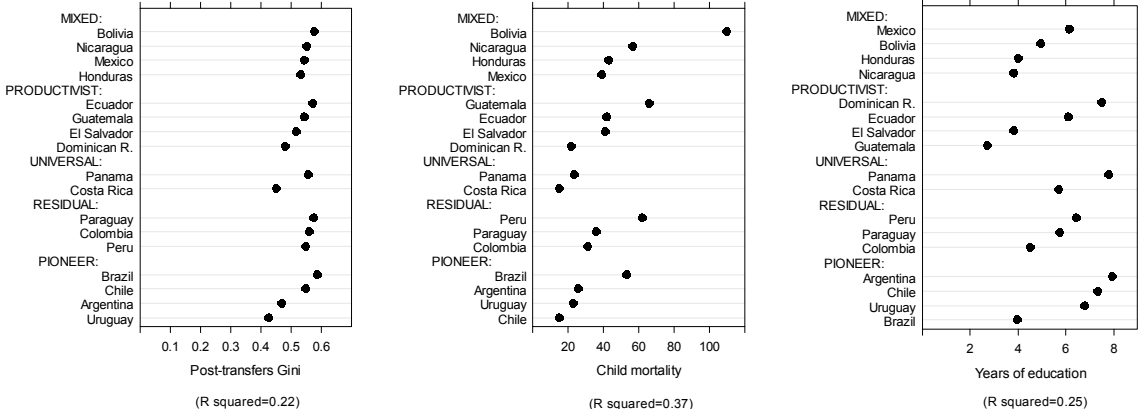
<sup>61</sup> The horizontal axis of the dot plots is a scale covering the quantitative values of outcome's measures. The vertical axis shows the names of clusters and countries. The outcome score for each country can be determined from the horizontal position of the plotted point within that row: The farther to the right, the larger the score of outcome's measure (i.e., higher poverty rate); the farther to the left, the lower the score in the indicator (i.e., lower poverty rate).

relevant for poverty and informal labor as the institutional models explain more than 50 percent of the variation in both socioeconomic outcomes (see R-squared). This result indicates that the connections of the clusters of welfare states with outcomes associated with income security are considerable. More specifically, the information in dot plots suggests the following rank-order among institutional types and poverty. The lowest levels of this socioeconomic outcome are found in the pioneer corporatist categories followed in ascending order by universalist welfare states.

*Income security*



*Equality*



**Figure 2.3.** Socioeconomic outcomes by types of welfare states: 17 Latin American countries

Notes: Socioeconomic outcomes are average for the period 1990–1999. R-squared from OLS regressions only with clusters as dummy variables. For details of scores for outcome's measures, see Table A1.3 in Appendix 1.

However, some countries (Brazil and Panama) in the pioneer and universalist categories present higher poverty rates than the average rates in these two clusters. The highest poverty figures occur in some mixed welfare states (Bolivia and Nicaragua). The residual corporatist and productivist welfare states occupy intermediate positions. A similar pattern emerges for informal labor. The lowest informal labor rates are found in pioneer corporatist and universalist welfare states, with Brazil being an outlier. The rest of clusters shares intermediate and top positions. On average, the mixed and residual corporatist welfare states show the highest informal labor rates, with the figures of these welfare systems similar; that is, 64.33 percent for the residual cluster and 63.05 percent for the mixed group. The productivist cluster occupies an intermediate position, with an averaged percentage of 58.93.

The unique character of Costa Rica in Latin America can be seen in both income inequality and child mortality. This nation has one of the lowest figures for both kinds of socioeconomic outcomes in the region: Gini coefficient of 0.45 and child mortality of 15 deaths per 1,000 live. Moreover, in respect to income inequality and child mortality, the differences between the Costa Rican welfare state and the Panamanian welfare system become clear: Panama shows higher figures than Costa Rica, indicating that Panama's limited success in areas of equality.

With the exception of Brazil, pioneer corporatist welfare states also present low figures for child mortality. Furthermore, these nations plus Costa Rica and Panama have the highest number of years of education among LACs. By contrast, countries of mixed, productivist and residual corporatist welfare states—with some deviant cases such as Dominican Republic and Mexico—present the worst levels in child mortality and years of education. These results suggest that universalist and corporatist nations are the most successful welfare states in Latin America in achieving equalization of opportunities. With respect to equalization of results, however, the picture is different. In Table 2.4, the R-squared for income inequality is the lowest (0.22), which suggests that there are not considerable differences among the clusters. Only the universalist welfare state (Costa Rica) and Uruguay differ from the rest of the sample, as both of these countries present the lowest levels of income inequality, Gini coefficients of 0.45 and 0.43 respectively.

Finally, the figures for economically active female populations are similar among the different institutional models. However, it is important to take into account that Uruguay and Costa Rica are clearly exceptions. While the corporatist welfare state has the highest rate of economically active females, Costa Rica has one of the lowest figures in our sample of LACs. This finding suggests that, by contrast with social democratic welfare states in Europe, the universal provision in Costa Rica is not associated with social services or generous income support for working women.

## **2.6 Discussion and Open Questions**

In this study, I classified social policy orientations of Latin American countries on the basis of an ideal typology of welfare states and evaluated the connections between the classification and a set of socioeconomic outcomes. I started by discussing the main arguments and gaps of the literature regarding welfare regimes in developing countries. On the grounds of this discussion, I developed a typology of four ideal welfare states, and I identified some LACs that approximate each ideal type. To empirically classify nations of Latin America into these institutional models, I used hierarchical-agglomerative cluster analysis with measures of typology's dimensions in a sample of seventeen Latin American countries during 1990s. Furthermore, I examined the connections between the classification of clusters, which were founded in the analysis, and their socioeconomic outcomes.

Are there different social policy orientations in Latin American countries? Can these policy orientations be summarized in a typology of welfare states? My answer to these questions is that social policy orientations of Latin American countries form five clusters. While this finding provides support for the ideal typology, some countries fit more poorly than others. In respect to the supporting evidence, because of marginal segmentation of the pension system and the considerable program universalism, Costa Rica made a cluster of its own and appears as the modal example of the universalist welfare state in the region. The extension of benefits emerged as the expansion of citizen rights during successive democratic periods. Panama also presents program universalism, but it is unlikely that this emerged as a result of the development of citizen rights. As stated in the discussion of cluster analysis results (Section 2.5), its social policy development did not emerge as a result of citizen demand but is marked by the foreign intervention associated with

the Canal Zone during military dictatorships. These features of Panama indicate that Panamanian universalism is a special case of policy development that presents a poor fit to the universalist model; and thus there is doubt about putting Costa Rica and Panama together as examples of the same institutional context. To my knowledge, systematic research of program universalism in Panama is scarce. The findings of the chapter encourage filling this gap.

Nations with pioneer welfare systems—Argentina, Brazil, Chile, and Uruguay—form a quite distinct second cluster, and their policy orientations approximate the classical corporatist model of welfare provision. This implies a focus of social policy on program segmentation, social insurance, and high program coverage. Central American nations (Dominican Republic, El Salvador, and Guatemala) plus Ecuador form a third cluster, clearly oriented to human capital spending. This result indicates the existence of the productivist welfare state among these nations. However, as the case of El Salvador illustrates (Section 2.3) and the analysis of connections between this cluster and socioeconomic outcomes confirms, Latin American productivism is characterized by scope's limitation of public interventions into the economy and absence of employers in the bargaining between workers and the state. This absence suggests that productivism of this cluster is lacking in some elements of the productivist ideal type. It is quite relevant for the scientific community interested in commodification of labor force in Latin America conduct further research that systematically examines these characteristics of productivism in countries that compose the productivist cluster.

The findings of this chapter also suggest two additional clusters that fit poorly in any of the five ideal types of welfare states. The results of the analysis suggest a second version of the corporatist type in Latin America, consisting of the fourth cluster of Colombia, Paraguay, and Peru. In comparison with pioneer welfare systems, the distinctiveness of these countries is evident in the fusion of a strong segmentation of the pension system with a residual welfare state. Finally, the policy orientations in a fifth cluster of nations – Bolivia, Honduras, Mexico, and Nicaragua – cannot be clearly classified into a single ideal type. Rather, the policy orientations of these last countries are a mix of corporatism and productivism.

Does the existence of ambiguous cases in the empirical classification indicate that the entire ideal typology of welfare states is problematic? The results suggest that the policy orientations of ambiguous cases do not warrant additional ideal types, as residual corporatist and mixed clusters are variations within some models of the ideal typology. That is clear in mixed welfare states. There is nothing unique in these welfare systems that suggests the foundation of wholly new ideal type. Following Esping-Andersen (1999), mixed cases are examples of type-shifting. In respect to residual corporatist welfare states, the combination of residual corporatist welfare state with status segmentation might indicate a strong weight of family in the welfare mix and, thus, these welfare systems maintain the essence of corporatism. The weight of family may reflect certain low-level economic development in the residual corporatist welfare states that has not strongly dislocated the traditional welfare support from family members.

Regarding mixed welfare states, the type-shifting raises questions about the transitory nature of this cluster. Mixed welfare states perhaps remain corporatist, or they could move incrementally toward commodification of the labor force. In the current discussion, many scholars would suggest that both scenarios are invalid, as the regime-shifting in Latin America reflects a third direction: liberal welfare provision (see Section 2.1). The findings of this study help qualify this expectation. Cluster analysis suggests that a distinctive liberal welfare state does not exist among Latin American nations. As stated above, this result can be explained on the grounds of overgeneralization or on the basis of the measurement of market's importance in the public-private mix in the sense that the measure used in this chapter does not capture the privatization of pension systems that was one of the pillars of liberal reforms in Latin American (Section 2.2.1). Two important implications for future research will be important to examine the liberal social policy orientations operating in LACs. First, future research would greatly benefit from more extensive measures of liberalism, capturing not only privatization of healthcare but also means-tested government interventions. By doing so, we can evaluate the extent to which liberalism coexists or replaces other policy orientations. Second, the coexistence of a strong market-oriented provision in the healthcare sector with other social policy orientations in many countries analyzed in this study—particularly, pioneer and mixed welfare states—raises questions about the continuity of non-liberal

welfare state models among Latin American nations in the 2000s, especially in the face of rising international market competition. To shed light on this question, a recent study indicates that corporatist and universalist strategies have received a significant revival in the region in the 2000s (Calvo et al. 2010). However, the evidence is scarce in Latin America regarding self-reinforcement mechanisms that explain path dependence of institutions. I think that the study of these mechanisms would be a central avenue for future research on institutional arrangements in the region.

Are the types of welfare state operating in Latin America connected with socioeconomic outcomes? In answering this question, bivariate relationships were analyzed. Outcomes, of course, depend on many other things than the welfare state that cannot be controlled in bivariate analysis. However, although this was a limitation of analysis, the study provides substantial evidence of the classification's socioeconomic relevance to explain two measures of income security: poverty and informal work. With a few exceptions, pioneer corporatist states tend to have the lowest levels of both socioeconomic outcomes. These results indicate that by providing occupational-related benefits for a large portion of the population, corporatist institutions reduce poverty and informality more efficiently than do productivist policy interventions. By contrast with pioneer corporatist countries (with the exception of Uruguay), the universalist Latin American welfare state, Costa Rica, has a superior capacity in the Latin American context to reduce not only poverty but also inequality and child mortality by combining social services with program universalism. This finding suggests that universalism is the more successful welfare state model in Latin America to achieve security and equality for its citizens. The analysis of this study thus confirms the evidence of research in Western advanced nations about the role of corporatist and universalist welfare state institutions in providing security and equality (Korpi & Palme 1998).

The results also indicate that there are not strong differences among residual corporatist, productivist, and mixed welfare states in respect to most socioeconomic outcomes examined in this study. As shown in the analysis, countries of these welfare state models exhibit poor performance in income security and equality. However, this lack of strong differences in the connections of these three clusters with income security and equality does not suggest that it makes no sense to



distinguish among these three clusters. Lack of differences might be related with the period under analysis in this study. This is particularly relevant for the performance of productivist welfare states. Investment of human capital needs, at minimum, a couple of decades to produce clear effects on social structure (Chapter 3). It follows that the analysis of the 1990s does not completely capture the socioeconomic consequences of efforts to commodificate the labor force. Thus, countries that have oriented their social policies to the productivist model in the last decades should exhibit better performance in socioeconomic outcomes in the next decades—particularly in the equality of opportunities among citizens. By doing so, productivist cluster might distinguish itself from the least successful welfare states model in Latin America.

The findings of this study challenge the view of distributive processes that concentrate on economic growth. The results indicate the important role of institutional factors. However, future research should examine the impact of welfare state institutions on socioeconomic outcomes by controlling additional factors that could not be considered here, such as economic development and, especially, labor relations. One of the fundamental challenges ahead is to determine and measure how the models of welfare states and the pressure to liberalize them result from different models of collective bargaining. Another relevant area of future research is to develop theoretical explanations that help us reach a deep understanding of the connections of institutional contexts to socioeconomic outcomes indicated in this study. The following chapter is an attempt in this direction.

## Chapter 3

# Public Transfers, Public Provision of Social Services, and Poverty in Latin America: A Cross-National Analysis, 1980–2000

### 3.1 Introduction

Existing cross-national studies of poverty in Latin America rely on aggregate social spending as a unique measure for comparing the effectiveness of different types of social policy programs in reducing poverty (Perry et al. 2006, Ros 2009). However, these studies are open to question in at least two respects. First, not all public benefits are equivalent. Expenditure aggregation involves bringing together types of government benefits that are not comparable in terms of particular dimensions such as eligibility criteria and generosity. In fact, scholars suggest that the effectiveness for poverty reduction may vary among benefits of particular types, as each category of benefits represent itself a particular combination of both dimensions (Castles 2009). Secondly, comparative analyses consider Latin America a homogeneous arrangement; nonetheless, the impact of social benefits on poverty is perhaps not the same across different institutional contexts of this region (Huber & Stephens 2010).

This study's purpose is to build on critical aspects of the aggregate benefit approach and, by disaggregating government benefits into particular types of public programs, present an evaluation of the impact of social policies on poverty in different institutional contexts in Latin America.<sup>62</sup> Specifically, I differentiate between cash payments or "public transfers" and benefits in kind or

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<sup>62</sup> I mean "absolute poverty" when I use the term "poverty" in the rest of this chapter. If I speak about another type of poverty (e.g., relative deprivation), I will explicitly define the type of poverty to which I refer. For a justification of my focus on absolute poverty, see Chapter 1.

“public provision of social services.” There are different categories of social services, such as public housing, food programs, and medical services. The present study focuses on public provision of education and health care. Furthermore, as stated above, each one of these benefits differs in terms of particular dimensions. To understand the impact of public transfers and public provision of social services, two dimensions are particularly relevant: *targeting*, which refers to the eligibility criteria by which individuals qualify as beneficiaries, and *generosity*, or the size of the redistributive budget that the state subjects to public transfers and social services.<sup>63</sup> In this study, I discuss how both dimensions determine the effectiveness of public transfers and public provision of social services in reducing poverty. Moreover, I derive testable hypotheses for the impact of the size of both instruments of the welfare state that were tested in a sample of Latin American countries. Lack of data precludes an empirical analysis of targeting.

The leading questions are how the size of government budget allocated to public transfers and public provision of social services contribute to poverty reduction and how the institutional context shapes the impact of the public transfer’s size on poverty. By providing answers to these inquiries, the contribution of this research to the study of social policy and poverty is twofold. First, I prove that the effects on poverty differ between benefits in kind and cash payments. This suggests that aggregate measures of social policy are not sufficient to analyze the impact of welfare programs on socioeconomic outcomes. Second, I show that the effects of public transfers vary among different institutional contexts in Latin America. Thus, this study moves beyond the aggregate policy analysis by illustrating the fruitfulness of adopting a contextualized, disaggregated approach to analyze the redistributive effectiveness of the welfare state in less developed countries, such as Latin American nations.

A core hypothesis is that the size of government budget allocated to public provision of social services (education and health care) reduces poverty levels because this instrument of the welfare state increases the economic output of the nation, which in turn reduces the level of poverty.<sup>64</sup> Health and educational services are granted universally as rights of citizens; thus, increasing the

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<sup>63</sup> In this second study of the dissertation, generosity and size are used as synonyms. Both concepts denote the size of government budget assigned to public transfers or social services.

<sup>64</sup> Economic output concerns the average income of a country. As said in Section 3.4, the standard measure of the economic output is per capita gross domestic product.

size of the redistributive budget allocated by the state to these social services should lead to an increase in investment opportunities of different social classes in both education and health capital, thereby fostering the economic output of a country in the long run. Consequently, by raising demand for workers, increasing the economic output grows the earnings of the poor and lifts households out of poverty.

Furthermore, with respect to public transfers, I argue that the effect of the size of the government budget assigned to public transfers on poverty varies systematically between clusters of Latin American welfare states. On the basis of my classification of welfare states in Latin America (Chapter 2), a second hypothesis holds that the size of public transfers should decrease poverty in pioneer corporatist and universalist welfare states, as public support for public transfers might be high in both institutional arrangements. This hypothesis will be further elaborated with the contention that, because of different entitlement criteria, the reduction of poverty associated with the public transfer's generosity should be higher in the universalist welfare states than in pioneer corporatist systems. Finally, a last hypothesis will contend that the size of the government budget allocated to public transfers should increase poverty in residual corporatist, productivist, and mixed welfare states because public support for public transfers in these welfare systems is low, and targeting of public transfers results in benefits that go only to middle- and high-income groups.

I estimated pooled OLS equations with an unbalanced panel of fifteen Latin American countries for the period between 1980 and 2000 to test my hypotheses. To my knowledge, this study is among the first to estimate the impact of social policies on poverty levels across LACs during this period (Pribble et al. 2009). Poverty was measured in terms of the headcount index given by the percentage of the population living on less than 2 U.S. dollars per day at 2005 international prices (adjusted at purchasing power parity exchange rates). To capture the size of government budget allocated to public transfers and benefits in kind, I used government spending as a percentage of GDP for both instruments of the welfare state. The findings supporting the evidence for the expectations related to public transfers, indicating that the institutional context matters. In contrast to public transfers, the size of public provision of social services does not have a statistically significant impact on poverty levels in the long run. Although this result falsifies my

hypotheses, it does not mean that investment in human capital is an insignificant mechanism to reduce the level of poverty. In fact, the analysis also suggests that an outcome of such investment—years of education—has a robust negative impact on poverty. I will suggest two factors that might explain the findings related with social service spending and years of education. First, a considerable lag exists between public investment in social services and socioeconomic outcomes (e.g. poverty). This means that public investment in education needs time (at least one generation) to produce results. It follows that the measure of benefits in kind used in this study perhaps does not completely capture the lag between the public investment in social services and a change in poverty levels. Second, the negative effect of years of education on poverty indicates that this variable might capture not only public investment but also other factors, such as private investment in education. Overall, the analysis carries implications for what can be expected from a disaggregated policy approach and institutional contexts more generally.

The remainder of this study is organized as follows. The first section discusses the main arguments and gaps in cross-national studies on social policy and poverty in Latin America. The second section provides an explanation for why public transfers and public provision of social services should influence poverty in Latin America. The third section discusses the research design of this second study of the dissertation. The fourth section presents the results; the final section features my conclusions.

### **3.2 Review of Previous Arguments and Evidence**

Perspectives about the poverty effect of transfer payments and benefits in kind among Latin American countries diverge. In short, one can identify three views in the literature. Focusing on social services, proponents of the first perspective, the *human capital view*, argue that social policies focused on services—that is, education and healthcare—do help to reduce poverty in Latin America. According to the human capital position, the public provision of social services works to reduce poverty because increasing the commitment of the state to this instrument of the welfare state will stimulate economic growth over the long run, which is the key to poverty reduction

(Battiston et al. 2009, De Janvry & Sadoulet 2000, Psacharaopoulos et al. 1995). In the human capital view, economic prosperity is expected to benefit all citizens generally.

The human capital perspective was extremely popular in the 1990s and prevalent in the 2000s. However, there is a second view that is skeptical of the impact of social policies on poverty in Latin America. At first glance, the *skeptical view* is an opponent of the human capital view. However, both perspectives consider different instruments of the welfare state. The skeptical position focuses on public transfers, not services. Moreover, following the analysis of the distributive impact of transfers in advanced nations (Aberg 1989, Palme 2006), skeptics evaluate the impact of transfer payments on poverty by considering different dimensions of this type of public program. They particularly focus on two dimensions. The first is the size of transfers that the state subjects to redistribution. More specifically, the size regards the portion of the government budget that the state uses to provide benefits in cash or in kind. The second dimension regards the targeting of the programs. Targeting refers to eligibility criteria used to identify which social group is eligible to receive the benefits of a social policy.

Defenders of the skeptical position use both size and targeting dimensions to examine the poverty effects of two types of benefits in cash (Chapter 1). One of these concerns social insurance transfers, which are provided on the basis of contributions and belongingness to specific occupational groups. According to the skeptical position, the most important social insurance programs, such as pensions and unemployment insurance, do not, in fact, reduce poverty because of a targeting that does not entitle poor households. Social insurance transfers are accessible only through employment in the formal labor market, and poor households in Latin America tend to work in the informal labor market (Lindert et al. 2006).

The second type of public transfers refers to social assistance transfers. Contrasting with social insurance benefits, the entitlement for social assistance transfers is not based on the payment of contributions, but there may typically be a means test that is used as an eligibility criterion. The means test results in flat rate transfers that benefit mostly low-income groups. Thus, social assistance transfers would reduce poverty. Nonetheless, the proponents of the skeptical view call into question this prognosis. Despite a targeting in favor of low-income segments, skeptics

contend that social assistance transfers do not help to reduce poverty because the size of this public benefit is small in Latin American nations. Perry et al. (2006) point out, for example, that the size of social security transfers within the redistributive budget of the welfare state in Peru is about 10 times higher than the size of social assistance benefits. Furthermore, the size of transfers has been procyclical in the region, with the poor hurt during macroeconomic shocks through cuts in spending for targeted social assistance programs (Wodon 2000).

As the skeptics and proponents of human capital view dominate the discussion of the effects of social policies and poverty in Latin America, in the 2000s, a third view that has been analyzed in depth in industrialized nations appeared in the debate—the *incentive view*. In comparison to the skeptical position, this perspective also focuses on public transfers but introduces an additional element to the discussion. According to the incentive view, scholars evaluate the poverty impact of public transfers by considering government programs in the context of behavioral responses associated with investment and work effort.

Focusing on investment in human capital, the incentive view argues that transfer payments may reduce poverty among Latin American countries because they combine an efficient means-testing with incentives for curbing child labor and fostering the accumulation of human capital. In the 2000s, this last position strongly emerged in the discussion about conditional cash transfer programs in Latin America (for an overview, see Hanlon et al. 2010). However, with regard to the impact of transfer payments on work effort, the prognosis of the incentive view varies. Scholars argue that public transfers might have the perverse effect of increasing the poverty rate in the long run as they reduce work incentives. In this vein, Perry et al. (2007) contend that the increase of social assistance programs over the last 15 years has led to increasing fragmentation in the social protection systems in Latin America, with the poor receiving similar benefits for free, just as formal sector workers receive by virtue of their payroll contributions. Such well-intended efforts to make social benefits available to those outside the formal sector might—due to the lack of an incentive compatible with contributory programs—create disincentives to the formalization of the workforce and, in doing so, might increase poverty (see Chapter 4).

Until now, only a handful of macro-level cross-national studies of Latin American countries examine the hypotheses of different views about the poverty impact of public transfers and social services.<sup>65</sup> Most studies do not separate analyses of public provision of social services and public transfers; they use aggregate indicators of the budget size. The targeting of benefits is not examined (Perry et al. 2006, Rudra 2008). For example, Ros (2009) analyzes a sample of twelve Latin American nations for the period between 1990 and 2006 by using social spending as a measure of welfare generosity, and his findings suggest that social spending as a share of GDP does help reduce poverty.

To overcome some gaps in these last studies, scholars have separately explored the impacts of social services and public transfers on poverty. However, most investigate a large sample of developing countries, including some Latin American nations (Dollar & Kraay 2002, Lustig & McCleod 1997). The findings are not robust among these studies. An exception in this panorama is the study by Pribble et al. (2009), who analyze the association of government expenditures and poverty with panel data only for Latin American and Caribbean countries for the period between 1968 and 2001. The findings of this research suggest that public investment in education decrease poverty in the long run. The results also indicate that the effect of public transfers varies among different political arrangements. Public transfers may reduce poverty only in democratic regimes.

To summarize the literature review, there is divergence among perspectives of the effect of public transfers and social services on poverty in Latin America. At first glance, only public provision of social services should decrease poverty levels. Regarding public transfers, scholars derive contradictory hypotheses. Furthermore, existing evidence suggests that the poverty effect of public transfers varies by type of political regime in Latin America. This finding indicates that an important source for cross-national variation in poverty levels is found in the design of institutions. In this vein, studies of advanced nations suggest that poverty levels vary among different models of welfare states. The reduction in inequality and poverty may be higher in a welfare system with a high level of program universalism than in a welfare state that targets benefits to the poor (Bergh 2005, Korpi

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<sup>65</sup> Past cross-national analyses of social policies and poverty are overwhelmingly limited to a cross-section of Latin American nations at one point in time (e.g. Linder et al., 2006). Microanalyses commonly examine the poverty impact of particular social assistance programs within a small number of countries and over a short period of time. For example, see Raczynski (1995) and ECLAC (2009).



& Palme 1998, Palme 2006). To date, however, there has been no careful multivariate cross-national analysis of the impact of different types of welfare states on the association between public transfers and poverty in developing countries—particularly in Latin America. Moreover, scarce cross-national studies have intended to estimate the poverty effects of social policy by disaggregating spending into benefits in kind and public transfers. Finally, studies focus on the size dimension but do not examine the targeting of welfare state's instruments. This study attempts to fill in some of these gaps through an analysis of disaggregated expenditures that measure the size of redistributive budget that is focused on public transfers and public provision of social services and the consideration of the institutional context for the impact of public transfer's size on poverty levels. Due to lack of data, the analysis of the targeting dimension of benefits is left for future research.

### **3.3 The Argument and Hypotheses**

In this section, I identify and explain the effects of the size of government budget allocated to public transfers and public provision of social services on poverty as well as the role of the institutional context in the relationship between the public transfer's size and poverty. Following, I provide precise definitions of the instruments of the welfare states considered by my theory and assumptions that support the argument, and I then develop the argument.

Public transfers include all state payments in cash that aim to improve the standard of living of individuals who have already fallen victim to the full range of social risks, including sickness, maternity, unemployment, retirement, and poverty. As stated above (Section 3.2), there are two types of transfer payments: social insurance and social assistance transfer. In this study, I analyze an aggregate measure of both types of benefits in cash. In contrast with transfers, the public provision of social services pertains to welfare payments made by the government in a form other than cash, such as public housing, education, and medical services. My theory focuses on government investment in education and health care.<sup>66</sup> Furthermore, public transfers and public provision of social services can be characterized by their targeting and the size of the redistributive budget that the state assigns to both welfare state instruments. In the following, I discuss how each

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<sup>66</sup> See Chapter 1 for a more extensive discussion of the conceptualizations of public transfers and public provision of social services.

dimension should impact poverty levels across Latin American nations, but I formulate testable hypotheses only for the size dimension.

I assume that both social policies affect poverty levels through two different channels (see Figure 3.1). The first channel, the “growth” effect, concerns the contribution of a given social policy to economic output or average income and from average income to poverty. According to standard models of economic development (e.g. Bourguignon 2003, Moller et al. 2003), the higher the economic output of a country, the lower the poverty levels because an increase in economic output raises the demand for workers, thereby increasing the earnings of the poor; this results in lower poverty at the macro level (Section 1.6 in Chapter 1). In other words, the poor must be better off when the economic output of a given country increases.

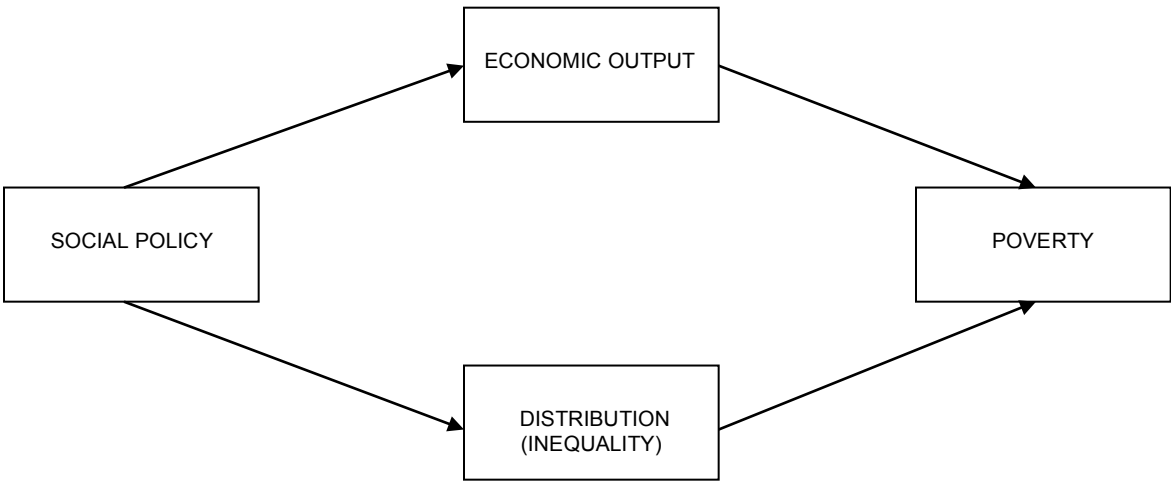


Figure 3.1 Growth and distributional channels

The second channel is called the “distributional” effect and refers to the impact of public programs on inequality of income distribution and from inequality of income distribution to poverty levels.<sup>67</sup> The poverty rate is higher in countries with a more unequal income distribution, as these nations have larger shares of citizens working in low-paying jobs and higher unemployment rates. Each of these factors can be expected to produce more households with income below the poverty line, resulting in a higher poverty rate (Kenworthy 1999). By contrast, redistributing income from the

<sup>67</sup> Economic output, inequality of income distribution, and poverty level refer to different aspects of income distribution. While the economic output or average income is the mean of this distribution, inequality refers to the dispersion or variance. Poverty level regards one particular sector of the income distribution (Bourguignon 2003).

rich to the poor can greatly decrease the inequality of the income distribution because this type of redistribution increases the income of the poor and, in doing so, reduces income differences between the income classes. Reductions of the inequality of income distribution, in turn, should result in lower poverty levels. Thus, it is expected that a progressive distributional change is likely to reduce poverty levels (Lopez 2009). This association between income distribution and poverty level is direct – that is, it is not mediated by a third variable—as progressive distributional changes entails income’s increases of the bottom of distribution, thus lowering poverty (Naschold 2002).<sup>68</sup>

Finally, the total effect of a social policy on poverty levels is the sum of its growth and distributional effects. My argument will explain the associations between social policies and poverty levels in terms of both effects in two steps. First, I develop theoretical growth and distributional effects of the size of public provision of social services in Latin America. Next, I suggest how the size of public transfers contributes to poverty reduction among countries of this region.

