Reducing Inequality and Poverty in Latin America: Conditional Cash Transfer Programs in Chile, Colombia, and Mexico

Jorge Humberto Guzman Gonzalez

Follow this and additional works at: https://ecommons.luc.edu/luc_diss

Part of the Political Science Commons

Recommended Citation
Guzman Gonzalez, Jorge Humberto, "Reducing Inequality and Poverty in Latin America: Conditional Cash Transfer Programs in Chile, Colombia, and Mexico" (2020). Dissertations. 3862.
https://ecommons.luc.edu/luc_diss/3862

This Dissertation is brought to you for free and open access by the Theses and Dissertations at Loyola eCommons. It has been accepted for inclusion in Dissertations by an authorized administrator of Loyola eCommons. For more information, please contact ecommons@luc.edu.

This work is licensed under a Creative Commons Attribution-Noncommercial-No Derivative Works 3.0 License.
Copyright © 2020 Jorge Humberto Guzman Gonzalez
LOYOLA UNIVERSITY CHICAGO

REDUCING INEQUALITY AND POVERTY IN LATIN AMERICA: CONDITIONAL CASH TRANSFER PROGRAMS IN CHILE, COLOMBIA, AND MEXICO

A DISSERTATION SUBMITTED TO THE FACULTY OF THE GRADUATE SCHOOL IN CANDIDACY FOR THE DEGREE OF DOCTOR OF PHILOSOPHY

PROGRAM IN POLITICAL SCIENCE

BY

JORGE HUMBERTO GUZMÁN GONZÁLEZ

CHICAGO, IL

DECEMBER 2020
Copyright by Jorge Humberto Guzmán González, 2020
All rights reserved.
AKNOWLEDGEMENTS

I would like to thank all of the people and institutions who supported me during my Ph.D. studies, starting with Fulbright Colombia and the Graduate School in Loyola University for their scholarship and awards that have let me develop this dream. The Jesuit community has not only taught me the principles of the pursuit of excellence and the commitment to service, but also to translate my Faith into working for social justice. I would also like to recognize Father Jose Alberto Mesa, S.J., my friend and spiritual advisor, who has always lighted me with his wisdom, and Father Thomas Reagen, S.J., former dean of the Graduate School, for his continued support.

Professor Peter Sanchez, who from the beginning opened the doors for me to enter the doctoral program and advised me during all the stages of my doctoral journey. Professor Vincent Mahler, who believed in my work and transmitted his continued enthusiasm. Professors Olga Avdeyeva, Melly Molin, and Alexandro Grigorescu, who always gave me advice and listened to me. Jenny Selvidge, who brought me continued support and who I would like to recognize for her remarkable professionalism and advice. Doctor Sergei Suarez Dillon Soares, professor David Jesuit, and doctor Piotr Paradowski, who gave me technical advice.

Finally, I would like to thank my wife, my mother, and my sisters for their unconditional support. Last but not least, I would like to thank God, who supported me through my Faith, and my father, Humberto Guzmán Vargas, who is in heaven and whose presence I always feel.
For the women of my life: my wife Laura; my mother Alba; my sisters Bita and Andreita; my aunt Marthica; my grandmother Flor; and my nieces Mariana, Tatiana, and Suzana.
Finding out what works in this area will require becoming what William Easterly calls a “searcher”—a social-policy entrepreneur willing to experiment with new approaches, to learn from others, and, more important, to abandon initiatives that are not bearing fruit.

—Francis Fukuyama

TABLE OF CONTENTS

AKNOWLEDGEMENTS iii
LIST OF TABLES viii
LIST OF FIGURES x
ABSTRACT xi

INTRODUCTION 1

CHAPTER 1: CONDITIONAL CASH TRANSFERS IN LATIN AMERICA - CHILE, COLOMBIA, AND MEXICO 7
   Inequality and Poverty in Latin America 7
   The Influence of International Organizations 13
   Evolution and History of CCTs in Chile, Colombia, and Mexico 15
   Characteristics of CCTs in Chile, Colombia, and Mexico 24
   Conclusion 33

CHAPTER 2: LITERATURE REVIEW 35
   Public Policy Analysis and Conditional Cash Transfer Programs (CCTs) 35
   Effectiveness of CCTs: School Attendance and Nutritional Check-Ups 38
   Impact of CCTs on Poverty and Inequality 39
   Efficiency of CCTs 47
   Other Variables that Could Impact Inequality and Poverty 52

CHAPTER 3: CONCEPTUALIZATION AND INCOME DATA 61
   Income Data of Chile, Colombia, and Mexico 61
   Definition of Concepts and Variables 76

CHAPTER 4: METHODOLOGY AND OPERATIONALIZATION 83
   Public Policy Analysis and Operationalization 83
   Impact on Inequality: Gini Index-Net Income and the Decomposition of the Gini Index 91
   Impact on Poverty: Gini Index-Net Income and Counterfactual Analysis 97
   Efficiency: Targeting Beneficiaries 99
   Descriptive Multivariate, Cross-National Model 100

CHAPTER 5: IMPACT OF CONDITIONAL CASH TRANSFERS ON INEQUALITY 104
   Effects of Taxes, Public Transfers, and CCTs on Inequality 105
   Decomposition of the Gini Index in One Period of Time 111
   The Decomposition of the Gini Index in Multiple Periods of Time 117

CHAPTER 6: IMPACT ON POVERTY AND THE EFFICIENCY OF CONDITIONAL CASH TRANSFER PROGRAMS 130
   Impact on Poverty: Gini Index-Net Income 130
# Efficiency: Targeting Beneficiaries

## CHAPTER 7: DESCRIPTIVE MULTIVARIATE, CROSS-NATIONAL MODEL
- Dependent Variables: CCTs’ impact on Inequality and Poverty, and CCTs’ Efficiency
- Independent Variables: CCTs’ Most Important Features
- Descriptive Control Variables: Economic and Institutional Variables
- Multivariate Effects on the Dependent Variables

## CONCLUSIONS
- CCTs in Mexico, Colombia, and Chile
- Findings in this Research
- Implications of the Results of this Dissertation
- CCTs in Crisis, COVID-19, and Universal Income
- Further Studies

## REFERENCE LIST

## VITA
LIST OF TABLES

Table 1. Public Policy Analysis and CCTs 37
Table 2. Waves of LIS data for CCT Analysis 63
Table 3. General Information Survey: Chile, Colombia, and Mexico 70
Table 4. LIS Documentation Availability – Effects of Taxes and Public Transfers on Inequality 86
Table 5. Gini Index and Fiscal Redistribution 107
Table 6. Impact of CCTs on Inequality of Market Income in Chile, Colombia, and Mexico 110
Table 7. Gini Decomposition by Income Source, Chile 2017 114
Table 8. Gini Decomposition by Income Source, Colombia 2016 114
Table 9. Gini Decomposition by Income Source, Mexico 2018 115
Table 10. Decomposition of the Gini Index and Gini Coefficients in Chile, Colombia, and Mexico 120
Table 11. Contribution of income source to total inequality in Chile, Colombia, and Mexico 124
Table 12. Decomposition of the Gini Index and Changes in the Gini Coefficients in Chile, Colombia, and Mexico 128
Table 13. Poverty Headcount Reduction in Chile, Colombia, and Mexico (Data in Percentage) 132
Table 14. Impact of CCTs on Poverty of Market Income in Chile, Colombia, and Mexico 136
Table 15. Observed Poverty Rate: Poverty Measures in Chile, Colombia, and Mexico 141
Table 16. Counterfactual Analysis: Poverty without CCT in Chile, Colombia, and Mexico 142
Table 17. CCTs Efficiency in Targeting the Poorest in Chile, Colombia, and Mexico 146
LIST OF FIGURES

Figure 1. Inequality in Latin America 8
Figure 2. Evolution of the Gini index in Latin America 10
Figure 3. Evolution of Poverty in Latin America (Percentage of Total Population) 10
Figure 4. Budget of CCTs, Chile, Colombia, and Mexico, 2003 to 2017 (Percentage of GDP) 29
Figure 5. Evolution of Individuals in Recipient Households of CCTs in Chile, Colombia, and Mexico, 1997 to 2018 31
Figure 6. Individuals in Recipient Households of CCTs, 2002 to 2017 (Percentage of Total Population) 32
Figure 7. Impact of CCTs on the Poverty Headcount Ratio in Chile, Colombia and Mexico. 140
Figure 8. Impact of CCTs on the Poverty Interval Measure in Chile, Colombia and Mexico 143
Figure 9. Rate of Growth of Annual Gross Domestic Product at Constant Prices (Percentage) 163
Figure 10. Degree of Openness of the Economy in Chile, Colombia, and Mexico (Current Prices) 166
Figure 11. Electoral Democracy Index in Chile, Colombia, and Mexico 178
Figure 12. Clientelism Index. Chile, Colombia, and Mexico 182
ABSTRACT

Latin America is the most unequal region across the globe. Inequality has increased the election of populist leaders and has resulted in massive social movements and protests in the region. Nevertheless, at the beginning of the 2000s, a process of inequality reduction started in the majority of the countries. Since the end of the 1990s, a large number of Latin American countries were the world pioneers developing Conditional Cash Transfers (CCTs), to put money in the hands of the poor with the conditions of school attendance and nutritional check-ups for their children. Most of the studies have analyzed the effectiveness of CCTs in how the conditions are met; some of them have also measured the impact on poverty. Nevertheless, few studies have evaluated the impact of CCTs on the reduction of inequality. For this reason, this dissertation’s main question is: Have CCTs reduced inequality and poverty in Latin America?

This dissertation measures and compares the fiscal redistribution, develops a model of decomposition of the Gini index, and elaborates a counterfactual analysis in order to measure the impact of CCTs on inequality and poverty in Chile, Colombia, and Mexico. Moreover, this dissertation analyzes the efficiency of CCTs. First finding, some results are not the expected ones. CCTs have a marginal impact on inequality, a slight impact on poverty, and varying results regarding the efficiency of CCTs. A relationship can be established between the size, in terms of budget, and number of beneficiaries of a CCT program and its impact on poverty. Second finding, as was expected, there is an inverse relationship between the size of a CCT and its efficiency.
INTRODUCTION
Latin America has historically been one of the most inegalitarian regions in the world. Inequality has polarized societies and has led to the rise of anti-systemic political and social movements and to the election of populist leaders (Fukuyama, 2008). More recently in 2019 and 2020, inequality has resulted in massive social movements and protests in Venezuela, Haiti, Ecuador, Peru, Bolivia, Chile, and Colombia.

Moreover, some countries, such as Argentina, Bolivia, Ecuador, Nicaragua, Brazil, Mexico, and Venezuela have elected populist presidents who promised institutional changes and reduction of poverty and inequality. Most of those countries had been previously ruled by elites who did not invest the benefits from commodities in structural programs to reduce higher inequality and social exclusion. The Latin American populist presidents have consolidated power, especially in the executive branches of their respective governments, but also in the legislative and the judicial branches, which effectively dismantled the democratic institutions (Fukuyama, 2008). These political crises have interrupted economic growth because of the unequal distribution of resources. Nevertheless, according to the Economic Commission for Latin America and the Caribbean (ECLAC, 2014 and 2020), at the beginning of the 2000s, in the majority of the countries of the region, a process of inequality reduction started and still, between 2002 and 2018, the average Gini index fell by approximately 14%, from 0.532 to 0.462.

In the recent past, two different strategies have been established to reduce poverty and inequality. The first strategy is based on demand-side programs that increase the income of
poor households through direct-cash subsidies and sometimes with some conditionalities to the beneficiaries. This is the case of conditional cash transfer programs that provide money to poor families conditional on investments in human capital, such as sending children to school or bringing them to health centers on a regular basis. That conditionality makes this new generation of social programs an instrument for longer-term human capital investments as well as short-term social assistance. Additionally, along with school voucher programs and certain subsidized health insurance schemes, conditional cash transfer programs are part of a growing policy emphasis on the use of market-oriented demand-side interventions to directly support the poor. (Rawlings and Rubio, 2005, p. 29)

Brazil and Mexico were the first two countries that developed CCTs in the region and international organizations, such as the World Bank and the Inter-American Development Bank— IADB—, have promoted CCTs in Latin America. According to Fiszbein et al. (2009) and Stampini and Tornarolli (2012), after Brazil and Mexico, CCTs have been implemented in Argentina, Bolivia, Chile, Colombia, Costa Rica, the Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Nicaragua, Paraguay, Panama, Peru, Trinidad and Tobago, and Uruguay.

The second strategy is to develop supply-side public policies, which are “[n]on-cash universal transfers from the government: These refer to government-provided services that benefit individuals but are provided with the primary objective of meeting the general needs of the overall population, rather than that of assisting the poor” (LIS, 2020b). The supply-side public policies look to bring access to all the members of a society to the fundamental goods, such as education, health, productive projects, the right to vote, and participation by the distribution of income and wealth (Piketty, 2020).

Several studies have analyzed a strategy that has been established to reduce poverty and inequality in Latin America. Latin American countries were the world pioneers in creating and
developing Conditional Cash Transfer (CCT) programs, to put money in the hands of the poor in order to increase the demand-side and increase human capital. The increase of the demand-side is defined by the capital that is provided to poor families, but conditions are placed on those transfers to ensure that the funds are used in ways that promote and increase human capital.

Most of the studies have analyzed the effectiveness of CCTs in how the conditions are met (Rawling & Rubio, 2003; Parker 2003, 2004; Attanasio & Gomez, 2004; Rawling & Rubio 2005; García & Saavedra, 2017). Moreover, a large part of the literature also analyzes the impact of CCTs in diminishing poverty (Attanasio & Gomez, 2004; Cecchini & Madariaga, 2011; Stampini & Tornarolli, 2012; Robles et al., 2015; Amarante & Brun 2018). Nevertheless, few studies have evaluated the impact of CCTs on the reduction of inequality (Wodon & Yitzhaki, 2002; Soares et al., 2007; Medina & Galván, 2008; and Amarante & Brun, 2018). For this reason, this dissertation’s main question is: Have CCTs reduced inequality and poverty in Latin America?

The main methodology applied in this dissertation is based on the analysis of microdata, developing a Comparative Public Policy Analysis, taking as a reference the case studies of CCTs in Mexico, Colombia, and Chile. The hypothesis of this dissertation is based on the following criteria: first, few studies have evaluated the impact of CCTs on inequality through 2010 (Amaranta & Brun, 2018); there is an opportunity to update these evaluations, using the method of decomposition of the Gini index. The advantage of using the decomposition of the Gini index is this method decomposes the income of a household into several sources, such as CCTs, and analyzes their impact on the difference of the Gini index in multiple countries in different periods of time. This dissertation uses the most recent LIS data, resulting in a full analysis of the
impact of CCTs on the Gini index in Chile, Colombia, and Mexico from the beginning of CCTs implementation to the most recent data.

Second, some studies have measured the impact of CCTs on poverty; this dissertation determines the percentage of the transfers in beneficiaries’ total income and the impact on poverty by comparing estimated incomes with a no-CCT counterfactual (Stampini & Tornarolli, 2012). This dissertation develops a counterfactual analysis measuring the impact of CCTs on poverty, using two relative measures: The Headcount Ratio and the Interval Measure. The advantage of using relative measures is that they generate specific poverty thresholds for each country in specific period of time, taking into consideration patterns in the income distribution (Brady, 2003). Moreover, it is useful to use both measures of poverty; while the Headcount Ratio measures the proportion of poor people, the Interval Measure includes the Income Gap between the median income of the total population and the mean income of the poor (Mahler & Jesuit, 2006). Third, the weakness in targeting the lowest income group as beneficiaries; this dissertation shows the evolution of poverty and the magnitude of CCTs in Chile, Colombia, and Mexico, analyzing the quality of the targeting mechanisms used for the inclusion of beneficiaries.

Finally, there is an opportunity to describe the political and economic context of Chile, Colombia, and Mexico in order to analyze some control variables that could have caused the reduction of inequality and poverty, such as the growth Gross Domestic Product (GDP), economic globalization, ideological orientation of governments, participation and political voice, and corruption. The studies that have analyzed the impact of CCTs on inequality and poverty have not included a political and economic analysis, describing a model which includes control variables. Therefore, this dissertation is a contribution to the literature.
This is the first study of CCTs to employ the Luxembourg Income Study Database (LIS), which is a contribution to the literature. The LIS is a cross-national data center located in Luxembourg and is the largest available income database with income, wealth, employment, and demographic of harmonized microdata collected to enable cross-national comparisons from about 50 countries around the globe, spanning five decades (LIS, 2020b). The LIS uses the Household Surveys of Chile, Colombia, and Mexico in order to access the data and develop public policy analysis. An additional benefit of LIS data is that results for these case studies can easily be compared to results for other countries, in Latin America and elsewhere. The key contribution of the LIS is that, while it does not collect any data on its own, it does allow for meaningful comparison in a way that was not previously possible. Therefore, the contribution of this dissertation is that the results can easily be placed in a broader context.

The hypotheses established to develop the analysis of the impact of CCTs in Latin America are:

Hypothesis 1: CCTs have diminished inequality in Latin America
Hypothesis 2: CCTs have diminished poverty in Latin America

The main contribution of this dissertation is the analysis of CCTs based on a Public Policy Analysis by making comparisons and incorporating political explanations. CCTs are analyzed by two criteria of Public Policy Analysis: impact and efficiency. First of all, this dissertation complements the studies that have analyzed the impact of CCTs on inequality and poverty, using the most recent data available, and developing methods that answer national broad issues based on the micro-data analysis. These methods based on micro-data analysis use the data of national household surveys, which are the main tool for governments to define index (such as inequality and poverty), to evaluate public policies, and to make public policy decisions.
Second, this dissertation measures the efficiency of CCTs, complementing studies in terms of targeting and graduation. Third, the case studies comprise the Pacific Alliance; for this reason, the conclusions and recommendations will not only contribute to the national governments, but also to this regional multilateral organization to address inequality and diminish the social gaps in their societies. Fourth, using the LIS for studying inequality and poverty in Latin American countries highlights the relevance of analyzing the most unequal region in the world.

In sum, the main contributions of my dissertation to the literature of CCTs are the analysis of the impact of CCTs on inequality through the decomposition of the Gini index, the analysis of the impact of CCTs on the poverty Headcount Ratio and Interval Measure through the counterfactual analysis, and the development of a micro-data analysis in order to answer national issues on poverty and inequality by using the LIS and national household surveys, comparing three Latin American countries: Chile, Colombia, and Mexico.

The dissertation is developed in seven chapters: After the introduction, chapter 1 explains the origins of CCTs and a description of the case studies, reviewing their development as well as the support of International Organizations. Chapter 2 describes the literature review, summarizing the results of some studies regarding the efficiency of CCTs and the impact of CCTs in diminishing poverty and inequality. Chapter 3 describes the conceptualization and income data. Chapters 4 explains the methodology and conceptualization. Chapter 5 extends the method and the analysis of the impact of CCTs on income inequality. Chapter 6 extends the method and the analysis of the impact of CCTs on poverty and the efficiency of CCTs. Chapter 7 describes a cross-national variance model. Finally, the conclusion provides recommendations for how to address inequality in Latin America and its implications.
CHAPTER 1

CONDITIONAL CASH TRANSFERS IN LATIN AMERICA - CHILE, COLOMBIA, AND MEXICO

Latin America is the most unequal region across the globe. The academy, international institutions, and governments have designed and analyzed strategies to reduce inequality and poverty. Since the end of the 1990s, a large number of Latin American countries have developed Conditional Cash Transfer programs (CCTs) in order to reduce poverty and inequality with the support of international organizations. CCTs have become an international reference for combating poverty and inequality. This dissertation contributes to the discussion on how CCTs have impacted inequality and poverty and how to diminish inequality for the Pacific Alliance members. The following subsections describe inequality and poverty in Latin America, the influence of international organizations on CCTs, the evolution and history of CCTs in Chile, Colombia, and Mexico, and analyzes the characteristics of these CCTs.

Inequality and Poverty in Latin America

Latin America has historically been one of the most inequitarian regions in the world (see Figure 1). According to the World Bank (2020), while Latin America and the Caribbean achieved an annual GNI per capita of US$ 14,084 in 2018, the East Asia and Pacific achieved an annual GNI per capita of US$ 17,344; the Middle East and North Africa (2017): US$ 18,055; East Asia and Pacific: US$ 10,982; the European Union: US$ 43,714; and the United States of America: US$
“Although income inequality has fallen in recent years, Latin America remains the most unequal region in the world. In 2014, the richest 10% of people in Latin America had amassed 71% of the region’s wealth” (Bárcena & Byanyima, 2016). The high level of inequality in Latin America has negative effects in the region’s long-term economic growth and political stability; inequality has polarized social conflict, has caused the rise of antisystemic political and social movements, and has polarized societies (Fukuyama, 2008).

Figure 1. Inequality in Latin America

Source: The most unequal regions in the world. Adapted from “Latin America is the world's most unequal region. Here's how to fix it,” by A. Bárcena and W. Byanyima, 2016, January 17, *January's World Economic Forum Annual Meeting in Davos.*

Moreover, inequality has increased the election of populist leaders, in which the demand for popular government was the political source of the tension (Polanyi, 2001). More recently in 2019 and 2020, inequality has resulted in massive social movements and protests in Venezuela, Haiti, Ecuador, Peru, Bolivia, Chile, and Colombia. Social groups from Chile and Colombia have massively protested because of inequality, among other reasons. Moreover, some countries,
such as Argentina, Bolivia, Ecuador, Nicaragua, Brazil, Mexico, and Venezuela have elected populist presidents who promised institutional changes and the reduction of poverty and inequality. Most of those countries had been previously ruled by elites who did not invest the benefits from commodities in structural programs to reduce higher inequality and social exclusion. The Latin American populist presidents have consolidated power, especially in the executive branches of their respective governments, but also in the legislative and the judicial branches, which in some countries effectively dismantled the democratic institutions (Fukuyama, 2008). These presidents have been reelected several times and have developed social policies that have reduced poverty but are unsustainable in the long term (Fukuyama, 2008, p. 71).

Political and social conflict have restricted the free press, constraining the power of the media in some cases (Fukuyama, 2008).

Nevertheless, according to the Economic Commission for Latin America and the Caribbean (ECLAC), at the beginning of the 2000s, a process of inequality reduction started in the majority of the countries of the region. Consequently, between 2002 and 2018, the average Gini index fell by approximately 14%, from 0.532 to 0.462. While in urban areas the diminishing of inequality was approximately 14%, from 0.509 to 0.436, in rural areas it was approximately 12%, from 0.05 to 0.442 (see Figure 2).

Similarly, poverty has decreased in Latin America in the last 20 years. According to ECLAC, the percentage of poor people in Latin America diminished from 44% in 2001 to 30% in 2018. Conversely, the percentage of the extremely poor in Latin America has not decreased in the same proportion, diminishing from 12.1% in 2001 to 10.7% in 2018 (see Figure 3). As can be seen, inequality and the percentage of poor people in Latin America have decreased during the same period as the implementation of CCTs.
In order to understand Latin America’s inequality, some authors have emphasized historical reasons. “[Latin American countries’] origins as extractive colonial states led to the
exclusion of large parts of the population from the political system, leaving the excluded without
the ability to protect their rights” (Fukuyama, 2008, p. 69). Acemoglu and Robinson (2012)
explain how Latin American countries differ in the way their political institutions were created
from the ones created at the origins of the United States of America, and how those political
institutions affect the economic institutions. During the Spanish colonization of Latin America,
the institutions of the encomienda system, the mita, and the repartimento increased the wealth of
the Spanish Crown but caused great inequality in Latin America. The political institutions are the
ones that determined the economic institutions within states. This historical analysis contributes
to the discussion of how political institutions have consequences in the development and
redistribution of countries’ economies. In sum, the Latin American political process excluded
large parts of its population since its origins, which contributed to inequality and caused dramatic
consequences in the social, political, economic, and cultural spheres.

After the economic crisis and the structural adjustment programs of the 1980s, which in
Latin America and the Caribbean produced a remarkable increase in poverty, in the 1990s the
commitment to face the social gaps began to gain ground (Tassara et al., 2015). The environment
was favorable because in the same period democratic institutions were consolidated and new
more advanced constitutions were approved in many countries (Tassara et al., 2015) while the
political leadership "aims to translate into concrete actions the idea of a more present State, with
greater capacity to intervene in economic and social development" (Repetto, 2010, p. 1).
Moreover, economic growth, the consolidation of fiscal policies, and larger public budgets
favored the increase of available resources for the implementation of social policies. This new
approach gradually replaced the paradigm based on the Washington Consensus that persistently
sought to reduce the role of the state (Tassara et al., 2015).
There have been some Latin American states with weak institutions that have established populist programs, which have highly negative consequences in social, economic, and political spheres. Those programs offered by populist governments have damaged the economy, have increased political polarization and, in some cases, have weakened democratic institutions (Fukuyama, 2008, p. 71). For instance, inequality in Venezuela led to the election of a populist leader, former President Chavez and his successor current-President Maduro. Both administrations have manipulated the law to stay in power, have severely weakened institutions, have polarized the country, and have created one of the most acute political, social, economic, and humanitarian crises in Latin America in recent years. In sum, populist governments arose in states with weak institutions and their manipulation led to more detrimental outcomes.

Other countries which have not necessarily been distinguished as populist governments have developed institutional programs such as CCTs. Latin American countries were the world pioneers in creating and developing CCTs, to put money in the hands of the poor in order to increase the demand-side and to promote human capital. Even though the earliest CCT programs were introduced in communities in Brazil in 1995 (Federal District, Campinas, Belo Horizonte, Vitoria, Recife, etc.), Mexico was the first to launch a national CCT program in 1997. The program was initially called PROGRESA from 1997 - 2001, then it was called Oportunidades (Opportunities) from 2001 to 2014, and finally it was called Prospera (Prosperity) beginning in 2014 (Cecchini & Atuesta, 2017 and ECLAC, 2020).

The transfers increase the purchasing power (demand) of marginalized communities, allowing them to consume more in the economy and stimulate employment. However, the money that they receive is conditional in that it must be used to ensure school attendance and nutritional medical check-ups for their children, promoting the accumulation of human capital in
youth as a way to break the intergenerational cycles of poverty and diminishing inequality (Rawlings & Rubio, 2003). “By making insurance available, helping credit-constrained poor people become productive workers, and providing incentives for long-term investments in human capital, safety nets are now seen to have a potentially important role in compensating for the market failures that help perpetuate poverty, particularly in high-inequality settings” (Ravallion, 2003, as cited in Rawlings & Rubio, 2005). Moreover, CCTs contribute to making economic growth more inclusive, by providing a large and reliable source of income (Stampini & Tornarolli, 2012). Even though Mexico and Brazil were the pioneers in designing the CCT programs, international organizations have promoted CCTs in Latin America.