### *The Social Services Effect*

Social services affect the economic output or average income of nations. According to an augmented neoclassical growth model (e.g. Bassanini & Scarpetta 2001), human capital—that is, education and skills (for a definition of human capital, see Section 1.4)—contributes to productivity in existing tasks. It follows that public interventions aimed at increasing the education of workforce might have a positive effect on income per capita because some part of the earnings of labor are rewards to accumulated human capital. Furthermore, a work force educated at secondary and higher levels instigates economic output through the effect of education on economic output mediated by technology adoption. Education facilitates the rate of technological innovation and

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<sup>68</sup> Modern welfare states redistribute income not only across income groups (inter-individual redistribution) but also across generations (intra-individual redistribution). Unfortunately, it is difficult to study the latter type of redistribution in Latin America. To my knowledge, cross-national studies of intra-individual redistribution in Latin America do not exist; thus, there are no references that can help in the formulation of arguments from which clear hypotheses could be derived. Furthermore, the analysis of intra-individual redistribution needs survey data that allow distinguishing among the welfare beneficiaries from different generations (Garfinkel et al. 2010). That type of data, however, is available for scientific research only in a small sample of LACs (see Lindert et al. 2006). Due to these problems, my theoretical argument and discussion of the analysis of this study focus on inter-individual redistribution; nonetheless, it is important to say that the focus on this type of redistribution does not rest relevance to the findings of this study (see following). In fact, intra-individual redistribution is the standard type of distributional effects that are considered in pooled time series cross-section analysis of distributional patterns such as this study. Furthermore, studies that consider both types of redistribution are scarce in the literature in general (for an overview of the literature, see Bergh 2005).

absorption of technologies from more advanced foreign countries; the implementation of technology in the production process then impulses the output (Acemoglu 2009).

Public health care might also contribute to the positive effect of education on a nation's economic wealth. As Barro (1996) points out, an improvement in the health of the population lowers mortality and disease rates, and thereby decreasing the effective rate of depreciation on educational capital. Through this channel, an increase in health raises the demand for educational capital, which has a further indirect—but positive—impact on productivity. Of course, both effects of health care and education on economic output are most discernible over long-run horizons because investments in the health and education of children require that they move through successive tracks of the educational system to impel the productivity of the economy.

The relationship between social services and income inequality can be explained by contradictory effects. One viewpoint holds that public investment in human capital decreases the inequality of income distribution. As Pribble et al. (2009) point out, health and educational services are granted universally as rights of citizenship; thus human capital programs effectively redistribute resources across the entire income distribution. However, evidence indicates that a relatively equal distribution of social services, especially education, across the population is no guarantee of equal income (Torche 2005, 2010). Latin American countries are examples of this pattern. In comparison with other developing regions of the world, Latin America has, on average, low-level education inequality but high-level income inequality (de Ferranti et al. 2004). For example, Castello and Domenech (2002) examine educational and income data for 108 countries from 1960 to 2000 and find that Latin America presents an educational Gini coefficient of 0.37; this index was estimated by using schooling years of the population ages 15 years and older, which is one of the lowest levels of educational inequality in the sample under analysis. In contrast with this characteristic of LACs, however, these nations exhibit the highest levels of income inequality with an income Gini coefficient of 0.49. This finding suggests that education disparities are not an important reason for high-income inequality in Latin America. It follows that—insofar as public provision of social services contributes to reduce educational inequality—the effect of social services policy on income distribution would be marginal among Latin American countries.

With no significant distributional effects, it is no wonder that the public investment in education and health help reduce poverty levels only through growth effects. Due the citizenship right status of education and health, an increase of budget size allocated to the public provision of social services should universalize access to education and health care and, in doing so, should lead to an increase in the investment opportunities in education and health capital for individuals from different social classes. In turn, this stimulates economic development over the long run. Consecutively, the higher the economic output, the lower the poverty levels.<sup>69</sup> Thus, I expect that:

H1: The size of government budget allocated to public provision of social services has a negative impact on the level of poverty.

### *The Public Transfer Effect*

My theoretical account of the effect of public transfer's size on level of poverty emphasizes the role of the institutional context. I use the term "institutional context" to designate clusters of welfare states in Latin America and to contend the idea that the impact of public transfers on poverty levels varies across different clusters (Chapter 1). My prognosis of the association between public transfers and poverty among different institutional context builds on the classification of Latin American welfare states, as elaborated in Chapter 2. Furthermore, hypotheses about the effect of the size of government budget allocated to public transfer on poverty levels proceed from the proposition that the time horizon for this effect is short in different institutional contexts. In contrast to social services, the effect of public transfers on citizens' income is immediate because they involve a cash payment.<sup>70</sup>

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<sup>69</sup> See Section 1.6 in Chapter 1 for an illustration of this argument in terms of micro-macro modeling.

<sup>70</sup> Public transfers might also affect poverty in the long run. As proponents of the incentive view contend (Kenworthy 1999), public transfers might stimulate behavioral responses that take some time to work themselves out to generate substantive poverty effects. In this vein, one of the most studied arguments in advanced Western democracies is that public transfers might increase poverty over the long run, as transfer payments reduce investment and work effort, therefore impairing economic growth. Unfortunately, a set of problems makes it difficult to conduct an empirical examination of long-term growth effects for public transfers such as this in Latin America. For example, the formulation of prognoses for Latin American countries is difficult because theoretical references, which take into account the particular characteristics of these nations, are scarce (for an exception, see Perry et al. 2007). Furthermore, studies suggest a feedback of both variables and thus the existence of simultaneous causality effects between public transfers and economic growth (Barrientos 1998). However, current data of poverty in Latin America make it impossible to apply robust statistical techniques of causal analysis and, in doing so, determine unbiased long-term growth effects of public transfers. Due to these problems, I do not analyze long-term growth effects of public transfers on poverty in this study.

The implications of different Latin American institutional contexts for the impact of public transfer on the level of poverty depend on a specific explanatory mechanism. This is public support of cross-class political coalitions and interest groups for redistributive policies in general. The redistributive role of this explanatory mechanism has two aspects, which can be derived from a power-resource perspective (Korpi 1983, Korpi & Palme 1998).<sup>71</sup> In respect to the first aspect, according to the power-resource theory, the specific combination of size and targeting that characterizes public transfers in a given country is a result of public support for redistributive policies in general among the citizens. In this way, how do the size and targeting of public transfers contribute to reduce poverty? The power-resource theory suggests that the government's possibilities of providing benefits in cash for the poor reflect the level of public support for redistribution among members of the middle and working classes. It is expected that as more citizens of both social classes speak out in favor of redistributive policies in general, the higher the possibilities of government also allocating resources in the lower-income segments.

To redistribute income, governments do not use only social assistance transfers—which mostly benefit low-income groups—but also social insurance benefits. In the context of high support, the social insurance system might cover not only the needs of wealthier citizens but benefits individuals with very low wages, who are seen to gain from earning-related compensations. Furthermore, as Nelson (2003) points out, earnings-related pensions foster the development of social assistance transfers. A high level of support among citizens for redistributive policies might imply a gain in legitimacy by which a government can increase not only social insurance transfers but also cash benefits outside social insurance programs. In other words, the higher the public support for redistributive policies in general, the higher the budget size that the government assigns to public transfers and, thereby, the larger the number of target income groups that become eligible as beneficiaries.

The second aspect regards the institutional context. The way in which each cluster of welfare states is structured is also relevant to the level of public support for redistributive policies in general.

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<sup>71</sup> According to the power-resource theory, public support pertains to policies in general in the sense that citizens are in favor of welfare programs that do not benefit particular groups. Because means-tested transfers benefit only low-income groups, this theory suggests that members of the middle class might not support this last type of transfers.

In the power-resource approach, scholars call this aspect of the welfare state “policy feedbacks”; that is, the shape of institutional contexts is affected by the actions of different socioeconomic classes, but we also expect that institutional structures affect the preferences of these groups (see Section 1.6 in Chapter 1.<sup>72</sup> Moreover, policy feedbacks differ by institutional contexts, generating differences in the extent to which citizens are likely to support redistributive policies (Korpi & Palme 2003). To explain these differences, the pivotal theoretical assumption in power-resource theory is that people might be more willing to support increases of redistributive budget’s size if they receive something in return. This indicates that the more universal the social insurance system is, the more people are in favor of redistributive policies in general. As Korpi (1983) argues, universalist schemes provide the middle class with a vested interest in maintenance of welfare programs and, thus, provide the poor with strong alliance partners in their lobbying for high benefits levels. Hence, universalist programs might reduce differences between rich and poor people by increasing the size of the sum of transfers available for redistribution. This also suggests that the channel by which program universalism might decrease poverty includes reductions of the inequality of income distribution.<sup>73</sup>

Following the power-resource perspective, scholars derive these implications of public support in favor of redistributive policies for the association between public transfers and poverty in advanced Western democracies, especially Scandinavian countries (Esping-Andersen 1990, Esping-Andersen & Korpi 1984). I argue that this perspective is also relevant in explaining the connections between redistributive policies and socio-economic outcomes in Latin America. However, it is necessary to make some adjustments to apply a power-resource approach in the Latin American reality. These adaptations pertain to the historical origins and development of the welfare state in this region.

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<sup>72</sup> In power-resources approach, the welfare state is the dependent variable in many studies that have focused on the significance of socioeconomic groups and political parties for the emergency and development of the welfare state (Korpi 1983, Huber & Stephens 2001, Esping-Andersen and Korpi 1984). In this study, the welfare state is an independent variable; thus, I do not empirically analyze the effect of distributive conflicts partisan politics on welfare state institutions and how partisan politics and the public support for redistributive policies are connected among different social classes.

<sup>73</sup> My theory does not consider the growth effects of public transfers in the short term. Although these effects are logically plausible, to our knowledge, welfare state theories derive expectations about the growth effect only for long-run horizons. See note 70.

With respect to the historic origins of the welfare state, power-resource scholars argue that political alliances of middle and working classes are a core causal factor of the welfare state. In Scandinavian countries, political alliances involve “positive sum” bargaining situations based on long-term mutual recognition among all organized actors. This presumes a centralized organization of interests as well as institutionalized support by the state (Ebbinghaus 2006: 70). In Latin America, however, this mode of interest intermediation was not the basis of the emergence and expansion of social insurance systems during the twentieth century. Rather, such social basis is based on a bargaining system characterized by fragmentation of associational life, clientelistic relations, and, most importantly, absence of a long-term “positive sum” conceptions of mutual recognition among collective actors (Kaufman 1977).<sup>74</sup> In such a context, the introduction of social insurance benefits was the response of political elites to the pressures of the middle class and the urban labor movement for particularistic benefits—but without a political alliance in the sense of a power-resource perspective (Huber 1996). The support of these interest groups for redistributive policies appeared later, as a result of the provision of social insurance benefits. Once the public support of middle and urban working classes was present, as the power-resource perspective indicates, some Latin American governments used it to expand public transfers systems to other groups (for example, indigents) and, in doing so, increased the size of transfers and provided a more universalist targeting.

In universalist and pioneer corporatist welfare states, the emergency and expansion of public transfers occurred mostly in democracy, which offered electoral incentives for interest groups—principally middle- and high-income groups—that appeal to low-income segments (Collier & Collier 1979, Segura-Ubiergo 2007). Social insurance benefits were one of the strategies used to reach this goal. Governments dominated by middle- and high-income segments used this instrument of the welfare state for the incorporation of the urban labor movement into the political and economic systems – not only to control the political radicalization of the working class but also to obtain a new base of support (Collier & Collier 1991, Pribble 2008).<sup>75</sup>

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<sup>74</sup> See Chapter 2 for historical description of the welfare state in LACs.

<sup>75</sup> The time of emergence and expansion of public transfers programs in universalist and pioneer corporatist welfare states ranges from 1900 to 1980. In this period, Chile, Costa Rica, and Uruguay were the Latin American countries with the longest experience of democratic rule. Argentina and Brazil were characterized by recurrent restrictions on democracy during these



From 1900 to 1940, pioneer corporatist and universalist welfare states began increasing the size and expanding the targeting of social insurance benefits in favor of public employees and unions of formal workers. Social insurance programs were then extended to a broad range of occupational segments, reducing the inequality of income distribution in both clusters of welfare states. As a result of this process, in Argentina, Uruguay, Chile, and Costa Rica, pension programs' coverage of the economically active population ranged from 60 percent to more than 80 percent at the onset of the 1980s. Furthermore, as stated above, where coverage was wider—as in Uruguay and Costa Rica—governments used public support for redistributive policies among middle and working classes to establish non-contributory old-age pensions for indigents, one of the first social assistance programs in Latin America (Kaufman & Haggard 2008).

In the 1970s and the 1980s, military dictatorships in pioneer corporatist welfare states inherited the political legacy of prior social policy commitments, which was established in democracy, and with the exception of Chile,<sup>76</sup> they did not attempt radical changes of the welfare legacy in pioneer corporatist welfare states. In the 1990s, most democratic governments in pioneer welfare states introduced changes in the pension systems that were conducive to the liberalization of welfare states. However, because pension reforms require at least a generation to see distributional effects, the poverty impact of the liberal reform of pensions system in Latin America needs more time to emerge (Chapter 1). Furthermore, as said in Chapter 2, there is a significant heterogeneity in the response of pioneer countries to the liberal impulse for reforms.

In addition to historical evidence, survey data of opinions in Latin American nations provide some confirmative evidence for my power-resource argument. Figure 3.2 shows the preference for income equality in several LACs in 1996 and 2006.<sup>77</sup> The data are taken from the World Values

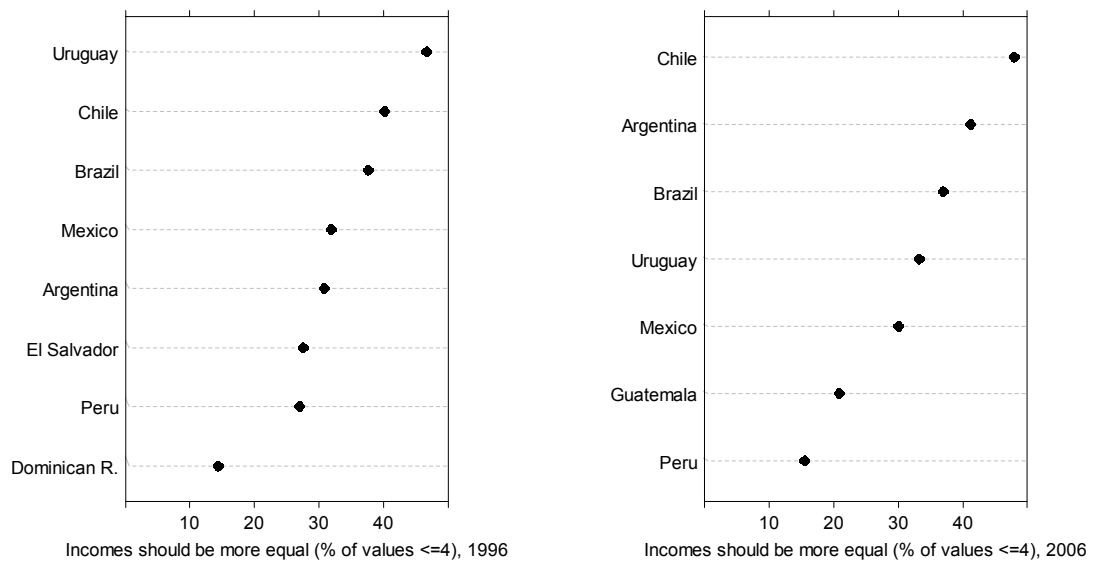
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years. However, these countries' governments also used public transfers to control the working class and obtain the support of this group. In this sense, it is not a surprise that Argentina and Brazil rank with Chile, Costa Rica, and Uruguay in the program universalism of the welfare state (see Chapter 2).

<sup>76</sup> Chile is an exception because the dictatorship of Pinochet drastically changed the corporatist pension system in 1981 for one inspired on liberal principles (individual contributions and administrations of these private firms). However, pension reform also permitted the possibility of staying in the old corporatist systems for workers already under old programs. As said in Chapter 2, this implies that two pension systems have coexisted in practice since 1981 in Chile: One is liberal and the other is corporatist.

<sup>77</sup> Data for some countries are taken in others years. Regarding the panel on the left in Figure 3.1, the counties and years are: 1995 for Argentina, 1997 for Brazil, 1999 for El Salvador. In respect with the panel on the right, figure shows data of 2004 for Guatemala and information of 2005 for Mexico. Due to missing data, the sample of countries is not exactly the same in the two years under examination. Finally, it is important to say that there is an unfortunate lack of data for Costa Rica (the unique example of the universalist welfare state in Latin America) in the data of World Values Survey project.

Survey, and the universe regards adult persons of both genders who are 18 years or older.<sup>78</sup> Preferences for income equality are measured as the percentage of the respondents that reporting values lower or equal to 4 in a 1-10 agreement scale in which 1 regards the phrase “Incomes should be more equal” and 10 represents the phrase “We need larger income differences as incentives.” This measure should be interpreted in the sense that the higher the percentage, the higher the support that income equality receives among citizens.



**Figure 3.2** Preferences for income equality in Latin American welfare states, 1996 and 2006

Source: World Values Survey. See Table A2.1.

The results in Figure 3.2 indicate that the preference for income equality varies among institutional contexts. In 1996, public support for income equality is generally greater in countries with pioneer corporatist welfare systems than in countries with residual corporatism (Peru), productivism (El Salvador and Dominican Republic), and a mixed welfare state (Mexico). The only exception is Argentina, which is below Mexico. In 2006, this exception disappears. In spite of the changes of the rank-order within the pioneer corporatist welfare states, ten years after all corporatist welfare states again present the highest support. Although the indicator of redistributive preferences in Figure 3.2 directly does not provide information of public support for redistributive policies, it is likely that such support should be high among countries in which the preference for income equality

<sup>78</sup> In 2006, the universe includes both genders, 15 to 64 years, in the case of Brazil, Guatemala, and Uruguay. Data downloaded in October 2011 from <http://www.worldvaluessurvey.org/>

is high. Thus, the findings in this figure indicate that, as my argument suggest, pioneer corporatist countries might present significant public support for redistributive policies, such as public transfers.

In conclusion, I argue that public support for public transfers might be high in pioneer corporatist and universalist welfare states. This high level of public support could increase the possibilities of governments boosting the size of public budget assigned to public transfers. Furthermore, the high support also might expand the targeting of this policy instrument into lower income groups in the sense that not only social insurance's entitlement principle is fomented by the welfare states but also means-testing. By doing so, higher public transfers should yield lower degrees of inequality of income distribution, which, in turn, is assumed to decrease poverty rates. This leads to Hypothesis 2:

H2: The size of government budget allocated to public transfers has a negative impact on the level of poverty in pioneer corporatist and universalist welfare states.

Pioneer corporatist arrangements do not differ from the universalist variety in their willingness to grant income protection. In both types of welfare states, the provision of income protection to lower-income segments reflects the political support of among citizens—particularly middle and working classes—for redistributive policies. However, the size and the targeting of public transfers differ between pioneer corporatist and universalist models, as these two models bring the citizens into very different contexts. In the corporatist model, the insured are included as several separate occupational categories in social insurance programs with conditions and benefits differing from those of others. Following Korpi and Palme (1998), the corporatist model generates separate organized interest groups that act in their specific interests. This might restrict the possibilities of expanding the size and targeting of public transfers. By contrast, entitlements based on citizenship tend to encourage the formation of collective interest among different socioeconomic interest groups and, thus, stimulate public support for public transfers expansion. With these consequences of the difference between pioneer corporatist and universalist welfare states in mind, I formulate the following expectation that further elaborates the second hypothesis:

H2a: The negative effect of the size of government budget allocated to of public transfers on poverty is larger for the universalist welfare state compared to pioneer corporatist welfare states.

Finally, the implications of residual corporatist and productivist type of welfare states for the association between public transfers and poverty are derived from two characteristics of both institutional contexts. Firstly, residual corporatist and productivist welfare states present a corporatist targeting of social insurance benefits that entitles specific interest groups; namely high- and middle-income segments. For example, this is the case of a residual corporatist welfare state such as Peru. As Mesa-Lago (1978) documents, until the 1990s, the beneficiaries of the Peruvian social insurance system were the armed forces, political-administrative functionaries that worked in the state, economic elite, and member of unions related to key sectors of the economy (see also Pribble 2011). We find a similar pattern in productivist welfare states. In El Salvador, for instance, until the liberal reforms in the 1990s, social insurance covered only employees in industry and commerce, excluding a significant segment of the labor force. This kind of targeting does not substantively vary in the rest of member of the residual corporatist and productivist clusters (SSA 1993).<sup>79</sup>

The social insurance entitlement principle of residual corporatist and productivist welfare states results in a very small portion of the population receiving social insurance transfers. Data of pension coverage confirms this assumption for both clusters. In Chapter 2, I show that averaged pension coverage in the 1990s was around 25 percent in both clusters of Latin American countries, with a minimum of 15 percent in Paraguay and a maximum of 32 percent in Colombia. This finding and the type of targeting—which is on the basis of such pension coverage levels—indicate that pension systems in residual corporatist and productivist arrangements might increase the inequality of income distribution as they cover a small segment of population, which represents the wealthier citizens.

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<sup>79</sup> Many residual corporatist and productivist welfare states, such as El Salvador, introduced reforms of social insurance systems that attempted to change the system from pay-as-you-go schemes to mandatory individual retirement account such (Chapter 2). However, as said in Chapter 1, scholarly community has to expect a couple of decades to clearly see the distributive impacts of reforms. Data of the 1990s should reflect pre-reform social insurance systems.

Secondly, the focus of public transfers in favor of specific income groups works in the opposite direction of program universalism, decreasing the number of citizens in favor of redistributive policies in general, thus reducing the possibilities of increasing the size of the total sum of cash available for redistribution from the rich to the poor as well as the chance of a transfer's targeting in favor of lower-income segments. Figure 3.1 provides some confirmative evidence for this expectation about public support for redistributive policy. As shown, public support in productivist and residual corporatist welfare states for income equality is at the bottom of the rank-order. The percentage is lower than 30 percent in these countries (Dominican Republic, El Salvador, Guatemala, and Peru) in 1996 and 2006. The mixed welfare state (Mexico) occupies intermediate position.

According to this second characteristic (low public support for redistributive policies in general) and targeting, which results in a pension coverage that results in benefits only for the wealthier income segments, the generosity of public transfers should reproduce the inequality of the income distribution or make it worse among residual corporatist and productivist welfare states. Furthermore, because mixed welfare states are hybrids of both models, I also expect this distributional effect in the mixed cluster. Hence, I state a third hypothesis:

H3: The size of government budget allocated to public transfers has a positive impact on the level of poverty in residual corporatist welfare states, productivist welfare states, and mixed welfare states.

### **3.4 Research Design**

The effect of the size of government budget allocated to public transfers and benefits in kind on poverty levels was estimated with a sample of fifteen Latin American countries, which provide an unbalanced panel. This means that different countries contribute different numbers of observations, ranging from one to seventeen. The countries include Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, the Dominican Republic, El Salvador, Guatemala, Mexico, Nicaragua, Paraguay, Peru,

Uruguay, and Venezuela.<sup>80</sup> These nations represent each one of the existing clusters of welfare states in Latin America. The panel yielded 67 observations after subtracting missing values in the dependent variable and regressors.

Lack of data availability on poverty and social policy measures meant that I analyzed the time period of 1980 to 2000. In spite of this data limitation, it is important to say that I employ one the largest periods of existing information of social insurance and human capital expenditures in the developing world (Lopez 2011, Pribble et al. 2009).<sup>81</sup> Next, I will first introduce the data, and then I will discuss the estimation problems and the remedies in greater detail. The following sections present the results of the analyses and conclusions.

### *Measures of Dependent and Independent Variables*

The measure of poverty is the headcount index given by the percentage of the population living on less than 2 U.S. dollars per day at 2005 international prices (adjusted at purchasing power parity rates). This measure has been regularly updated by the World Bank.<sup>82</sup> According to Chen and Ravallion (2008), the World Bank's \$2-a-day line is the median of the national poverty line found amongst developing countries as a whole and is relevant in middle-income countries, such as are most Latin American nations.

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<sup>80</sup> In comparison with the analysis in the first study of the dissertation, in this study, I consider a smaller sample because some countries present missing values in the dependent and independent variables. More specifically, Ecuador does not present data for the measure of size of government budget assigned to public transfers. For Honduras, information of this measure exists to estimate only one component (distributional path) of the modeling strategy that I used to test the hypotheses (see below section about estimation procedures). However, the inclusion of this country in the analysis of transfer impact on poverty, which goes through the distributional path, does not substantively modify the results. Due to the unique character of social policy in Panama in the Latin American context (Chapter 2), I dropped this country from the analysis. Finally, for Venezuela, some measures that are used in cluster analysis of Chapter 2 are missing; thus, this analysis does not include Venezuela. In the present study, however, Venezuela presents information for all relevant variables used in regression analysis. To maximize the size of sample, I include this nation in the regressions. Social expenditures figures of public transfers and social services indicates that Venezuela approximate productivist welfare states as the countries presents a clear focus on social services, at least, before the first government of Hugo Chavez (1999–2001).

<sup>81</sup> Huber et al. (2009) analyzes the impact of social spending on poverty levels in Latin America for the period 1968 and 2001. To measure poverty, they occupy country-specific poverty lines. However, this poverty measurement presents a set of problem for cross-national comparison (see below in this section). Measures of poverty levels based on World Bank international poverty line, which I use in this study, exist only from the 1980s, thus preventing analysis of information from the 1970s. Lopez (2011) analyzes social insurance spending of LACs for the period 1981-2009. He takes the spending information from the statistical datasets of the International Monetary Fund (IMF), which includes only information about central governments. This prevent to use this data sources to recollect information for social services spending because, as I explain in this chapter, several Latin American welfare states administrate education and health programs at sub-national levels and, thus, IMF figures for education and health spending underestimate the effort of the state.

<sup>82</sup> The estimations were downloaded in September 2010 from <http://databank.worldbank.org/ddp/home.do>

I use the estimations of the World Bank based on the \$2-a-day line because it permits reliable cross-national comparisons. However, notwithstanding of this advantage, several authors criticize the estimations of poverty from the World Bank. For example, Helwege and Birch (2007) point out that the poverty rates are estimated from indicators of well-being that do not share the same concept or definition. The estimations of poverty are obtained either from consumption or from income. Furthermore, both indicators of well-being consider public transfers and adjustments for household size only in some countries and only in some surveys. Finally, the surveys do not share the same units of analysis: It is either the household or the individual.

Pribble, Huber, and Stephens (2009) contend that, in comparison with the World Bank poverty line, it is more useful to use country-specific poverty lines that respond to common goals. Because of these common ends, estimations based on national poverty lines can be compared across time and space. These scholars suggest that the poverty measurements of the Economic Commission for Latin America and the Caribbean (ECLAC) come closest to this goal because ECLAC uses common standards to form country-specific poverty lines. This measure reports the percentage of households living below the ECLAC-generated country-specific poverty line. However, it is not clear how these common standards can guarantee reliability of cross-country comparisons without a poverty line with the same real value. Thus, I present the results of analysis using the World Bank's poverty estimations.

My argument suggests that the association between poverty and the size of government budget allocated to public transfers varies among different institutional contexts. Following the standard approach in the OECD (for example, Korpi & Palme 1998), I measure the size of this type of benefit by using public transfers spending as a percentage of GDP.<sup>83</sup> This measure captures the size of the redistributive budget, which a state uses to provide public transfers, in relation to the total resources of a country.<sup>84</sup> Furthermore, my theory considers the immediate effect of transfers. I capture this time horizon by using spending figures of public transfers on a yearly basis.<sup>85</sup> However,

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<sup>83</sup> I present the measurement of institutional contexts in the discussion about econometric modeling.

<sup>84</sup> An alternative is to measure spending as a share of total government spending (Chapter 2). To my knowledge, the only existing source of this measure for LACs that includes information of public transfers and social services in the period under analysis in this study is Avelino et al. (2005). However, I did not use this data source because it contains missing information for several of countries analyzed in this chapter.

<sup>85</sup> Data of expenditures that cover a shorter time horizon are not available for macro-comparative analysis in Latin America.

to estimate short-term dynamics, the data contain a measurement problem that has no methodological solution. For the unbalanced panel on which I rely, the data capture different time intervals. In such a case, data on a yearly basis capture short-term dynamics for countries with scores in several time points but long-term dynamics for countries with time series that have long-term intervals between time points (for example, one score for 1985 and another for 1997). Unfortunately, this problem of unbalanced panels for the estimation of short-term effects cannot be solved by econometric techniques for time series.<sup>86</sup> My solution is to recognize the limits of the data and measure public transfers spending on a yearly basis, ignoring time intervals. This implies that the parameter estimates in the statistical models might not only reflect immediate dynamics but also longer-term horizons.

Figures of public transfers spending are taken from Huber et al (2008), who collected the data from the Government Finance Statistics Yearbook and the International Financial Statistics Yearbook of the International Monetary Fund (IMF). However, the missing values are filled by using data from Cominetti (1996) and ECLAC's Social Panorama (various years). IMF figures include only information about central governments. To estimate the effect of public transfer's size, the exclusion of the local administration is not a problem because the central governments typically finance and administer these cash payments in Latin America.<sup>87</sup>

The measure of public provision's size of social services is spending on health and education as a percentage of GDP. This indicator captures the size of the state's commitment to the provision of both services in relation to the resources of the economy as a whole. To estimate the effect of this indicator of benefits in kind on poverty in the long run, I use cumulative human capital spending from the largest period for which there are high-quality comparative data of spending. This period

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<sup>86</sup> A common econometric strategy to identify in a unique panel model, including both long- and short-term effects, is to include in the set of independent variables that are measured on the original time scale of the data (e.g., yearly basis), a new regressor that should be the lagged effect either of the dependent variable or of the causal factor for which we formulate a hypothesis. Unfortunately, this strategy does not work well with data in this study, given that the panel is strongly unbalanced; that is, the amount of information available for each country varies. This means that time lags are not uniform and, thus, we would have a serious problem identifying the effect of social policy measures. This characteristic of the dataset also rules out the use of averages over short time periods (e.g. five years), as there are countries with large-time intervals. Furthermore, the procedure of averaging the data introduces an additional serial correlation, making the inference more difficult.

<sup>87</sup> Social security and welfare spending specifically includes retirement pensions, disability and survivor transfers payments, unemployment benefits, family allowances, and social assistance grants. Unfortunately, it is not possible to disaggregate public transfers spending figures in social insurance and social assistance components. Huber et al. (2006) point out that pensions account for 83 percent of transfer spending in IMF sources.



goes from 1970 to 2000.<sup>88</sup> The cumulative figures estimate the long-term effect by capturing not only the state's commitment for a particular year but also the history of welfare generosity.<sup>89</sup> This is a standard procedure in capturing long-term effect in the literature about the welfare state (Huber & Stephens 2001, Podesta 2006, Pribble et al. 2009).

Similar to the measure of public transfers, the source of the data of human capital spending is Huber et al. (2008). These authors contend that the exclusion of the local government is a major problem in this type of spending because several Latin American states manage human capital programs at sub-national levels. To deal with this problem, the data of human capital spending used in this study cover state and local spending by combining information from four different sources: Cominetti (1996), ECLAC's Social Panorama (various years), ECLAC' Badesinso online dataset, and the IMF sources cited above. ECLAC series cover state and local policy and, thus, the author used this series for the countries in which state and local spending is relevant. For the rest of countries, they also used the ECLAC series and filled the missing data with the others sources.

I have examined the impact of a large number of control variables, which were selected on the basis of the explanatory framework of poverty in Latin America developed by Pribble, Huber, and Stephens (2009). Some of these were excluded from the final model to avoid problems of multicollinearity and enhance the clarity of the presentation. It should be emphasized, however, that none of the controls excluded from the final model changed my substantive results.<sup>90</sup>

Table 3.1 shows the control variables incorporated into the final specification. My theory assumes that the effect of social policies on poverty is channeled through the economic output and the inequality of the income distribution (Section 3). A key information in determining the antipoverty effectiveness of economic output is the elasticity of poverty with respect to income per capita of a

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<sup>88</sup> I obtained cumulative values by adding the figures of each particular year. For example, if figures of human capital spending are 1.3 and 0.6 in 1970 and in 1971, respectively, the cumulative values are 0.6 for 1970 and 1.9 (1.3 plus 0.6) for 1971.