**The Influence of International Organizations**

International organizations have played an important role in the development of CCTs in Latin America. “The enthusiasm and speed with which CCT programs were received in parts of the academy is astonishing, and their enthusiastic embrace by international financial institutions is even more surprising” (Lomelí, 2008, p. 478). Even if international organizations did not contribute to financing the design and development of CCTs in Brazil and Mexico in their beginning, these organizations actively participated in expanding CCT programs and replicating them in other countries (Handa & Davis, 2006, p. 514). The World Bank and Inter-American Development Bank (IDB) have helped Latin American countries by giving extensive loans to expand the programs. For instance, the IDB approved a one-billion-dollar loan to Mexico in 2001, financing the expansion of that country’s CCT program, the largest loan in its history at that time (Lloyd-Sherlock, 2008). International organizations not only have financed CCTs programs, but they have also promoted these programs.
In addition, international organizations have promoted CCT programs as models of best practice of social assistance for governments and policymakers (Lloyd-Sherlock, 2008). Initially, almost all of the programs were financed with international development cooperation resources and loans from the IDB or the World Bank (Tassara et al., 2016). For instance, the World Bank has increasingly recommended adopting CCT programs and giving loans to those countries that made the decision to implement them. This promotion of CCTs has not been the traditional area of the World Bank’s financing, such as infrastructure. It could be considered a highly risky decision, which is also uncommon in these types of organizations. Thus, the responsibility around the positive and the negative impacts of CCT programs in Latin America is not only with the government, but also with the international organizations that promote them.

According to the World Bank (2007), as a result of impact evaluations that have been incorporated into the design and implementation of CCTs, there is increasing evidence of positive results regarding the use of these programs. The evidence shows that CCT programs reduce the poverty of the poorer households in the short term, resulting in better indicators in education, such as the rate of schooling—both in attendance and in permanence—and better indicators in health, relative malnutrition, vaccination, and prenatal controls (World Bank, 2007). “As evidence of impact grows, customers of the Bank increasingly request support to start or expand CCT programs” (World Bank, 2007). In sum, the evidence of the impact of CCTs on diminishing poverty and improving inter-generational human capital motivates and justifies international organizations in promoting CCTs and thus promotes giving loans to Latin-American governments for the purpose of establishing and expanding these programs.

Furthermore, international organizations have contributed to the development of studies to measure the impact of CCTs in Latin America. For instance, an Inter-American Development
Bank study (Bouillon & Tejerina 2006) concluded that in Costa Rica, Ecuador, Honduras, Brazil, Mexico, Nicaragua, and Colombia between 1997 and 2003, CCTs “were found to be ‘very effective tools’ for reducing poverty and inequality ‘in the long term’ and [providing] the relief of poverty ‘in the short term” (Lomelí, 2008, p. 478). According to Tassara et al. (2016), the Inter-American Development Bank (2014) estimates that around 96 million people emerged from poverty between 2003 and 2013, and that the percentage of poor people in the region would have been, on average, 13% higher in the absence of CCTs. Moreover, in its 2006-Annual Report, the Inter-American Development Bank (Russell-Bitting, 2007) concluded that CCTs have successfully reduced low-income groups in Latin America as well as have strengthened human capital accumulation (Lomelí, 2008).

**Evolution and History of CCTs in Chile, Colombia, and Mexico**

Mexico and Brazil were the pioneers in the world to develop CCTs, and Colombia soon followed. The World Bank has subsequently supported the replication of CCTs all around Latin America. Chile has implemented CCTs, but not on the same scale as Colombia and Mexico. Mexico, Colombia, and Chile, as most of Latin Americans countries that have implemented CCTs, have similar objectives: to improve the welfare of families by increasing its consumption capacity through cash transfers and to develop human capital in education and health in order to reduce poverty and to reduce social exclusion, thereby diminishing inequality. The CCTs in Mexico, Colombia, and Chile clearly emphasize the reduction in poverty as a key goal. While Colombia’s CCTs have an objective of diminishing inequality, Mexico and Chile’s CCTs implies the reduction of inequality as an objective through the reduction of social exclusion and the increase of human capital.
Finally, Mexico, Colombia, Chile, and Peru comprise the Pacific Alliance, which is an initiative of regional integration founded in 2011; one of its main objectives is “[to] drive further growth, development and competitiveness of the economies of its members, focused on achieving greater well-being, overcoming socioeconomic inequality and promot[ing] the social inclusion of its inhabitants” (Pacific Alliance, 2019). This dissertation could contribute to the discussion on how to diminish inequality for the Pacific Alliance’s members. This dissertation analyzes the impact and efficiency of three important CCT programs: *Prospera (Prosperity)* in Mexico, *Más Familias en Acción (More Families in Action)* in Colombia, and *Programa Ingreso Ético Familiar (Ethical Family Income Program)* in Chile.

**Prosperity in Mexico.**

Each governmental administration in Mexico has made changes to the CCT program and, most importantly, has changed the name after each succession for the sake of difference. The first CCT program started in 1997 with the name PROGRESA and attended to rural areas only (ECLAC, 2020). It was created in the administration of President Ernesto Zedillo Ponce de León (1994-2000) as a national program to reduce poverty. PROGRESA initially benefited 300,000 families in rural areas (Government of Mexico, 2018) and then jumped to 2.5 million in 2000 (Moreno-Brid et al., 2009, p. 165). This model established that the money was given to the women of households if beneficiaries’ children had attended local schools and families had attended regular health checks.

The government of Mexico designed and developed the CCT program in its first stages without the support of international organizations. Nevertheless, the international organizations played a significant role in the expansion of CCTs in Mexico. For instance, the IDB approved a one-billion-dollar loan to Mexico in 2001, financing the expansion of that country’s CCT
program (Lloyd-Sherlock, 2008). Moreover, international organizations, such as the IDB, World Bank, and ECLAC, have supported the development of public policy and academic studies. “Since its inception, it has been one of the programmes with more impact evaluation reports in several areas” (ECLAC, 2020).

In 2002, the administration of President Vicente Fox Quesada (2000-2006) introduced some changes to the program and named it Opportunities. The program’s coverage included urban areas, and more years of education were subsidized (not only elementary but also high school). In addition, this administration created a sub-program named Jovenes con Oportunidades (Youth Opportunities) “which provided a savings account for children of beneficiaries if they were performing satisfactorily in the last three years of high school” and could be used toward paying for university or opening a small business (Moreno-Brid et al., 2009, p. 165). The beneficiaries of Opportunities increased to 4.2 million households that attended in 2002 (Government of Mexico, 2018). According to Moreno-Brid et al., the distribution of the beneficiaries’ location in 2004 was 68.8% in rural areas, 17.2% in semi-urban regions, and 14% in urban centers (2009, p. 166).

Moreover, the administration of Felipe de Jesús Calderón Hinojosa (2006-2012) increased the coverage of the program from 24.8 to 26.9 million people (ECLAC, 2020), meaning the program did not suffer significant changes. Conversely, the administration of president Enrique Peña Nieto (2012-2018) changed the name of the program to Prosperity in 2014, becoming a program not only for conditional transfers but also for social inclusion, benefiting around 6.8 million families in 2016 (Government of Mexico, 2017).

The current program establishes two related objectives: to improve the welfare situation of families by increasing their consumption capacity, and to develop the human capital,
especially in education, health, and food, of their family members, mainly of children and young people, as a mechanism to improve their welfare situation in the future. The central hypothesis that guided the design of *Prosperity* is to allow the new generations to enter the labor market in activities of greater status, productivity and remuneration, promoting equal opportunities, social mobility, and the breakdown of the intergenerational reproduction cycle of poverty (CONEVAL, 2019). According to the ECLAC (2020), *Prosperity* benefited 31.2 million people in 2017.

Moreover, Mexican government has developed and strengthened an institutional framework. According to ECLAC (2020), the National Coordination of the Human Development Program of *Prosperity* was created through an executive order in March 2014. This institution is a decentralized agency of the Ministry of Social Development, with technical autonomy.

In 2019, the administration of president Andrés Manuel López Obrador (2018 – present) launched the *Programa de Becas para el Bienestar Benito Juárez*.

“The Benito Juárez Scholarships for the Well-being seek to strengthen an inclusive and equitable education by expanding the capabilities associated with the education of the population that is in a situation of poverty or in conditions of vulnerability…. As of 2019, this program replaces the educational components of the *Prosperity* Social Inclusion Program.” (ECLAC, 2020).

According to the Government of Mexico (2019), it is a set of priority programs that seeks to contribute to the right to education of children, adolescents, and young people with limited economic resources to support them in their school enrollment, completing their studies through monetary support. Additionally, the program considers ex-recipient households of *Prosperity* that meet the eligibility requirements in 2019, whose estimated per capita income is below the Income Poverty Line (LIS, 2020b).

In sum, the government of Mexico has expanded CCT programs, believing that they are indeed pulling people out of poverty and increasing human capital. The Mexican CCT program
increased the beneficiaries from 1.49 million people in 1997 to 31.2 million people in 2018, increasing the coverage of beneficiaries from 1.55% of the total population in 1997 to 24.13% in 2018. Overall, the definition of eligibility of *Prosperity* is similar to the definition of CCTs in Colombia and Chile.

**More Families in Action in Colombia.**

Colombia’s *More Families in Action* is the flagship of the region that was designated to supply relief from the negative effects of an economic recession (Rawlings & Rubio, 2005). This program, created in 2001 during the administration of president Andrés Pastrana (1998-2002), followed the model of CCTs implemented in Mexico. At the beginning the program was called *Families in Action* and was implemented only in the rural areas, covering municipalities smaller than 100,000 inhabitants.

During the administration of president Álvaro Uribe Vélez (2002-2010), a pilot program was carried out to include displaced populations located in large urban centers. Thus, the program included medium and large urban centers, covering all the municipalities of the country and adding strategies for the inclusion of indigenous communities. In addition, the administration of Uribe developed another CCT called *Jóvenes en Acción / Youth in Action* in 2012. This social prosperity program supports young people in poverty and vulnerability in order to continue their technical, technological, and professional studies, impacting the demand for higher education at the technical, technological and professional levels, increasing the educational achievement of this population and increasing their permanence in the educational system (DPS, 2017c). Youth enrolled in higher technical or technological education receive a cash incentive up to US$ 822 (COP$ 2,400,000) per year, and youths enrolled in undergraduate studies receive up to US$ 548 (COP$ 1,600,000) per year, or up to US$ 685 (COP$ 2,000,000) per year if they receive the
performance incentive (DPS, 2017c). This program started in 2012 as a component of the redesign process of the *More Families in Action* program and has benefited 420,000 vulnerable young people (DPS, 2017c). Vulnerability means in poor condition and with the possibility of suffering a decline in well-being, which can be caused by an economic crisis or natural disaster. The vulnerable are poor people and those who are likely to move out of poverty but may become poor again (World Bank, 2013).

In the administration of president Juan Manuel Santos Calderón (2010-2018), the program became the Law of the Republic (Law 1532 of 2012), giving it national coverage (DPS, 2015). In this case, the program did not change its name in every administration; it only altered the original Families in Action to the name *More Families in Action* in the Santos administration. In 2016, *More Families in Action* benefited 2,503,713 families in health and education incentives, in which 1,243,985 children under seven years of age benefited from health incentives and 3,129,861 children and adolescents of school age from the educational incentives. Incentives in education and health settled in the order of $1.7 trillion pesos, which equaled approximately US$ 612.7 million (DPS, 2017b). Finally, the program has continued during the Duque administration (2018 - present), maintaining the number of beneficiaries during the first year of his mandate.

*More Families in Action* received the financial support of international organizations, such as IDB and the World Bank. These loans not only contributed to the design and implementation of the program, but also to establishing “a coherent safety-net to replace a fragmented array of existing programmes” (Handa & Davis, 2006, p. 514). *More Families in Action* is a program that consists of conditioned and periodic delivery of a direct monetary
transfer to complement the income and improve the health and education of children under 18 years whose families are in poverty.

The objective of More Families in Action is to contribute to overcoming and preventing poverty and encouraging human capital formation through direct monetary support to the beneficiary families (Congress of Colombia, 2012). According to the Departamento para la Prosperidad Social –DPS- (2017a), the program seeks the promotion of assistance to children under the age of six. Moreover, the program encourages school attendance at the elementary and high school levels (children and adolescents between four and 18 years of age). Finally, More Families in Action seeks to contribute to the reduction of inequality and the closing of regional urban-rural and center-periphery gaps (DPS, 2017a). Thus, one of the specific objectives of CCTs in Colombia is to reduce inequality, clearly reflecting the importance of reducing inequality between urban and rural areas.

Colombia is becoming a highly interesting case because of the protest of Colombians against inequality during 2019 and 2020. In addition, the implementation of CCTs in Colombia had been marked by a unique political situation of violence in rural areas because of the internal conflict that exists in Colombia with the guerrillas. Nevertheless, the current situation of post-conflict after the signing of the peace process between the government and the Fuerzas Revolucionarias de Colombia (Revolutionary Armed Forces of Colombia) (FARC) guerrilla group is a historic moment in developing public policies and programs that close the social gap and reduce inequality, specifically benefiting rural areas and marginalized urban zones.

In sum, More Families in Action is similar to Prosperity in how the number of beneficiaries has highly increased through its implementation. Moreover, the governments of
Colombia and Mexico have increased the territorial coverage, starting from exclusively rural areas and then including urban areas as well.

**Programa Ingreso Ético Familiar / Ethical Family Income Program in Chile.**

The Ethical Family Income Program has its roots in Chile Solidario (Solidarity Chile), which was created during the administration of President Ricardo Froilán Lagos Escobar (2000-2006). Solidarity Chile articulated the access of the participants to a numerous set of programs and social benefits that were assigned to various ministries and public agencies and were mostly operating prior to this policy (Larrañaga et al., 2014), coordinating the whole public offer of social services around its beneficiaries (ECLAC, 2020). Moreover, this program gave its beneficiaries family support through a psychosocial approach (ECLAC, 2020).

The Ministry of Social Development and Family (Ministerio de Desarrollo Social y Familia) is the political and technical institution that was in charge of Solidarity Chile. This ministry managed financial resources and information records, coordinated the institutional network, collected data for further evaluations, and designed the beneficiaries’ selection instruments (Larrañaga et al., 2014). According to Larrañaga, Contreras and Cabezas (2014), Solidarity Chile focused on psychosocial support, giving preferential access to the network of social programs as well as guaranteed access to subsidies, while financial support for supporting short-term consumption was very low (Vargas et al., 2017). The World Bank contributed with studies and evaluations, as well as guidelines for the management and institutional strengthening of Solidarity Chile (Larrañaga et al., 2014).

In 2012, the first administration of President Piñera enacted Law 20595, which created the program Ethical Family Income Program, replacing Solidarity Chile. The objective of the program is to serve families in extreme poverty and those affected by certain conditions of
vulnerability, in order to promote access to better living conditions (Vargas et al., 2017). The *Ethical Family Income Program* incorporates elements of *Solidarity Chile*, such as socio-labor support to facilitate families participating in the formal labor market and achieving economic autonomy (Vargas et al., 2017). Conversely, the *Ethical Family Income Program* incorporates higher value transfers to alleviate the lack of income in the short term (Larrañaga et al., 2014). The *Ethical Family Income Program* had an inclusion of 50,000 new families in its first year (Tassara et al., 2017).

The *Ethical Family Income Program* prioritizes the reduction of extreme poverty through two strategies: conditional transfers and the development of personalized strategies for labor insertion and training, combining transfers with family interventions. The first increases the total income of families in an extreme poverty situation; the second strategy encourages the entry of women, and adults in general, to the labor market, including psychosocial support (Tassara et al., 2017). Transfers are designed to supplement families' autonomous income and help them exceed the extreme poverty threshold. However, the program also seeks to develop skills for families to insert themselves into stable—and long-term—productive trajectories so that the exit from extreme poverty is sustainable; that is, it does not depend on permanent transfers, but on a greater ability to generate income in families (Vargas et al., 2017).

Households eligible for the *Ethical Family Income Opportunity Program* are those who are in extreme poverty (per capita income below the basic basket) or in vulnerable conditions (Vargas et al., 2017). The program defines a limit in the access of new beneficiaries and exit strategies; beneficiaries can only be there for a maximum of two years and the annual coverage of new beneficiaries of the program may not exceed 70,000 people or families (Government of Chile, 2012).
Chile is becoming a highly interesting case because of the protest of Chileans against inequality during 2019 and 2020. Perhaps Chile has been seen as a model in the region because of the social programs described above. Nevertheless, inequality has been an increased concern among the population.

In sum, the definition of eligibility of *Ethical Family Income Program* is similar to *Prosperity* and *More Families in Action*, in which poor and vulnerable families should be the beneficiaries of the programs. In addition, the conditionalities to the beneficiaries are also similar to these programs. Conversely, *Ethical Family Income Program* has not increased its targeting or number of beneficiaries in the same way as *Prosperity* and *More Families in Action* has. In fact, the program defines a limit of new beneficiaries.

**Characteristics of CCTs in Chile, Colombia, and Mexico**

This historical description of the CCTs in three countries shows some similitudes and differences among them. The following subsections analyze and compare the characteristics of CCTs in Mexico, Colombia, and Chile. The characteristics to analyze are targeting, conditions and amounts of subsidies, budget and expenditure, and the coverage and beneficiaries.

**Targeting.**

The role of CCTs in social policy varies in each program as a consequence of differences in design and the context of each country. The targeting procedures for the selection of the CCTs’ beneficiaries are commonly based on different stages. The target population changes from one program to other. While Mexico’s *Prosperity* seeks households below the food poverty line (ECLAC, 2020), Colombia’s *More Families in Action* targets households in poverty and vulnerable situations, with children under 18 years old who are displaced or indigenous. In
addition, Chile’s *Ethical Family Income Program* seeks families in extreme poverty and vulnerable situations (Cecchini & Madariaga 2011; Vargas et al., 2017; and ECLAC, 2020).

First of all, CCTs use indices which may include income variables or unsatisfied basic needs for the selection of geographical units with the highest levels of poverty, using sources such as population censuses, household surveys, and poverty maps (Cecchini & Madariaga, 2011). “They use a combination of approaches to identify needy households, including a proxy means test to collect information about household characteristics (Chile was first to use this approach), geographic clustering of poverty, and in some cases community-based targeting and self-selection” (Lomelí, 2008, p. 480). On the one hand, *Prosperity* uses indicators of unsatisfied basic needs from census data in order to select poor rural communities based on a marginality index and expenses for urban areas (Orozco & Hubert, 2005; Cecchini & Madariaga, 2011; and ECLAC, 2020).

*More Families in Action* uses a proxy-means testing instrument known as the System for Selecting Beneficiaries of Social Programs (*Sistema de Beneficiarios de los Programas Sociales* or SISBEN). SISBEN is based on the assessment of living conditions of individual families, and it has been used extensively since 1994 to target subsidies for education, health insurance, CCTs, public works, youth training, subsidies for the elderly in poverty, and by national and local governments (Catañeda, 2005). Nevertheless, there is an exclusion of areas with an insufficient supply, such as banks, financial institutions, and health and education infrastructures (ECLAC, 2020). In addition, the *Ethical Family Income Program* uses the Social Household Registry (*Registro Social de Hogares* or RSH), which is developed by Decree 22, 2015. The RSH is the information system that began operating in January 2016 in order to support the selection processes for users of the different programs as well as benefits or social benefits of the Chilean
State. The RSH was an important and successful innovation, which has strengthened the social protection system, providing a socioeconomic characterization of households and other quality information and contributing to the design of more efficient and effective social policies (Berner-Herrera & Diaz-Silva, 2019).

Secondly, the programs address the unit selection: families or household. Most of the programs use indirect livelihood testing methods. Some programs incorporate a final stage of community selection, under the assumption that local agents have more information regarding the needs and deficiencies of the homes of a community (Cecchini & Madariaga, 2011). While Prosperity uses formulas that predict income through variables that assume that they are closely related to said income, the Ethical Family Income Program uses multidimensional quality of life indices (Cecchini & Madariaga, 2011). The Mexican CCTs “officials carry out a socio-economic survey for all households in the selected communities and then use discriminant analysis to distinguish eligible from ineligible households using characteristics such as dwelling conditions, dependency ratios, ownership of durable goods, animals and land, and the presence of disabled individuals” (Parker & Volg, 2018, pp. 5, 6).

Conversely, More Families in Action includes a community selection component as part of the adaptation of its operating rules in indigenous localities (Parker & Volg, 2018, and Cecchini & Madariaga, 2011). In sum, these mechanisms point out to a social vigilance and transparency, targeting households more effectively. Because of the efficiency and the limited budget of Latin American governments, targeting has been an important element in the design and development of CCTs. The main targeting goal is to achieve the greatest effect at the lowest budget cost.
Finally, the criteria of selecting the families differs among the programs, according to the children’s ages and their enrollment in school. On the one hand, *Prosperity* targets poor households with children of eight to 20 years enrolled in elementary (3rd to 6th grade) and high school for the educational conditions (Rawlings & Rubio, 2003, and ECLAC, 2020). On the other hand, *More Families in Action* targets poor households with children between seven and 17 years enrolled in elementary or high school (2nd to 11th grade) (Rawlings & Rubio, 2003). Conversely, Chile targets families living in extreme poverty and who have school-age children in elementary or high school and families with children under the age of six (Robles, 2013).

The importance of targeting is the public policy analysis of CCTs through the criterion of efficiency. CCT beneficiaries should follow the criterion of each program and the analysis must be in accordance to each program. As can be seen, in general terms, CCTs are focused on poor people and vulnerable people, meaning the policy analysis should result in including beneficiaries from only low-income groups. Moreover, the poorer the beneficiaries, the higher the efficiency of the program will be in reducing poverty and inequality.

**Conditions and Amounts of Subsidies.**

The amounts and conditions of the transfers differ in each program. In 2019, Mexico’s *Prosperity* gave grant amounts ranging from US$ 9.10 (MXN$ 175) to US$ 70.20 (MXN$ 1,350) monthly to families, in which the transfer increases with school level: elementary, middle, upper-middle and for women (ECLAC 2020). The senior-grant amount represents approximately two thirds of Mexico’s minimum wage (Parker & Volg, 2018). Moreover, the transfer for health was US$ 17.40 (MXN$ 3,355) per household per month in 2018 (ECLAC, 2020).

The transfers of Colombia’s *More Families in Action* in 2017 ranged from US$ 3.90 (COP$ 11,375) to US$21.40 (COP$ 62,475) (ECLAC, 2020). The amount is based on
geographical criteria (four groups of cities) and level of grades (five groups of school grades. The geographical differentiation is defined using the Multidimensional Poverty Index (MPI), with the objective of increasing the progressivity of the program, in which higher-income people should pay higher taxes to benefit low-income groups. “The differentiation establishes four groups of municipalities divided in the following way: Group 1: Bogotá; Group 2: 21 capital cities; Group 3: municipalities with MPI lower than 70%; and Group 4: municipalities with an MPI of 70% or higher” (ECLAC, 2020). The lowest amount corresponds with primary education and the geographic groups one and two, and the highest is for grade 11th in geographic group 4 (ECLAC, 2020). In addition, the transfer for health in 2017 ranged in 2017 from US$ 23.40 (COP$ 68,150) to US$ 27.29 (COP$ 79,500) per family monthly (ECLAC, 2020), following the same criteria as the educational subsidy. Conversely, the transfers in the Chile’s Ethical Family Income Program are US$ 16.00 per child for families living in extreme poverty (Robles, 2013).

In addition, the conditions differ among the countries. While Prosperity asks for minimum attendance of 85% school enrollment, monthly and annually, and the “compliance by all household members with the required number of health center visits and mother’s attendance at health and nutrition lectures” (Rawlings & Rubio, 2005, p. 35), More Families in Action asks for at least 80% of school attendance in a two-month cycle in education and regular health care visits for monitoring of the child’s development (Rawlings & Rubio 2005). Conversely, the Ethical Family Income Program asks for a percentage of school attendance of no less than 90% in the case of primary education and 85% in secondary education. In addition, for families with children under the age of 6, the condition is their attendance at health check-ups.
A public policy analysis should take into consideration the differences among the CCTs’ conditions. For instance, the minimum percentage of school attendance matters because it can show a difference in the effectiveness of a CCT.

**Budget and Expenditure.**

As the number of beneficiaries of CCTs has increased since their origins in each country, the budget and expenditures have also increased, showing a more recent decline in 2012 in Colombia and Mexico (see Figure 4).

**Figure 4. Budget of CCTs, Chile, Colombia, and Mexico, 2003 to 2017 (Percentage of GDP)**

Source: Prepared by the author, on the basis of the database of non-contributory social protection programs in Latin America and the Caribbean of the Economic Commission for Latin America and the Caribbean, Conditional cash transfers programs [online] http://dds.cepal.org/bdptc/, and the CEPALSTAT database.

Mexico increased its budget for CCTs from US$ 133 million (MXN$ 1,055.5 million) in 1997, which represented the 0.03% of the GDP, to US$4.299 million (MXN$ 82,730 million) in 2018, which represented the 0.35% of the GDP (ECLAC, 2020). This increment represents an increase of 0.32% of the GDP over 21 years. Colombia increased its budget for CCTs from US$ 14.3 million (COP$ 32,905 million) in 2001, which represented 0.01% of the GDP, to US$ 840 million (COP$ 2.25 trillion) in 2015, which represented 0.29% of the GDP. Chile increased its budget for CCTs from US$ 12 million (CLP$ 8,251 million) in 2003, which represented 0.02% of the GDP, to US$ 381.6 million (CLP$ 251 billion) in 2017, which represented 0.14% of the GDP (ECLAC 2020). These increments represent an increase of 0.28% and 0.12% in Colombia and Chile respectively.