<sup>89</sup> Following the standard approach in literature about welfare state (Huber and Stephens 2001), my measure of long-term welfare state's commitment to the provision of social services does not consider the depreciation of earlier investments. There is a set of problems, however, that preclude the examination of human capital investment's depreciation with spending data. First, as Arrazola et al (2005) point out, depreciation rates might be heterogeneous across education levels (e.g., the higher the education, the lower the depreciation) and it is difficult to capture such heterogeneity with macro data such as expenditures. Second, it is not entirely clear how to capture depreciation with expenditure data. One approach, at first glance, is to attach to earlier investment higher weights. Nonetheless, there is not a clear approach to how should the weight exactly be estimated. Finally, the evidence of human capital depreciation is mixed and sparse (Weber 2010).

<sup>90</sup> The excluded control variables are urbanization, inflation, various indicators of globalization (foreign direct investment inflows, and external debt), infant mortality rate, female labor force participation, unemployment, a demographic indicator (percentage of population younger than 15), and cumulative years of democracy from 1945 to the year of observation.

country (Besley & Burgess 2003). In fact, GDP per capita is the most-used indicator of a country's economic output in comparative analysis (Kenworthy 2011). Following this tendency, I control national economic output by using the real GDP per capita in constant dollars in 1996 international prices. This variable is taken from the Penn World Tables (Heston et al. 2001).

Different causal factors impact poverty through the growth channel. At first glance, there are many determinants of economic growth, but one could say that overall empirical studies emphasize industrialization and productivity of the labor force as two variables that might contribute to poverty reduction through the growth path (Moller et al. 2003). To control both causal factors, I include a measure of industrialization by using the percentage of the labor force in industry. The source for this variable is the World Development Indicators (2007). Productivity of the labor force is controlled by the average year of total education for the population age 25 and older. The data are taken from Barro and Lee (2000).

**Table 3.1.** Summary statistics of the dependent and independent variables. 1980–2000

	Observations	Mean	Standard deviation	Minimum	Maximum
Poverty (\$ 2 a day, logged)	67	2.867	0.717	0.693	4.021
GDP per capita (logged)	67	8.672	0.334	7.553	9.362
Gini coefficient (logged)	67	3.977	0.104	3.726	4.142
Industry employment	67	24.132	3.545	13.200	34.100
Ethnic heterogeneity (dummy)	67	0.463	0.502	0	1
Informal sector	67	47.192	11.054	27.933	69.300
Years of education	67	5.123	1.470	2.390	8.127
Trade	67	48.351	26.823	13.243	130.675
Health & Education spending	67	122.395	55.662	32.300	284.758
Public transfers spending	67	5.495	4.217	0.143	19.156
Pioneer corporatist welfare states (dummy)	67	0.448	0.501	0	1
Pioneer*public transfers spending	67	4.093	5.119	0	19.156
Universalist welfare states (dummy)	67	0.134	0.344	0	1
Universalist*public transfers spending	67	0.537	1.468	0	5.504

*Note:* Health & Education spending scores are cumulative averages for the period 1970–2000. “\*\*” means interaction terms in regressions.

Scholars consider years of education as a measure of public provision of social services on the grounds that outcome variables might reflect past policies (Pribble et al. 2009). However, a significant portion of human capital expenditure is private in Latin America (Wolf & Gurria 2005).<sup>91</sup> This suggests that, in addition to government spending, in this region other factors might determine outcomes. Put otherwise, years of education and public education/health expenditures do not capture the same phenomena. Thus, the validity of years of education as an indicator of public investment is suspect.

The second path by which the effect of social policies is channeled involves inequality of income distribution. Following empirical studies of the link between poverty and income distribution (Kalwij & Verschoor 2007), the measure of this latter concept in this study is the Gini index of income inequality from the United Nation's University World Income Inequality Database (WIID).<sup>92</sup> This database includes several indicators of quality of the Gini's estimations. To select the observations of the WIID, I followed the procedure of Huber et al. (2006). The observations with the highest quality were selected, and then I used estimations that were generated with post-transfer income. In the case of multiple observations per year, the selected observation was one that used an adjustment for household size and the individual as a unit of analysis. In some cases, multiple observations persisted, and then the mean of the observations was used. Following the advice of Huber and collaborators, I added 2.98 to the Gini indexes estimated from surveys without adjusting household size.

The differences in inequality of income distribution among the countries are associated with a set of inequality sources. The cross-national studies suggest that ethnic diversity and the informal sector increase the levels of inequality and, in turn, poverty in Latin America (e.g. Ros 2009). Measures of these causal factors are included in the statistical multivariate models. To control for ethnic diversity, I included a dichotomous variable in which one indicates ethnic diversity; this is when the percentage of indigenous and descendants of Africans in the population of a country is between 20% and 80%. This measure of ethnic diversity is based on information about the ethnic

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<sup>91</sup> Figures of spending indicate the relevance of private sector for the provision of social services in Latin America. Public expenditures on educational institution in Latin America averaged 3.9 percent of GDP in 2000. Private expenditures were 1.06 percent of GDP (Wolff & Gurria 2005). Furthermore, in Chapter 2, I show that the private expenditure on health as a percentage of total health expenditure in Latin America for the period 1990–1999 was 49 percent.

<sup>92</sup> Figures were downloaded in August 2010 from [http://www.wider.unu.edu/research/Database/en\\_GB/wiid/](http://www.wider.unu.edu/research/Database/en_GB/wiid/)

and racial composition of Latin America nations for around the year 2000, taken from de Ferranti et al. (2004).

The measure of the informal sector considered in the statistical model is the percentage of workers classified as informal from the non-agricultural labor force. The source of this indicator is Huber et al. (2008), who compiled information from several publications of the International Labor Organization (ILO). The ILO sources have a high number of missing values, especially in the 1990s. To overcome this problem, I found two solutions. Firstly, some missing values in the 1990s were filled with data of informal work from Socio-Economic Database for Latin America and the Caribbean (SEDLAC) compiled by the Center for Distributive, Labor and Social Studies of Universidad Nacional de la Plata, Argentina. However, the interpretation of the effect of the informal sector on poverty must be made carefully because the concepts of SEDLAC and ILO regarding figures of informal work are not the same.<sup>93</sup> Secondly, due to the high number of missing values in the series, I used averages for the periods from 1980 to 1989 and from 1990 to 2000.

Finally, the statistical models use an additional control variable. A current discussion in the literature surrounds the impact of globalization on poverty (Nissanke & Thorbecke 2010). Scholars argue that globalization might indirectly affect poverty through the impact of international factors on state commitment to the provision of social service and public transfers (Rudra 2008). I test the effect of globalization on poverty by using total exports and imports as a percentage of GDP as a measure of globalization. This variable is taken from Huber et al. (2008).

### *Estimation Procedure*

Mirroring my theoretical expectations, I am particularly interested in the distributional and growth effects of benefits in cash and in kind on poverty levels. The effects were estimated by using pooled OLS regressions, in which the logged version of poverty rates is a function of social policy measures and a set of covariates. Poverty rates appear in the natural logarithm because the original distribution of this variable is highly skewed, with a long tail to the left. More specifically, I employed the following two equations:

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<sup>93</sup> SEDLAC figures cover the agricultural labor force. I took these observations in August 2010 from <http://sedlac.econo.unlp.edu.ar>

$$\begin{aligned} \text{Log(Poverty)}_{it} = & \beta_{10} + \beta_{11}\text{Services}_{it} + \beta_{12}\text{Transfers}_{it} + \beta_{13}\text{Pioneer}_i + \beta_{14}\text{Universalist}_i \quad (3.1) \\ & + \beta_{15}\text{Transfers}_{it} * \text{Pioneer}_i + \beta_{16}\text{Transfers}_{it} * \text{Universalist}_i \\ & + \beta_{17}\text{Log(GDP)}_{it} + \sum_k^p \beta_{1k}X_{it} + \sum_j^q \beta_{1j}Z_i + \varepsilon_{1it} \end{aligned}$$

$$\begin{aligned} \text{Log(Poverty)}_{it} = & \beta_{20} + \beta_{21}\text{Services}_{it} + \beta_{22}\text{Transfers}_{it} + \beta_{23}\text{Pioneer}_i + \beta_{24}\text{Universalist}_i \quad (3.2) \\ & + \beta_{25}\text{Transfers}_{it} * \text{Pioneer}_i + \beta_{26}\text{Transfers}_{it} * \text{Universalist}_i \\ & + \beta_{27}\text{Log(Gini)}_{it} + \sum_k^p \beta_{2k}X_{it} + \sum_j^q \beta_{2j}Z_i + \varepsilon_{2it} \end{aligned}$$

In Equations (3.1) and (3.2), the  $\beta$ s are the parameter estimates and  $\varepsilon$  is the error term. In each  $\beta$ , the first subscript represents the number of the equation and the second subscript identifies the parameter in the equation. The subscripts  $i$  and  $t$  represent the country and year of observations, respectively. Finally,  $X$  ( $k=1\dots p$ ) represents a set of control variables that change over time, and  $Z$  ( $j=1\dots q$ ) refers to a set of control variables, which vary only between countries but not within them.

Basically, the models have two particular specifications. First, my theoretical explanations assume that the size of government budget allocated to benefits in kind (*services*) and cash payments (*transfers*) impact poverty through either economic output or inequality of income distribution. Following Dollar and Kraay (2002), I identify both channels by using measures of economic wealth and inequality of income distribution as control variables in the econometric models. Equation (3.1) includes the logarithmic transformation of GDP per capita.<sup>94</sup> By doing so, this model eliminates the path that connects social policy variables with the level of poverty through economic output. Thus, Equation (3.1) provides distributional effects for the size of public transfers and the size of public provision of social services. Furthermore, the inclusion of control variables additionally removes the correlations between these variables and the measures of social policies.

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<sup>94</sup> Following standard specifications in developmental economics (e.g., Lopez, 2009), poverty models include the logged transformations of GDP and the Gini index to directly estimate elasticities. Furthermore, the distribution of variables is normalized by using logarithmic transformations and, in doing so, improves the efficiency of OLS models.

The theoretical discussion considers growth effects only for the generosity of public provision of social services but not for public transfers. In respect of total impact, however, growth effects perhaps cancel out distribution effects; in this way, to test the robustness of my prognoses, the modeling strategy also considers the growth path for both measures of social services and public transfers. More specifically, I formulate a second model (Equation (3.2)), which has a similar specification as Equation 3.1, with the exception of the inclusion of the logarithmic transformation of the Gini coefficient. Because of this specification, this model estimates the growth effect since the path from public policies to inequality of income distribution to poverty is ruled out by controlling the measure of income distribution.<sup>95</sup> By estimating growth and distribution effects, the modeling strategy of this study provides a complete picture of the paths, in which the effect of the budget size assigned to public transfers and public provision of social services on poverty is channeled.

The second specification of the modeling strategy in this chapter pertains to the role of the institutional context on the association between the size of public transfers and poverty. Equations (1) and (2) include interaction effects between the public transfer spending and dummy variables for pioneer corporatist and universalist welfare states—the rest of the clusters are in the reference category—to evaluate how transfers payments contribute to reducing poverty in different institutional contexts.<sup>96</sup> More specifically, the hypotheses of this study are formalized by using the coefficients of interaction terms and the principal effect of public transfers spending. Moreover, because these hypotheses involve combinations of parameters, I used Wald tests to evaluate the prognoses.<sup>97</sup>

An unbiased and efficient estimation must resolve a set of econometric complications. I will discuss the most important problems in the two pooled OLS models in turn. To start, panel data analyses suffer the problem of serially correlated errors. As a consequence, OLS estimates incorrect standard errors. Broadly speaking, the literature provides two ways to deal with

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<sup>95</sup> In the Appendix 2, a formal illustration of the modeling strategy is provided.

<sup>96</sup> Following the findings of cluster analysis (Chapter 2), Argentina, Brazil, Chile, and Uruguay are pioneer corporatist welfare states. The universalist welfare state is Costa Rica. The rest of the Latin American countries in the sample are classified as productivist, residual corporatist, or mixed systems, forming the reference category of dummy variables. According to institutional theory, institutional arrangements exhibit a high stability over time (Ebbinghaus 2006). Following this assumption, although the results of cluster analysis refer to the 1990s, I assume that the classification is also valid for the 1980s and, thus, the membership of each country does not vary in the period 1980–2000. It follows that the classification of countries in the dummy varies is the same in the 1990s and in the 1980s.

<sup>97</sup> In the Appendix 2, I use Models 3.1 and 3.2 to provide a formalization of hypotheses.

autocorrelation. The first approach models the dynamics of all variables by exploiting the within variance over time. This approach requires that the time series of cross-sections dominate the data; that is, long time-series for a few units observed over many equally spaced time points. However, the data used in this study do not present these characteristics. The panel is unbalanced, and the average number of time points (five) is much smaller than the number of units (fifteen). Therefore, I use a second approach, which treats autocorrelation as a nuisance. The use of the robust-cluster estimator of the standard errors, on which I rely, is one of the most prominent examples of the second group. This estimator provides unbiased standard errors in the presence of any pattern of correlation among the errors within units. It also assumes that the errors are not correlated between the clusters.<sup>98</sup>

A second econometric problem involves the presence of unobserved heterogeneity. A fixed-effects model is required if time-constant omitted variables exist that are correlated with at least one explanatory variable. As Beck and Katz (2001) argue, fixed effects might “throw the baby out with the bathwater” because they completely remove the between variance. By doing so, the estimation of the time-constant effect is impossible in fixed effects models, and the estimation of rarely changing variables becomes highly inefficient—so inefficient that fixed effects models can, in fact, produce extremely biased point estimates (Plümper & Troeger 2007). In this study, this is important because the Gini coefficient must be classified as a rarely changing variable.<sup>99</sup> This suggests that we cannot expect to obtain unbiased estimates of growth effects using a fixed effects approach. In this study, therefore, I follow another approach. In pooled OLS models, unobserved heterogeneity is controlled by conditioning relevant poverty determinants, which the literature suggests.<sup>100</sup> Nevertheless, it is important to say that our pooled OLS estimations do not totally rule out the existence of unobserved variables that are correlated with the error term.<sup>101</sup>

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<sup>98</sup> An international economic shock such as the debt crisis in the 1980s in Latin America perhaps is a cause of cross-sectional correlation in the error term. To control this problem, I included a dummy variable in all models for the period from 1980 to 1989. The coefficient of this variable was not significant and, thus, I did not add this to the final specifications.

<sup>99</sup> Eighty-eight percent of the total variance of Gini coefficient includes differences between the countries. The between and within variances of Gini coefficient are 0.00826 and 0.00112, respectively.

<sup>100</sup> Another approach to control for unobserved heterogeneity is the random effects method. The Breusch-Pagan Lagrange multiplier (LM) test indicates the pooled OLS models are appropriate but at the cost of assuming independent unobserved heterogeneity.

<sup>101</sup> A possible source of endogeneity seems to rely on the fact that poverty might be a cause of public transfers and public provision of social services. In fact, my theory contends that the poor increase the demand for redistribution. In the case of social services, the cumulative nature of human capital spending rules out the problem of endogeneity. This measures the

### 3.5 Empirical Results

Table 3.2 presents estimation results. I report findings from two sets of models that represent the distributional (Models 1 and 2) and growth (Models 3 and 4) impacts of public transfers and public provision of social services on poverty rates. Models 1 and 3 are the baseline estimations that include only social policy variables and measures that identify different paths. In the next two models, the effects of the control variables are also estimated. Finally, for all models, Table 3.2 shows the tests of the hypotheses.

Consider first tests of the hypotheses related with social services. We find no robust effect of cumulative health and education spending across the models. Despite the statistical significance, the small sizes of the coefficients in Models 1 and 3 indicate that the substantive effect of this variable is marginal. For Model 1, for example, for a one-unit increase in cumulative human capital spending, we expect to see approximately a 0.3 percent decrease in the poverty rate. Moreover, when control variables are included in Models 2 and 4, the coefficients are insignificant.<sup>102</sup> In other words, human capital spending has no direct effect; the indirect effect, which perhaps is mediated by some control variable, is marginal. This result, however, should not be interpreted in the sense that investment in human capital does not help to reduce poverty. In fact, the growth and distributional effects of years of education are quite large and significant, indicating that human capital contributes to reducing poverty. Rather, the findings suggest that investment in human capital related with reductions of poverty in Latin America may not come from the state. Put otherwise, poverty decreases by improving the human capital of citizens that is not a result of government spending but it reflects other factors that determine years of education.

The findings of public transfer spending are in line with my hypotheses. For Models 1 and 2, public transfer spending has a significant distributional impact on poverty levels in the three groups of welfare states. The signs of the parameter estimates suggest that while the size of public transfers reduces poverty in pioneer corporatist and universalist clusters, the size of this instrument

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history of social spending, and current poverty rates cannot affect past welfare efforts. However, this problem might persist for public transfers. The size of the sample (67) precludes statistical methods (e.g., instrumental variables), by which we can obtain unbiased estimations for this independent variable. I leave the solution of this problem for future research.

<sup>102</sup> Because years of education might be an intervening variable between health & education spending and poverty, I excluded years of education as a control variable in additional analyses, which are not shown here. The coefficients of the public provision of social services were insignificant in the additional analyses.



of the welfare state increases poverty levels in residual corporatist, productivist, and mixed welfare arrangements. Furthermore, the difference between the coefficients of pioneer corporatist and universalist arrangements is negative and insignificant in Model 1. However, as the prognosis (Hypothesis 2a) suggests, in model 2, the estimation turns significant and positive when the control variables are entered into the analysis.

**Table 3.2.** Determinants of poverty rates. Pooled OLS regressions, 1980–2000

	Distributional Effect		Growth Effect	
	Model 1	Model 2	Model 3	Model 4
GDP per capita (logged)	-0.887** (0.358)	-0.061 (0.356)		
Gini coefficient (logged)			4.718*** (1.178)	2.079*** (0.536)
<i>Control variables</i>				
Industrial employment		-0.067*** (0.020)		-0.055*** (0.013)
Ethnic heterogeneity		0.058 (0.181)		-0.073 (0.082)
Informal sector		0.002 (0.006)		-0.003 (0.601)
Years of Education		-0.239*** (0.066)		-0.189*** (0.041)
Trade		-0.006** (0.002)		-0.007*** (0.002)
<i>Social policy variables</i>				
Pioneer welfare states	1.078** (0.504)	0.718*** (0.213)	-0.154 (0.294)	0.171 (0.223)
Pioneer welfare states*Public transfers spending	-0.196* (0.095)	-0.226*** (0.039)	-0.108 (0.073)	-0.169*** (0.031)
Universalist welfare state	0.535** (0.247)	0.981*** (0.197)	1.095*** (0.209)	1.029*** (0.082)
Universalist welfare state*Public transfers spending	-0.152* (0.083)	-0.312*** (0.049)	-0.113 (0.711)	-0.257*** (0.034)
Constant	10.869*** (3.085)	6.325* (3.143)	-15.236*** (4.673)	-2.452 (2.012)
<i>Test of hypotheses<sup>a</sup></i>				
Health & Education spending (H1)	-0.003* (0.002)	0.001 (0.001)	-0.005** (0.002)	-0.000 (0.001)
Public transfers for pioneer welfare states (H2)	-0.120** (0.054)	-0.117*** (0.014)	-0.041 (0.031)	-0.081*** (0.012)
Public transfers for universalist welfare states (H2)	-0.078** (0.045)	-0.204*** (0.038)	-0.046 (0.052)	-0.169*** (0.031)
Differences between pioneer and universalist (H2a)	-0.043 (0.038)	0.087** (0.039)	0.005 (0.036)	0.089** (0.032)
Effect of public transfers for rest of welfare states (H3) <sup>b</sup>	0.075 (0.086)	0.108*** (0.041)	0.066 (0.068)	0.088*** (0.026)
Adjusted R squared	0.490	0.865	0.705	0.891
N	67	67	67	67

*Note:* Robust-cluster standard errors in parentheses. (a) Hypothesis testing uses the Wald Method. (b) The category “Rest” includes residual corporatist, productivist, and mixed welfare states. \*significant at 10%, \*\*significant at 5%, \*\*\*significant at 1%. One-tailed tests of coefficient related with substantive hypotheses, two-tailed test for rest of coefficients.

Comparing distributional and growth effects, I also find that growth effects do not cancel out distributional impacts. In fact, in Model 4, parameter estimates of public transfer spending reinforce the distribution effects. As stated above (Section 3.4), this finding suggests that pooled OLS regressions capture not only immediate dynamics because the main sources of economic wealth should work in the long run.

In sum, the results for public transfers spending conform to my expectations and have some interesting implications. First, all else being equal, the contribution of public transfer's size to poverty reduction is higher in universalist welfare states than in pioneer corporatist welfare systems. However, public transfers might have the perverse effect of increasing poverty in remaining Latin American welfare states. Second, the great shift of the parameters that the introduction of control variables suggests that these factors are of great importance for the development of poverty rates.

To present quantities of direct substantive interest for public transfer spending, I made a series of counterfactual estimates of poverty rates under different constellations of the public transfer generosity and the clusters of welfare states. This was done by making all the other variables in the regression equations of Table 3.2 equal to their mean levels and then estimating 1,000 simulations of the counterfactual impact on the poverty rates of low and high levels of cumulative public transfer generosity for the clusters of welfare states. The 20th and 80th percentiles represented the low and high levels of public transfers spending, respectively.<sup>103</sup> The advantage of simulations is that these not only provide the expected poverty rate under the different combinations of public transfer generosity and clusters of welfare states, but also account for the uncertainty of the estimations by providing confidence intervals.

Table 3.3 shows the counterfactual estimates of poverty by channel. The results for both inequality and growth paths can be interpreted in a number of ways. From the standpoint of my argument, the most important information is contained moving from left to right for the distributional path in each cluster. This moving indicates that the counterfactual estimates strongly support my argument about the impact of public transfer's size on poverty. For pioneer corporatist and universalist welfare states, poverty rates were always smaller when the size of redistributive budget

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<sup>103</sup> See King, Tomz, and Wittenberg (2000) for details about the statistical procedure.

assigned to public transfers was “high” (80th percentile) than when it was “low” (20th percentile). More specifically, simulations for the distributional channel reported that, under the constellation of low public transfers spending, the expected poverty rate on average is 32.468 for pioneer nations and 37.065 for universalist welfare states. Under the counterfactual scenario of high public transfers spending, the poverty rates decrease to 14.487 for pioneer welfare nations and 10.043 for the universalist welfare state. Moreover, the reductions of poverty rates resulting from increases in public transfers are higher in universalist welfare states than in pioneer corporatist systems. These reductions are 17.981 (32.668 minus 14.487) percentage points for the latter and 27.022 for universalist welfare states (37.065 minus 10.043). In contrast with these two clusters, as expected, the movement from left to right results in an increase of poverty rates from 23.363 to 47.799 percentage points for residual corporatist, productivist, and mixed welfare states. These findings are exactly as my argument predicts. Finally, estimations for the growth channel follow the same line of the inequality path and, thus, reinforce the inequality effects.

**Table 3.3.** Counterfactual estimates of poverty rates

Type of welfare state	Distributional Path		Growth Path	
	Low public transfers	High public transfers	Low public transfers	High Public transfers
Pioneer corporatist	32.468 (24.699-42.123)	14.487 (12.439-16.930)	21.729 (15.341-30.108)	12.326 (10.526-14.398)
Universalist	37.065 (24.607-54.313)	10.043 (4.346-19.217)	44.523 (30.650-62.610)	15.234 (7.212-27.897)
Resta	23.363 (20.259-26.748)	47.799 (28.877-75.276)	24.437 (21.444-27.516)	43.587 (29.123-65.597)

*Note:* Estimations based on 1,000 simulations of Models 2 and 4 of Table 3.2 by using the software CLARIFY (King, Tomz, and Wittenberg 2000). Low and high regard the 20th and 80th percentile scores on public transfers measure. Control variables were hold in their mean levels. 95 percent confidence intervals in parentheses. (a) The category “Rest” includes residual corporatist, productivist, and mixed welfare states.

Before we explore the robustness of the above findings, I will briefly discuss the estimated effects of the control variables. Firstly, as the literature suggests (Section 3), the effects of GDP per capita and Gini index have the expected sign. However, the measure of economic output becomes insignificant when additional control variables are included in Model 2, indicating that the GDP per capita, per se, does not explain poverty. In this way, the results of Models 2 and 4 suggest some mechanisms that contribute to reducing poverty through growth and distributional effects. The

coefficient of industrial employment is negative and significant at the 0.01 level in Model 4. As Moller et al. (2003) point out, the manufacturing sector is typically characterized by higher average wages, which in turn might increase the income per capita. Furthermore, trade does help reduce poverty, and this effect operates through mean income and income distribution. As said above, years of education also contribute to poverty reduction.

### *Robustness Checks*

The results of the regression models are highly robust with respect to two important problems with OLS in small samples. First, for this type of sample, the asymptotic error terms of the pooled OLS models might not be normal. If so, *t*-statistics for significance testing would be uninterpretable (Fox 1991). Second, in small samples, OLS regression coefficients are sensitive to observations with high residuals (outliers) and high leverage points (Andersen 2008). In this study, I applied a set of regression diagnostics to identify outliers and leverage cases.<sup>104</sup> Findings indicate that parameter estimates in pooled OLS models might be driven by Argentina, Nicaragua, Chile, and Uruguay.

One solution to both problems is a robust estimation that handles outliers and high-leverage observations, giving more efficient estimations than OLS in the face of non-normal errors (Hamilton 2007). One class of robust estimators, known as M-estimators, works by downweighting observations with large residuals (outliers). Different M estimators are defined by how much weight they give to residuals of various sizes. I used a least absolute value regression (LAR), which is a type of M-estimator that gives observations with larger residuals less weight than OLS by minimizing the absolute value of residuals (Berk 1990). In my sensitivity analysis, LAR regressions model the conditional 0.5 quantile, thus providing “median” regressions (see Table 3.4).

LAR estimator presents two problems. First, LAR regression takes into account only outliers but not high-leverage points with small residuals. However, this is not a problem for the findings of a robust estimator in this study because the regression diagnostic does not indicate the presence of this last type of points in the sample of Latin American countries. Second, LAR and other robust estimators share with OLS the assumption that errors are independent and identically distributed.

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<sup>104</sup> I used the hat-matrix, studentized residuals, and Cook's distance measure in the diagnostics.

Thus, standard errors are not valid in the presence of heteroscedasticity or correlated errors. Because both problems are a disadvantage when handling panel data, I primarily used LAR regressions to test the sensitivity of coefficients, leaving the uncertainty of estimations in a secondary position.

Table 3.4. Determinants of poverty rates. Least absolute value regressions. 1980–2000

	Distributional Effect	Growth Effect
	Model 2a	Model 4a
GDP per capita (logged)	-0.767 (0.234)	
Gini coefficient (logged)		1.263* (0.656)
<i>Control variables</i>		
Industrial employment	-0.059*** (0.016)	-0.034*** (0.012)
Ethnic heterogeneity	-0.038 (0.153)	-0.104 (0.114)
Informal sector	0.009 (0.006)	0.004 (0.005)
Years of Education	-0.266*** (0.061)	-0.236*** (0.044)
Trade	-0.007*** (0.003)	-0.007*** (0.002)
<i>Social policy variables</i>		
Pioneer welfare states	0.819*** (0.240)	0.284 (0.238)
Pioneer welfare states*Public transfers spending	-0.234** (0.048)	-0.186*** (0.043)
Universalist welfare state	0.847** (0.371)	0.872*** (0.273)
Universalist welfare state*Public transfers spending	-0.246*** (0.093)	-0.216*** (0.723)
Constant	6.324*** (2.136)	-0.302 (2.676)
<i>Test of hypotheses<sup>b</sup></i>		
Health & Education spending (H1)	-0.001 (0.001)	-0.002* (0.001)
Public transfers for pioneer welfare states (H2)	-0.121*** (0.018)	-0.075*** (0.017)
Public transfers for universalist welfare states (H2)	-0.134* (0.083)	-0.105* (0.063)
Differences between pioneer and universalist (H2a)	0.013 (0.085)	0.030 (0.064)
Effect of public transfers for rest of welfare states (H3) <sup>c</sup>	0.113** (0.046)	0.111** (0.038)
Pseudo R squared	0.687	0.687
N	67	67

Note: (a) Specifications regards Models 2 and 4 in Table 3.2. (b) Hypothesis testing uses the Wald Method. (c) The category "Rest" includes residual corporatist, productivist, and mixed welfare states.\*significant at 10%, \*\*significant at 5%, \*\*\*significant at 1%. One-tailed tests of coefficient related with substantive hypotheses, two-tailed test for rest of coefficients.

Table 3.4 shows robust regression estimates. I present only Models 2 and 4 of Table 3.3, as they consider the effects of benefits on poverty under the control of socio-economic variables. In comparison with pooled OLS estimates, the coefficients of benefits measures differ by little, with the exception of the effect of public transfer spending in the universalist welfare state, which is reduced in the robust estimates from -0.204 to -0.134 for the distributional path and from -0.169 to -0.105 for the growth path. However, the impact of public transfer spending in the universalist welfare state is still statistically significant. Furthermore, as a result of the reduction of the coefficient of public transfers in the universalist welfare state, the difference between pioneer corporatist and universalist arrangements is lower than in pooled OLS models and insignificant. It follows that the uncertainty of difference between public transfer's impacts for both clusters of welfare states is high. These results of the sensitivity analysis suggest that most findings of this study are not an artifact of outliers and non-normal errors. The only significant deviation is the effect of public transfer spending in universalist welfare states, which might be overestimated in pooled OLS regressions.

### **3.6 Conclusion**

In this study, I have attempted to evaluate the impact of size of redistributive budget allocated to public transfers and social services on poverty in Latin America and the influence of the overall national policy profile (type of welfare state) on the effects of public transfer's size. I started by discussing the arguments and findings in the literature. In the following section, I offered a theoretical discussion of the effects of public transfer generosity and the size of benefits in kind on poverty across Latin American countries. An unbalanced panel of fifteen Latin American countries for the period from 1980 to 2000 was used to test my hypotheses.

Regarding social services, I contended that increasing budget size allocated to social services—particularly, education and healthcare—should lead to a decrease of poverty levels in Latin America. My findings falsify this hypothesis. The statistical analyses have demonstrated that cumulative health and education spending does not have a significant impact on poverty rates over the long run. Contrasting with this result, years of education do clearly help to poverty reduction. Two factors might explain these findings. First, there is a considerable lag between the public

investment in social services and the outcomes of this investment—years of education and poverty. In fact, scholars suggest that the return of investment in human capital needs, at least, a generation to see results (Huber et al. 2006). Thus, in spite of the consideration of cumulative scores for the period from 1970 to 2000, the measure of benefits in kind used in this study perhaps does not completely capture this lag. Second, the significant and negative impact of the measure of the productivity of the labor force (years of education) on poverty suggests that, as stated above (Section 3.4), years of education captures not only government effort but other factors. In fact, because of the insignificant effect of health and education spending, I can conclude that others sources of human capital (e.g., private investment) has been more effective than public investment in reducing poverty in Latin America, insofar as these additional sources increase the years of education among citizens. That said, one important avenue for future research is to more clearly identify the effect of these additional sources of human capital on poverty among Latin American welfare states.

The results reported in this study provide supportive evidence for hypotheses about associations between the size of redistributive budget assigned to public transfers and poverty. I argued that the effect of public transfer's size on poverty varies systematically between clusters of Latin American welfare states. In this way, by distinguishing five clusters, my contention was that public transfer generosity should decrease poverty in pioneer corporatist and universalist welfare states in Latin America, with higher poverty reductions in the latter. In contrast to both welfare systems, I also claimed that public transfer's size should increase poverty in residual corporatist, productivist, and mixed welfare states. These contentions are exactly what I find in my estimations of public transfer spending among Latin American countries over the period from 1980 to 2000. In line with the power-resources theory, thus, I conclude that the institutional context matters in understanding the association between the size of public transfers and poverty. In particular, institutional contexts characterized by program universalism shape this association so that public transfer generosity reduces poverty. This finding corroborates evidence in advanced Western democracies that suggests the importance of universalism in decreasing poverty (Korpi & Palme

1998). More importantly, my analysis then indicates the patterns of welfare provision that emerged in some advanced democracies can also be extended to some regions of the developing world.