One of the Latin American countries that had the highest levels of per capita expenditure in CCT programs in 2015 was Chile, with an annual investment of US$ 245 at current prices per person in recipient households (Cecchini & Atuesta, 2017). It was followed by Mexico, which expended US$ 163 per capita in CCT programs. Meanwhile, Colombia made per capita expenditures of US$ 69 in current dollars (Cecchini & Atuesta, 2017). Among the case studies of this dissertation, Chile was the country that had scaled up its per capita expenditure the most in nominal terms from US$ 132 in 2005 to US$ 250 in 2015, which can be explained by the expansion of CCTs under the *Ethical Family Income Program* (Cecchini et al., 2012 and Cecchini & Atuesta 2017). The budget size is important in a public policy analysis of CCTs because the differences among the budgets could explain the differences among the impact on poverty and inequality. The higher the budget, the higher the impact.
Coverage and Beneficiaries.

CCTs vary with respect to absolute coverage and percentage of recipient households of the total population. In terms of absolute coverage, the estimation of the number of people in recipient households ranges from 31.2 million in Mexico in 2018, to 10.5 million in Colombia in 2017, and 800,000 in Chile (ECLAC, 2020). The number of beneficiaries has increased almost every year in the three countries. Even though CCTs have increased almost every year since its creation, 2016 and 2017 saw a decrease in terms of the number of beneficiaries (see Figure 5).

Figure 5. Evolution of Individuals in Recipient Households of CCTs in Chile, Colombia, and Mexico, 1997 to 2017

Mexico’s *Prosperity* had an estimated 1.5 million people in recipient households, Colombia’s *More Families in Action* had 1.1 million people in 2001, and Chile’s *Ethical Family Income Program* had 181,000 in 2012 (ECLAC, 2020). In terms of relative coverage (see Figure 6), CCTs increased their range from 1.5% in 1997 to approximately 24.13% of the population in 2018 in Mexico, from 3.01% in 2001 to 21.50% in 2017 in Colombia, and from 1.15% in 2002 to 4.44% in 2017 in Chile (ECLAC, 2020).

Figure 6. Individuals in Recipient Households of CCTs, 2002 to 2017 (Percentage of Total Population)


The importance of coverage and beneficiaries is important in a CCT public analysis because it can establish a relation between the coverage of the program and the impact on
poverty and inequality, meaning that coverage can establish a difference among the impact of the case studies. The greater the coverage, the bigger the impact. In addition, it is also important to analyze targeting, such as the percentage of the population in poverty, that is covered by these programs, in order to establish a difference of the efficiency of CCTs among the case studies.

**Conclusion**

In sum, CCTs have been a common strategy for most Latin American countries to reduce poverty and inequality. Mexico, Colombia, and Chile have increased the number of beneficiaries over the years. Even though these programs have a common objective and use similar strategies, there are differences among them to take into consideration. The three programs look to diminish poverty by increasing the income of low-income families by giving a cash subsidy. In addition, the programs have some conditions regarding children’s school attendance and health-nutritional check-ups.

Nevertheless, there are some differences among the programs. First, the sources of funding do not necessarily include international financial institutions. While *Prosperity* and *More Families in Action* received international cooperation—the World Bank in both cases and the Inter-American Development Bank to Colombia—the *Ethical Family Income Program* has not received funds from international financial institutions. Chile has received funding for CCTs from the government, which can account for the program’s lack of expansion compared to those in Mexico and Colombia.

The main differences among the programs are budget and coverage, which are causal relationships. According to ECLAC (2020), Mexico has large and expansive CCTs that covered 24.13% of its population in 2018, expending 0.37% of the GDP. It is followed by Colombia that
covered 21.50% of its population in 2017, expending 0.28%. Meanwhile, Chile covers only 4.44%, expending 0.12 of the GDP.

It is important to study the impact of CCTs on poverty and inequality and the effectiveness of these programs in order to contribute to the literature and to give recommendations to policy makers that design these programs. Studying the criteria of conditions, budget, and targeting to determine the variations of these criteria could explain the differences among CCTs’ in their impact and effectiveness. Chapter 2 describes the literature review.
CHAPTER 2
LITERATURE REVIEW

Several studies have measured the results of CCTs in improving the education, nutrition, and health of its beneficiaries (Cecchini et al., 2001; Rawling & Rubio, 2003; Parker, 2003, 2004; Attanasio & Gomez, 2004; Rawling & Rubio, 2005; Handa & Davies, 2006; Rangel, 2011; Cecchini & Madariaga, 2011; Segura-Perez et al., 2016; García & Saavedra, 2017). Nevertheless, there is not as much literature measuring the impact of CCTs in reducing poverty and inequality in the long term (see Table 1). Even if some studies present significant positive impacts and successes during the CCTs’ first stages, some authors doubt the CCTs’ effectiveness in achieving the principal goal of diminishing poverty and inequality (Moreno-Brid, 2009; Lloyd-Sherlock 2008). Fiszbein et al. state that “much more needs to be known about the long-term effects of CCT programs in a variety of dimensions” (2009, p. 380). This is an opportunity to deepen the public policy analysis of CCTs in Latin America, based on the evaluation of their results and effects on societies.

**Public Policy Analysis and Conditional Cash Transfer Programs (CCTs)**

In *Public Policy Analysis*, Knoepfel defines four criteria in order to evaluate a policy: impact, effectiveness, efficiency, and relevance (2007). Impact refers to the results of a policy on a surrounding community; it can be intentional or unintentional, as well as both positive or negative. Effectiveness establishes a cause-effect relationship regarding the extent to which a
particular policy produces the desired outcomes. Efficiency refers to the cost-effect relationship of a policy, and relevance is determined by how applicable and practical analytical findings are to policymakers’ decisions that need to make on policy priorities. The literature review that this dissertation focuses on is regarding the criteria of impact, effectiveness, and efficiency. It does not take into consideration relevance because, in the end, if the analysis of a public policy determines a positive impact, is effective and uses resources efficiently, then policymakers will consider it as a relevant policy.

Accordingly, Chaterjee & Vadapalli (2009) analyze the approaches to evaluate social policies, which include the impact analysis, effectiveness analysis, and efficiency analysis. Some elements of impact analysis are established in the following definition: “A problem relative to a given program as some predicted condition that will be unsatisfactory without the intervention of the program and satisfactory, or at least more acceptable, given the program’s intervention” (Mohr, 1995:14). Effectiveness analysis has its origins in the work of Max Weber (1947) and is related to the field of organizational studies, which includes studies of rational bureaucracies and their effectiveness (Chatterjee & Vadapalli, 2009). While the impact “measures the suitability of the normative objectives of a policy in terms of the real behavior of target group” (Knoepfel 2007, p. 228), effectiveness is related to outcomes, establishing a “relationship between the anticipated effects of a policy and those that emerge in social reality” (Knoepfel, 2007, p. 230) and assessing how much the goal has been reached (Chatterjee & Vadapalli, 2009).

Efficiency “refers to the relationship between the resources invested in a policy and the effects achieved” (Knoepfel, 2007, p. 233). Therefore, it describes the cost-benefit relationship of a policy (Chatrejee & Vadapalli, 2009), effectively reaching targeted populations at a low cost (Lomelí, 2008). Finally, “a policy is described as relevant if the objectives implicitly formulated
(...) are adapted to the nature and temporal and socio-spatial distribution of the problem that the policy is intended to resolve” (Knoepfel, 2007, p. 234). Thus, the relevance of a public policy, such as CCTs, examines the link between the objectives defined and the nature of the public problem to be resolved. At the end, if a public policy positively impacts the target population, is effective and efficient, it will be relevant for policymakers.

While CCT’s effectiveness is determined by the conditionalities of these programs, such as school attendance and nutrition control, impact is determined by the reduction in poverty and inequality. On the other hand, the efficiency of CCTs in terms of the target beneficiaries is measured by the coverage of CCTs in low-income groups. Regarding the coverage of CCTs in low-income groups, it establishes the coverage in two analyses: first, the percentage of beneficiaries that are in low-income groups; second, the percentage of eligible poor that receive benefits from the program, according to standardized international poverty lines.

As can be seen in Table 1, most of the literature analyzes the effectiveness of CCTs, measuring the outcomes of the conditionalities, such as school attendance and nutritional check-ups for children and the impact in terms of diminishment of poverty. Conversely, there is a lack of literature that analyzes the impact of CCTs on inequality and the efficiency of CCTs.

Table 1. Public Policy Analysis and CCTs

<table>
<thead>
<tr>
<th>Policy Analysis</th>
<th>Impact</th>
<th>Effectiveness</th>
<th>Efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level of Analysis</strong></td>
<td>i) Low ii) High</td>
<td>i) High ii) High</td>
<td>Low</td>
</tr>
</tbody>
</table>

Source: The author
The following sections describe the literature regarding the effectiveness of CCTs, their impact on poverty and inequality, their efficiency, the influence of international organizations, and finally, other variables that could affect inequality.

**Effectiveness of CCTs: School Attendance and Nutritional Check-Ups**

Most of the literature analyzes the effectiveness of CCTs, measuring the outcomes of the conditionalities, such as school attendance and nutritional check-ups for children. In general terms, these studies show the positive outcomes of CCTs on higher levels of education attendance (Rawling & Rubio, 2003; Parker 2003, 2004; Attanasio & Gomez, 2004; Rawling & Rubio 2005; García & Saavedra, 2017). Nonetheless, there are some who critique the quality of the education; “efforts to boost school enrolment have not been matched by public investment in education, which undermined any real welfare gain” (Lloyd-Sherlock 2008, p. 630), affecting the quality of education in general and the access to education, especially in rural areas. For the youth that remain in the educational system during high school, there are also disparities in the result of the learning they acquire throughout their career (ECLAC, 2014). Even though these programs have increased school-attendance rates, they have not improved the quality of education (Fukuyama, 2008). Moreover, Handa and Davis (2006) state the necessity for the improvement of school quality, including access, in order to give opportunities to the poor to take advantage of education without the assistance of direct monetary transfers.

In addition, CCTs have also contributed to the rise of the demand for basic services and participation in the health system, especially preventive and control medical check-ups for children (Cecchini et al., 2001; Rawling & Rubio, 2003; Attanasio & Gomez, 2004; Rawling and Rubio, 2005; Rangel, 2011; Cecchini & Madariaga, 2011; Segura-Perez et al., 2016). Even though studies emphasize the contribution of CCTs on developing human capital of the next
generation by increasing attendance in education and nutritional-medical check-ups for children, “it is necessary to consider the CCTs in the broadest set of social policies of each country and, particularly, in a series of actions aimed at cementing the foundations of an inclusive and comprehensive social protection system, in order to achieve combined effects in human capacities” (Cecchini & Madariaga, 2011, p. 124).

Furthermore, some studies assert that there is not enough empirical evidence to conclude that CCTs have stimulated employment (Tassara et al., 2017; UTESI, 2006 and 2012; CNC, 2011). Moreover, some studies point out that adult beneficiaries still need to continue looking for jobs because the small size of the transfer does not cover the deficit of the minimum income needed for the family (Tassara et al., 2017; ECLAC and ILO, 2014). Regarding child-labor exploitation, Tassara et al. (2017) state that even though the parents try to increase their children’s school attendance, the option for children to work in order to contribute to the family income is still a possibility.

Impact of CCTs on Poverty and Inequality

As was mentioned above, most of the literature has not only analyzed the effectiveness of CCTs, but also the impact of CCTs on poverty. Conversely, only a small percentage of the literature has analyzed the impact of CCTs on inequality.

Impact of CCTs on Inequality.

Regarding the impact of CCTs in diminishing inequality, Wodon and Yitzhaki (2002), Soares et al. (2007), Medina y Galván (2008), and Amarante and Brun (2018) present evidence in terms of the correlation between CCTs and the fall of inequality in Latin America, using principally household survey data.
While Wodon and Yizhaki (2002) and Medina and Galvan (2008) analyze the distributional impact of some social programs in Latin American countries which include CCTs and non-conditional cash transfers, Soares et al. (2007), and Amarante and Brun (2018) analyze exclusively CCT programs. Wodon and Yitzhaki (2002) analyze three poverty-reducing programs from Colombia, Honduras, and Mexico, but the only CCT program is the Familiar Assignation Program (Programa de Asignacion Familiar) in Honduras. Similarly, Medina and Galvan (2008) analyze 23 subsidy programs in four countries, Chile, Ecuador, Mexico, and Uruguay. This dissertation includes this study on the literature review because of its methodology, which will be explained below. Even if all five countries are implementing CCTs, Medina and Galvan only analyze one CCT program: PROGRESA in Mexico. On the contrary, Soares et al. (2007) analyze the Conditional Cash Transfer Programs of Chile, Mexico, and Brazil (Bolsa Familia, Solidarity Chile, and Opportunities respectively). Likewise, Amarante and Brun (2018) provide evidence of the coverage of CCTs in eight Latin American countries: Bolivia, Chile, Costa Rica, Ecuador, Panama, Paraguay, Peru, and Uruguay. The conclusions of these studies are analyzed below.

Moreover, a method that has been used to determine whether CCTs have diminished inequality is based on the decomposition of the Gini coefficient (GIE), which shows the impact of the program on the Gini index of income inequality and is itself decomposed into two components: the targeting performance of the program and “the impact of the allocation rules for the distribution of the benefits among program participants” (Wodon & Yitzhaki, 2002, p. 103). Likewise, Medina and Galvan (2008) use the method of decomposition of the Gini coefficient by factors in order to qualify the effect of public policies on income distribution, allowing evaluators and policy-makers to anticipate and analyze the impact on inequality caused by a

Similarly, Soares et al. (2007) use decomposition changes in the Gini coefficient in order to quantify the effect of public policies on income distribution. First of all, Soares et al. analyze the total house income and the house income per capita, and decompose it into categories: labor income, social security income, CCT income, and other income (Soares et al., 2007). Then, the concentration coefficient of CCTs’ component and its weight in income inequality is analyzed, in which CCTs’ components that are less concentrated than the Gini are inequality reducing (Soares et al., 2007). Soares et al. (2007) base their method on Kakwani (1980), Shorrocks (1982), and Wodon and Yitzhaki (2002). Finally, Amarante and Brun (2018) estimate the targeting quality of CCTs’ computing indicators of progressivity and redistributive impact, using the method of Kakwani (1980).

These studies present some conclusions related to the impact of CCTs on inequality. CCTs have some progressive effects on income distribution but have a low redistributive impact (Medina & Galvan, 2008 and Amarante & Brun, 2018). The impact of CCTs on diminishing inequality is due to the size related to the weight of the transfers in the household income, who is targeted, and the percentage of the total population, especially the lower-income deciles. Soares et al. (2007) conclude that CCTs in Mexico and Brazil were responsible for about 21% of the fall in Gini Index, which decreased by around 2.7 points in each country from 1995/1996 and 2003/2004. Even though Solidarity Chile was responsible for a 15% reduction in inequality in this period of time, the diminishing inequality was only 0.1 Gini point because of the small size
of the program (Soares et al., 2007). In sum, the size of CCT programs is related to the impact of diminishing inequality; the size is the number of beneficiaries, which can be measured as the percentage of the total population. Large scale programs, such as in Mexico, have had a greater impact in decreasing inequality than those which have had a smaller scale (Soares et al., 2007).

On the contrary, Medina and Galvan (2008) state that CCTs contribute to an increase in household income, but their improvement on income distribution is marginal because the amount does not have much weight in the household budget, meaning that CCTs’ impact on reducing inequality rely on their share of the total household income (Amarante & Brun, 2018). Therefore, high-progressivity CCTs are not enough to reduce inequality (Amarante & Brun, 2018) if the share of total household income is meaningless.

On the other hand, Medina and Galvan (2008), and Wodon and Yitzhaki (2002) analyze some CCTs, decomposing the Gini index into three factors: “(a) the relative participation of each source in per capita income; (b) the correlation of each stream with the per capita income of the household, and (c) the level assumed by the Gini coefficient of each item of income” (Medina and Galvan 2008:32). Mexico’s PROGRESA implies that the poorest families apparently receive a higher amount of income (Medina & Galvan 2008). Conversely, the CCT in Honduras “suggest[s] that although those who benefit from the program tend to be poor, the less poor among them tend to receive more support” (Wodon & Yitzhaki, 2002, p. 113). In sum, the analysis of the decomposition of the Gini index by income source must be considered in order to analyze the impact of the CCTs in the lowest income deciles.

This dissertation will measure the impact of CCTs on inequality in Chile, Colombia, and Mexico by developing two methodologies. The first one analyzes the effects of taxes, public transfers, and CCTs on inequality, taking into consideration the fiscal redistribution. The second
one is based on the method of the decomposition of the Gini index. The advantage of using the
decomposition of the Gini index is this method decomposes the income of a household into
several sources, such as CCTs, and analyzes their impact on the difference of the Gini index in
multiple countries in different periods of time.

**Impact of CCTs on Poverty.**

A large part of the literature also analyzes the impact of CCTs in diminishing poverty
(Attanasio & Gomez, 2004; Cecchini & Madariaga, 2011; Stampini & Tornarolli, 2012; Robles
et al., 2015; Amarante & Brun 2018). First of all, it is necessary to address the discussion of
measuring poverty. According to Brady, a measure of poverty should: “(1) measure comparative
historical variation effectively; (2) be relative rather than absolute; (3) conceptualize poverty as
social exclusion; (4) assess the impact of taxes, transfers, and state benefits; and (5) integrate the
depth of poverty and the inequality among the poor” (Brady 2003:717). Explaining the variations
in poverty in cross-country analysis is essential to understanding poverty in contemporary
societies (Cantillon, 1997 and Brady, 2003), measuring the effect of causal factors such as
public policy, and demographic and economic changes (Brady 2003). Nevertheless, several
studies (Hagenaars, 1991, Atkinson, 1998, and Brady, 2003) show that some differences are
produced when comparing poverty across nations, especially because of methodological
concerns (Brady, 2003).

Despite the debate between the relative versus absolute definitions of poverty, scholars
have stated that a relative definition is highly proper (Hagenaars, 1991, Sen, 1992, Atkinson,
poverty thresholds for each society in each time period from patterns in the income distribution.
Typically, relative measures begin with a threshold of 50% of the median income” (Brady, 2003,
Moreover, Rawls (1971) suggested that poverty should be defined as income groups with less than half of the median (Brady, 2003).

Because redistribution makes an impact in household’s incomes, taxes and transfers must be included when measuring poverty (Brady, 2003). “Poverty analysts often ignore state benefits when assessing family income because problems in measurement, valuation, and imputation of near- and non-cash income to individual households are quite formidable” (Brady, 2003). Under the assumption that the most comprehensive definition of income is optimal for assessing familial welfare, the LIS analysts have made significant strides in incorporating taxes and transfers into their measures of income. Smeeding et al. (1993) state that cash income provides significant resources for families, raising living standards and reducing poverty (Brady, 2003). While national differences exist in the nature and extensiveness of these benefits, their importance to the income distribution is universal. Importantly, these benefits accrue from both the government and the private sector. To be most effective, poverty should be examined both as it is generated in the private sector and as it is mediated by the state. To the extent possible, private benefits should be considered as part of market income, and state benefits should be considered as part of ultimate state-mediated income. Both types of income - before and after taxes and transfers - are important to understanding the complex nature of poverty” (Brady, 2003, p. 726).

The measurement of poverty has evolved, having different indices and formulas. First of all, poverty is measured with a Headcount Ratio (H), which is “the percentage of the population that is below a certain threshold of income” (Brady, 2003 p. 727). Even tough H offers evidence on the percentage of the population that is poor, according to Sen (1976, p. 219) “it ignores the income distribution of the poor and contains no information on the depth of poverty” (Brady,
The second common measure of poverty is the Income Gap (I), which “is normally standardized by the median income of poverty to render it comparable across populations….and captures the continuous quality of poverty” (Brady, 2003, p. 728). Nevertheless, The Income Gap is not sensitive to the quantity of poor people (Sen, 1976 and Brady, 2003). Consequently, scholars created the Interval Measure (HI), which is the product of H and I (Atkinson, 1987 and Brady, 2003). “One advantage of HI over H manifests in economic recessions. A relative H may be criticized because during a recession the median may decline, and households with stable income will suddenly be considered poor and will count equally as a household with no income. While the household would still be poor with HI, since H is a component, the I component would decline, and the overall effect on HI would be less significant than with H” (Brady, 2003 p. 746).

According to Sen (1976), the Income Gap (I) should be weighted to correspond to the rank order in the interpersonal welfare ordering of the poor and that “HI should be weighted such that the income gaps of the poorest of the poor had more influence” (Brady, 2003, p. 728), forming the Ordinal Measure (O), with the following formula: \( O = H \times I \times (1 + CV) \), where CV is the inequality among the poor (Brady 2003). Finally, Brady (2003) developed the Sum of Ordinals Measure (SO) is the sum of headcounts for some different thresholds, and thus builds on relational distribution measures of inequality by weighting the lower thresholds at: 5, 10, and 20% of the median income (Brady, 2003).

Some scholars analyze the impact of CCTs on poverty using absolute measures of poverty. Stampini and Tornarolli (2012) defined poverty using an international poverty line set at USD 2.5 per capita per day, after Purchasing Power Parity (PPP) adjustment, and using the “household survey data [that] allows exploring the relationship between participation and
household characteristics, hence the magnitude of coverage and the quality of targeting of the poor...[and] estimating the trends in poverty, which will be compared to the trends in the expansion of CCT programs” (Stampini & Tornarolli, 2012, pp. 6-7). Stampini and Tornarolli analyze the magnitude of CCTs as a percentage of recipients' income in 13 Latin American Countries in 2010 and the evolution of poverty and the magnitude of CCTs from 2001 to 2010 by using household survey data from the Socio-Economic Database for Latin America and the Caribbean (SEDLAC) that estimated trends in poverty and compared them to the trends in the expansion of CCTs (Stampini & Tornarolli, 2012).

Stampini and Tornarolli (2012) estimate that poverty in Latin America would be on average 13% higher if CCTs had not been implemented. These estimations are acquired by “comparing estimated incomes with a no-CCT counterfactual in which incomes are recalculated net of the transfers” (Stampini & Tornarolli, 2012, p. 11). In addition, according to Cecchini and Madariaga (2011), CCTs can double the primary income in the first decile of the income distribution. By measuring the percentage that represents transfers in comparison with the line of indigence or poverty in 19 Latin American countries in 2008, it was found that in rural areas, the amount (on average) of transfers represents 12% of the homeless line and 7% of the poverty line, whereas in urban areas it is equivalent to 11% and at 5%, respectively (Cecchini & Madariaga 2011, pp. 124-125). Nevertheless, in most cases, even though the transfer moves families closer to the poverty line, it is not high enough to get them over the poverty line (Cecchini & Madariaga, 2011). Therefore, CCTs have contributed to increasing the income of poor families. Nevertheless, the program raises some questions regarding the sustainability of that income once the families end their participation in the program.
This dissertation will measure the impact of CCTs on poverty in Chile, Colombia, and Mexico by developing two main models. The first one analyzes the effects of taxes, public transfers, and CCTs on the poverty Headcount Ratio of market income. Some of the advantages of using this model is that one can determine the impact of CCTs on poverty by the analysis of poverty of market income and after government intervention through transfers and redistribution in each case study. The second model develops a counterfactual analysis measuring the impact of CCTs on two measures of poverty: the Headcount Ratio and the Interval Measure. Some of the advantages of using the counterfactual analysis is that one can determine the impact of a specific income source, such as CCTs, on poverty. In addition, the advantage of using relative measures is that they generate specific poverty thresholds for each country in a specific period of time, taking into consideration patterns in the income distribution (Brady, 2003). Moreover, it is useful to use both measures of poverty, the Headcount Ratio and the Interval Measure. While the Headcount Ratio measures the proportion of poor people, the Interval Measure includes the Income Gap between the median income of the total population and the mean income of the poor (Mahler and Jesuit, 2006).

**Efficiency of CCTs**

The literature has not only discussed the impact and the effectiveness of CCTs, but also the efficiency of these programs in Latin America. Policymakers are making decisions based on a lack of information dealing with the cost-effective option between supply- and demand-side factors. According to Huber (2005), there is a general agreement about the necessity for social reform in Latin America, but there is a wide divergence of opinion: “Proponents of the market-oriented changes are arguing that they have brought greater efficiency, that is, better social services and transfers, particularly for the truly needy, at an affordable cost. Opponents are
arguing that the changes amount to an abdication of state responsibility and of the principles of solidarity and redistribution on which social policy should be based” (Huber 2005, p. 75). Moreover, politics in Latin America has a constant and deep debate regarding the role of the state and how inequality and poverty should be reduced.

Korpi and Palme (1998), Hand and Davis (2006), and Ocampo (2016) emphasize the role of states to offer a better quality of public services, prioritizing this role over financing the demand-side. A latent risk of CCTs is that even though subsidies are established in education and health, there is not necessarily an adequate supply or quality of services (DNP, 2008). According to Korpi and Palme, “the more we target benefits at the poor and the more concerned we are with creating equality via equal public transfers to all, the less likely we are to reduce poverty and inequality” (1998, pp. 681-682). Moreover, Ocampo (2016) argues that it is necessary to avoid direct subsidies, which should be implemented in exceptional conjunctures, having low fiscal costs and being exclusively transitory. Handa and Davis (2006) go further, asserting that the poor would take advantage of opportunities in education without the support of direct cash transfers if school quality was significantly improved. Furthermore, cash-transfer programs are economically unsustainable over long periods of time, generating fiscal problems, affecting macroeconomic stability and long-term economic growth (Fukuyama 2011). In sum, policymakers in Latin America have developed public policies to reduce poverty and inequality without enough or significant information regarding the debate among the increase of the demand-side, such as CCTs, and the increase of the supply-side.

The efficiency of CCT program is measured by the results in targeting the poorest as beneficiaries, and by the definition of graduation or exit rules for those beneficiaries. The main exit rule of CCTs is getting beneficiaries over the poverty line. Both measures, targeting and exit
rules, have an impact on the sustainability of CCTs. Financing of CCTs is especially sensitive due to its implications with fiscal policies. Initially, almost all of the programs were financed with international development cooperation resources and loans from the Inter-American Development Bank (IDB) and the World Bank (Tassara et al., 2016). Then the governments needed to ensure more institutional and financial stability and, therefore, to assign resources from the national budget (Tassara et al., 2016). However, there is still a strong discussion about the social investment costs caused by CCTs and their sustainability (Tassara et al., 2016). Sustainability means that CCTs have an impact on reducing poverty, moving the beneficiaries over the poverty line, graduating them, preventing them from returning to poverty, and using the resources to benefit other low-income groups. It is necessary to determine the efficiency in terms of the fiscal sustainability of CCTs in the long term.