Although my argument focuses on the distributional effect of public transfers, I examined the growth effect to rule out the chance that the latter effect might cancel the impact of public transfers channeled through income distribution. Regression estimates indicate that such is not the case; in fact, growth effects reinforce the distribution effects. This finding suggests that public transfers might affect the economic output and, in doing so, influence the level of poverty within Latin American countries. However, we have to consider this implication of the findings with caution. More particularly, to evaluate the estimated growth effects, two critical points are relevant. First, economic theories of the welfare state suggest feedback effects between public transfers and economic growth (Section 3.3). It follows that the findings perhaps do not reflect a genuine effect of public transfers on economic output. Rather, the growth impact of public transfers might be a result of the effect of economic output on public transfers. The econometric method used in the study does not eliminate this possibility. Second, for pioneer corporatist and universalist welfare states the analysis indicates a negative growth effect. Put otherwise, in both systems public transfers impel economic output that, in turn, reduces poverty. To explain this growth effect, studies suggest that greater equality, which is a result of redistribution, might increase and stabilize consumer demand, in turn, boosting investment (Kenworthy 2004). However, scholars are skeptical of the validity of such arguments for Latin America. Indeed, an hegemonic position in the continent associates public transfers, particularly for corporatist systems, with strongly negative effects on the productivity of Latin American economies (Barrientos 1998, Edwards 2009). Most of these arguments consider dynamics that cannot be tested with the data of this study. Overall, on the grounds of these two critical aspects, further research is necessary to evaluate my findings of the effect of public transfers on poverty that is channeled through economic output. This research must work with rich panel data.

The results of robustness checks also suggest that differences are highly uncertain between universalist and pioneer corporatist welfare states with regard to the impact of benefits in cash. This finding is not necessarily inconsistent with my theory because the negative impact of these



programs is actually higher in the universalist welfare state. Rather, the analysis fails to reach statistical significance because of the limited number of units that represent this type of welfare state in Latin America. Further research should evaluate the robustness of the findings for the universalist welfare state in Latin America by including countries of world whose social policy is oriented to the universalism. By doing so, the number of units that form the universalist cluster will be increased.

Overall, the findings of this study suggest that to understand the connection between social policy and poverty in Latin American nations (and in other developing countries), one must disaggregate social policy in particular types of benefits and conceptualize the types as multidimensional constructs. Furthermore, it is necessary to analyze welfare benefits in different institutional contexts—not consider a unique homogenous political economy that represents the countries under study. The study of these conclusions of the analysis is an important avenue for future research in developing countries opened by this study. Specifically, it is necessary to produce more research about the mechanism that links institutional contexts with poverty (public support for redistributive policy) and further a disaggregated expenditure approach by distinguishing types of spending that are more particular than the categories of public transfers and benefits in kind (e.g. social insurance and social assistance transfers).

In emphasizing the disaggregation of social policy and the importance of institutional contexts, my study suggests one important policy implication. The transfer programs have to be designed to distinguish between different institutional contexts. On one hand, the policy makers might have to concentrate on the size and targeting of the benefits in small and recent welfare states. On the other hand, the pioneer corporatist and universalist welfare states have reached substantive levels in both dimensions of a given social policy. This suggests that the design of social policy must include other elements to minimize disincentive effects associated with generous welfare programs, such as work requirements and clear time limits on benefits.

## Chapter 4

# The Impact of Social Assistance Transfers on Chronic and Transitory Poverty in Chile: 2001–2006

### 4.1 Introduction

The impact of government programs on poverty is generally measured by comparing pre-transfer and post-transfer poverty. In such a framework, any increase in the size of transfers of the income package of poor households will reduce poverty, keeping other sources of income constant. However, there are good theoretical reasons to presume that indirect effects of government programs through the labor supply or productive investment may be associated with an increase in poverty persistence over time.

An area of the welfare state that is particularly inclined to produce these undesired consequences of government programs is social assistance, which typically provides non-contributory cash payments to low-income groups on the basis of a means test; that is, an examination that is applied as a condition of the receipt of some benefit. The present study focuses on this type of public transfer and evaluates the indirect effect perspective or disincentive view of public transfers with regard to absolute chronic and transitory poverty in Chile. The leading question of this third study is how social assistance transfers contribute to reducing both types of poverty. The examination of this question carries implications for what can be expected for poverty alleviation from government benefits that are provided on the basis of a particular target criterion in developing countries such as Chile. This criterion is means-testing.

In this study, the essence of chronic poverty regards low level of capital. Such a level of capital is the result of a permanent failure to accumulate capital which characterizes this type of poverty

status. Capital accumulation is captured by inter-temporal mean income and chronic poverty is defined as a condition characterized by mean income over time that is below the absolute poverty line. All poverty that is not chronic is defined as transitory, as arising because of inter-temporal variability around the mean income over time, rather than to the level of the mean income over time itself. The inter-temporal deviations from the inter-temporal mean income over time cause transitory poverty, insofar as deviations cause household income to fall below the poverty line (Jalan & Ravallion 1998, Naschold & Barret 2011).

Drawing upon these concepts of chronic and transitory poverty, I will formulate a set of hypotheses about the impact of social assistance transfers on both poverty statuses over time. More particularly, I will show that the size of transfers assigned to recipient households is small in the Chilean welfare state and, thus, does not guarantee minimum subsistence. In spite of low generosity, I will argue that Chilean social assistance transfers have a positive impact on chronic poverty. In this chapter, I will suggest that cash payments may be associated with incentives to apply for benefits and to work in the informal sector. These incentives might be particularly relevant for chronic poor, insofar as they suffer from scant opportunities to get a job in the formal labor and, thus, low chances to receive benefits that must be paid for via individual contributions. To derive the impact of social assistance on chronic poverty, the incentive associated with informality is particularly relevant. In the informal sector, chronic poor might find a source of subsistence, which is not guaranteed by cash payments of social assistance. However, informal workers are often trapped in low-pay occupations. It follows that a positive effect of social assistance transfers on chronic poor may arise through increasing informal work effort. In contrast with chronic poverty, I expect that social assistance transfers do not affect transitory poverty since individuals who experience this type of deprivation have lower incentives to qualify for benefits and work in the informal sector than the chronic poor. Furthermore, and most importantly, the size or generosity of the benefits to recipient households is too small to smooth the inter-temporal variability introduced by unexpected events or shocks, whether they affect the income of the chronic or transitory poor.

The hypothesis for chronic poverty finds support in an empirical test carried out on a sample of working-age individuals taken from the Chilean Household Panel (Encuesta Panel CASEN) for

2001 and 2006. However, the expected effect for transitory poverty is rejected. More specifically, following Jalan and Ravallion (1998), I measure the concepts of chronic and transitory poverty by using continuous indexes of chronic and transitory poverty, which are used as dependent variables in regression models. To estimate the causal effect of benefits, social assistance transfers are included in such models as a dummy variable, which 1 indicates whether the person lives in a household that receives any type of social assistance transfers. My estimation results show that social assistance transfers increase absolute chronic and transitory poverty, the impact being stronger in the case of the chronically poor. The findings can be interpreted as support for the theoretical explanation, from which I derive the hypothesis for the chronic poor. However, due to a lack of data, this study did not strenuously test the particular components of such explanation (e.g., informal work) and, thus, I encourage the evaluation of these mechanisms through further empirical research. In the case of transitory poverty, the positive effect of social assistance transfers may reflect the behavior of particular types of the poor.

The disincentive effects of transfer programs on the productive investment and work effort of low-income groups have been the subject of intense scrutiny, primarily in the United States and Europe (for an overview, see Fouarge 2004). The standard static leisure-income model, which is on the basis of most research about the effects of welfare benefits on work effort in developed countries, suggests that social assistance produces persistence in poverty, as social assistance provides people with an incentive to avoid work (Grogger & Karoly 2005). By contrast, in developing countries, the evidence regarding responses of the poor to transfer programs over time is quite scarce (Dercon 2005). The reason is probably the truncated character of welfare programs in these nations (Lindert et al. 2006). However, in recent years, there has been a growing recognition of the need for government programs to improve the socio-economic status of the poor. Consistent with this, many developing countries have introduced transfer programs that consider behavioral effects, especially incentives to invest in human capital (e.g. Alzúa et al. 2010). In such a context, this third study of the dissertation contributes to the literature of social policy and poverty in developing countries in two important ways. First, it provides evidence of the responses of the poor to government programs over time in developing nations by analyzing the case of Chile. In doing so,

this study helps to qualify in a new context the generality of standard economic model with respect to indirect effects of benefits on work effort. Second, to understand such behavioral responses, in this study I develop a theoretical framework, in which I also provide information that would likely improve the design of Chile's antipoverty programs.

To study the impact of social assistance transfers on chronic and transitory poverty, the selection of Chilean social assistance is based on its substantive relevance and pragmatic advantages (see also Chapter 1). After the dictatorship of Pinochet, the new democratic government immediately put poverty and social equity at the top of the agenda. The governments of the first democratic president and his successors maintained trust regarding the focus of social policy on low socio-economic groups that was employed by Pinochet's military regime, but they introduced a new style that had greater complexity in the design of interventions (Fernández Gatica 2005). This design includes the development of various social assistance programs and the collection of high-quality cross-sectional and longitudinal data to evaluate them. In such a context, the study of Chilean social assistance is of substantive relevance because it is important for Chilean policy makers to evaluate the results of public investment on social assistance. Furthermore, as stated above, the evidence related to the disincentive effects of public programs on work effort are scarce in developing countries. Under a methodological point of view, this is somewhat understandable because the study of disincentives effects requires longitudinal data, which are expensive and demand a complex administrative organization.<sup>105</sup> However, in such a panorama, because of the availability of panel household surveys with information about social assistance programs, Chile is an exception. It follows that this country provides good pragmatic conditions to conduct an empirical evaluation of the effect of social assistance transfers on chronic and transitory poverty.

The remainder of the chapter is organized as follows. The first section discusses the findings of studies on the impact of public benefits on absolute and relative poverty. The second section presents a theoretical framework whereby I conceptualize the notions of absolute chronic and

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<sup>105</sup> However, the number of developing countries undertaking panel household surveys the recent years is increasing. See Baulch (2011).

transitory poverty and the disincentive effects of government programs.<sup>106</sup> The third section provides a description of Chilean social assistance programs. Drawing upon the theoretical framework, I use this information to derive the hypotheses of this study. The fourth section explains the data and method that is used in the analyses. The fifth section shows the results of descriptive and multivariate analyses. Finally, I conclude with a return to general theoretical and policy issues.

## 4.2 Review of Literature

The field of poverty measurement over time is not one of great consensus among scholars. In fact, there is a widespread disagreement about most relevant issues, including the weighting of poverty spells and the incorporation of risk into the measure (Addition et al. 2009, Baulch 2011). Whatever the exact measurement, it is important to distinguish the concept of the poverty dynamics, which involves the persistence of the poverty status of individuals or households or their movements into and/or out of poverty over time, from the measurement of them (Bane & Ellwood 1986).

This study relates to one important strand of literature about the effects of social policy on poverty dynamics. My analysis is located in a strand within this literature that distinguishes the effects of several dimensions of social policy. With respect to the impact of cash benefits on poverty at the micro level, at least we can distinguish a priori three dimensions: the size or unit value of benefits to individual or household recipients, the targeting, and the duration of the intervention (Chapter 1). In the rest of this section, I will discuss the findings of studies that have addressed the associations between these dimensions of social policy and poverty status over time.

Studies of advanced nations have suggested that there is no evidence of a robust association between *the size of benefits* and poverty status over time.<sup>107</sup> Regarding the effect of the *duration of benefits* on poverty dynamics, theoretical models and empirical studies that include this dimension are scarce (Saez 2006). Leisering and Leibfried (1999) pointed out that this characteristic of the design of public intervention is associated with disincentive effects on the work efforts of the poor. These authors argued that the probability of leaving social assistance falls over time because the

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<sup>106</sup> Although my framework can be used to understand poverty in general terms, I refer to absolute poverty when I use the term "poverty" in the rest of the chapter. If I speak about another type of poverty, I will specify what type is denoted. See Chapter 1 for arguments for the use of the concept of absolute poverty in the dissertation.

<sup>107</sup> See Kenworthy (2004) for an overview of these studies.

longer the poor receive benefits, the more difficult it is for them to escape from social assistance. In fact, these scholars provided evidence from Germany that reveals a diminishing hazard rate as duration increases.

The empirical evidence regarding the effect of the *targeting* on poverty dynamics is also scarce. In fact, most of the evidence for this dimension of social policy comes from macro-data (Korpi & Palme 1998, Moller et al. 2003, Pedersen 1999). The idea is that one can identify some types of transfers that ought to reduce poverty because they tend to benefit lower-income groups disproportionately by using some type of means test. This is the case for social assistance benefits, which have the explicit objective of reducing poverty. Barret et al. (2008) analyzed the impact of the distributive profile of benefits on the poverty dynamic by using simulations for developing countries. The findings suggest that the design of social protection, which includes targeting the chronic poor and a clause to terminate the safety net program after a period of years, promotes incentives for productive investment and, in turn, decreases chronic poverty.

Cross-sectional studies of Latin American countries have suggested a low redistributive impact of taxes and transfers in Latin America (Perry et al. 2006). Scholars have argued that this is because of the small size of social benefits. Studies of the effect of transfers on poverty status in Chile have shown evidence in favor of this argument. These studies have focused on the impact of one public program, Chile Solidario, which attempts to lift families out of poverty through a coordinated set of stimuli to the demand and supply of social services and through the provision of psycho-social support to beneficiary families. The evidence suggests that these studies were not able to detect any positive impact of Chile Solidario on household income on average (Galasso 2006, Larrañaga et al. 2009). Carneiro et al. (2009) also pointed out that Chile Solidario may have a positive impact on poverty for particular groups. The results of this study indicate a negative effect on the probability of staying in poverty for rural households and households with less educated heads.

Most studies about the impact of government programs on poverty and economic inequality in Latin America do not really explain why public benefits should affect poverty. They focus on the estimation of the causal effects of the intervention rather than on the explanatory mechanisms.

Furthermore, for Latin American welfare states, evidence of the impact of government programs on poverty status over time is scarce. To fill these gaps in the literature, in the following, I develop a theoretical framework that explains the impact of social assistance benefits on chronic and transitory poverty. I also derive and empirically examine hypotheses of such effects in Chile.

### **4.3 A Theoretical Explanation of the Impact of Social Policy on Chronic and Transitory Poverty**

In this section, I develop an explanation of the effect of public programs on chronic and transitory poverty. I will present my theory in two steps. First, I will present the concept of chronic and transitory poverty that is used in this study. Second, I will explain the effect of social assistance transfers on chronic and transitory poverty in terms of the social mechanisms associated with productive investment and the work effort of poor households.

#### **4.3.1 Conceptualization of Chronic and Transitory Poverty**

Following Barret et al. (2008), absolute chronic poverty is a condition characterized by severe deprivation of basic physical subsistence needs such that the individuals do not permanently engage in productive investment. Because of the permanent failure of investment, the chronically poor cannot accumulate capital, so these people cannot increase their income over time. As Jalan and Ravallion (2000) pointed out, these permanent failures in the allocation of endowments would be associated with insufficient welfare-generating assets that persist over time (i.e., land or human capital). Transitory poverty may be associated only with temporary allocation failures, frequently associated with short-term financial shocks (e.g., losing a partner or a job), which have a negative impact on the accumulation of capital but do not permanently annul the accumulation process.<sup>108</sup>

To empirically identify chronic and transitory poverty, one of the most often-used approaches focuses on permanent allocation failures. Yaqub (2003) called it the “component” approach.<sup>109</sup> This

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<sup>108</sup> Shocks are events outside the direct control of the household and may have either negative or positive impacts on the well-being of the household.

<sup>109</sup> This author identified a second approach, which he called the “spell” approach. This approach focuses directly on the period-by-period experiences of poor families and especially on the time spent in poverty. See Bane and Ellwood (1986) for an application of this approach.



approach defines chronic and transitory poverty in the following way. At time  $t$ ,  $y_{it}$  is the measure of income for household  $i$ . Let  $P$  be the poverty measure (e.g., the headcount ratio), and I denote the vector of income for household  $i$  by  $y = (y_{i1}, y_{i2}, \dots, y_{iT})$  with  $t = 1, \dots, T$ . Once I used a poverty line to identify the poor, the poverty measure that aggregates the poor at any given point in time is  $P(y_{it})$ . Following Jalan and Ravallion (2000), I define inter-temporal total poverty  $P_i$ , chronic poverty  $C_i$ , and transitory poverty  $T_i$  as

$$P_i = \frac{1}{T} \sum_{t=1}^T P(y_{it}) \quad (4.1)$$

$$C_i = P(\bar{y}_i), \text{ with } \bar{y}_i = \frac{1}{T} \sum_{t=1}^T y_{it} \quad (4.2)$$

$$T_i = P_i - C_i \quad (4.3)$$

As we note, the component approach defines a household's permanent welfare as the inter-temporal average of its income ( $\bar{y}_i$ ), which can be interpreted as an indicator of capital accumulation over time in the sense that a higher average indicates greater accumulation. Total poverty is simply the average of the poverty measures obtained at each time with the respective yearly income. Chronic poverty is then identified when a household's inter-temporal average income lies below the absolute poverty line, and transitory poverty is defined as the difference between chronic poverty and total poverty. Put differently, chronic poverty persists in inter-temporal mean income, which is lower than the absolute poverty line. Transitory poverty can be attributed to inter-temporal variability in income of individuals that experience poverty in some time point. As Ravallion and Jalan pointed out (1998: 339), a household whose mean income is above the poverty line cannot be chronically poor under this definition but may still experience transitory poverty.

In this study I use the component approach to identify chronic and transitory poverty. The reason is that this approach provides a framework to study factors associated with chronic and transitory poverty. As stated above, chronic poverty may be associated with low capital and transitory poverty may be related to shocks. Furthermore, this distinction makes it possible to compare my results with those of other studies about chronic and transitory poverty in Latin America and the Caribbean (Cruces & Wodon 2004).

Drawing upon the aforementioned concepts, a typology of chronic and transitory poor can be developed (Jalan & Ravallion 2000). The first group concerns people who are never poor. Furthermore, households that are poor at some point in time can be divided into three mutually exclusive groups. First, there are the persistent poor, who are poor at every time point; these households have positive chronic poverty by definition. Second, there are those that are not poor at every time point but are still chronically poor in the sense that their mean income is below the poverty line. For example, in the case of a panel with two waves, such as the data of this study, this second group is composed of individuals with mean income below the poverty line that are poor in wave 1 or in wave 2, but not in both time points. Third, there are those that are the transitory poor. The mean income of this group is above the poverty line, but they are sometimes poor. My estimation with the Chilean panel indicates that 76% of working-age population is never poor, 5% is chronic/persistent poor, 4% is chronic/not always poor, and 15% regards only transitory poor.<sup>110</sup>

To measure the concepts of chronic and transitory poverty formulated in (4.2) and (4.3), the headcount ratio and the squared poverty gap are the aggregate poverty indexes used in the literature (Goebel & Kuchler 2003, Jenkins & Hill 2001). On the basis of these indexes, scholars use two measures of chronic and transitory poverty. Using the squared poverty gap, studies develop indexes of chronic and transitory poverty that are typically used as dependent variables in regression analysis (Cruces & Wodon 2004, Jalan & Ravallion 2000, Muller 2003). These indexes are continuous variables with zero for people who are never poor. A second measure is a categorical variable, in which the categories refer to the groups of the typology above described. To measure the typology, however, the headcount ratio is used. More specifically, the individuals are

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<sup>110</sup> For details of the construction of these groups, see Appendix 3.

classified into the typology using the poverty line and the mean income of each person. Moreover, to estimate the portion of members in each category of the typology, scholars apply the headcount ratio. In this study, I use the indexes to analyze the impact of transfers on chronic and transitory poverty because the continuous scale of these measures makes the analysis of causal effect easier. The typology is used only in descriptive analysis.<sup>111</sup>

Regardless of the differences between indexes and the measure of typology, both kinds of indicators are connected in some respects. The chronic poor (i.e., always poor and not always poor) have scores in the index of chronic poverty by definition. They should also present scores in the index of transitory poverty if their income varies over time. The transitory poor, however, must show scores only in the index of transitory poverty.

#### **4.3.2. The Effect of Social Assistance Transfers on Chronic and Transitory Poverty**

To understand the effect of social policy on poverty, it is useful to distinguish between the different kinds of social policy that exist. The reason relies on the fact that different social policies may have different impacts on poverty status. A standard distinction in the literature regards the classification of social policies between services (e.g., public education and health) and transfers. In this study, I focus on social assistance transfers as a particular kind of social policy, namely cash payments provided on the basis of a means test that help households cope with social risks, with financing based on non-contributory funding (Chapter 1). The reason behind this research decision is that social assistance is the type of public transfer with the strongest focus on poverty reduction. Moreover, this is typically associated with disincentive effects in the literature (for an overview, Fouarge 2004). Finally, in this study, I use data collected from household surveys, and this type of source does not typically provide accurate information on services.

In such a context, the explanation of the effects of social assistance transfers on chronic and transitory poverty includes two aspects. First, as stated above, the size, targeting, and duration of social assistance transfers may have different effects on poverty status over time. Second, the impact of each of these dimensions on chronic and transitory poverty works through the change of

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<sup>111</sup> I discuss other methodological advantages of indexes in the methodological section of this study (Section 4.5.1).

the productive investment and the work effort of the actors. Standard models in the economics literature typically focus on the effect of transfer size and targeting, and they state that social transfers may be associated with disincentives regarding the productive investment and work effort of the poor. Although these models discuss transfers in general terms, they are useful in explaining the effect of social assistance transfers on both actions. In this vein, I will explain these standard economic models in the rest of the section, focusing on the roles of the three dimensions of social assistance transfers. Furthermore, I will use this theoretical explanation to derive a prognosis for the case of Chile.

(a) *Productive Investment*

The theoretical effect of transfers on productive investment is ambiguous. One of the standard explanations of transfers' effect on the investment behavior of the poor concerns, so to say, the "obvious" model (Danziger et al. 1981: 982). This model focuses on savings as a mechanism that explains the causal effect of transfers on productive investment. Following Engel's law, this model assumes that the poor tend to allocate a greater percentage of their resources to consumption.<sup>112</sup> Thus, the poor may use the transfers for consumption, not for savings.

Productive investment is a form that the savings can take in the sense that the saved resources can be invested by being used to produce capital. In other words, a lower savings rate is assumed to yield a lower investment rate. The "obvious" model states that the poor do not use transfers for productive investment because they do not save them. Mookherjee (2006) extended this hypothetical effect of transfers on productive investment in a dynamic context. He stated that chronic poverty is self-perpetuating because all of the current resources of individuals who live in this situation are consumed and that there are no resources to save and to invest in capital. In this situation, the transfers would not improve the economic status of the chronic poor.

In spite of this model does not assume a clear entitlement principle in providing benefits, we can note that the model considers lower-income segment as target of welfare programs. Furthermore, because it works in a static context, the duration of transfers does not play any role in

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<sup>112</sup> Engel's law points out that, with a given set of tastes and preferences, as income rises, the proportion of income spent on food falls.

the “obvious” model. By contrast, the size of transfers is relevant because, without size, there are no transfers. However, the “obvious” model does not state a size threshold. It only says that any additional sources of income may be used by the poor for their consumption, holding their unit value constant. However, using the logic of the subjective expected utility theory, I can show that this aspect is a failure of the “obvious” model because a larger transfer may be an incentive to invest.

Following sociological versions of this theory (Esser 1999), the decision to invest in the acquisition of capital is determined by three basic factors: investment motivation, investment opportunities (i.e., the probability of success of the investment), and investment cost. We can explain the impact of transfer size on productive investment in terms of how benefits are associated with these three factors. The most obvious impact regards cost, which should decline with the monetary size of benefits. The relevance of the size threshold also concerns opportunities in the sense that increases in the size of transfers will increase the probability of success of the investment. In other words, small transfers may be not related to the decision to invest because it does not improve the opportunities to invest in a new resource.<sup>113</sup>

To predict the effect of transfers on poverty, which works through this mechanism, it is necessary to distinguish between different types of capital. The effect would be associated with lower poverty when the transfers improve access to financial or human capital. This effect of transfer size on productive investment is relevant for chronic and transitory poverty. Regarding chronic poverty, any public program that sufficiently increases the poor’s access to economic or human capital breaks the trap and allows productive opportunities to emerge from poverty. Regarding transitory poverty, transfers may decrease this type of poverty because the social benefits mitigate the consumption shortfalls caused by the worst events. Thus, shock does not force households to focus on avoiding risk and the transitory poor can make an effort to accumulate capital.

However, the effect of transfers via improvement of opportunities would be also associated with a higher level of poverty in the case of poor women. As Kearney (2004) pointed out, programs

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<sup>113</sup> Esser (1999) made a theoretical distinction by which we can understand in detail the relationship between transfers and opportunities of investment. The author argued that opportunities involve both *access* to the kind of capital in which we want to invest and the *efficiency*. Holding this last factor constant, the theory says that the more access there is, the higher the probability of success of the investment is. As becomes evident, transfers may have a positive impact on investment as long as the transfers improve the access.

will raise poverty and welfare dependency because they promote social assistance as a “lifestyle” in which women have multiple births, both to increase their income and to prolong their stay in social assistance and, in turn, to live in poverty. This last explanatory mechanism finds a theoretical foundation in Becker’s (1981) model of the family. Becker (1981) used the cost of having children and real income to explain the effect of government programs on the demand for children. Using the example of welfare programs, such as Aid to Families with Dependent Children (AFDC) in the U.S.A., this author argued that a program providing aid to mothers with dependent children may provide incentives to fertility if the intervention reduces the cost of having an additional child.

To explain the impact of transfers on productive investment, the last relevant determinant is the poor’s motivation to invest. In spite of the effect that transfer size may have on costs and opportunities, the overall impact on investment may be negative on the grounds of this last component. A collection of cultural models typically emphasizes that distinct values, aspirations and psychological characteristics of the poor inhibit their achievement and produce behavioral deviances that are likely to reproduce poverty. These cultural models are known in the literature of poverty as the culture of poverty or underclass theory (Auletta 1982, Lewis 1968, Wilson 1990). In the vein of these cultural models, some economic models relate the poor’s distinctive motivation and productive investment. These models suggest that the poor are more risk-averse than the other income segments (Banerjee 2004, Lipton 1968, Ravallion 1988, Sorensen 2000). If individuals are extremely averse to risk, they will choose low risk/return activities such as remaining in persistent poverty even though lower costs and increasing opportunities are associated with the provision of transfers. The findings of much empirical studies are, however, inconsistent with these models. There is little evidence that distinctive motivational characteristics inhibit productive investment among poor individuals (Banerjee & Newman 1994, Corcoran et al. 1985).

(b) *Work Effort*

As argued above, scholars define chronic and transitory poverty in terms of productive investment failures. However, scholars in advanced nations also have argued that work effort is a mechanism that may generate poverty persistence over time (Vobruba 2004). To explain this mechanism,

studies have used the standard static leisure-income diagram (e.g. Grogger & Karoly 2005). This economic model assumes a targeting of transfers in favor of low-income groups because it considers a threshold of earning that defines the eligibility for programs. Above this “break-even income,” individuals become ineligible. Furthermore, the leisure-income diagram is static, so it does not consider duration or time limits on benefits.<sup>114</sup>

Regarding the size of transfers, the static leisure-income diagram states that the effect of a welfare program on work effort operates through two effects. The first is the income effect of transfer size; that is, an increase in transfer size operates like an increase in unearned income, which might reduce hours of work. The second effect pertains to tax earnings, which are typically used in the design of welfare programs in developed countries. To illustrate this second effect, the classic example in the literature is the AFDC program in the U.S.A. (Friedman 2002). In its original formulation, this social assistance program considered an earnings tax of 100 percent. Following the standard economic model and assuming that the size of transfers guarantees a subsistence level, beneficiaries of AFDC will choose social assistance as way of life even if they are capable of work because the difference between social assistance and wages at this rate is insignificant. Thus, welfare programs may produce a “poverty trap” or chronic poverty. Further reforms of American social assistance decreased the earning tax to progressively cut the benefits as earnings go up (Gruber 2007).

Perry et al. (2007) posited a possible and particular disincentive effect on work effort associated with social assistance transfers that is particularly relevant in Latin American nations. In these welfare states, social assistance provides cash payments to the poor without requirements related to contributory charges. In such a context, these authors have argued that benefits may be creating disincentives to formalization of the workforce as the beneficiaries face excessive transfer burdens of contributory programs when they find formal employment. Put differently, increasing social assistance generosity would be associated not with long-term unemployment, as in advanced nations, but with informal labor spells.

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<sup>114</sup> The standard static leisure-income model depends on others assumptions such as utility maximization and absence of information asymmetry. See Grogger and Karoly (2005) for an excellent discussion of these assumptions in the context of reforms of the American welfare state.

To sum up my theoretical explanation of the effect of cash payments on poverty, a social assistance program can be described using three dimensions: size, targeting, and duration. Each of these dimensions may affect poverty indirectly through two explanatory mechanisms: productive investment and work effort. While the theoretical predictions are ambiguous with respect to the effect of government programs on productive investment, the standard economic model suggests a negative impact of transfers on the work effort of the beneficiaries which, in turn, may increase poverty persistence. Furthermore, in spite of the particular mechanism that is affected by the government transfers, the size of the benefits and their targeting appear to be pivotal dimensions of benefits in cash that must be taken into account. Evidence for the influence of benefit's duration on poverty is scarce. Theoretical models assume that the benefits are targeted to the poor—particularly the economic model of work effort, which explicitly considers means-testing in favor of the lower-income segment. Regarding the effect of transfer size on work effort, beneficiaries would prefer not to work and, thus, to live on social assistance only when the transfer size guarantees a subsistence level. Scholars have suggested that this subsistence level could represent a poverty line and, thus, individuals may reduce their labor supply to become poor or to persist in poverty and qualify for cash welfare (Gruber 2007).

As becomes evident from my theoretical framework, transfers affect not poverty per se but also poverty over time, particularly persistence and, thus, chronic poverty. In the following section, I study these benefit effects in Chile. More specifically, to derive a prognosis for chronic and transitory poverty in this welfare state, I will apply the theoretical framework developed above to describe Chilean social assistance on the dimensions of size, targeting, and duration of benefits. Drawing on this information, I will discuss the impact of social assistance transfers on chronic and transitory poverty in Chile, and then hypotheses will be formulated.

#### **4.4 Social Assistance Programs in Chile and Hypotheses**

In Latin America and the Caribbean, the Chilean welfare state was characterized as pioneer in providing welfare to the citizens, which results in significant social policy development in the 20<sup>th</sup> century (Chapter 2). This picture persisted over the period from 2000–2006. Moreover, most social



expenditures are associated with services and social insurance transfers. More specifically, in 2003, the public spending of the Chilean welfare state on education, health, and social insurance accounted for about 14% of the GDP, whereas social assistance spending comprised 0.7% (Lindert et al. 2006).

**Table 4.1.** Social assistance programs of the Chilean welfare state

Program	Size	Target	Duration
Family Subsidy (SUF)	Between 6 and 12 US dollars per month per recipient in 2003, and it is indexed to inflation(a)	Low income households which cannot satisfy basic needs of child. The beneficiaries are not covered by social insurance. Eligibility is determined by CAS card.	The benefit lasts until the recipients are 18 years old.
Assistance Pensions (PASIS)(b)	Because the number of subsidies available to each region is fixed by the Social Security Commission, the cut-off score varies by region (and, potentially, by county). In 2003, the benefit totalled 65 US dollars per month for the physically disabled and twice that amount for the mentally disabled; it is indexed to inflation.	Pensions for adults aged 65 and over, physically-disabled adults, and mentally disabled-individuals regardless of age who have a total income below half of the minimum pension allowance. Eligibility is determined by CAS card.	The benefit lasts until the death of the recipient. However, there are causes to stop the benefit even if the recipient lives, which are determined by law number 20255.
Chile Solidario	During the first phase of the program, beneficiaries receive a monthly payment that decreases from 15 to 6 US dollars over 24 months (2003 rates).	Indigent and high-risk households, particularly those with female heads. Eligibility is determined by the CAS card.	After two years, beneficiaries who have successfully completed the counselling program are automatically enrolled in the SUF program for up to 36 months.
Water and Sewage Subsidy (SAP)	This subsidy covers between 20% and 85% of the cost of water for up to 15 cubic meters per month. It is a monthly discount that appears on the water's bill.	Poor households, which are identified by the CAS card.	Three years, if requirements persist.
Unemployment	In 2003, the benefit was 25 US dollars the first 3 months, decreasing to 17 for the next three months and to 13 the last 6 months of eligibility.	Unemployed that had formal employment for at least 52 weeks during the previous two years(c) and not having rejected job opportunities offered by the National Training and Employment Service or the county government.	A decreasing monthly payment for up to 12 months for individuals who lost work through no fault of their own.

*Note:* The proxy means test "CAS card" was replaced in 2006 by a new means test, which is called Ficha de Protección Social.

(a): In 2003, US\$ 1 = 691.41 Chilean currency on average.

(b): Changes in the type of benefits were introduced in 2009.

(c): For self-employed workers, eligibility is based on 12 consecutive months of contributions to social security in the previous two years.

Table 4.1 shows most of the programs, which include the Chilean system of social assistance transfers, by the size of benefits to individual recipients, targeting, and duration.<sup>115</sup> The Chilean social assistance programs aim to alleviate poverty through monetary benefits. The main programs are pensions (PASIS) for old and disabled adults and the Family Subsidy (SUF), which is a per-child transfer for households without social insurance.<sup>116</sup> The other benefits include unemployment payments, subsidies for water consumption, and income transfers that are paid to the beneficiaries of the Chile Solidario program.

Most of the programs are currently targeted through a “proxy means test” called the Ficha de Proteccion Social.<sup>117</sup> First implemented in 2006, it is the successor of the Ficha de Caracterizacion Socioeconomica (CAS card). Both proxy means tests are forms that benefit applicants have to fill out asking about the socioeconomic characteristics of the household. In these instruments, the household is treated as unit of analysis.<sup>118</sup> The CAS card measured the socioeconomic characteristics by 13 variables, which were then reduced to four components: housing, education, occupation, and income/patrimony (Larrañaga 2005). The means test is applied by municipal civil servants, who are the administrative units of the Chilean welfare state at the level of communes. On the basis of this test, an index of unsatisfied basic needs is developed as a result of the weighted sum of components. All households whose scores in that index are below a predetermined threshold are considered beneficiaries.<sup>119</sup> The threshold varies across communes and regions with the goal of reflecting differences in the poverty levels across different geographic areas. As a result of this targeting strategy, the main programs target low-income groups, especially individuals who cannot work due to age (i.e., a child or senior citizen) or disability.<sup>120</sup>

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<sup>115</sup> There are other small social assistance programs that are not systematically provided by the Chilean welfare state over time. Furthermore, I have not included information on the *Asignacion Familiar* family benefit because it is a social insurance program, and I am analyzing social assistance benefits. Only workers—who are affiliated with the Chilean social insurance system—can get this benefit.

<sup>116</sup> Social insurance coverage in Chile is limited to individuals who participate in the formal labor market.

<sup>117</sup> A proxy means test does not measure income itself. Rather, it is an instrument that captures the socioeconomic status of applicants by generating a score based on fairly easy to observe characteristics of households, such as the location and quality of its dwelling or ownership of durable goods. Contrasting with a proxy means test, a means test directly evaluates the income of applicants (Larrañaga 2005).

<sup>118</sup> The proxy means test of Chilean social assistance defines a household as a person or a group of people who: 1) lives in the same residence, 2) recognizes itself as a family, and 3) presents monetary income (Larrañaga 2005).

<sup>119</sup> The threshold is not the official poverty line in Chile, which is measured in Chilean currency, the peso. The threshold is measured in terms of the scale of the index obtained on the basis of the means test. However, the threshold should also identify individuals who cannot meet basic subsistence needs.

<sup>120</sup> A beneficiary actualized the scores that he obtains in for the proxy means test “CAS card” every two years. For the new proxy means test, “Ficha de Proteccion Social,” the actualization is conducted each month.

The targeting of Chilean social assistance transfers makes it clear that, in comparison with welfare programs in advanced nations, earned labor income does not progressively reduce the size of the transfer through benefit reductions.<sup>121</sup> Rather, Chilean social assistance benefits are cut if the score on the proxy means test rises above the threshold that defines eligibility for benefits. Because the proxy means test targets the poor households, this means that, if a household leaves poverty, this also leaves social assistance. Moreover, to evaluate the generosity of the transfer size, we can use the urban Chilean poverty line or minimum salary as a criterion of minimum subsistence. The poverty line was approximately US\$68 in 2001, and the minimum salary was US\$167 in 2003. The information in Table 4.1 suggests that the unit value of each social assistance program in Chile is below both thresholds.

Information of Chilean social assistance about the proportion of social assistance benefits in the total household income sheds additional light on the size of social assistance benefits. For the lowest income decile (tenth of income distribution), social assistance transfers represents 26.3% of the total household income in 2006. The proportion decreases to 8.1% and 5.0% for the next two deciles (MIDEPLAN 2007b). In advanced nations, empirical studies define welfare dependency as counting on welfare income to make up more than one-half of a household's total income (Duncan 1984, Fouarge 2004). Thus, the findings for Chile suggest that the generosity of social assistance in this welfare state is away from standard criteria to define welfare dependency. Overall, the size of the benefits indicates that social assistance transfers per se do not guarantee minimum subsistence in Chile.

Finally, there is a high level of heterogeneity in the duration of the programs. They cover large periods in the cases of SUF and PASIS benefits, but the duration is more restricted in the other cases.

### *Hypotheses*

Drawing upon the description of Chilean social assistance, I derive hypotheses about the indirect impact of social assistance transfers on chronic and transitory poverty in Chile. In order to derive

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<sup>121</sup> In 2011, the Chilean government implemented a new type of social assistance transfer called "Ingreso Etico Familiar." This government program considers the disincentive effect in its design.

the hypotheses, I formulate a set of assumptions whose validity I attempt to document by discussing references in the literature and, in doing so, to show their plausibility. However, it is important to say that, due to lack of data, they cannot be thoroughly tested in Chile. Instead of dropping these assumptions, I include them, though, because they seem relevant for the theoretical derivation of hypotheses. Moreover, evidence in the literature confirms the plausibility of some assumptions.

A beneficiary of Chilean social assistance is a person who lives in a household that receives any type of social assistance transfers. Drawing on this definition, my argument particularly discusses the size of benefits to recipient households and the targeting that characterizes cash benefits of Chilean social assistance. The deduction of hypotheses depends on two key assumptions. First is the cost of capital decline as income increases. It follows that capital is expensive for the poor. For physical capital, this is evident. Machines and technology require a high level of monetary investment. However, this is also the case for human capital in Chile, where households finance a large portion of education, particularly post-secondary education, which is the most important barrier to social mobility in this country (Torche 2005). This suggests that the Chilean poor have less incentive to invest in this type of education than do the wealthy because the costs are higher for the poor than for high-income segments.

Social assistance transfers do not substantively modify this situation because, as stated above, the size of benefits for recipients is small, at least to guarantee minimum subsistence. Low generosity cannot do very much to improve the opportunities and costs of investing in physical and human capital by the poor.<sup>122</sup> The impact of transfers on motivation should also be marginal. Overall, the effect of social assistance transfers on the productive investment of the beneficiaries should be insignificant in the Chilean welfare state, regardless of poverty status over time.

In contrast with productive investment, social assistance transfers may affect work effort, but only for the chronic poor. More specifically, for this type of deprivation, being the beneficiary of social assistance may create incentives to work in the informal sector.<sup>123</sup> By doing so, social

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<sup>122</sup> The small size of benefits also suggests a marginal impact of transfers on the cost of having a child as social assistance transfers per se do not guarantee minimum subsistence (Section 4.3.2).

<sup>123</sup> In this study, I stress a legalistic or social protection notion of informality. In this vein, following Gasparini and Tornarolli (2007: 4), an informal worker is one "whose labor relationship is not subject to labor legislation and tax rules, and has no

assistance should increase chronic poverty. This effect should be particularly relevant for two groups, the persistent poor and chronic poor, who do not originally live in poverty but may change their labor supply to become poor and qualify for cash benefits.<sup>124</sup> According to Gruber (2007), this latter group includes individuals with income in proximity to the poverty line. In the case of Chile, Larrañaga and Herrera (2008) show that an increase of the poverty line by 44 percent in 2006 results in an increase of the percentage of poor by nearly 100 percent, from 14.3 to 28 percent. This finding suggests that a significant portion of the Chilean population lives in proximity to the poverty line.

The explanation of the effect of social assistance transfers on work effort regards a second key assumption in my argument. This assumption refers to incentives associated with cash benefits in the sense that beneficiaries do not pay contributions and do not lose cash benefits provided by the state if they work in the informal sector. This assumption makes sense in Chile, where the payment of individual contributions is mandatory for workers with labor contracts. In fact, the welfare system requires employees to make a 10% contribution towards pensions and 7% towards a health program (Cox 2002). Moreover, working in the informal sector is not a targeting requirement to apply for benefits of Chilean social assistance. As previously mentioned, entitlement is determined on the basis of a summary index of household's socioeconomic characteristics.<sup>125</sup>

As becomes evident, the second assumption entails two incentives. One regards the application for benefits. In applying for cash welfare, the chronic poor get benefits which, despite the small size, are free. By contrast, if members of chronic poor households search for jobs in the formal sector, they can also receive a bundle of benefits that must be paid for via individual contributions. The second incentive refers to the informal work effort. Beneficiaries of social assistance can get or maintain informal jobs without losing the benefits. This second incentive associated with the cash payments thus means that social assistance rewards informal work effort.

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access to social protection or right to certain labor benefits". On the basis of this definition, studies of Chilean labor market generally measure informality in terms of the proportion of workers without a formal labor contract (Contreras et al. 2008).

<sup>124</sup> In a panel with two waves, such as the instrument that I analyze in this study, a third group also comprises a part of chronic poverty: chronic poor living in poverty at the first time point but not at the second time point. Because I consider a transfer effect that raises incentives for individuals to become poor or to persist in poverty, my argument does not take into account this type of the chronic poor. For a discussion of the relevance of this latter group in the empirical analysis of this study, see Section 4.5.1.

<sup>125</sup> In CAS proxy means test, the weight of occupation in summary index is estimated by a scale of nine occupations. This scale does not measure informality.

Although these two incentives are theoretically different, they are strongly connected as incentives of benefits to work in the informal sector cannot emerge without the presence of incentives to qualify for cash welfare.

Both incentives associated with social assistance should be particularly relevant for the chronic poor. The reason is that they face limited opportunities of getting a job in the formal sector. This association between chronic poverty and opportunities in the formal sector regards the human capital of this kind of poor. To obtain a formal job, human capital is a relevant source of opportunities in the sense that the higher the education level, the higher of individual's productivity and, thus, the higher the chances of employment in the formal labor market. However, chronic poverty is associated with low levels of education (Addition et al. 2009, Barret et al. 2008, Cruces & Wodon 2004; see 4.6 for empirical evidence in Chile). It follows that the opportunities for the chronic poor in the formal sector may direct them toward the informal sector, insofar as the chronic poor have low human capital.

Studies present some confirmative evidence of the association between human capital and informal work in Latin American countries (Gasparini & Tornarolli 2007, Perry et al. 2007). For Chile, Contreras et al. (2008) estimate that the informality rate in 2003, which defined as the share in employment of full-time workers without a labor contract, is 28.55 percent for workers with at least seven years of education. By contrast, it is only 8.05 percent for workers with twelve or more years of education. This finding lends more plausibility to the assumption about the opportunities of chronic poverty in the formal sector and their likelihood to get a job in the informal labor market.

More specifically, for the chronically impoverished, limited opportunities may accentuate the incentive to apply for benefits since the scant opportunities in the formal sector may contribute to the value of social assistance benefits—although their low generosity—as a gain. To put it another way, due to low chances of getting a formal job and, thus, little opportunity to receive benefits based on personal contributions, the chronic poor may highly value free benefits. Furthermore, for the chronic poor, the limited alternatives in the formal sector also may accentuate the incentive effect of social assistance on informal work effort because the search costs associated with informal work are lower. This means that the chronic poor may already be in the informal sector during the

application for benefits or they already worked in such a segment of the labor market. Therefore, the time and energy that they spent on searching an informal job are low. Such a context should then accentuate the reward of informality associated with social assistance, insofar as it should be easier for the chronic poor to get or maintain informal jobs without losing the benefits.

To understand the impact of social assistance transfers on chronic poverty, the incentive to work in the informal sector associated with social transfers is particularly relevant. By getting or maintaining an informal job, the chronic poor will find a source of resources, which may play a role as a subsistence strategy. In this way, informal work is relevant because it explains how can survive a beneficiary of social assistance when the size of benefits per se does not guarantee minimum subsistence. Furthermore, informal work explains how the effect of social assistance transfers on chronic poverty arises. Informality is a reflection of mechanisms that exclude individuals from social services and from economic opportunities through a segmented labor market that is characterized by unstable jobs and low coverage of many social insurance schemes. As a result of both kind of exclusions, informal-sector workers are often trapped in low-pay occupations (Perry et al. 2007). The empirical evidence supports this latter association. Contreras et al. (2008) show that the percentage of workers without labor contracts in Chile in 2003 clearly increased when the household income declined; such a rate was 50.7 percent in the lowest income decile (i.e., a tenth of the income distribution). Overall, exclusion associated with informal work thus suggests that informality would increase the risk of remaining in poverty.<sup>126</sup>

In spite of the impact of social assistance benefits on poverty persistence through informal work efforts, it is important to say that this type of transfer has directly affected this type of poverty. To apply for cash payments, applicants have to declare low resources. It follows that if a beneficiary wants to maintain the benefits over time, he has to persist in low income.

A similar effect of social assistance transfers on poverty status is expected for individuals with low capital—meaning an average income below the poverty line and, thus, chronically poor—who

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<sup>126</sup> In Chile, studies indicate that the principal earner in the household is the head. Larrañaga (2005) shows that, in 2002, the principal earner in 70.9% of the low-income households was the head of household. It suggests that the positive impact of social assistance transfers on chronic poverty may arise through increasing the informal work effort of heads of household. Although social assistance transfers might affect only the labor supply of principal earners in the households, the effect of social assistance programs on the labor supply of principal earners should affect the welfare of any household member (e.g., children) because the household shares and uses common resources (Andress et al. 2006).

originally were not poor. For example, we assume two time points, 1 and 2. These consumers are not poor at time 1. However, such individuals are in the proximity of the benefit's threshold. Due to the low level of capital, the risk of falling under such a threshold by time 2, however, should be high. In such a situation, transfers may raise incentives to apply for benefits. Following Gruber (2007), there are not big differences between the incomes of these individuals before and after poverty. Put differently, being poor does not mean a substantive change in socioeconomic status. In such a context, transfers incentive to become poor because, by applying for benefits, the applicants get cash payments that are free and thus gain income. It follows that this type of chronic poor may become poor to insure transfers as an additional source of income. Furthermore, they may go into the informal sector which, in turn, increases the likelihood that they may fall into the poverty trap.

In sum, and recalling the main propositions of my argument, social assistance transfers in the Chilean welfare state are targeted to the poor and are characterized by small size of benefits for individual recipients. In spite of this latter aspect, I expect that cash payments of Chilean social assistance may be associated with incentives for the chronic poor to apply for benefits and to work in the informal sector. Doing so causes them to remain in poverty or to become poor. This observation leads to my first hypothesis:

H1: Receiving social assistance transfers will increase chronic poverty.

Members of households that experience poverty at some time point but whose capital is moderate—that is, they have an average income above the poverty line—are classified as the transitory poor. In contrast to the chronic poor, this type of poor may have better opportunities to invest and to obtain a formal job, insofar as, in comparison with chronic deprivation, transitory poverty is associated with higher capital—particularly human capital (Sections 4.3.1 and 4.6). It follows that social assistance transfers should not affect productive investment and work effort of transitory poor.

More specifically, in respect to productive investment, better opportunities may imply that the transitory poor may profit from the alternatives to invest; they then become entrepreneurs and, in doing so, rise out poverty by increasing capital. Studies have confirmed that the transitory poor may



present productive investments. Dercon and Clarke (2009) suggested that the transitory poor may accumulate capital if the impact of shocks on their consumption is reduced by external aid, particularly government programs. This finding indicates, however, an additional point. Transfers may help to reduce transitory poverty. As stated above, the size of social assistance transfers assigned to individual beneficiaries is small in the Chilean welfare state. Hence, the role of benefits as external aid during shocks for the transitory poor should be marginal in this country.

Regarding work effort, higher opportunities in the formal sector indicate that persons living in transitory poverty have less incentive to modify their behavior to qualify for cash benefits than do the chronic poor. Put differently, given the opportunities to get a formal job, they will recover even though they lose government benefits because the opportunity costs associated with social assistance and informality are high. For informality, the studies are clear on this point. The income that a worker would have earned if he gets a formal job instead is higher. Perry et al. (2007) shows, for instance, with data from Argentina, Bolivia, and the Dominican Republic, that informal salaried workers earned between 40 to 66 percent less than formal salaried employees in 2005. Furthermore, high opportunity costs associated with social assistance for the transitory poor rely on the fact that this type of poor can obtain greater benefits in the formal sector than as beneficiaries of social assistance, particularly when the generosity of social assistance transfers is low. This is of relevance in Chilean social insurance system, where benefits are a function of the accumulation of individual contributions of workers in the formal labor market (Cox 2002). Overall, the opportunities in the formal labor market and the associated opportunity costs for transitory poverty suggests that the elimination of this kind of deprivation is not crippled by incentive of social assistance to apply for cash welfare and to work in the informal sector.

In spite of the focus of this study on the indirect effects of public transfers, transitory poverty may capture not only such impacts but also a direct effect. The concept of transitory poverty refers to inter-temporal variability in the consumption of any household, whether chronically or transitorily poor (Section 4.3.1). It follows that transfers may have a direct positive impact on the resources of the household by increasing the income and, in doing so, to smooth the effect of shocks that introduce income variations. Transfers may contribute to stabilize the income by replacing the

diminished income that is associated with some negative shock. As previously stated in the discussion about productive investments within transitory poverty, in Chile, the direct positive impact of public transfers on household resources should also be marginal because the size of the benefits is small. In sum, in line with this last expectation and my argument about the effect of social assistance transfers on the productive investment and work of the transitory poor, I state a second hypothesis:

H2: Receiving social assistance transfers will not affect transitory poverty.

I will include in the empirical models socioeconomic individual and household characteristics as control variables. Following the standard practice in the literature (e.g. Layte & Whelan 2003), I classify the socioeconomic variables as factors related to “needs” and “resources.” In general terms, it is assumed that individuals who live in households with severe needs will show a high level of chronic and transitory poverty. By contrast, I expect that the increase in resources will decrease both types of poverty.

#### **4.5. Research Design**

##### *Variables and Data Sources*

The analyses of this study are based on data from waves of the Panel Survey of Households in Chile (“Encuesta Panel CASEN” or EPCASEN) for 1996, 2001, and 2006. This survey is based on the Encuesta de Caracterización Socioeconómica Nacional (CASEN) for 1996. EPCASEN identifies and surveys a sub-group of households of CASEN that were already surveyed in 1996 and interviewed again in 2001 and 2006 in the third, seventh, eighth, and metropolitan regions. These four regions represent close to 60% of the Chilean population.

All descriptive statistics presented in this study are based on weighted data by using longitudinal enumerated individual weights, which correct for the attrition in 2001 and 2006 (Bendezú et al. 2007). By contrast, following the norm in microeconometrics, I show only estimations of the effect of social assistance transfers, which are fitted without sample weights. However, the use of weights does not modify the conclusions of this study.

The evidence in advanced nations indicates that poverty and the role of government policies differ between working-age and older families (Valleta 2006). This picture is no different in the case of Chile.<sup>127</sup> Given the well-targeted poverty in Chile, it is expected that the role of public transfers in the income package may be more important in the case of the older population because this social group is typically inactive. Due to this characteristic of older people, the implications of these government programs for poverty and income dynamics among the older population merit a separate study. In this study, I focus on poverty dynamics and policy among the working-age population, who are the sample members between 15 and 64 years old.

Concerning the variables that are used in this study, to identify chronic and transitory poverty, I follow the component approach and work with monthly total household income after government transfers. I construct post-transfer household income as the sum of income from labor, assets, and private transfers plus public transfers.<sup>128</sup> All incomes are measured in Chilean currency and in 2001 prices using the official consumer price indexes provided by the Chilean government. Following the standard approach in studies of poverty dynamics, although the household is the unit of measurement of income, I examine chronic and transitory poverty for individuals.<sup>129</sup> Regarding economies of scale in intra-household consumption, I use per-capita adjustment, which is the most frequently used method in Chile.<sup>130</sup> Finally, non-response and missing incomes are alleviated by imputation procedures (Bendezú et al. 2007).

To construct the indicators of chronic and transitory poverty, I use the Chilean national poverty line as defined by the Ministry of Planning and Cooperation—MIDEPLAN—(2007a). The Chilean government calculates an extreme poverty line that is based on the cost of a basic food bundle and a moderate poverty line computed from the extreme line by using the Engel/Orchansky ratio of food expenditures. The national poverty line refers to the moderate poverty threshold. As becomes evident, this is an absolute measure of poverty. Specifically, a person is poor when his/her per-capita household income is lower than twice the value of a basic food bundle in urban areas and

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<sup>127</sup> See MIDEPLAN (2007a).

<sup>128</sup> In comparison with the procedure of income construction in industrialized, Western OECD countries, taxes are not extracted from disposable income, which is obtained through socioeconomic surveys, in the case of Chile because the survey asks respondents for their net income.

<sup>129</sup> See OECD (2001) and the sources cited there.

<sup>130</sup> I discuss, in the analysis section, the results using equivalence scales.

1.75 times the value in rural areas. The poverty lines were calculated in 1987. In the following years, they were only adjusted with the inflation factor. In 2006, the values of the national poverty lines were 47,099 and 31,756 Chilean pesos per capita in urban and rural areas, respectively.

Following the component approach, I analyze two indicators of chronic and transitory poverty: continuous indexes of both types of poverty and a categorical variable that measures the typology of chronic and transitory poor (Section 4.3.1). Regarding continuous indexes, following Jalan and Ravallion (2000), I estimate definitions (4.1), (4.2), and (4.3) of Section 4.3.1 with the squared poverty gap.<sup>131</sup> These authors suggest using this latter measure because it takes inequality among the poor into account. Other measures, particularly the headcount ratio and poverty gap, ignore this inequality. To put it simply, the squared poverty gap ensures that the poverty measure decreases when there is a transfer from a poor person to an even poorer person and increases when there is a transfer from a very poor person to a less-poor person. The headcount ratio and poverty gap are insensitive to transfers among the poor (Foster et al. 1984). A disadvantage of the squared poverty gap is, however, that this index is very difficult to read and interpret.

To estimate the continuous indexes of chronic and transitory poverty, I calculate the squared poverty gap for each household in 2001 and 2006. Because the incomes of households differ between the two years, the squared poverty gaps also vary from 2001 to 2006. While the index of chronic poverty focuses on the average of the squared poverty gaps for both years, the index of transitory poverty captures this variation of the squared poverty gap over time. This means that all households that experienced poverty in 2001 and/or 2006 may have a positive value for transitory poverty, even though they are chronically poor, as the incomes of households and their squared poverty gaps vary between 2001 and 2006. Thus, I can make an estimate regarding households that may have a positive value for both types of poverty.

The measure scale of the indexes is continuous. The scale assigns values between zero and one, where 1 indicates the maximal level of poverty. A value of zero indicates that the individual does not contribute to either chronic or transitory poverty. These measures are useful in

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<sup>131</sup> For incomes normalized by the poverty lines, the squared poverty gap is defined as  $P(y_{it}) = (1 - y_{it})^2$  if  $y_{it} < 1$  and  $P(y_{it}) = 0$  otherwise.  $P(y_{it})$  is the squared poverty gap and  $y_{it}$  is the income for household  $i$  in time  $t$ . In Appendix 3, I provide an illustration of the way in which I obtained chronic and transitory poverty measures for concrete cases of the Chilean panel.

decomposing poverty into both components. However, because the squared poverty gap is used to calculate the indexes, particular numbers of chronic and transitory poverty measures are very difficult to interpret. Further research about measures of poverty over time should solve this problem.

Regarding regression analysis, one of the advantages of the component approach using continuous indexes of chronic and transitory poverty is that the estimation of causal effect avoids the problem associated with the comparison across groups within samples associated with models of categorical dependent variables (Allison 1999).<sup>132</sup> Further, given the use of the squared poverty gap, the scale of the variables for chronic and transitory poverty is the same; it is between one and zero. Thus, the method makes it possible to compare the effects of an independent variable for both poverty statuses.

One of the disadvantages of numeric indexes, such as continuous measures of chronic and transitory poverty, concerns the presentation of descriptive information, such as proportions. To overcome this problem, I show in the following section descriptive information using the typology of the chronic and transitory poor of Jalan and Ravallion (2000), which is explained in Section 4.3.1, as a second indicator of chronic and transitory poverty. In contrast with the continuous measures of chronic and transitory poverty, to identify the portions of individuals in these four groups, the headcount ratio should be used.<sup>133</sup>

Indexes and typology are related. These relations are of particular relevance for analysis involving the index of chronic poverty. Two groups of the typology are considered in this index: persistent poor—including individuals living in poverty in 2001 and 2006—and those who were poor in 2001 or in 2006 and their mean incomes over time is below the poverty line.<sup>134</sup> My argument derivates an effect of social assistance transfers only for the persistent poor and the chronically

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<sup>132</sup> Allison (1999) argued that the comparisons of logit and probit coefficients across groups can be invalid. Logit and probit models force the residual part of the variance to be fixed. This has a largely unnoticed implication in the literature. Differences in the degree of residual variation across groups can produce differences in the coefficients that are biased. I discuss this problem of models for categorical dependent variables in detail in Appendix 3.

<sup>133</sup> It is important to say that I use this typology only for descriptive analysis. In comparison with the continuous measures of chronic and transitory poverty, the typology has the following disadvantages. First, the typology ignores inequality among the poor, as this statistic is estimated on the basis of the headcount ratio. Furthermore, because of its categorical nature, the use of typology as a dependent variable implies that we have to compare the effects of transfers across the categories of the typology by using a logit or probit model. As stated in note 132, this may produce biased estimates.

<sup>134</sup> For the chronic poor themselves, the estimates with the Chilean panel indicate that fifty-eight percent are regarded as persistent poor, twelve percent were poor only in 2006, and thirty percent were poor only in 2001.

deprived who become poor (i.e., the chronic poor that experience poverty only in 2006). In spite of my theoretical argument considering only these two groups, the index of chronic poverty that is used in the analysis of this study also considers the chronic poor with poverty information in 2001 who left poverty by 2006. I included this group to avoid the problem of selection bias that may have emerged as a result of the exclusion of the group from the analysis. Furthermore, I improved the efficiency of the estimations by using more information. Besides the advantages of the analysis with the complete sample, most of the chronic poor are persistent or became poor in 2006 and, thus, excluding them should not modify the substantive findings.<sup>135</sup> With respect to transitory poverty, I also use the complete sample to examine the impact of benefits because my theoretical argument considers not only the group of typology composed of only transitory poor but also inter-temporal variability, which may come from either the chronic or transitory poor (Hypothesis 2).

Table 4.2 gives the descriptive statistics of the dependent and independent variables. I construct measures of chronic and transitory poverty by using a balanced panel sample of 6,636 individuals for 2001 and 2006. The sample size without missing any variable used in the regression models is 6,146. A standard procedure in studies that analyze determinants of chronic and transitory poverty is to limit the explanatory variables to characteristics observed in the initial year (OECD 2001). This means, in my case, working with the transfer values and the rest of the independent variables for 2001. However, this strategy may introduce bias in the estimation of the causal effect of my treatment variable (i.e., transfers) because the rest of the independent variables could be affected by the treatment. To avoid post-treatment bias, I include only the indicator of transfers and age in the 2001 values. The rest of the independent variables are the characteristics of members of the sample for 2001 and 2006, but their values are for 1996.

The social assistance transfers are defined as a dummy variable in which 1 indicates whether the person lives in a household that receives *any* type of social assistance transfers, which Table 4.2 illustrates.<sup>136</sup> I identify this person as a “beneficiary” of Chilean social assistance. As become evident, this operationalization means that I measured social assistance transfers as a household

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<sup>135</sup> In Table A3.5 of Appendix 3, I present a regression analysis only for the persistent poor and the chronic poor who lived in poverty only in 2006. As expected, the findings verify the results of the analysis with the complete sample of the chronic poor.

<sup>136</sup> My variable of social assistance transfers does not include the benefits of the Chile Solidario program because it began in 2002.

characteristic that is imputed to individuals. This makes sense for Chilean social assistance, where the household is treated as a unit of analysis by the means-testing (See section 4.4). Furthermore, this operationalization has two advantages. First, I explicitly identify the treatment (individuals who receive benefits) and control (individuals who do not receive social assistance transfers) groups. Second, it is simple to identify the average treatment effect when we analyze the treatment and control groups. One disadvantage of this operationalization of social assistance transfers is that I do not analyze the impacts of particular social assistance programs on chronic and transitory poverty. Future research should deal with these effects.

**Table 4.2.** Means and standard deviations of variables used in the analysis (unweighted N=6,146)

Variable	Mean	SD
<i>Indicator of poverty (continuous indexes)</i>		
Total poverty	0.019	0.062
Chronic poverty	0.009	0.046
Transitory poverty	0.010	0.036
<i>Social assistance transfers (ref: non beneficiary)</i>		
Beneficiary	0.165	0.371
<i>Geographical area (ref: urban)</i>		
Rural	0.117	0.3216
<i>Indicator of resources</i>		
Education (ref: secondary or higher)		
Primary or lower	0.338	0.473
Number of employed in household	1.786	1.029
Employment status (ref: employee or inactive)		
Unemployed	0.032	0.177
Age		
In years	35.866	11.949
In squared years	1,089.491	772.900
Gender of household head (ref: male)		
female	0.175	0.379
Marital status (ref: married)		
Unmarried partners	0.068	0.252
Divorced	0.031	0.174
Widowed	0.009	0.094
Single	0.432	0.495
Housing		
Own property	0.716	0.450
Bad quality construction	0.019	0.138
<i>Indicator of needs</i>		
Share of household members 0-5	0.095	0.136
Share of household members 6-14	0.174	0.179
Share of household members 65+	0.038	0.105

*Notes:* Data are weighted by longitudinal weights. Social assistance transfers and age are measured for 2001, the rest of independent variables are measured for 1996. Source: Survey Panel CASEN.