Even though CCTs have grown rapidly (Cecchini & Madariaga, 2011; Stampini & Tornarolli, 2012; Robles et al., 2015), their coverage of the extreme and moderately poor remains low in many cases (Robles et al., 2015). If CCTs do not really reach the people in extreme poverty, it seems these programs are not able to be effective. By 2013, CCTs coverage “of both extreme and moderate poor remains in many cases surprisingly low . . . reach[ing] only 50.6 percent of the extreme poor” (Robles et al., 2015, pp. 7-8) in Latin America, meaning CCTs are struggling to achieve their goals.

Robles, Rubio, and Stampini (2015), who analyzed 16 Latin American countries in 2013, conclude that in urban areas, 39.2 percent of CCT beneficiaries were not poor while in rural areas, 43.1 percent of CCT beneficiaries were not poor, meaning around 40 percent of the total CCTs beneficiaries were not poor. According to Stampini and Tornarolli (2012), the number of CCT beneficiaries exceeded the number of poor in Latin America and the Caribbean in 2006,
resulting in a significant leakage. Leakage is defined as the percentage of beneficiaries who are not poor (Robles et al., 2015). Amarante and Brun report similar results from eight Latin American countries (Bolivia, Chile, Costa Rica, Ecuador, Panama, Paraguay, Peru, and Uruguay): “highlighting the potential need for re-targeting and re-certification” (2018, p. 13), CCTs cover on average only 50.5% of the extreme poor in households with children under 18 years of age, 40.4% of CCT beneficiaries are not poor. Therefore, it is necessary to establish some mechanisms of rotation, permitting opportunities for new families (DNP, 2008, p. 15).

Even though Chile and Mexico targeted the 40% of CCTs in the poorest populations (Lomelí, 2008), the five upper deciles (from six to ten) in Chile contain 25% of total beneficiaries (Amarante & Brun, 2018) and, in Mexico, 4% of the transfers were targeted to the richest quintile and 16.3% of CCTs did not go to the poorest households (Lomelí, 2008).

Moreover, 21% of households are in the top segment of the beneficiary classification system in Colombia (Lomelí, 2008). In sum, CCTs have contributed to poverty reduction in Latin America, but there are some critiques regarding the inability of CCTs to increase their impact in terms of the selection criteria and the poor definition of graduation rules.

Most of the studies that measure the impact of CCTs on poverty use household survey data, which allows exploring the relationship between participation and household characteristics, hence the magnitude of coverage and the quality of targeting of the poor. It also allows estimating trends in poverty, which will be compared to the trends in the expansion of CCT programs. Most of the household surveys include a module on participation in social assistance programs and features a specific question on CCTs (Stampini & Tornarolli, 2012).

This dissertation will measure the efficiency of CCTs in Chile, Colombia, and Mexico by applying Kakwani’s (1986) ‘index of concentration’ to transfers which is used by Mahler and
The Kakwani’s (1986) ‘index of concentration’ is a summary index of the degree to which transfers are targeted towards low-income groups. Perhaps the CCTs might be a useful program for fighting poverty and inequality, if it had a larger coverage.

In sum, there is a vast amount of literature that analyzes CCTs, especially the effectiveness of their conditionalities in the short term, the impact on poverty, and their efficiency in terms of criteria of selection and exit rules. Nevertheless, there are few studies regarding the impact of CCTs on inequality.

Moreover, this dissertation contributes to a broader theoretical debate in the field of comparative social policy, adding to Korpi and Palme’s ‘paradox of redistribution’. On the one hand, Le Grand states that “public expenditure on the social services has not achieved equality in any of its interpretations. Public expenditure on health care, education, housing and transport systematically favors the better off and thereby contributes to inequality in final income” (1982, p. 137). On the other hand, Tawney (1952) maintains that “social policy should not be directed to the poor alone but should include all citizens” (Korpi & Palme, 1998, p. 662). Moreover, Lawson and Wilson (1995) argue that public policies to support low-income groups should focus “on the problems that afflict not only the poor, but the working and middle classes as well; and emphasizes integrative programs that promote the social and economic improvement of all groups in society” (Korpi & Palme, p. 683). Moreover, Korpi and Palme (1998) state:

the size of the budget available for redistribution is not fixed and that the institutional structures of welfare states are likely to affect the definitions of identity and interest among citizens. Thus, an institutional welfare state model based on a universalistic strategy intended to maintain normal or accustomed standards of living is likely to result in greater redistribution than a marginal one based on targeting. (Korpi & Palme, 1998, p. 663)
Korpi and Palme conclude that shallowly progressive but very large programs can accomplish more redistribution than more targeted but much smaller programs. The results of this dissertation will contribute to this theoretical debate.

**Other Variables that Could Impact Inequality and Poverty**

Finally, some studies have analyzed other variables that can affect inequality, such as economic growth, economic globalization, ideology and types of governments, and participation and political voice. During the last two decades, some scholars have debated the relationship between economic globalization, domestic politics, and income inequality. The relationship between economic globalization and market income inequality have both supporters and critics. On the one hand, globalization works as a powerful engine of economic growth, benefitting all income groups. Moreover, global integration and international competition decrease the prices of goods and services, giving a particular advantage to low-income groups (Mahler, 2004). For this reason, states promote nationalism in their citizens in order to distract them from the structural problem of inequality, removing redistribution from the national agenda (Solt, 2011). On the other hand, globalization affects the wages, benefits, and job security of low-income groups (Mahler, 2004).

Kenworthy (2008) explains that globalization is a potential confounding factor of inequality, specifically in trade and imports. The more imports increase, the less they need to buy national products, affecting domestic employment (Kenworthy, 2008). Moreover, “when domestic employers face competition not only from domestic firms but also form foreign companies, their profit rate is likely to be lower” (Kenworthy, 2008:75). Nevertheless, Kenworthy (2008) finds there is only a tradeoff between jobs and wages in low-end services. According to Mahler (2004), there is little evidence of the relationship between the three major
modes of international integration—trade, foreign direct investment, and international financial flows—and the fiscal redistribution by the public sector, the distribution of disposable income, or the distribution of holding earnings. Conversely, Mahler (2004) finds there is a relationship between financial openness and earnings inequality.

Social programs are used by politicians as a form of patronage in order to build political machines (Fukuyama 2011), taking advantage of national programs with large number of beneficiaries for exclusively particular interests. Politicians who are primarily looking for votes can use cash transfer programs for electoral purposes, producing “unhealthy interest-group politics at best, and clientelism and corruption at worst” (Fukuyama, 2011:86). The large number of beneficiaries, which has been increasing since the creation of CCTs in Latin America, have inevitably linked those programs to electoral manipulation by politicians. The low-income population generally does not vote regularly in elections. For this reason, politicians can use CCTs to influence them to vote, using the data to invite beneficiaries to attend meetings of the official party that is in power. Focusing on 65 developing and developed countries during the period from 1975 to 2010, Kammas and Sarantides (2016) uncovered strong empirical evidence of pre-electoral budgetary manipulation in new democracies.

Also, politicians can use the income transfers corruptly as a condition to keep the beneficiaries who vote for the incumbent party. The strategic thinking of political parties and its members is imperative in the election process, meaning that attaining votes is one of their most important goals, if not the most and exclusively important one. For this electoral reason, CCTs have become a unique and easy-to-use tool by politicians, who build interest-groups based on CCTs’ beneficiaries and influence them to vote for their own politicians’ interests. Even worse,
politicians have built some clientelist relations with beneficiaries, using CCTs’ process of beneficiary selection for electoral purposes.

In addition, since the 1940s, the academy, governments, and international organizations have discussed the degree of intervention by governments to reduce inequality among and within societies. The main mechanism of income distribution is the welfare state in liberal democracies. The welfare state, developed in some western countries, especially in Europe, involves compensatory arguments, taxing high-income groups, and redistribution in order to reduce inequality (Scheve & Stasavage, 2016), especially through social transfers and pensions. Social-welfare programs differ in the size and mode of social assistance provided. Garrett (1998) states that the basic patterns of partisan politics show the differences of the political-economic models of states in the era of global markets. While social democratic corporatism is characterized by high levels of government expense, high rates of economic growth, and high deficits, right-wing parties have fewer progressive public policies, low rates of economic growth, and low deficits (Garrett, 1998).

According to Mahler, “the level of coordination of wage bargaining in a country will be associated with a more egalitarian distribution of household earnings…. However, it appears that coordination need not necessarily involve direct government participation” (2010, p. 529). As a result, the role of government redistribution by way of taxes and social transfers in reducing pre-government inequality will not only be through social transfers, but also by influencing institutions to increase wages.

Moreover, some theories uncovered that inequality is dangerous to democracy (Fukuyama, 2011), and rulers should take into consideration the design and implementation of social programs in order to reduce inequality and to strengthen democracy. Those costs are
reflected by the “erosion of social and environmental standards, high poverty rates in less developed countries and ever higher frequencies of financial crisis resulted in protests and even riots” (Dreher, 2006, p. 1091). According to the median voter theorem, the more unequal the income distribution, the more the median voter has to gain through the joint action of taxes and transfers, and the more likely the citizen is to vote for higher taxes and transfers (Mahler, 2010). In addition, it is expected a positive relationship between turnout and state redistribution (Mahler and Jesuit, 2006), meaning “low voter turnout means unequal and socioeconomically biased turnout” (Lijphart, 1997, p. 2).

Nevertheless, some public opinion studies demonstrate the inapplicability of this theorem. Kenworthy and McCall conclude that some of “the trends in public perception of the levels of pay inequality and income inequality were inconsistent with trends in actual levels” (2008, p. 49). Moreover, Solt states that “substantial empirical evidence has accumulated of late for the prediction of relative power theory that more economic inequality is associated with less political participation” (2016, p. 4), and that citizens who live in states with higher levels of inequality are less likely to vote (Solt, 2010). If public opinion of high income-groups does not have the same level of inequality than real trends, they will influence policies according to their perception. The result is that governmental intervention will not be enough to diminish inequality.

Political participation and political equality are basic democratic ideals (Lijphart, 1997); government ideology and public policies of redistribution are influenced by voters (Franko, Kelly, and Witko, 2016). Schlozman et al. define political voice as “any activity undertaken by individuals and organizations that has the intent or effect of influencing government action—either directly by affecting the making or implementation of public policy or indirectly by
influencing the selection of people who make those policies” (2012, p. 10). The question is how represented the society is, especially the low-income groups, by the organizations that influence politics.

Political voice is important because it strengthens communication and provides incentives to policymakers; however, the inequality of representation and influence are systemically biased in favor of high-income groups (Lijphart, 1997); low-income groups and disadvantaged educated people are less likely to vote and participate in politics in the American democracy (Schlozman, Verba & Brady, 2012). Furthermore, public officials are more responsive to high-income groups than to average income groups and low-income groups (Kenworthy, 2008). According to Teixeira (1992), who summaries the work of other authors (Gant & Lyons, 1993; Shaffer, 1982, Studlar and Welch, 1986), “nonvoters are somewhat more liberal than voters on policy issues concerning the economic role of government…and all agree that the magnitude of the differences is not large and that therefore the absence of nonvoters from the voting pool probably has little immediate effect on the policy output of government” (Lijphart, 1997:4). In the same way, Franko et al. (2016) explain that when political participation usually becomes more inclined to the high-income groups, the connection between public opinion and policymaking breaks, and the distributional outcomes favor high-income groups (Franko et al., 2016).

The current academic discussion also suggests what public policies and researchers should focus on. While Schlozman et al. (2012) recommend political mobilization in order to reduce inequality, Lijphart (1997) recommends compulsory voting; this policy is a partial solution to making voting participation more equal. Alternatively, researchers should focus their studies on “how laws, mobilization strategies, demobilization strategies, and other factors influence the decisions of different economic groups to turn out to vote” (Franko et al., 2016, p.
Furthermore, reformers should design policies to limit the influence of business, specifically in lobbying and funding campaigns, such as public financing of elections (Franko et al., 2016). Recent increases in income inequality within countries are related to political voice. Nationalist and populist leaders are taking advantage of inequality and antiestablishment speech exploits the socioeconomic differences. States do not redistribute enough because even the elites and the pressure groups influence or control governments, or revolutionaries and populist governments rule without the necessary expertise. Polarization is high in the globe and low-income groups do not have a voice that is heard.

The hypothesis of this dissertation is based on the following criteria: first, few studies have evaluated the impact of CCTs on inequality through 2010; there is an opportunity to update these evaluations, using the method of decomposition of the Gini index. Second, some studies have measured the impact of CCTs on poverty, such as Stampini and Tornarolli (2012) that analyze the magnitude of CCTs as a percentage of recipients' income in 13 Latin American Countries in 2010; this dissertation determines the percentage of the transfers in beneficiaries’ total income and the impact on poverty by comparing estimated incomes with a no-CCT counterfactual, evaluating the magnitude of the CTT in the total income of all citizens Third, the weakness in targeting the lowest income group as beneficiaries and defining exit strategies affects financial sustainability; this dissertation shows the evolution of poverty and the magnitude of CCTs in Chile, Colombia, and Mexico from 2004-06 to 2016-17, and their levels of leakage, analyzing the quality of the targeting mechanisms used for the inclusion of beneficiaries. Fourth, policy-makers are making decisions based on a lack of information dealing with the cost-effective option between supply- and demand-side factors. Finally, there is an opportunity to describe the political and economic context of Chile, Colombia, and Mexico in
order to analyze some control variables that could have caused the diminishing of inequality and
poverty, such as the Gross Domestic Product (GDP) per capita, democracy, economic
globalization, ideological orientation, and ethnic fractionalization.