Unfortunately, the Chilean Panel does not include the scores of the means test (CAS card) by which an individual was selected as a beneficiary of Chilean social assistance (Section 4). To estimate the causal effect of social transfers, this variable is very important because it is the factor that determines assignment into the treatment (beneficiary) and control (non-beneficiary) groups. By using CAS scores as an independent variable, I can control for this selection procedure. To overcome this potential problem, I examine the impact of a large number of indicators that measure the set of dimensions on which CAS scores are elaborated. Most of these are excluded from the final model to avoid problems of multicollinearity and to enhance the clarity of my presentation. It should be emphasized, however, that none of the controls that are excluded from final model alter the substantive results.<sup>137</sup>

The final specification incorporates the following set of indicators that operationalize the resources and needs of the individual or the household in which he lives. The first indicator is the educational attainment of the respondent; it is included as a dummy variable in which 1 corresponds to a primary or lower education. I also controlled for the characteristics of housing as an indicator of physical capital. I included an indicator of the type of housing property, which is a dummy variable such that a rating of 1 reflects that the respondent has his own house or flat. Furthermore, an indicator of housing quality is also used as a control variable. In this last case, 1 indicates that the respondent lives in a poor-quality structure.<sup>138</sup> Age in years is an indicator of experience in the labor market. To test a non-linear association, I also include age in squared years. Other indicators of the labor market returns are dummy variables for the status of unemployed and the number of employed household members. Marital status indicates control of the sharing of resources in a household. Finally, I considered the gender of the head of household to control for the gender poverty gap, which is associated with the fact that the human capital of women typically is lower than investment in the skills of a man.

With regard to the needs of the household, larger households have larger 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 higher than the needs of a household comprised

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<sup>137</sup> Due to the lack of information in EPCASEN, I cannot include control information about health and durable goods.

<sup>138</sup> More specifically, 1 indicates a small wooden house ("mediagua") or hut.



only of working-age individuals. Given this association between age groups and needs, I use the share of household members for the 0-15, 6-14, and 65+ age groups as indicators of needs.

To control for the role of geographic characteristics in poverty statuses, I include a dummy variable for people who live in rural areas. I do not include measurements of shocks because the data set does not contain accurate indicators of unexpected events. Finally, my theory suggests that the effect of social assistance transfers on the chronic poor is channeled through informal work effort (Section 4.4). It is possible to evaluate this causal mechanism by controlling for informal work effort in regression models and, in doing so, direct and indirect effects of social assistance transfers should be estimated. However, to severely test causal mediation, a fundamental requirement is that cause must precede the mediator in time (Cole & Maxwell 2003, Holland 1986). It means that transfers must precede the informal work effort in time. Unfortunately, it is not possible to assess such a timeline with the information that is available from the Chilean socioeconomic panel. In a study with a panel of three waves, in which the dependent variable covers the last two time points and the treatment is measured in the second wave, we should test the causal mechanism by also measuring the informal work effort in the second wave. It follows that I cannot severely capture the causal effect of transfers on informality. In such a research design, the model should capture the correlation between transfers and informal work effort, not mediation. Due to this problem, this study focuses on the estimation of the causal effect of social assistance transfers on chronic and transitory poverty and leaves the examination of causal mechanism for future research.<sup>139</sup>

### *The Econometric Model*

There are two key dependent variables in this study: continuous indexes of chronic and transitory poverty. These two variables are censored, as they take a value of zero for the non-poor. Due to this characteristic of my data, as is common for analyses that follow the component approach to measuring chronic and transitory poverty, I use the following censored regression models (e.g., Muller 2003):

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<sup>139</sup> Following a legalistic notion of informality (see Section 4.4), I also included a measure of informal work effort for 1996 (dummy variable for people working without contract) as an independent variable in additional regression models. The inclusion of this variable does not substantively modify the findings of Chapter 4. Due to missing data, I do not report the results with this measure of informality (the sample decreased from 6,146 to 2,177).

$$y_{ic}^* = \alpha_c + \beta_1 T_{ic} + \beta_2 Z_{ic} + \varepsilon_{ic} \text{ where } i = 1, \dots, N \quad (4.4)$$

$$y_{ic} = \begin{cases} y_{ic}^* & \text{if } y_{ic}^* > 0 \\ 0 & \text{otherwise} \end{cases}$$

where  $y_{ic}^*$  is an unobserved latent dependent variable that represents latent chronic and latent transitory poverty for individual  $i$  in commune  $c$ ,  $y_{ic}$  is the observed chronic and transitory poverty,  $T_{ic}$  is the dummy variable of social assistance transfers for individual  $i$  in commune  $c$ , and  $Z_{ic}$  is the vector of indicators of resources and needs for individual  $i$  in commune  $c$ .

We can note that model (4.4) has a group structure. It contains individuals  $i$  within communes  $c$ . (4.4) also includes  $\alpha_c$  which is a fixed effect on chronic and transitory poverty for commune  $c$  in 1996. Commune fixed effects capture all unobserved characteristics of communes that affect both types of poverty. The reason for this specification is that the cutoff scores of the means proxy (CAS card), by which the beneficiaries of Chilean social assistance programs are selected, varies across communes and, by using commune fixed effects, I control any source of such variation (Carneiro et al. 2009). Finally,  $\varepsilon_{ic}$  is an error term that represents unobserved factors that change between the individuals and affect chronic and transitory poverty.

We can make an estimate of (4.4) by using a Tobit model with dummies for each commune. In this case, we control for all characteristics at the commune level of that do not vary between individuals of the same commune and focus on the variation between the treatment and control groups within a given commune. However, following the panel analysis literature, the maximum likelihood estimator is inconsistent in the presence of fixed effects when the number of individuals  $i$  is fixed. Even if there are a large number of communes, consistency of the maximum likelihood is realized only when the number of individuals per commune grows large.

In such a context, the semi-parametric fixed-effect censored Pantob estimator is an alternative by which (4.4) can be estimated without bias (Honoré 1992). This estimator strips unobserved fixed effects away and estimates the coefficient using only the variation within the communes in the regressors. The main assumption is that the remainder error  $\varepsilon_{ic}$  is independent and identically distributed after conditioning on the covariates. Honoré's estimator does not assume a parametric form for the error term and homoskedasticity across fixed units (e.g., communes). I estimate Pantob using trimmed least squares.

The Pantob estimation of coefficient  $\beta_1$  in (4.4) provides the average treatment effect of social transfers (ATE). In the case of a negative effect of social assistance transfer on poverty statuses over time, the ATE would be the expected average chronic or transitory poverty penalty of receiving a public benefit for a randomly chosen individual from the population. Pantob estimates the ATE by conditioning on the indicators of resources and needs as determinants of the dependent variables. To test the sensitivity of this strategy of estimation, I also implement matching estimators. In the last case, I estimate the ATE of social assistance programs by conditioning on the indicators of resources and needs plus a set of dummies for communes as the determinants of treatment assignment. Matching estimators do not take into account the censoring of my dependent variables. However, in comparison with regression models, one advantage of matching estimators is that it also provides the average treatment effect on the treated (ATT). Furthermore, matching is a nonparametric approach that avoids the misspecification bias of control variables.

The Pantob regressions and matching estimated ATE under the conditional independence assumption. It postulates that, conditional on a set of exogenous covariates  $Z$  (our indicators of needs and resources) and commune fixed effects, potential chronic and transitory poverty are independent of assignment into social programs. This means that both methods eliminate potential bias from observable variables. However, they are not robust against bias from unobserved variables that are associated with assignment to treatment and the outcome variables ( $\varepsilon_{ic}$ ).<sup>140</sup>

Following the bounding approach proposed by Rosenbaum (2002), I report sensitivity tests by

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<sup>140</sup> To estimate the ATT and ATE, we also need to assume common support or balancing of pretreatment variables. The treatment and control groups must have the same distribution of observable (and unobservable) characteristics independent of treatment status.

which propensity score matching also allows the checking of the sensitivity of estimated results with respect to unobserved variables.

## **4.6. Empirical Results**

### **4.6.1 Descriptive Analysis**

In this section, I will provide information about the magnitude of chronic and transitory poverty and descriptive evidence regarding the associations between both types of poverty and the independent variables described above. In this vein, following the method of Jalan and Ravallion (2000), Table 4.3 reports the indexes of chronic and transitory poverty for independent variables and for the full sample (last row of Table 4.3). We note that post-transfer chronic and transitory poverty amounts to about 45 percent and 55 percent of total poverty, respectively, over the period from 2001-2006 for the full sample.<sup>141</sup> This finding suggests that the importance of chronic and transitory poverty is similar in the working-age Chilean population under study.

In the context of international poverty research, this result is similar to the estimates of Cruces and Wodon (2004) for Argentina for 1995–96. Their estimates suggest that 57 percent of total poverty is chronic and 43 percent is transitory. However, the findings for both Latin American countries may contrast with the evidence for advanced democracies, which suggests that a great deal of poverty is transitory (Fouarge 2004). However, we have consider the fact that the time span in my study is six years, whereas the evidence for advanced countries is, in most cases, for an interval of one year.

Table 4.3 also provides the means for the indexes of chronic and transitory poverty for each category of transfer and control variables and calculates the proportion of total poverty that is chronic. In doing so, I can determine how much chronic and transitory poverty differ in their underlying distributions across the explanatory variables. Regarding social assistance benefits, the estimates shown in Table 4.3 indicate that chronic poverty prevails among individuals who live in households that are beneficiaries of social assistance. By contrast, transitory poverty prevails

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<sup>141</sup> It is important to take into account that, because chronic and transitory poverty measures are estimated using the squared poverty gap, the interpretation of scores reported in Table 3 is not easy. Due to this problem, my explanation of findings focuses on percentages (last column of Table 3). The percentage for transitory poverty (55%) is not in Table 4.3. It is obtained from 100 minus the percentage for chronic poverty (45%).

among individuals who are not beneficiaries. This finding suggests a concentration of social assistance benefits among the chronic poor.

**Table 4.3.** Profile of transitory and chronic poverty. Working-age population (15-64)

Variable	Number of individuals (unweighted)	Transitory poverty	Chronic poverty	Total poverty	Percentage of total poverty which is chronic
<i>Social assistance transfers</i>					
Beneficiary	1,784	0.0242	0.0271	0.0513	53
Non beneficiary	4,362	0.0075	0.0048	0.0123	39
<i>Education of sample members</i>					
Primary or lower	2,933	0.0162	0.0164	0.0326	50
Secondary	2,717	0.0082	0.0056	0.0138	41
Tertiary: Technical-professional	223	0.0024	0.0002	0.0026	8
Tertiary: University or higher	273	0.0048	0.0004	0.0053	8
<i>Age of household head</i>					
15-27	1,678	0.0113	0.0082	0.0195	42
28-38	1,629	0.0116	0.0127	0.0243	52
39-49	1,698	0.0107	0.0082	0.0189	44
50-60	1,129	0.0047	0.0021	0.0068	30
61-64	12	0.0023	---	0.0023	0
<i>Gender of household head</i>					
Male	5,153	0.0100	0.0080	0.0180	44
Female	993	0.0112	0.0109	0.0220	49
<i>Housing</i>					
Own property	4,682	0.0096	0.0076	0.0172	44
Bad quality construction	217	0.0268	0.0378	0.0647	59
<i>Number of employed in household</i>					
0	408	0.0154	0.1313	0.0286	46
1-2	4,533	0.0113	0.0092	0.0205	45
≥ 3	1,205	0.0056	0.0051	0.0107	48
<i>Employment status</i>					
Employed	2,964	0.0082	0.0072	0.0154	47
Unemployed	222	0.0096	0.0149	0.0245	60
Inactivity status	2,960	0.0127	0.0095	0.0223	43
<i>Marital status</i>					
Married	2,997	0.0107	0.0078	0.0185	42
Unmarried partners	494	0.0168	0.0305	0.0474	65
Divorced	176	0.0057	0.0028	0.0085	33
Widowed	67	0.0020	0.0020	0.0040	50
Single	2,412	0.0091	0.0063	0.0154	41
<i>Share of household members 0-5</i>					
0	3,661	0.0066	0.0049	0.0115	43
>0-29	1,833	0.0162	0.0106	0.0268	39
>30	652	0.0159	0.0241	0.0399	60
<i>Share of household members 6-14</i>					
0	2,414	0.0075	0.0055	0.0129	42
>0-29	2,090	0.0110	0.0074	0.0184	40
>29	1,642	0.0138	0.0151	0.0289	52
<i>Share of household members &gt;64</i>					
0	5,186	0.0108	0.0092	0.0199	46
>0-29	676	0.0086	0.0057	0.0143	40
>29	284	0.0031	0.0020	0.0051	40
<i>Geographical area</i>					
Rural	1,261	0.0136	0.0069	0.0205	34
Urban	4,885	0.0098	0.0087	0.0184	47
<i>Full sample</i>	6,146	0.01022	0.0085	0.0187	45

*Notes:* Estimations take into account the sampling design and weights and correspond to squared poverty gaps. The measures use the official Chilean poverty line. Social assistance transfers and age are measured for 2001, the rest of independent variables are measured for 1996. Source: Survey Panel CASEN.

In spite of the focalization of social benefits on chronic poverty, as I pointed out in the discussion of social assistance in Chile (Section 4.4), my analysis indicates that the size of the transfers to individual recipients is small. Table 4.4 illustrates this characteristic of Chilean social assistance. This table shows the proportion of social assistance transfers in the income packaging of the groups that compose the typology of chronic and transitory poor. For most members of each group the weight of benefits in the income packaging is very small. The proportion of social assistance transfers in the income packaging for 77 percent of the chronically and persistently poor (50.23 plus 26.94) is only 10 percent or lower. Regarding the rest of the poverty statuses, the proportion of individuals who receive 10 percent or less of the benefits is higher than 80 percent.

**Table 4.4.** Size of social assistance transfers in 2001 by post-transfer poverty status over time. Working-age population (15-64, N (unweighted) =6,636)

<i>Proportion of social assistance transfers in total per-capita household income in 2001</i>	<i>Type of poverty</i>			
	Never poor	Only transiently poor	Chronically and persistently poor	Chronically but not persistently poor
0%	88.68	74.80	50.23	63.88
> 0% and ≤10%	8.55	17.49	26.95	16.87
11-25%	2.20	5.32	17.03	13.43
≥ 26%	0.57	2.39	5.79	5.82
Total	100	100	100	100

*Notes:* Figures are the percentage of members of poverty groups in each level of benefit in the income package. The figures take into account sampling weights. This measure uses the official Chilean poverty line. Source: Survey Panel CASEN.

As stated in Section 4.4, the empirical studies in advanced nations define welfare dependency as counting on welfare income to make up more than one-half of a household's total income (Duncan 1984, Fouarge 2004). In such a context, the figures in Table 4.4 indicate that the proportion of social benefits in total per-capita household income is clearly lower than this threshold for most of the chronic and transitory poor in Chile. Thus, this finding suggests that it is unlikely that Chilean social assistance produces "welfare dependency" in the sense that this concept has in industrialized welfare states.

Table 4.3 also provides information about the association between chronic and transitory poverty and the control variables. The estimation results of Table 4.3 show that there are no

substantive differences between chronic and transitory poverty in the case of gender of the household head and low educational attainment. The number of employed people in the household and widowed marital status also do not make a difference between the two types of poverty.

Chronic poverty is clearly associated with a large number of children in a household, a poor-quality housing structure, unemployment, and partners who live together but are not married. Transitory poverty is more heterogeneous because it dominates in association with more socio-economic characteristics. We can note a clear prevalence of transitory poverty with higher educational attainment; adults between 39 and 64 years old; rural areas; divorced, married, and single individuals; and persons who live in a household with a low share of children.

I interpret these profiles of chronic and transitory poverty in the sense that the differences between such economic states concern the magnitude of the household's necessities and the work experience of the household head. Chronic poverty is dominant in the early occupational career stages of individuals who live in households with high necessities. By contrast, transitory poverty is associated with lower necessities and heads that are at the top of their productivity. Furthermore, transitory poverty prevails in households with a high level of resources. However, we have to take care with this interpretation because it is based only on descriptive information. Using regression models, in the following section, I provide the findings of the statistical tests of the associations suggested by the descriptive analyses.

#### **4.6.2 Estimated Models of Transitory and Chronic Poverty**

How do social assistance transfers contribute to chronic and transitory poverty? Table 4.5 reports the ATE estimates of censored regressions for continuous indexes of chronic and transitory poverty in Chile. The results support the hypothesis for chronic poverty, but not for transitory poverty. They suggest that the beneficiaries of Chilean social assistance in 2001 had higher chronic and transitory poverty for the 2001–2006 than individuals who did not receive benefits in 2001. The z-values associated with indicators of social transfers are statistically significant at conventional levels. The magnitude of the estimated effect varies by the type of poverty. The effect of social programs on transitory poverty is one-half the coefficient for chronic poverty.

Table 4.5. Semiparametric censored regression models with fixed effects of chronic and transitory poverty. Trimmed least squares estimations. Working-age population (15-64)

	<i>Chronic poverty</i>	<i>Transitory poverty</i>
Social assistance transfers (ref: non beneficiary)		
Beneficiary	0.112** (0.027)	0.057** (0.013)
Geographical are (ref: urban)		
Rural	-0.119** (0.034)	-0.042* (0.017)
Educational (ref: secondary or higher)		
Primary or lower	0.134** (0.032)	0.015 (0.008)
Number of employed in household	-0.038** (0.015)	-0.016** (0.005)
Employment status (ref: employee or inactive)		
Unemployed	0.057 (0.043)	-0.016 (0.027)
Age		
In years	0.012* (0.006)	0.003 (0.003)
In squared years	-0.000** (0.000)	-0.000 (0.000)
Gender of household head (ref: male)		
female	0.083* (0.042)	0.007 (0.014)
Marital status (ref: married)		
Unmarried partners	0.061 (0.035)	0.021 (0.019)
Divorced	-0.122* (0.051)	-0.019 (0.016)
Widowed	-0.226** (0.066)	-0.111** (0.032)
Single	-0.039 (0.041)	-0.014 (0.016)
Housing		
Own property	-0.042 (0.028)	-0.026 (0.018)
Bad quality construction	0.036 (0.041)	0.068* (0.032)
Share of household members 0-5	0.409** (0.077)	0.089* (0.039)
Share of household members 6-14	0.187** (0.069)	0.049 (0.039)
Share of household members 65+	-0.099 (0.129)	-0.072 (0.047)
N	6,146	6,146

\* $p < 0.05$ , \*\* $p < 0.01$  (two-tailed tests)

Notes: Social assistance transfers and age are measured for 2001, the rest of independent variables are measured for 1996. Standard errors are in parentheses. Source: Survey Panel CASEN.

Table 4.5 also shows the estimates for the control variables. The results in the case of the number of workers, educational attainment, and housing indicators indicate that, as one would expect, chronic and transitory poverty drop when household resources increase. More specifically, the estimates in Table 4.5 suggest that the number of employed people in a household significantly decreases both types of poverty, with a stronger effect in the case of chronic poverty. By contrast,



the coefficients of low educational attainment indicate that this social disadvantage increases both poverty statuses, but it is statistically significant only in the case of chronic poverty. The findings for housing indicate that living in a poor-quality structure significantly increases transitory poverty.

The findings for age confirm the results of descriptive analyses. The coefficients suggest that chronic poverty increases with age but at a decreasing rate. The coefficients of transitory poverty indicate the same pattern, but they are not statistically significant. Theoretically, this finding suggests that work experience is not relevant in protecting against chronic poverty at the beginning of the work career.

The estimations for the household head's gender indicate a significant gap in chronic poverty. Scholars typically interpret this gap in terms of the lower human capital of women. 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.

The coefficients of the geographical area in the full sample model suggest that living in a rural area decreases chronic and transitory poverty. The z-values associated with this variable are statistically significant at conventional levels. This finding confirms cross-sectional evidence for Chile, which suggests a decline in the poverty gap between rural and urban areas in the 2000s (MIDEPLAN 2007a).

I use marital status as another indicator of resources. My theoretical assumption is that, in comparison with other marital statuses, the marital union has financial advantages associated with household sharing and the use of common resources (Andress et al. 2006). Thus, marriage will be associated with lower chronic and transitory poverty. In contrast with this expectation, the findings shown in Table 4.5 suggest that marriage does not provide financial protection against both types of poverty. As we can see, the coefficients for unmarried partners and single people are not statistically significant, and the findings for the other marital statuses indicate that chronic and transitory poverty are lower for divorced and widowed individuals than for married persons.

The last control variables are the shares of children and old people in the household, which are indicators of needs in a household. As indicated in the estimates shown in Table 4.5, a higher number of children increases chronic and transitory poverty, with the effect being stronger in the

case of chronic poverty. While these results make sense in light of the theoretical expectations, we should keep in mind that this finding may be sensitive to methodological factors associated with economies of scale within the household. To deal with this problem, I estimate the model with different equivalence scales, and the findings still suggest that a larger number of children leads to a higher level of chronic poverty. The association is not significant for transitory poverty. Regarding social assistance transfers, the consideration of equivalence scales does not substantively modify the effect on chronic and transitory poverty that I show above.

### *Robustness Checks*

The results of regression models are highly robust to two important sensitivity analyses.<sup>142</sup> First, as was previously stated, I also estimate the causal effect of social assistance transfers on chronic and transitory poverty using matching estimators. I use two types of matching to test whether the results are robust to the choice of the matching algorithms. The first type consists of propensity score matching. Specifically, I use nearest-neighbor matching with replacement using one neighbor imposing a caliper. The second type of matching does not work with propensity scores. It imputes the missing potential outcomes of the control group by using the outcomes of a few nearest neighbors of the opposite treatment group. By comparison with the propensity score matching, the advantages of the second type of matching include the ability to estimate bias corrections for finite samples and variance that allow for heteroskedasticity (Imbens & Wooldridge 2009).

Table 4.6 shows the results of the matching estimations of the average treatment effect (ATE) and the average treatment effect on the treated (ATT) for chronic and transitory poverty after controlling for the needs and the resources of individuals.<sup>143</sup> The results of the two types of matching estimators confirm the findings of the censored regressions. I found evidence of an increase in chronic and transitory poverty associated with social assistance transfers. In comparison with censored regression, the effects on chronic and transitory poverty are similar. The reason is

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<sup>142</sup> The results of sensitivity tests, which I do not show, are available on request from the author.

<sup>143</sup> To estimate the matching procedures, I include commune fixed effects and only some of the indicators of resources and needs that I use in the regression models. I selected these variables on the basis of balancing tests. This means that the set of variables used in matching estimations are not the same as the set of control variables included in the regression models. In Appendix 3, I report propensity score estimates and the independent variables used.

that matching estimators do not consider the censoring of dependent variables. Furthermore, the Rosenbaum bounds suggest that the results are quite robust to unobserved influences.<sup>144</sup>

**Table 4.6.** The effects of social assistance transfers on chronic and transitory poverty

	Propensity score matching (Nearest neighbour)				Nearest-neighbour bias corrected matching			
	<i>Chronic poverty</i>		<i>Transitory poverty</i>		<i>Chronic poverty</i>		<i>Transitory poverty</i>	
	Effect	(s.e.)	Effect	(s.e.)	Effect	(s.e.)	Effect	(s.e.)
ATE	0.010	(0.002)	0.010	(0.001)	0.009	(0.002)	0.010	(0.001)
ATT	0.011	(0.004)	0.010	(0.002)	0.011	(0.002)	0.009	(0.002)

*Notes:* Standard errors of propensity score matching estimators are bootstrapped each with 1,454 repetitions in order to take into account the additional variability introduced by the estimation of the propensity score and by the matching process itself. Source: Survey Panel CASEN.

As a second robustness check, I estimated censored regression models and matching estimators with modifications of the dependent variables. One modification was to use social assistance transfers as a continuous variable. Furthermore, I have scaled up the poverty line by 50 percent as a second modification of the dependent variables. The results are also robust in the case of these two modifications.

#### 4.7. Conclusion

In this chapter, I attempted to evaluate the indirect effect of social assistance transfers on chronic and transitory poverty in Chile. I started by showing the findings in the literature. The next section presented the theoretical framework of this study, which has two parts. First, I developed the concepts of chronic and transitory poverty that I used in this study. Second, I offered a theoretical explanation of the indirect effects of transfers on chronic and transitory poverty in terms of the impacts of the size, targeting, and duration of benefits on productive investment and work effort. On the basis of this theoretical framework and a description of Chilean government social assistance programs, I contended that social assistance transfers should have a positive impact on chronic poverty in Chile. By contrast, benefits must not affect transitory poverty. I used the waves of 2001

<sup>144</sup> See Appendix 3.

and 2006 of the Chilean household panel CASEN to select working-age individuals and to test these expectations.

In line with the hypothesis for chronic poverty, the findings suggest that social assistance transfers increased chronic poverty in Chile for 2001 and 2006. Drawing on the theory developed in this study, this result can be interpreted as indicating that Chilean social assistance may produce incentives to apply for benefits and to work in the informal sector and, in doing so, to increase chronic poverty. In the vein of the standard labor supply model in economics, the results of this chapter thus suggest that benefits raise the incentive for some type of poor to change their labor supply—particularly their informal work effort. Furthermore, in emphasizing the role of informal work effort, this research has implications for the study of the indirect effects of cash programs in developing countries, such as Chile. The studies and the design of welfare programs must consider informality, insofar as informal work effort is a mechanism that may explain how it is possible that social assistance transfers, although low generosity, may result in poverty persistence. My findings, however, do not provide a direct and thorough empirical test regarding the role of informal work effort in explaining the impact of social assistance transfers on chronic poverty. Future research must analyze in more detail the indirect effects of transfers.

Social assistance transfers have a positive effect on transitory poverty. This result requires the rejection of my second hypothesis and means that, despite their small size, the benefits increase the inter-temporal variability in the income of the poor. Two assertions are relevant to the evaluation of this finding. First, the relevance and robustness of the benefit effect is clearly lower for transitory poverty than for chronic poverty. It follows that my analysis of the association between this type of poverty and social assistance transfers is preliminary and, thus, it should be examined in further research. Second, the positive benefit effect on transitory poverty may be associated with inter-temporal variability in the income of a particular type of poor. The measure of transitory poverty used in regression analysis captures inter-temporal variability in the income of any type of poor, whether chronic or transitory. However, the positive benefit effect on transitory poverty may only be associated with the income variability of the chronic poor, who do have an incentive to remain in poverty or to become poor. Further research should examine this possible explanation of the

positive effect of social assistance transfers on transitory poverty by evaluating such effects on particular types of poverty status over time. To identify the causal effect, a particular challenge will be to overcome selection bias that may be associated not only with the selection in treatment, but also with the sample of particular types to be analyzed. Yearly panel data for a long period are very helpful in solving this kind of problem, and the findings of this study encourage the collection of this type of information.

I do not claim that the quantitative data analysis of this study should be considered an exhaustive test of the effect of social assistance transfers on chronic and transitory poverty in Chile. To improve the models of transitory poverty, future studies must also consider the effects of idiosyncratic shocks and the effect of the economy. Finally, research must analyze in more detail the heterogeneity of the treatment effect, especially by considering the influence of each social assistance program in subpopulations.

Despite this caveat, I believe that my theoretical argument and the empirical evidence that is presented suggest one important policy conclusion. Following the experience of advanced nations, the design must be more complex in the current Chilean policy to minimize disincentive effects. More specifically, such a design should consider not only the size of the transfers or investment in human capital as conditional cash transfer programs, but also the efficiency of the intervention regarding the targeting and its duration through work requirements and clear time limits.

## Chapter 5

### Conclusion

The goals of this dissertation were twofold. First, the dissertation aimed to estimate and explain the impact of public transfers and public provision of social services on poverty in Latin America. This goal was motivated by the debate between two contending perspectives about the role of social policy in relationship to poverty reduction—that is, the debate between redistributive and productive investment views of social benefits for the poor. Second, the dissertation evaluated how the institutional context, embodied by the welfare state, shapes the impact of public transfers on poverty in Latin America. In this way, two leading research questions guided the discussion. The first research question of the dissertation asked how public transfers and the public provision of social services contribute to poverty reduction. Drawing on studies of welfare regimes in advanced OECD countries, this research question has been further elaborated, and the second pivotal research question asked: how the institutional context shapes the impact of public transfers on poverty. In answering these questions, the association between social policies and poverty has been gauged in two cross-national studies of Latin American countries during the 1980s and 1990s (Chapters 2 and 3) and in a micro study of social assistance in Chile in 2001 and 2006 (Chapter 4). I argued that the decision to focus the examination of the research questions of the dissertation on Latin American countries is appropriate on the grounds of substantive, methodological, and pragmatic reasons. The studies, which compose the dissertation, carry implications for what can be expected from social policies for poverty reduction in Latin America during the last three decades.

To answer the core research questions of the dissertation, in Chapter 1, I developed micro-macro models, in which the impact of public transfers and public provision of social services on poverty is explained in terms of the effect of both instruments on the actions and interactions of income groups. Two components of the model are pivotal to understanding the findings of the

dissertation. First, I suggested that public transfers and benefits in kind are multidimensional concepts; thus, a set of policy dimensions was distinguished: size, targeting, and duration. Each of these dimensions may have different impacts on poverty. Second, I focused on the size and targeting of benefits to explain their effects on poverty, indicating three classes of actions as explanatory mechanisms of the association between policy and poverty: productive investment, work effort, and public support for social policies in general. Each of the studies that comprise this dissertation analyzed particular policy dimensions (size and targeting) or particular actions.

More specifically, chapter 2 presented a classification of Latin American welfare states that is fundamental to understanding the following analysis. In this vein, to answer the dissertation's leading questions, in chapter 3, I analyzed the impact of the size of government budget allocated to benefits on poverty levels among Latin American welfare states. Regarding social services, a testable hypothesis for the size of this social policy was formulated by discussing the connections between public provision of social services and productive investment in human capital. For public transfers, hypotheses were established but on the basis of the relationships between budget size allocated to cash payments and public support for policy in general. These hypotheses were tested with empirical evidence in a sample of 15 Latin American nations in the period 1980–2000.

Finally, chapter 4 evaluated the poverty effectiveness of government benefits provided on the basis of a specific criterion of targeting—that is, means-testing. More precisely, in this chapter, I discussed how means-tested social assistance contributes to reducing chronic and transitory poverty in terms of the influence of this type of public transfer on productive investment and the work effort—particularly informal work—of low-income groups in the Chilean welfare state. Overall, the three studies of the dissertation not only provided special insights into the impact of public transfers and public provision of social services across Latin American welfare states and in Chile but also demonstrated the role of the institutional context in moderating the effect of public transfers.

This concluding chapter reviews the findings from the preceding three chapters before discussing the implications of the main results for public policy and the consequences for future research. Section 5.1 summarizes the results of the three studies that compose the dissertation and

outlines whether there is empirical evidence to support the hypotheses, which were formulated in chapters 3 and 4. In doing so, section 5.1 discusses how each study has contributed to understanding the impacts of public transfers and public provision of social services on poverty in Latin America. Furthermore, by considering these impacts, section 5.1 also discusses the findings in the context of the debate that frames the pivotal questions of the dissertations: the controversy between redistributive and productive investment views of social benefits for the poor (see section 1.1). In section 5.2, some broad policy recommendations are suggested. Finally, section 5.3 debates some important flaws of the explanatory framework and the empirical analysis of this dissertation and presents a set of suggestions for future research.

## **5.1 Central Findings**

The presentation of the central findings is formed on the basis of the leading questions of the dissertation. The discussion of the results begins with the classification of Latin American welfare states in chapter 2. I then discuss the core findings of the multivariate analysis presented in chapters 3 and 4. Finally, this section ends with a discussion of additional results that are unrelated to the core question of the dissertation. However, they may be important to poverty research in general.

### *(a) Social policy orientations differ among Latin American welfare states*

Chapter 2 includes a classification of the policy orientations in Latin American countries. To classify policy orientations, an ideal typology was developed. Four models compose the typology: corporatism, universalism, liberalism, and productivism. The policy orientations of Latin American countries were classified into the typology by using hierarchical-agglomerative cluster analysis with measures of the typology's dimensions for the 1990s. While this first study of the dissertation finds that some countries fit more poorly than others, there is also some support for the ideal typology. With respect to the supportive evidence, the findings of Chapter 2 indicate that some clusters of countries fit the corporatist, universalist, and productivist types of welfare states. More specifically, one cluster is composed of welfare states that pioneered the development of social insurance



programs in the region (Argentina, Brazil, Chile, and Uruguay). This cluster approximates the corporatist model: program segmentation and focus on social insurance. A second cluster is composed of Costa Rica and Panama. Although both countries present considerable program universalism, only the policy orientations of Costa Rica approximate the universalist welfare state. It is unlikely that the Panamanian universalism emerged as a result of the development of citizen rights; rather, it is a result of the particular historical characteristics of this country. Central American nations (Dominican Republic, El Salvador, and Guatemala) plus Ecuador form a third cluster, which is clearly based on the commodification of the labor force and thus approximates the productivist welfare state.

Cluster analysis also provides ambiguous findings. Contrasting with the three clusters described above, the findings of Chapter 2 indicate the existence of two additional clusters that do not clearly fit in any of the ideal types of welfare states. One of these clusters is composed of Colombia, Paraguay, and Peru. These countries exhibit the essence of corporatism as they present high program segmentation. Nonetheless, the corporatist ideal model also assumes focus of the welfare state on social insurance. Contrasting with this definition of corporatism, the findings indicate that this fourth cluster combines program segmentation with residual focus on social insurance. In Chapter 2, I then suggested that Colombia, Paraguay, and Peru compose a cluster characterized by residual corporatist welfare states. Finally, a fifth cluster is also composed of ambiguous cases. Bolivia, Honduras, Mexico, and Nicaragua form this group. The distinctiveness of this cluster refers to the coexistence of corporatist and productivist policy orientations.

With respect to liberalism, the findings indicate that a distinctive liberal welfare state does not exist in Latin America. I suggest that this result of the cluster analysis may rely on the fact that the measure of liberalism used in Chapter 2 is not enough to capture liberal policy orientations in Latin American welfare states. Another interpretation of the findings is that the nonexistence of a liberal model operating in Latin America confirms the vision of some scholars that the claim of a shift of policy profile towards a liberal model in this region is an overgeneralization. Further research should discriminate between both positions by improving the measure of liberalism in Latin America. To

this end, the generation of information about means testing for a sample that include a significant number of LACs is particularly important.

In Chapter 2, I argued that the ambiguous results of the cluster analysis do not indicate that the entire ideal typology is problematic, as there is clearly nothing unique in the residual corporatist and mixed welfare states and thus both clusters hardly merit distinct ideal types, which are not considered by my typology. Furthermore, I suggested that the existence of the hybrid welfare arrangement and the coexistence of liberalism with other logics of welfare provision in Latin America suggest mutations of the institutional contexts in the regions.

To illustrate the relevance of the welfare state classification, Chapter 2 also examined the connection between clusters and socioeconomic outcomes. The findings revealed that the classification of Latin American welfare states is particularly relevant for poverty and informal work. More specifically, pioneer corporatist welfare states tend to have the lowest levels of poverty and informal work. This result indicates the effectiveness of corporatist systems to provide income security in the region. The unique universalist Latin American welfare state, Costa Rica, presents a superior capacity to not only reduce poverty in Latin America but also decrease income inequality and child mortality.

(b) *The public provision of social services does not contribute to poverty reduction in Latin America*

The first leading research question of the dissertation refers to the contribution of public transfers and public provision of social services to poverty reduction in Latin America. Chapter 3 intended to answer this question by examining the impact of the redistributive budget allocated to benefits in cash and in kind on poverty levels among 15 Latin American countries in the period 1980–2000. With respect to social services, by focusing on education and health care, I hypothesized that the budget size allocated to social services should lead to decreasing poverty levels in the long run among Latin American countries. This hypothesis did not gain support in the analysis of the dissertation. In chapter 3, the findings of cross-country analysis indicate that the cumulative health and education spending does not have a significant impact on poverty rates.

The cross-country analysis also included a measure of the education investment's outcome, which were the years of education for the population aged 25 and older. The analysis revealed that this outcome measurement clearly contributed to reducing poverty in Latin America in the period 1980–2000. At first glance, this result contradicts the findings of health and education spending. In Chapter 3, however, I proposed two factors that may explain these findings. First, there is a considerable lag between the public investment in social services and the outcomes of this investment—years of education and poverty—and the measure of benefits in kind used in this study perhaps does not completely capture this lag. Second, cumulative health and education spending and years of education measure different things and thus may reflect different causal determinants of poverty. Spending figures reflect the effort of the welfare state to provide social services. They are a measure of the welfare state's flows to services. Years of education measure the stock of human capital. Moreover, years of education are a result of a set of factors, not only interventions of the welfare state. In fact, a significant portion of the investment in education and health care in Latin America is private (see chapter 3). Thus, there are reasons to doubt the validity of years of education as a measure of public provision of social services.

All in all, the findings of the dissertation suggest that investment in human capital does help to reduce poverty, but it is an open question if increasing human capital is associated with the intervention of the welfare state in Latin America. That said, one important avenue for the future is to more clearly identify the effectiveness not only of public spending in social services but also of additional sources of human capital by analyzing the indirect effects of these factors on poverty levels that operate via their effects on human capital and from the human capital to poverty.

(c) *The contribution of public transfers to poverty reduction depends on the institutional context*

With respect to public transfers, the dissertation asked not only how public transfers contribute to poverty reduction in Latin America but also how the institutional context shapes the impact of this instrument of the welfare state on poverty. To examine these research questions, the term “institutional context” designated clusters of welfare states in Latin America. Chapter 3 examined these inquiries by focusing on the budget size that the state assigns to public transfers. The theory

of this chapter implicates a set of hypotheses about the impact of the public transfer's size on the level of poverty in the clusters that conform to the classification of Latin American welfare states as described in chapter 2. More precisely, the hypotheses of chapter 3 suggested that the size of government budget allocated to public transfers will decrease poverty levels in pioneer corporatist and universalist welfare states, and the poverty reduction is higher in the latter. By contrast, with both clusters, I hypothesized that the size of government budget allocated to public transfers would be associated with higher poverty levels in residual corporatist, productivist, and mixed Latin American welfare states. Using an unbalanced panel of 15 Latin American countries for the period 1980–2000 and pooled OLS regressions, these expectations were verified. Thus, the social policy that may be successful in reducing poverty in Latin America is associated with the granting of a considerable budget size for public transfers, with the most significant reductions occurring in the institutional context that provides benefits based on citizenship. This institutional context is the universal welfare state.

(d) *Social assistance transfers increases chronic and transitory poverty in Chile*

In chapter 4, I took a different angle to examine the research question of the dissertation about the impact of public transfers on poverty. I studied the case of Chile and examined the effectiveness of government benefits in poverty reduction with household panel data for Chilean working-age individuals in 2001 and 2006. More precisely, chapter 4 looked at the impact of a particular type of public transfer, social assistance benefits, on absolute poverty status over time (chronic and transitory poverty) at the micro level. I argued that social assistance should affect only chronic poverty, increasing the levels of this type of poverty in Chile. The findings verified the prognosis for chronic poverty and suggested that some kind of indirect behavioral effect on labor supply results from the design of social assistance programs in Chile. As explanatory mechanisms, I suggested that cash welfare is associated with incentives to apply for benefits and to work in the informal sector, and, in doing so, to increase chronic poverty. Nonetheless, it is important to say that, due to lack of data, I did not severely test these mechanisms. Evidence in the literature, though, confirms the plausibility of some of the assumptions of my argument. For transitory poverty, the hypothesis

was, however, rejected. The results indicate also a positive effect of benefits on this type of poverty, but the magnitude and sensitivity of this finding are lower than the results for chronic poverty and thus suggest that further research is necessary to verify my findings. I also suggested that perhaps the positive effect of social assistance transfers on transitory poverty is associated with particular types of poor people.

Although the domain of the primary inference of Chapter 4 is at the micro level, the results of the analysis of the Chilean social assistance have implications at the level of countries. The findings for chronic poverty suggest that when the opportunities to get a job in the formal sector are low, social assistance transfers, although their generosity is low, may produce poverty. I discussed the role of opportunities in their association with chronic poverty and present some descriptive evidence with respect to the association between informality and human capital (Section 4.4 in Chapter 4). However, opportunities can be also considered as a characteristic of macro units. For instance, the findings of this dissertation suggest that social assistance in a country with a significant informal labor market may have a different effect on poverty than in a country with strong formalization of the labor force, insofar as in this last type of institutional context the low benefit's generosity may not be associated with incentives to apply for social assistance. It is an implication of my dissertation that should be evaluated by further research.

Before the conclusion considers the policy implication of the dissertation's findings, results that are not related to the leading questions of this dissertation but may be relevant to the study of poverty in general are discussed. Despite the core of the micro analysis regarding the impact of social assistance transfers on chronic and transitory poverty, this dissertation also discussed the impacts of needs and resources on both poverty statuses over time. The findings confirmed the expectation that individuals who live in households with high needs present higher chronic and transitory poverty, as the effect is stronger in the case of chronic deprivation. Likewise, it is clear that chronic and transitory poverty decrease when the resources in the household increase.

In chapter 4, I also presented the socioeconomic profiles of chronic and transitory poverty. The results indicate that the poor are not a homogenous group that exhibits a common set of socio-demographic characteristics. According to the results, chronic poverty dominates in households

with high necessities and where the head of the household is at the beginning of his/her work career. By contrast, transitory poverty is associated with lower necessities and with heads of household who are at the top of their productivity.

In the outline of this study (chapter 1), I framed the leading research questions in the debate between the redistributive and productive investment views of social benefits for the poor. To briefly review both views, the redistributive perspective pursues the reduction of poverty through the provision of cash payments on the basis of the desire to help others. The second perspective, the productive investment view, is motivated by the desire for self-help and defends the provision of social services as a mechanism to reduce poverty. In such a context, how do the main findings of the dissertation contribute to the debate between these two views? As mentioned in the outline of the dissertation, although a clear resolution of this controversy is unlikely, this dissertation intended to contribute by providing new evidence and, in doing so, reject bad arguments. Thus, the findings of the dissertation add meaningful insights to this debate in two important ways. First, they show that public provision of social services has not contributed to decreasing poverty in Latin America. However, because of the relevance of human capital to poverty reduction, any public intervention aimed to enhance the productivity of citizens should be an important weapon to fight the war on poverty.

Second, the findings of the dissertation indicate that a universal approach to the provision of public transfers *does* help to reduce poverty not only in advanced Western democracies but also in developing countries such as Latin American nations. Because most public transfers in Latin American welfare states are public expenditure in the form of pension, the finding for social assistance transfers in the Chilean welfare state does not falsify this conclusion. Instead, it suggests that the effectiveness of the targeted social assistance in reducing poverty is open to doubt once indirect incentive effects are considered. This finding of the dissertation carries an important implication for the relative value that liberal reforms may have for the well-being of the population in developing regions such as Latin America. To put it simply, the analysis of the dissertation indicates that the universal view of social protection should be not substituted for

means-tested welfare programs. It is an open question to what extent universalist social insurance and means-tested benefits can be used as complements to reduce poverty.

## **5.2 Policy Implications for Latin American Welfare States**

Based on the findings of this study, the discussion now turns to their policy implications. This Section 5.2 will suggest some broad policy recommendations that not only recapitulate the particular policy implications mentioned in the preceding chapters but also indicate general guidance for policy makers and citizens. First, policy makers should have a vested interest in incorporating elements of the institutional context into the design of policy. This recommendation is very important in Latin America countries, as these welfare states are typically treated by policy makers as more or less identical to one another or, at the other extreme, as nations marked by vast socioeconomic diversity (chapter 1). According to the results of this dissertation, Latin American welfare states neither fall into an extreme divergence nor converge to a unique regional identity. Rather, political economies in Latin America are classified as belonging to different institutional contexts with different consequences in political economic outcomes, particularly poverty. In this vein, a significant finding of this dissertation is that the institutional contexts that perform best in Latin America include welfare states with high program universalism and considerable redistributive budget assigned to public transfers. This important result points to specific challenges for future social policy, especially in today's context of pressures to liberalize markets and to retrench the welfare state in a globalized world. One challenge of particular importance is how to coordinate the institutional path of best performers in the regions with these pressures. As a starting point to attack this challenge, the findings of this study suggest that policy makers in pioneer corporatist and universalist welfare states should consider incentive problems for the design of social policy—for example, through entitlement requirements associated with work requirements and clear time limits.

Second, concrete government programs should take into account both the productive investment and work effort of individuals. The theoretical framework of this study (chapter 1) contends that neither investment-oriented nor work-oriented factors singlehandedly account for poverty; rather, there are intricate interactions between both factors. Furthermore, the institutional

context shapes such micro mechanisms by producing particular preferences for redistribution (e.g., public support for redistributive policy in general) among citizens. In other words, the impact of social policy on poverty is not explained by a mono-causal mechanism but rather by a complex group of explanatory factors. Unfortunately, I think it is impossible to decide where policy needs to intervene—in productive investment or in work effort—by taking into account only theoretical criteria. The reason is that no unified theory exists in social science that provides a set of clear statements about micro mechanisms and institutional contexts that are relevant to explain poverty. In fact, as I said in the outline of the dissertation (see Section 1.5), only weak causal theories in social sciences offer an ambiguous guide to make a prognosis. In such a context, moral and ethical principles should be an integral part of the evaluation of government interventions. Of course, a discussion of these principles is beyond the scope of this study, but the findings of the dissertation establish a “window frame” by indicating that the deliberation required to design adequate policy solutions could take into account the productive investment and work decisions of potential beneficiaries in particular institutional contexts and the redistributive preferences that result from these.

Third, citizens—policy makers, government, and private actors—need to think of the poor as a heterogeneous group. In short, there is not one type of poverty, but many. There is a large set of different theoretical and empirical approaches to identifying different types of poverty (chapter 1). In this study, I distinguish between chronic and transitory poverty and suggest that each faces particular sets of behavior. The policy implication of this statement is that future actions of policy makers should be directed to the design of specific welfare programs for a particular type of poverty. As the studies of poverty dynamics point out (Duncan 1984, Jalan & Ravallion 2000), chronic poverty should be attacked by improving the productive investment of individuals who live in this condition, particularly financial and human capital. Although this study did not analyze the impact of unexpected events or shocks, the theory suggests that an anti-transitory poverty policy must be focused on labor and family events such as unemployment or the birth of a child.



### 5.3 Suggestions for Further Research

This study aimed to estimate and explain the impact of public transfers and public provision of social services on poverty in Latin America and to evaluate how the institutional context shapes the impact of public transfers on poverty in this region. To reach this goal, various decisions about the theoretical framework and methodological design have been made. Obviously, these decisions may be challenged on substantive grounds. This section will specifically discuss three issues related to the theoretical and methodological basis of the dissertation that deserve further attention. These are (i) the theoretical model, (ii) country selection and observation period, and (iii) methodology. Drawing on the discussion of these issues, suggestions for further research are offered.

With respect to the theoretical model, the explanations of the effectiveness of social policy in poverty reduction based on micro-macro models are incomplete. These explanations are incomplete because they raise even further questions. Put another way, the explanations contain black boxes. This becomes evident in the study about Chilean social assistance (chapter 4). In this research, I suggested that the impact of cash benefits on chronic and transitory poverty seems to have incentive effects on informal work effort. However, my explanation depends on a set of assumptions that are documented in the literature but have not been stringently evaluated by empirical research in Chile. It is not clear how different components of the decision's actors (for example, opportunities, motivation, and costs) produce such effects. Furthermore, black boxes emerge in the cross-national regression analysis section of the dissertation (Chapter 3). Here, the public support for redistributive policies in general is the core explanatory mechanism of the impact of institutional contexts on the poverty effect of public transfers. Based on the power-resource theory, Chapter 2 theoretically deduced connections between universalism and public support. I presented some descriptive evidence but the question remains whether such connections exist among citizens in Latin America under the statistical control of a set of potential confounding factors. To my knowledge, there are no empirical studies about the impact of institutional contexts on public opinions among Latin American welfare states.

Although the existence of black boxes does not invalidate the findings of the dissertation with respect to the claim of the causal effect of social policies on poverty (see Section 1.6 in Chapter 1),

I think the empirical study of these black boxes or unresolved questions is a promising avenue opened by the dissertation for further research in Latin American countries and in other developing countries, insofar as black boxes tell us how and why the effect of policy on poverty arises. A particularly insightful area of research is the micro mechanism suggested in the dissertation, using experimental methods. The findings of the dissertation encourage further research of scientific projects in this vein.

Second, the scope of any empirical study is limited by the country selection and the observation period. In this dissertation, for example, the analysis is regionally limited, as it focuses on Latin America. Moreover, cross-national analyses have been restricted to the 1980s and 1990s, and the micro study has analyzed data of the 2000s. This regional and temporal limitation is an important aspect to consider when debating the scope of the findings of the studies that compose the dissertation. A pivotal question in the cross-national analysis was the following: How does the institutional context shape the impact of public transfers on poverty in Latin America? To answer this question, policy orientations of LACs were classified into ideal types of welfare states. Furthermore, hypotheses about the moderator role of institutional contexts were formulated. Beyond these hypotheses being verified in the empirical analysis, this dissertation omits a significant institutional context—the liberal welfare state, which appears relevant for welfare provision in some Latin American nations in the 2000s. Unfortunately, the lack of data required the analysis of observation periods, which preclude the evaluation of the consequences of the liberal reforms on poverty. This clearly limits the scope of this dissertation, particularly in the face of rising liberalization of current welfare states in Latin America. In such a context, it is highly desirable to extend the analysis of the dissertation toward recent observation periods. The analysis of the Chilean welfare state appears to be a rich information source. This nation is a unique case in the Latin American context, as the liberal reforms in the Chilean welfare state are almost 30 years old. Cohort analysis could then be useful to capture the socioeconomic consequences of the welfare state among generations that are shaped either by a corporatist institutional design or by the recent liberal reform focused on means-testing. Hence, for future research, it seems promising to pursue the analysis of institutional contexts and the respective changes across history and birth cohorts.

Third and finally, some pitfalls with respect to methodology require further attention. Two aspects of data sources and operations are particularly relevant. The first relates to a need for disaggregation. A number of studies have attempted to evaluate the distributive impact of entire welfare states by using aggregate social expenditures. However, the aggregate benefit approach presents a set of problems (Chapter 3). For this dissertation, one of the most relevant problems relates to the fact that the aggregate expenditure approach assumes that there is, within each welfare state, a strong internal coherence across the goals of different program areas (Pedersen 1999). This might not be the case; different categories of government benefits may not be comparable in terms of their goals. In Chapter 3, I intended to handle this methodological challenge by disaggregating government benefits into public transfers spending and social services expenditure, but it is necessary to expand in the need for disaggregation. That is particularly relevant for public transfers, as the measures used in the dissertation aggregate benefits—social insurance and social assistance transfers—are actually used for different goals. In the future, it could prove fruitful to focus on specific programs or areas of the welfare state.

The second aspect of the methodology that requires further examination relates to the multidimensional nature of social policy concepts. To evaluate the impact of public transfers and public provision of social services on poverty, the studies of the dissertation focus either on the budget size assigned to social policy (Chapter 3) or on a particular eligibility criterion, which is means-testing (Chapter 4). Further research is therefore needed to study the impact on poverty of other criteria (social insurance and citizenship (Chapter 1)) and to examine in a multivariate analysis these targeting criteria and the size dimension. Such an endeavor seems promising in the current context, in which the Luxembourg Income Study (LIS) has gained access to datasets from seven Latin American countries belonging to different institutional contexts. By doing so, LIS provides the opportunity to analyze and to compare harmonized microdata from different types of welfare states in high- and middle-income countries around the world. The analysis of such data will contribute to the study of welfare states in Latin America.

In spite of the limitations that are discussed in this section, this dissertation stands as an important contribution to the study of the welfare states and their socioeconomic consequences in

Latin America, and it is hoped that some of the thoughts presented in this dissertation will be an initial point for comparative research of welfare states in this region.

# Appendix 1

## *Measuring the Role of State in Public-Private Mix: Public Pension and Public Healthcare Coverage*

Program universalism is measured by the average of two coverage rates. The first is the proportion of the economically active population above the age of 20 who make contributions to a pension system over different years during the 1990s. This is an indicator of pension coverage in the economically active stage. Table A1.1 provides information about this measure. In respect to the time at which coverage rates are measured, scholars use average data for a time period rather than for single years in order to reduce the risk of distortions resulting from exogenous shocks (Castles & Obinger 2008). In this study, the measurement validity of average pension coverage rates for the period 1990–1999, however, is open to doubt, as these may not capture a welfare state model but a hybrid of different types of welfare systems. In the 1990s, some Latin American countries introduced liberal reforms in their pension systems. This implies that a time series of coverage rate for a country in the 1990s includes measures for different types of policy orientation. At first glance, the consideration of coverage rates corresponding to years in the 1990s after the reform should not highly differ from the estimates for years before reform because it takes a generation (approximately 65 years) for a reform of the pension system to mature. However, it does not completely rule out that the average rate for all periods from 1990 to 1999 captures in some way liberal orientations in pension provision.

To overcome this problem, I took pension coverage rates for a single year before the application of reform in a given country and for which data existed for the 1990s (Table A1.1). When this was not possible (due to unavailability of data), I took the year in which the reform was initiated or the nearest year after the reform.<sup>145</sup> This strategy meant that I captured the pension system before the liberal reforms. The exception is Chile. In this country, the liberalization of the pension

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<sup>145</sup> Lack of data precludes the use of averaged data for time periods before the reform (for example, 1980–1993).

system began in 1981, but I used a coverage rate in 1992 for this country. By doing so, the information for each country of the sample corresponds to the 1990s. In spite of how the Chilean coverage rate may capture a hybrid of liberal and corporatist policy orientations (see Section 2.3 in Chapter 2), the analysis of information for the 1990s minimizes the influence of liberal reform because, as said in Chapter 1 (see Section 1.6), a considerable time lag exists between reforms of pension system and their observables socioeconomic outcomes. It follows that ten years after are not enough to clearly observe consequences of this reform. The data sources of pension coverage rates are Rofman and Lucchetti (2006) and Mesa-Lago (2005).

**Table A1.1.** Information about coverage rates

Country	Healthcare <sup>a</sup>	Pension <sup>b</sup>		
	Year used in the analysis	Year of reform <sup>c</sup>	Year used in the analysis	Source of pension coverage rate used in the analysis
Argentina	1991	1994 <sup>d</sup>	1993	Rofman and Luccetti (2006)
Bolivia	1997	1997	1996	Mesa-Lago (2005)
Brazil	1998	No reform	1993	Rofman and Luccetti (2006)
Chile	2002	1981 <sup>e</sup>	1992	Rofman and Luccetti (2006)
Colombia	1993	1994	1993	Mesa-Lago (2005)
Costa Rica	1994	2001	1993	Rofman and Luccetti (2006)
Dominican Republic	2000	2003	2000	Mesa-Lago (2005)
Ecuador	1994	No reform	1993	Rofman and Luccetti (2006)
El Salvador	2001	1998	1995	Rofman and Luccetti (2006)
Guatemala	1995	No reform	1998	Rofman and Luccetti (2006)
Honduras	2000	No reform	1994	Palacios and Pallares-Miralles (2000)
Mexico	2002	1997	1997	Mesa-Lago (2005)
Nicaragua	2001	No reform	1993	Rofman and Luccetti (2006)
Panama	1996	No reform	1996	Palacios and Pallares-Miralles (2000)
Paraguay	1999	No reform	1999	Rofman and Luccetti (2006)
Peru	2002	1993	1993	Mesa-Lago (2005)
Uruguay	2000	1996	1997	Mesa-Lago (2005)

*Note:* (a) Percentage of total population covered by public health system; (b) coverage of the labor force is the proportion of the economically active population who make contributions to a pension system; (c) “no reform” means that a country did not adopt an liberal reform of the pension system (source: Calvo et al. 2010); (d) for Argentina, system re-nationalized in 2008; and (e) reform of Chilean system in 2008 that reintroduced the state as the provider of welfare for some occupational categories.

The second indicator of coverage is the percentage of the total population covered by the social health system. Healthcare coverage has two modalities: social assistance and social insurance care. According to the author of the data used in the analysis, Mesa-Lago (2007), in most LACs, the social assistance sector covers the health status of low-income groups, which cannot access social insurance and the private system. Social insurance focuses on the formal labor force in Latin America and the state contributes to its financing through general revenues and taxes. There are no time-series data for healthcare coverage in Latin American welfare states and, thus, I

used data from the 1990s for single years (see column “year used in the analysis” for pension in Table A1.1). Due to the lack of data, I used measures of healthcare coverage in the early 2000s for seven countries: Chile (2002), Dominican Republic (2000), El Salvador (2001), Honduras (2000), Mexico (2002), Nicaragua (2001), Peru (2002), and Uruguay (2000).

Finally, pension and healthcare coverage rates cover different populations; that is, pension coverage regards the economically active population and healthcare rates cover the total population. Due to this difference in the reference population, my measure of the state’s role in the public-private mix provides only a rough measure of program universalism. Unfortunately, to my knowledge, there are no data representing public pension and public healthcare that consider the same population for Latin American welfare states (e.g., coverage of public healthcare and public pension only of the economically active population).

#### *Summary Index of Status Segmentation*

The index of status segmentation is the number of pension programs weighted by public transfer spending as a percentage of total public spending in 1993. I used this single year because most Latin American nations implemented pension reform in 1993 or after and, in doing so, the index captured only the system prevalent before the reform and not a mixture of different systems. As said above, the exception is Chile. For this country, I also used 1993 as reference year and information about the number of pension programs regarding only the old corporatist system. By doing so, only one system is captured by the base line (program’s number) of the index and, thus, I maximized the measurement validity of my indicator. Furthermore, to analyze connections between institutional arrangements and socioeconomic outcomes for 1990s, it makes sense to analyze information about the old systems because that decade is too early to clearly observe the socioeconomic consequences—particularly income inequality, education outcomes, and poverty—of liberal reforms of the welfare state in Latin America.

The values of the summary index are bound between six and zero, where zero and six describe the minimum and maximum levels of status segmentation, respectively. The number of pension programs is based on funds mentioned in *Social Security Programs throughout the World*

(SSA 1993). With respect to public transfer spending as a percentage of total social spending, this variable was compiled by the United Nations Economic Commission for Latin America and the Caribbean (ECLAC/CEPAL) (see Avelino et al. 2005). ECLAC provides data series for the 1990s. However, it is important to say that the rank order among LACs and public transfer spending, which is suggested by the figures in 1993, does not substantively vary when average data for the 1990s are used. Furthermore, although the standard approach in the OECD is to measure spending as a share of GDP, I use public transfer spending as a percentage of total public spending because measuring spending relative to the total budget more clearly reveals differences between developing countries (Rudra 2008, Wibbels & Ahlquist 2007).

Besides the denominator used to measure spending (as a percentage of public budget or as a percentage of GDP), public transfer spending is defined as the provision by the government of cash benefits to households and individuals in order to provide support during circumstances that adversely affect their welfare (Adema & Whiteford 2010). The ECLAC data series covers spending of central governments (at the national level) and expenditures of federal and local governments where they are significant, except in Mexico. In Mexico, spending at sub-national levels is not included in the ECLAC series, which means that the ECLAC's figures for this country are underestimated (ECLAC 2009).

Unfortunately, the ECLAC data series of public transfer spending provides only the sum of government expenditure on social insurance and social assistance benefits. It is not possible to disaggregate the ECLAC data series in these two types of benefits in cash and, in doing so, to capture the focus of the corporatist welfare state on social insurance or the priority of means-testing in the liberal institutional context. However, this is not a problem when measuring corporatism because the bulk of spending in the social security category goes to social insurance. In fact, by using the data series of public transfers spending from the International Monetary Fund (IMF), Huber et al. (2006) pointed out that social insurance accounts for 83 percent of public transfer spending in Latin America. Moreover, Segura-Ubiergo (2007) reported that the correlation between the IMF and the ECLAC data series exceeds 0.85.

I obtained the summary index by using the following mathematical formula:



$$\left( \frac{P_i}{P_{Uruguay}} \right) * N_i \quad (1a)$$

in (1a) the variables  $P_i$  and  $N_i$  represent public transfers spending as a percentage of total social spending and number of pension programs in country  $i$ , respectively. To understand the use of the weight  $(P_i/P_{Uruguay})$ , it is important to take into account two elements. First, as mentioned in Chapter 2, I used the weight to compensate for differences across LACs with respect to the relevance of social insurance as an instrument of the welfare state. On the ground of the definition of corporatist welfare state, a country possessing a high number of pension programs but placing a weak priority on social insurance in the government budget (e.g., Colombia, Paraguay, and Peru) cannot be regarded as highly corporatist. Second, the original values of public transfer spending as a percentage of total social spending are low for most countries in Latin America (smaller than fifteen percent). This implies that the weight can largely modify the original scores of the countries in the index without weighting. To avoid these extreme modifications, the weight is public transfer spending as percentage of total social spending divided by public transfers spending as percentage of total social spending for the country (such as Uruguay) with the maximum score (52.7 percent). The weight, then, captures the country's priority of the social insurance system into the public budget relative to the largest Latin American social insurance system. The more similar the priority of a given social insurance system to the Uruguayan social insurance system, the higher the weighting score. The maximum weighting score is one (Uruguay).

**Table A1.2.** Measures of the typology's dimensions by clusters: 17 Latin American countries

Country	Subsidiary role of the state in public-private mix			Role of the state in public-private mix			Role of the market in public-private mix	Focus on social services
	Public transfer spending as % of budget	Number of pension programs	Index of corporatism	Pension coverage	Healthcare coverage	Average coverage	Private expenditure on health as % of total health expenditure	Human capital spending as % of budget
<i>Pioneer corporatist</i>								
Argentina	28.40	3.00	1.78	44.22	94.00	69.11	42.90	27.67
Brazil	41.20	3.00	2.59	45.89	75.50	60.69	57.64	15.95
Chile	31.50	6.00	3.97	61.14	67.50	64.32	51.90	25.18
Uruguay	47.60	6.00	6.00	73.00	54.60	63.80	56.06	19.98
Average	37.20	4.50	3.59	56.06	72.90	64.48	52.13	22.19
<i>Residual corporatist</i>								
Colombia	12.60	4.00	1.05	32.00	73.70	52.85	32.70	19.65
Paraguay	14.80	4.00	1.24	14.36	54.40	34.38	58.42	26.27
Peru	14.50	4.00	1.21	31.00	56.00	43.50	45.24	19.34
Average	13.90	4.00	1.17	25.79	61.37	43.58	45.45	21.75
<i>Universalist</i>								
Costa Rica	13.10	1.00	0.28	68.93	86.20	77.57	23.90	22.46
Panama	15.10	2.00	0.63	50.00	100.00	75.50	33.22	23.68
Average	14.10	1.50	0.45	59.47	93.60	76.53	28.56	23.07
<i>Productivist</i>								
Dominican Rep.	3.50	2.00	0.15	30.00	67.00	48.50	73.00	21.92
Ecuador	11.70	2.00	0.49	38.03	46.00	42.02	50.86	22.43
El Salvador	7.50	2.00	0.32	25.84	55.80	40.82	59.16	20.60
Guatemala	6.60	2.00	0.28	18.90	46.60	32.75	59.08	24.08
Average	7.33	2.00	0.31	28.19	53.85	41.02	60.53	22.26
<i>Mixed</i>								
Bolivia	3.90	8.00	0.66	12.00	55.80	33.90	37.32	27.55
Honduras	0.40	5.00	0.04	24.00	63.70	43.85	48.22	29.66
Mexico	2.50	4.00	0.21	37.00	87.10	62.05	55.60	37.50
Nicaragua	0.00	4.00	0.00	24.38	67.90	46.14	46.80	30.70
Average	1.70	5.25	0.23	24.35	68.62	46.49	46.99	31.35

Note: Measures use data from different years of the 1990s. Original measures (without Mean-standardization and winsorizing).

**Table A1.3.** Socioeconomic outcomes by clusters: 17 Latin American countries

Country	Income Security			Equality		
	<i>Absolute poverty rate<sup>a</sup></i>	<i>Informal labor<sup>b</sup></i>	<i>Economically active female population<sup>c</sup></i>	<i>Income inequality (Post-transfers Gini)</i>	<i>Child mortality<sup>d</sup></i>	<i>Years of education<sup>e</sup></i>
<i>Pioneer corporatist</i>						
Argentina	7.94	42.30	36.05	0.47	26.00	7.95
Brazil	31.16	57.90	37.75	0.55	53.00	3.97
Chile	14.52	39.70	27.05	0.55	15.00	7.34
Uruguay	3.73	36.20	41.20	0.43	23.00	6.79
Average	14.34	44.03	35.51	0.51	29.25	6.51
<i>Residual corporatist</i>						
Colombia	32.10	57.60	33.35	0.56	31.00	4.53
Paraguay	26.77	69.20	24.65	0.57	36.00	5.74
Peru	29.47	66.20	34.60	0.55	62.00	6.42
Average	29.45	64.33	30.87	0.56	43.00	5.56
<i>Universalist</i>						
Costa Rica	17.18	43.10	24.90	0.45	15.00	5.69
Panama	28.40	45.10	29.50	0.56	24.00	7.80
Average	22.79	44.10	27.20	0.50	19.25	6.75
<i>Productivist</i>						
Dominican Rep.	16.25	50.60	33.60	0.48	22.00	7.51
Ecuador	34.85	66.00	26.00	0.57	42.00	6.09
El Salvador	31.28	54.80	26.35	0.52	41.00	3.82
Guatemala	34.60	64.30	19.15	0.54	66.00	2.69
Average	29.25	58.93	26.28	0.53	43.00	5.03
<i>Mixed</i>						
Bolivia	36.65	75.50	31.70	0.58	109.00	4.96
Honduras	25.90	59.30	22.65	0.53	43.00	3.98
Mexico	25.25	51.70	28.75	0.54	39.00	6.12
Nicaragua	54.30	65.70	34.15	0.55	57.00	3.81
Average	42.28	63.05	29.31	0.55	61.92	4.72
R squared	0.55	0.61	0.36	0.22	0.37	0.25

Note: Socioeconomic outcomes are average for the period 1990-1999. (a) headcount ratio calculated from 2.5 US dollars per day poverty line; (b) proportion of workers in informal jobs as percentage of labor force; (c) economically active female population aged 10 years and over as a percentage of the total female population aged 10 years and over ; (d) number of deaths before the age of five per 1000 live; (e) average years of education for the population age 25 and older; R-squared from OLS regressions only with clusters as dummy variables.

**Table A1.4.** Duda and Hart stopping rule for cluster analysis of Figure 2.1 using Ward method

Number of cluster	Je(2)/Je(1)	Pseudo T-squared
1	0.35	28.11
2	0.27	13.65
3	0.57	5.92
4	0.63	3.51
5	0.31	4.45
6	0.21	3.80
7	0.22	7.14
8	0.02	64.76
9	0.45	2.49
10	0.00	.
11	0.00	.
12	0.06	17.02
13	0.32	2.12
14	0.00	.
15	0.00	.

Note: Mean-standardized and winsorized measures. Stata 11.1 was used to estimate figures.

### *Robustness Test of Cluster Analysis*

**Table A1.5.** Duda and Hart stopping rule for cluster analysis using complete linkage method

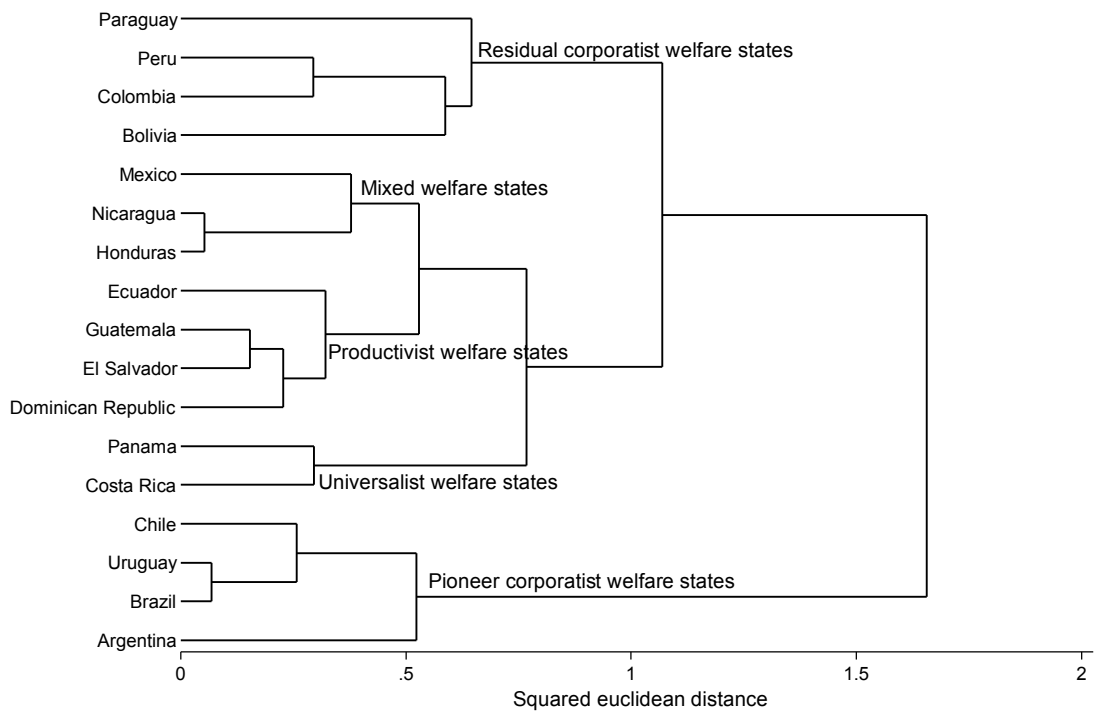
Number of cluster	Je(2)/Je(1)	Pseudo T-squared
1	0.35	27.72
2	0.54	9.01
3	0.46	8.28
4	0.57	1.50
5	0.18	4.52
6	0.46	5.82
7	0.22	7.14
8	0.02	64.76
9	0.45	2.49
10	0.00	.
11	0.00	.
12	0.06	17.02
13	0.32	2.12
14	0.00	.
15	0.00	.

Note: Mean-standardized and winsorized measures. Stata 11.1 was used to estimate figures.

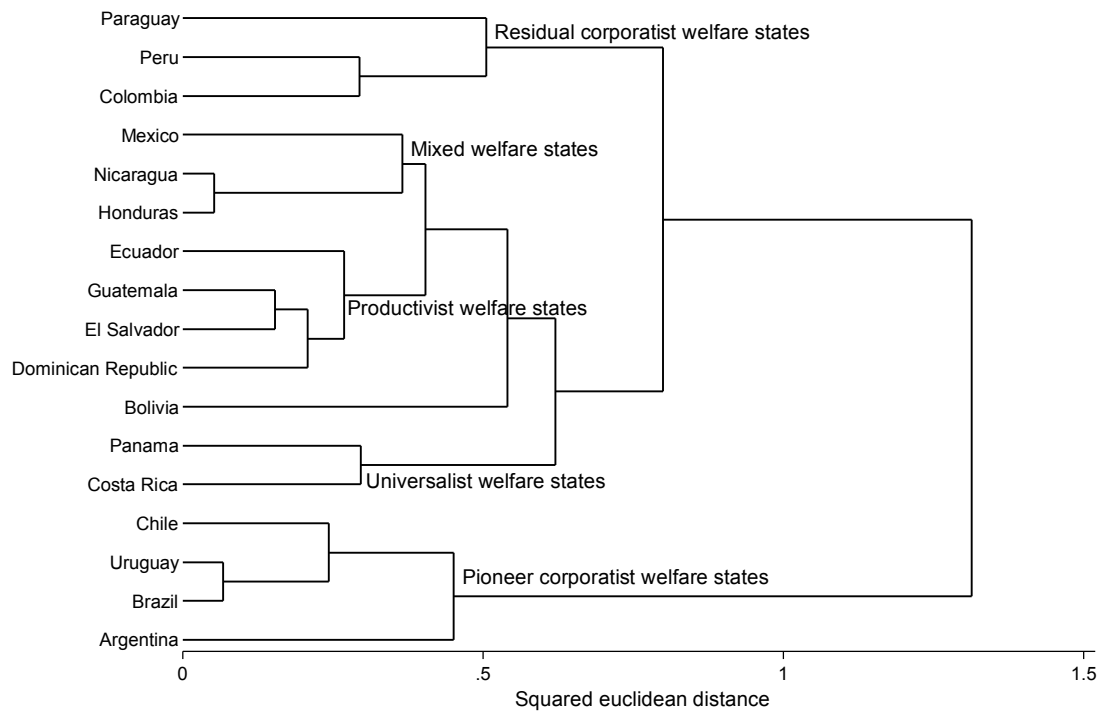
**Table A1.6** Duda and Hart stopping rule for cluster analysis using average linkage method

Number of cluster	Je(2)/Je(1)	Pseudo T-squared
1	0.35	27.72
2	0.54	9.24
3	0.57	5.92
4	0.63	3.49
5	0.21	3.80
6	0.22	7.14
7	0.46	5.82
8	0.02	64.76
9	0.00	.
10	0.00	.
11	0.45	2.49
12	0.06	17.02
13	0.32	2.12
14	0.00	.
15	0.00	.

Note: Mean-standardized and winsorized measures. Stata 11.1 was used to estimate figures.



**Figure A1.1** Classification of Latin American welfare states in the 1990s. Complete linkage method



**Figure A1.2** Classification of Latin American welfare states in the 1990s. Average linkage method

## Appendix 2

### *Modeling Strategy*

In this section, I explain the modeling strategy used to estimate growth and distributional effects of the size of government budget allocated to public transfers and the public provision of social services on poverty. The statistical models assume that both social policies indirectly affect the poverty level in a given country, either through economic output or through the inequality of income distribution (Section 3.4 in Chapter 3). To simplify the illustration of the modeling strategy, this section models only the distributional effect of the size of government budget allocated to the public provision of social services on poverty. However, the same procedure is valid for more complex models that include growth effects and additional independent variables. The following three equations represent both channels through which the size of government budget allocated to public provision of social services affects poverty:

$$\text{Log}(Poverty)_{it} = \beta_{10} + \beta_{11}\text{Log}(Output)_{it} + \beta_{12}\text{Log}(Distribution)_{it} + \varepsilon_{1,it} \quad (1b)$$

$$\text{Log}(Output)_{it} = \beta_{20} + \beta_{21}\text{Services}_{it} + \varepsilon_{2,it} \quad (2b)$$

$$\text{Log}(Distribution)_{it} = \beta_{30} + \beta_{31}\text{Services}_{it} + \varepsilon_{3,it} \quad (3b)$$

In these models, *Log* means the logarithmic transformation of variables. The variables included in the models are poverty level (*Poverty*), economic output (*Output*), inequality of income distribution (*Distribution*), and the size of government budget allocated to the public provision of social services (*Services*). For the present explanation of the modeling strategy, it is not necessary to describe the particular measures of the variables (see Section 3.4 in Chapter 3). In each equation, the  $\beta$ s represent parameter estimates and  $\varepsilon$  is the error term. For each  $\beta$ , the first

subscript corresponds to the number that identifies each equation—1 for equation 1b, 2 for equation 2b, and 3 for equation 3b—and the second subscript identifies the parameter in the equation. For the variables, the subscripts  $i$  and  $t$  represent the country and the year of observation, respectively.

Equation 1b indicates that the poverty level depends only on two factors: economic output and inequality of income distribution. Furthermore, according to my argument in Chapter 3, Equations 2b and 3b predict that social services do not have a direct effect on poverty. The size of government budget allocated to the public provision of social services affects poverty indirectly through two variables: economic output and inequality of income distribution. To derive a single prediction equation for growth and distributional effects of social policy on poverty levels, we substitute Equations 2b and 3b into 1b. The following equations demonstrate the substitution of the distributional effects equation 3b into the poverty prediction equation 1b:

$$\text{Log}(Poverty)_{it} = \beta_{10} + \beta_{11}\text{Log}(Output)_{it} + \beta_{12}(\beta_{30} + \beta_{31}\text{Services}_{it} + \varepsilon_{3,it}) + \varepsilon_{1,it} \quad (4b)$$

$$\text{Log}(Poverty)_{it} = \beta_{10} + \beta_{12}\beta_{30} + \beta_{11}\text{Log}(Output)_{it} + \beta_{12}\beta_{31}\text{Services}_{it} + \beta_{12}\varepsilon_{3,it} + \varepsilon_{1,it} \quad (5b)$$

In Equation 5b, the effect of the size of government budget allocated to the public provision of social services on poverty through income distribution is represented by  $\beta_{12}\beta_{31}$ . This parameter estimate is composed of the combined effects of the size of government budget allocated to the public provision of social services on inequality of income distribution ( $\beta_{31}$ ) and of inequality of income distribution on poverty ( $\beta_{12}$ ). The product of these parameter estimates is replaced by the single parameter  $\gamma_{51}$  in equation 6b. Furthermore, the coefficients  $\beta_{10}$  and  $\beta_{12}\beta_{30}$  are constant values and can be combined into a single parameter  $\gamma_{50}$ , for the sake of parsimony. The resulting equation is the following transformed expression of Equation 5b:

$$\text{Log}(Poverty)_{it} = \gamma_{50} + \beta_{11}\text{Log}(Output)_{it} + \gamma_{51}\text{Services}_{it} + \beta_{12}\varepsilon_{3,it} + \varepsilon_{1,it}$$

(6b)



Thus, in Equation 6b,  $\gamma_{51}$  represents the distributional effect of the size of government budget allocated to the public provision of social services on poverty. To estimate the distributional effect, the model must control for the economic output. By conditioning on the economic output, the model eliminates the path from social services to economic output to poverty level and, thus, the coefficient for services provides information on only the distributional effect path. Of course,  $\gamma_{51}$  should be an unbiased estimation of distributional effects only under the assumption that economic output and income distribution are the unique predictors that directly impact poverty (Equation 1b).

In this study, I use an extended version of model 6b that includes additional independent variables to estimate growth and distributional effects of the size of government budget allocated to public transfers and public provision of social services on poverty (Models 3.1 and 3.2 in Section 3.4 of Chapter 3). One of the advantages of Equation 6b is that the parameters can be easily estimated by using the Ordinary Least Squares estimator (OLS). If the specification of the model is correct, OLS provides unbiased estimations. However, the error term of Equation 6b suggests that the assumptions of heteroscedasticity and normality are questionable. In Equation 6b, the error term is:

$$\beta_{12}\varepsilon_{3,it} + \varepsilon_{1,it} \tag{7b}$$

This error term is a composite that results from the sum between the stochastic component of Equation 1b and the product between the error term of Equation 3b and the parameter estimate for the effect of the inequality of income distribution on poverty. This latter coefficient can affect the distribution of the error term in Equation 6b and, in doing so, produce heteroscedasticity and non-normal errors. The robust cluster variance estimator in Chapter 3 provides unbiased standard errors in the presence of heteroscedasticity and serial correlation. I test the robustness of the study findings to non-normal errors by using least absolute value regression (LAR), which is more efficient than OLS in the face of errors with non-normal distributions (Section 3.5).

### Formalization of Hypotheses

In this section, I formalize the hypotheses of Chapter 3 in terms of null and alternative hypotheses by using Models (3.1) and (3.2) (Section 3.4). The betas in the formalization correspond to the coefficients in both models. Hypothesis 1 states that *size of government budget allocated to public provision of social services has a negative impact on the level of poverty*. This expectation should work through economic output. Hypothesis 1 and the corresponding null hypothesis are represented as

$$H_0 : \beta_{21} \geq 0$$

$$H_1 : \beta_{21} < 0$$

The following hypotheses refer to the effect of public transfers on poverty levels. I argue that this effect of public transfers should work through income distribution. More specifically, Hypothesis 2 contends that *the size of government budget allocated to public transfers has a negative effect on the level of poverty in pioneer corporatist and universalist welfare states*. Hypothesis 2 yields the null and alternative hypotheses

$$H_{0,Pioneer} : \beta_{12} + \beta_{15} \geq 0$$

$$H_{1,Pioneer} : \beta_{12} + \beta_{15} < 0$$

and

$$H_{0,Universalist} : \beta_{12} + \beta_{16} \geq 0$$

$$H_{1,Universalist} : \beta_{12} + \beta_{16} < 0$$

Hypothesis 2 is further elaborated by the expectation that *the negative effect of the size of government budget allocated to public transfers on poverty is larger for universalist welfare state compared to pioneer corporatist welfare states*. Thus, Hypothesis 2a is represented by

$$H_0 : (\beta_{12} + \beta_{15}) - (\beta_{12} + \beta_{16}) \leq 0$$

$$H_1 : (\beta_{12} + \beta_{15}) - (\beta_{12} + \beta_{16}) > 0$$

Finally, Hypothesis 3 contends that *the size of government budget allocated to public transfers has a positive impact on the level of poverty in residual corporatist, productivist, and mixed welfare states*. Hence, the formalization of this last hypothesis is

$$H_0 : \beta_{12} \leq 0$$

$$H_1 : \beta_{12} > 0$$

**Table A2.1.** Preferences for income inequality in Latin American Welfare States, 1996 and 2006

Country	Percentage of the respondents that reporting values lower or equal to 4	
	1996	2006
Argentina	30.80	41.20
Brazil	37.60	37.00
Chile	40.10	48.00
Dominican Rep.	14.30	--
El Salvador	27.60	--
Guatemala	--	20.80
Mexico	31.80	30.00
Peru	27.00	15.50
Uruguay	46.70	33.20

*Note:* Answers in a 1-10 agreement scale in which 1 regards the phrase "Incomes should be more equal" and 10 represents the phrase "We need larger income differences as incentives." Source: World Value Survey.

## Appendix 3

### *Propensity Scores and Rosenbaum Bounds*

Rosenbaum bounds simulate the existence of unobservable variables that determine the treatment assignment. In my case, positive selection based on unobserved factors might induce a spurious positive effect of social assistance transfers. Positive selection means that those most likely to be beneficiaries of Chilean social assistance also have high chronic and transitory poverty even without participation in the social assistance programs and given that they have the same vector of control variables as the individuals in the comparison group. Table A3.2 reports how great the impact of unobserved factors needs to be to change the statistically significant positive effect of benefits on both types of poverty to insignificance. In the first row, it is assumed that my study is free of the effects of unobservables, where  $\Gamma=1$ . An increasing  $\Gamma$  value indicates that the influence of unobservables on the odds of receiving benefits increases. The critical value of  $\Gamma$  at which we have to question my conclusion regarding positive effect of social assistance transfers for those beneficiaries is between 1.75 and 2 for chronic poverty and between 1.5 and 1.75 for transitory poverty (see “*P* value +” column). Thus, to change my findings the unobserved factor would have to increase the odds of receiving social assistance transfers by 75-100 percent in the case of chronic poverty and by 50-75 percent for transitory poverty. These magnitudes are high, especially for chronic poverty, and suggest that my results are robust with respect to the influence of unobserved determinants.

**Table A3.1.** Propensity score estimation

Variable	Coefficient	z-statistic
Geographical area (ref: urban)		
Rural	0.238**	2.64
Education (ref: secondary or higher)		
Primary or lower	0.956**	13.88
Employment status (ref: unemployed)		
Employee	-0.585**	-3.66
Inactive	-0.281	-1.77
Age		
In years	0.049**	2.71
In squared years	-0.001**	-3.13
Gender of household head (ref: male)		
female	0.509**	5.90
Marital status (ref: married or single)		
Unmarried partners	0.759**	6.94
Divorced	0.127	0.65
Widowed	-0.038	-0.12
Housing		
Own property	0.222	2.91
Share of household members 0-5	1.480**	6.22
Constant	-2.195**	-5.87
Log likelihood	-3126.422	
N	6,031	

\* $p < 0.05$ , \*\* $p < 0.01$  (two-tailed tests)

Notes: Logit estimates. Social assistance transfers and age are measured for 2001; the rest of independent variables are measured for 1996. Fixed effects for communes are not shown. Source: Survey Panel CASEN.

**Table A3.2.** Rosenbaum bounds for ATT. Nearest neighbour (1) matching

Gamma	Chronic poverty		Transitory poverty	
	P value +	P value -	P value +	P value -
1	0.000	0.000	0.000	0.000
1.25	0.000	0.000	0.000	0.000
1.5	0.000	0.000	0.002	0.000
1.75	0.029	0.000	0.349	0.000
2	0.394	0.000	0.957	0.000
2.25	0.877	0.000	0.999	0.000
2.50	0.993	0.000	1	0.000
2.75	0.999	0.000	1	0.000
3	0.999	0.000	1	0.000

Note: Results based on Stata `ado 'rbounds'`. Independent variables of Table A3.1 are used as a conditioning set. '+' ('-') reports the results for positive (negative) selection on observables. Nearest neighbour (1) means that one neighbour was used to estimate the Rosenbaum bounds.

### *Illustration of the Measures of Chronic and Transitory Poverty*

In this section of Appendix 3, I illustrate the measures of chronic and transitory poverty used in the study and discuss the measurement validity of those indicators. Following Adcock and Collier (2001: 531), a measurement is valid when the scores derived from a given indicator can meaningfully be interpreted in terms of the concept that the indicator seeks to operationalize. It follows that, to discuss the measurement validity, we must first define the concept under examination. Chronic poverty is defined as poverty that persists in inter-temporal mean income, which is lower than the absolute poverty line (Section 4.3.1). Following a standard approach in economics and the sociology of social stratification, inter-temporal mean income captures long-run (so-called “permanent”) income (Hauser & Warren 1997, Sorensen 2000). As a behavioral concept, the concept of permanent income assumes that individuals adjust their consumption patterns to their long-term expected living conditions (DiPrete 2002). The adjustment of consumption is typically made in terms of productive investment, which results in a particular level of capital accumulation. It follows that the level of inter-temporal mean income (or permanent income) indicates the level of capital accumulation in the sense that higher mean income indicates greater accumulation. For instance, a person who obtains only a primary education will orient her productive investment to the long-term expected living conditions corresponding to the wealth associated with her human capital. Thus, this person should present low levels of permanent income—and, thus, a low level of capital accumulation—insofar as her human capital is low. For the concept of chronic poverty, the notions of permanent income and capital accumulation imply that the chronic poor are individuals with low levels of capital at one time point, which is a result of the permanent failure to accumulate capital. The concept of transitory poverty denotes inter-temporal variability in income for individuals who experience poverty at some time point.

In Chapter 4, I used two indicators that capture these concepts of chronic and transitory poverty: continuous indexes and a categorical variable that measures a typology of chronic and transitory poor (Section 4.3.1). To keep the illustration of these measures as simple as possible, Table A3.3 presents both indicators when the headcount ratio is used to estimate them. I have information about their poverty statuses of six individuals at two points in time, P1 and P2. In the

columns for P1 and P2, poor is 1 and not-poor is 0. The rectangles with dotted lines represent the groups that comprise the typology. The rectangles with solid lines denote the continuous indexes. Individual 1 is chronically/always poor; that is, he is persistently poor and his mean income is below the poverty line. This group represents 5% of the Chilean population analyzed in this study. Individuals 2 and 3 lived in poverty at time 1 or time 2 and their average income is also below the poverty line. My estimates, working with Chilean data, indicate that 4% of the population included in the analysis is chronically but not always poor. Individuals 4 and 5 experienced poverty at time 1 or time 2, but their average incomes are above the poverty line, so they are only transitory poor. Both individuals score only in the index of transitory poverty. It becomes evident that the index of transitory poverty and the group of transitory poor in the typology capture different things. The index denotes inter-temporal income variability, which can affect not only transitory poor but also chronically deprived individuals. Transitory poor is associated with inter-temporal income variability only for individuals that experience poverty at a particular time point but with mean incomes over time above the poverty line. The transitory poor represent 15% of the Chilean population used in the analysis. Finally, the last group is represented by individual 6, who is not poor at time 1 and time 2. In the Chilean data used in this study, 76% are in this last group.<sup>146</sup>

**Table A3.3.** Chronic and transitory poverty by using headcount ratios<sup>a</sup>

					Index of chronic poverty	Index of transitory poverty
Case (Individuals)		P1 (poverty status at time 1)	P2 (poverty status at time 2)	Total poverty ((P1+P2)/2)	Chronic poverty (mean income $\leq$ 1)	Transitory poverty (total poverty – chronic poverty)
1	Chronic, always	1.0	1.0	1.0	1.0	0.0
2	Chronic, not always	1.0	0.0	0.5	1.0	-0.5
3		0.0	1.0	0.5	1.0	-0.5
4	Transitory	1.0	0.0	0.5	0.0	0.5
5		0.0	1.0	0.5	0.0	0.5
6	Not poor	0.0	0.0	0.0	0.0	0.0

Notes: (a) Income is normalized by the poverty line, so income equals 1 if the income equals the poverty line.

<sup>146</sup> I obtained the estimations of the proportion for each typology group in the Chilean population by using a sample of 6,636 individuals and sample weights.

I used the typology only for descriptive analysis. To estimate the causal effect of social assistance transfers on chronic and transitory poverty, I used continuous indexes. In Table A3.4, the scores of these measures are shown in the columns on the right. I estimated the measures of total, chronic, and transitory poverty on the basis of equations 4.1, 4.2, and 4.3 (Section 4.3.1). If the headcount ratio is used, a problem for the causal analysis becomes evident. The index of chronic poverty is a categorical variable with 1 and 0, so I have to use a logistic or probit regression in the analysis of such a variable. However, as mentioned in the study (Section 4.5.1), we cannot straightforwardly interpret and compare the coefficients of logistic or probit regressions across groups. For the analysis in Chapter 4, the problem is that the differences between the logistic or probit regressions of chronic and transitory poverty in the estimated coefficients of being a beneficiary of social assistance tell us nothing about the differences in the underlying impact of social assistance transfers for both types of deprivation.

The reason for this problem associated with binary regression models relies on the fact that, to consistently estimate the logistic or probit regressions, it is necessary to assume that the variance of the errors is fixed (1 for probit and  $\pi^2/3$  for logit). Standard statistical software incorporates the identifying assumption and estimates coefficients, which are standardized by scaling the variables and residuals so that residual variances are either 1 for probit or  $\pi^2/3$  for logit (Williams 2009: 535). In other words, the estimated coefficients of a regression model for categorical variables are not the original parameters. It follows that we cannot actually estimate regression coefficients and the underlying residual variance of binary regression models separately (Long & Freese 2006). As Allison (1999) pointed out, this characteristic of binary regression models may produce biased estimations when residual variances differ across groups. If residual variances differ across groups, the standardization will also differ and, thus, coefficients across groups cannot be compared. For instance, the effect of social assistance transfers may be identical for chronic and transitory poverty, but if their residual variances differ, the coefficients of benefits will differ as well.

To compare causal effects across groups, the recommendation is to avoid analysis of outcomes in terms of dichotomies and qualitative variables if continuous alternatives exist (Mood



2010).<sup>147</sup> I follow this advice by using the squared poverty gap to estimate the measure of chronic and transitory poverty defined in the text. In doing so, I can compare the coefficients of semi-parametric regressions in Chapter 4. As stated in Section 4.5, these regression models use minimal assumptions for the error term.

Table A3.4 illustrates the use of squared poverty gap to measure chronic and transitory poverty. Note the two advantages of continuous indexes using squared poverty gap. First, the scale of variables is numeric and, thus, the estimation of causal effect should be more straightforward than with categorical variables. Moreover, not-poor scores zero in measures of chronic and transitory poverty, which means the indexes are censored for this group. Nonetheless, a potential problem for the estimations related with censored dependent variables can be solved by using an appropriate statistical method (Section 4.5.2).

**Table A3.4.** Chronic and transitory poverty by using squared poverty gap

Case (Individuals)	SG1 (squared gap at time 1)	SG2 (squared gap at time 2)	Total poverty ((SG1+SG2)/2)	Index of chronic poverty used in analysis Chronic poverty ((1-mean income) <sup>2</sup> If mean income ≤ 1)	Index of transitory poverty used in analysis Transitory poverty (total poverty – chronic poverty)
1 Chronic, always	0.1194	0.2807	0.2000	0.1916	0.0085
2 Chronic, not always	0.7404	0.0000	0.3702	0.1837	0.1864
3	0.0000	0.2959	0.1479	0.0160	0.1319
4 Transitory	0.0038	0.0000	0.0019	0.0000	0.0019
5	0.0000	0.0840	0.0420	0.0000	0.0042
6 Not poor	0.0000	0.0000	0.0000	0.0000	0.0000

Notes: (a) Income is normalized by the poverty line, so income equals 1 if the income equals the poverty line. The squared poverty gap is  $(1 - \text{normalized income})^2$ .

With respect to the second advantage, any type of the poor presents scores in the index of transitory poverty because they present inter-temporal variability in income. That is not the case when the headcount ratio is used. More particularly, this last aggregate poverty measure does not capture inter-temporal variability in income among the persistent poor. We observe this advantage of the squared poverty gap in individual 1 in Table A3.4. This presents 0 in the index of transitory

<sup>147</sup> To estimate the causal effect, another disadvantage of an analysis with categorical dependent variables is that the robustness checks (e.g. Rosenbaum bounds) that I used in Chapter 4 do not work with logit or probit models.

poverty in Table A3.3, but when the squared poverty gap is used, his score in the transitory poverty index is 0.0085. This characteristic of the squared poverty gap implies that an individual may contribute to chronic and transitory poverty if his income varies over time, regardless of the sequence of poverty statuses over time.

To clearly show the measurement validity of continuous indexes, the use of squared poverty in estimating chronic and transitory poverty means that the continuous index of chronic poverty captures the concept of chronic poverty used in this study in terms of the presence and inequality of poverty for individuals with low levels of capital at a single time point, which is a result of failure in capital accumulation. Such a failure is measured by the mean income over time below the absolute poverty line. The concept of transitory poverty is captured in terms of the deviation of total income—that is, the sum of incomes at particular points in time—from the average of incomes for particular years. This deviation captures the level of income variability for individuals who experienced poverty, regardless of whether they are always or temporary poor.

**Table A3.5.** Semiparametric censored regression models with fixed effects of chronic poverty. Only persistent poor and chronic deprived individuals who were not poor in 2001. Trimmed least squares estimations. Working-age population (15-64)

	<i>Chronic poverty</i>
Social assistance transfers (ref: non beneficiary)	
Beneficiary	0.124** (0.029)
Geographical area (ref: urban)	
Rural	-0.119** (0.035)
Educational (ref: secondary or higher)	
Primary or lower	0.144** (0.034)
Number of employed in household	-0.040* (0.017)
Employment status (ref: employee or inactive)	
Unemployed	0.051 (0.046)
Age	
In years	0.012* (0.006)
In squared years	-0.000** (0.000)
Gender of household head (ref: male)	
Female	0.090* (0.040)
Marital status (ref: married)	
Unmarried partners	0.054 (0.038)
Divorced	-0.131* (0.054)
Widowed	-0.247** (0.066)
Single	-0.044 (0.044)
Housing	
Own property	-0.047 (0.032)
Bad quality construction	0.037 (0.049)
Share of household members 0-5	0.449** (0.083)
Share of household members 6-14	0.196** (0.072)
Share of household members 65+	-0.111 (0.137)
N	5,856

\* $p < 0.05$ , \*\* $p < 0.01$  (two-tailed tests)

Notes: Social assistance transfers and age are measured for 2001; the rest of independent variables are measured for 1996. Standard errors are in parentheses. Source: Survey Panel CASEN.

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