**The influence of International Organizations.**

Brazil and Mexico were the first two countries that developed CCTs in the region and
international organizations, such as the World Bank and the Inter-American Development
Bank—IADB—, have promoted CCTs in Latin America.

While support for targeting has decreased among social scientists, it has increased among
policymakers in Western countries. Thus, for example, on the international scene,
institutions such as the International Monetary Fund and the World Bank have argued
that a comprehensive approach to poverty reduction . . . calls for a program of well-
targeted transfers. (Korpi & Palme, 1998, p. 663)

According to Fiszbein et. (2009) and Stampini and Tornarolli (2012), after Brazil and Mexico,
CCTs have been implemented in Argentina, Bolivia, Chile, Colombia, Costa Rica, the
Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Jamaica, Nicaragua,
Paraguay, Panama, Peru, Trinidad and Tobago, and Uruguay.

The policy dialogue among the national and international academy as well as national
governments and multilateral organizations is crucial to improve knowledge about poverty in
order to increase the impact of public policies (Barrientos & Niño-Zarazúa, 2011). Nevertheless,
the influence of international organizations on the development of CCTs has not been deeply
analyzed. Von Glissczczynsky and Leisering (2016) present an in-depth analysis of all major
documents of international organizations and propose a multi-layered model of global
knowledge to analyze Social Cash Transfers from the point of view of sociological
constructivism. International organizations have driven global knowledge to construct policy
models using mechanisms and strategies to change ideas and agendas (Von Glissczczynsky &
Leisering, 2016). In the beginning of the 2000s, international organizations constructed four models of social cash transfers: social pensions, family allowances, general household assistance, and conditional cash transfers (Von Glissczczynsky & Leisering, 2016, p. 331).

These models includes four layers which represent different degrees of abstraction from social progress to social cash transfers, in which “changes in more abstract layers may prepare the ground for changes in more concrete layers” (Von Glissczczynsky & Leisering, 2016, p. 328): i) world culture that includes the idea of social progress; ii) discourses of specific forms of knowledge, such as social human rights; iii) more specific policy paradigms like social protection; and iv) models which include conditional cash transfers (Von Glissczczynsky & Leisering, 2016, p. 328). Models are likely to spread if they meet the following conditions (Von Glissczczynsky & Leisering, 2016, p. 329): first, an organizational mandate, in which an international organization introduces the model; second, national examples, in which governments develop models based on those already adopted by other states or following the proposal of international organizations; third, expert knowledge that analyzes theories and empirical evidence from academic and non-governmental organizations—NGO—expertise; fourth, contextualization, in which the model is linked to policy paradigms, discourses, and strong ideas from policy fields; and fifth, presentation, in which the model receives a publicly recognized name.

According to Von Glissczczynsky and Leisering (2016) CCTs accomplished some criteria to be considered a multi-layered model of global knowledge. First, the World Bank adopted CCTs as part of its mandate; second, some Latin American governments have replicated the model of PROGRESA (Mexico) and Bolsa Familia (Brazil); third, the World Bank has supported and made several publications based on CCTs, which include statistical evidence;
fourth, the CCT model is strongly anchored in the economic development discourse of the 1990s in which the poor are potential contributors to economic growth and rational agents, and children are the economic agents of the future, in which “conditionality is justified by the assumption of bounded rationality which is part of a variant of the economic agency discourse” (Von Glisszczynsky & Leisering, 2016, p. 335); fifth, the World Bank has established the name ‘CCT’ as a brand, developing global conferences. Therefore, CCTs are classified as a model of global knowledge, especially because of the support and promotion of the World Bank.
CHAPTER 3

CONCEPTUALIZATION AND INCOME DATA

The methodology of this dissertation is based on Comparative Public Policy Analysis, taking as a reference the case studies of CCTs in Mexico, Colombia, and Chile. The following subsections describe the national household surveys of each case study and the main concepts and variables used in this dissertation.

Income Data of Chile, Colombia, and Mexico

In order to understand the impact of CCTs in reducing poverty and inequality in Latin America through comparative analysis, this dissertation specifies not only the period of time of its analysis and duration, but also the definition of cases (Mahoney & Villegas, 2007). This dissertation uses secondary sources, namely reviews and analyses of academic and governmental data and publications, and the qualitative method of within-case analysis, using process tracing to support some explanations (Mahoney and Villegas, 2007) and establishing pattern-matching to provide corroborating evidence for a causal argument (Gerring, 2007).

According to Gerring, the case study is defined as “the intensive study of a single unit or a small number of units (the cases), for the purpose of understanding a larger class of similar units (a population of cases)” (2007, p. 96). Case studies from Chile, Colombia and Mexico are used to deepen the understanding of the influence of CCTs in diminishing inequality and poverty in Latin America.
This dissertation uses the Luxembourg Income Study Database (LIS), which is a cross-national data center located in Luxembourg and is the largest available and harmonized source of income, wealth, and employment dataset microdata collected, enabling cross-national comparisons from approximately 50 countries around the globe, spanning five decades (LIS 2020b). “The great achievement of the LIS project is to have brought together microdata sets for a wide range of different countries” (Smeeding et al., 1990: xviii), reorganizing the data of each country into common standards, concepts, and structures (Smeeding et al., 1990). Moreover, the LIS data is extensive, comparable, detailed, and accurate (Mahler & Jesuit, 2006).

An additional benefit to LIS data is that results for these case studies (Chile, Colombia, and Mexico) can easily be compared to results for other countries in Latin America and elsewhere. The key contribution of the LIS is that, while it does not collect any data on its own, it does allow for meaningful comparison in a way that was not previously possible. Therefore, the contribution of this dissertation is that the results can easily be placed in a broader context.

A significant element of the standard method for cross-national analyses is that income is not measured on the individual level but on the household level (Van Den Bosch and Cantillon 2008). The availability of new analytical methods and detailed household surveys has enabled studies to assess the impact of macro public policies at the micro level (Bourguignon et al., 2008, pp. 24-25). The LIS uses household surveys in order to access the data and develop public policy analysis, adding waves of data for various countries and having a time series of cross-sections (Smeeding et al., 1990). The following waves that this dissertation uses are the ones available from LIS data for Mexico, Colombia, and Chile in the period of study.

This dissertation focuses on Waves V, VII, X and XI offered by the LIS. Wave V analyzes data before the implementation of CCTs; Wave VII presents the data information in the
middle of the implementation of CCTs; Wave X shows the most recent information of CCTs after at least 15 years of their implementation. In the case of Mexico, this dissertation will use Wave XI in order to have the most recent data. In sum, this dissertation uses the following national household surveys: Chile (1998, 2006, 2017); Colombia (2007, 2016); and Mexico (1998, 2008, 2018) (see Table 2).

Table 2. Waves of LIS data for CCT Analysis

<table>
<thead>
<tr>
<th>Country</th>
<th>Wave IV</th>
<th>Wave V</th>
<th>Wave VI</th>
<th>Wave VII</th>
<th>Wave VIII</th>
<th>Wave IX</th>
<th>Wave X</th>
<th>Wave XI</th>
</tr>
</thead>
</table>

Source: Prepared for the author on the basis of METadata Information System (METIS), which is a powerful search tool that provides immediate access to a comprehensive set of documentation about the LIS Database [online] http://www.lisdatacenter.org/frontend#/home

As can be seen, this dissertation does not analyze Colombia’s case or Chile’s case before the implementation of CCTs nor does the 2004 Colombian household survey due to the absence of data offered by the LIS. Even though this is a shortcoming of the analysis, it is important to analyze the evolution of Colombia from the midterm of CCTs’ execution to the most available data and of Chile from its first year of CCT’s implementation. The following subsection explains the main common characteristics and differences among the national household surveys of Mexico, Chile, and Colombia used by the LIS.
National Household Surveys.

The household surveys used by the LIS and this dissertation are the Household Income and Expenditure Survey of Mexico (1996, 2008 and 2018), the Large Integrated Household Survey of Colombia (2007 and 2016), and the National Socio-Economic Characterization Survey of Chile (1998, 2006 and 2017). The summary of the differences and common features of these surveys are explained in Table 3.

Mexico: Household income and expenditure survey. The LIS data from Mexico is based on the Encuesta Nacional de Ingresos y Gastos de los Hogares / National Survey of Household Income and Expenditure (ENIGH), and its main objective is “[t]o obtain information on the distribution, amount and structure of incomes and expenditures for the household with the final aim of evaluating the developments in the standards of living of the population” (LIS 2020b). In addition, it offers information on the housing infrastructure and household equipment features and the occupational and sociodemographic characteristics of the household members (INEGI 2019).

According to the Instituto Nacional de Estadística y Geografía / National Institute of Statistic and Geography (INEGI) (2017a), the design of the ENIGH-2016 has the following characteristics: the target population is the households of the national territory and the geographic coverage of the survey is the state, including urban and rural areas. Moreover, its sample design is probabilistic, meaning the results obtained from the survey are generalized to the entire population. Moreover, the design is two-fold—stratified and by conglomerates—where the last unit of selection is the household and the unit of observation is the home (INEGI, 2017a).

In addition, the selection of the sample was based on the INEGI National Housing Framework 2012 and constructed from the cartographic and demographic information obtained
from the 2010 Population and Housing Census. This sample is a master sample from which to select the subsamples for all the housing surveys carried out by INEGI. Its design is probabilistic, stratified, single-stage and by conglomerates, which are also considered primary sampling units, since it is the households that make up the samples of the different surveys selected in the second stage. Finally, the sample size was 81,515 households (INEGI, 2017a).

The GEIH’s instrument developed for the collection of information includes a scheme of themes, categories, variables, and classifications. The theme current income includes a category denominated as Income from transfers (INEGI, 2017c). According to INEGI (2017b), a transfer is the monetary income received by the members of the household and for which the provider or donor does not demand remuneration of any nature; the variables included under this concept are: a) retirement and pensions; b) scholarships from the government and institutions; c) monetary donations from institutions and other households; d) income from other countries; e) benefits from government programs; f) transfers in kind from other households (gifts); and g) transfers in kind from institutions. In all cases, the value of transfers in kind is estimated by the informant based on the retail market value of the goods or services received.

The variable Benefits from governments includes Prospera benefit income: a classification that represents, according to INEGI (2017c), an entry in money derived from the direct benefit for health, food, and education provided by the Ministry of Social Development through the Prospera program, previously Progresa, Pronasol, or Oportunidades (these programs were explained in Chapter 1).

**Colombia: Large integrated household survey.** Regarding the data for Colombia, the LIS uses the Encuesta Nacional de Hogares / National Household Survey (ENH) and the Gran Encuesta Integrada de Hogares (GEIH). The ENH was the first instrument developed by the
Departamento Administrativo Nacional de Estadísticas (DANE), which is the institution responsible for the planning, compilation, analysis and dissemination of the official statistics of Colombia (DANE, 2019). The ENH’s objective was to measure changes in the employment levels of the population and provide basic information for the diagnosis of the labor force (DANE, 2019). This survey was administered from 1970 to 2000.

From 2000 to 2006, DANE changed the ENH to the *Encuesta Continua de Hogares* / Continue Household Survey (ECH). Since 2006, DANE has developed the *Gran Encuesta Integrada de Hogares* / Large Integrated Household Survey (GEIH). The GEIH provides basic information on the size and structure of the workforce of the country's population, such as employment, unemployment and inactivity, and the socio-demographic characteristics of the Colombian population. The GEIH allows characterizing the population according to sex, age, kinship, educational level, and affiliation to the social security system, among others. Currently the information is collected in 13 cities and their metropolitan areas, 11 intermediate cities, eight capitals with less populated departments, and populated centers and rural dispersed areas in more than 443 municipalities (DANE, 2020b).

Moreover, the GEIH is a continuous survey, with monthly subsamples, meaning every month the DANE develops the survey nationally and then collects all the information annually (LIS, 2020b). The data type is a sample survey, the unit of observation is the household, and the unit of analysis corresponds to households and individuals (DANE, 2020b).

The survey universe for the GEIH is made up of the non-institutional civilian population residing in private households; the type of sampling is probabilistic, stratified, and multistage. This population is estimated based on population censuses and migration statistics (DANE, 2020b). The survey has specialized in measuring the structure of the labor market and household
income, having a total annual sample of approximately 240,000 households, which makes it the most comprehensive national survey (DANE, 2019).

Initially, the monthly sample size corresponded to approximately 23,000 households. In 2000, with the implementation of the ECH, the master sample was expanded from 165 municipalities to more than 240, with 30,000 homes in 13 areas and 7,500 in the rest of the capitals, population centers, and scattered rural areas. During 2004, the master sample was expanded, with a total of 44,400 households, with 30,000 households in 13 areas and 14,400 in the rest of the capitals, population centers, and scattered rural areas. In 2006, with the implementation of the GEIH, the sample was expanded to 11 more cities, with 17,600 additional households, for a total of 62,000 households. With the framework generated by the 2005 census, the new sample implemented in 2009 is made up of 437 municipalities and approximately 248,028 households visited annually, concentrated in 22,548 segments. The monthly sample is 20,669 households, 18,790 homes and 1,879 segments in the capitals of the less populated departments (DANE, 2017). In addition, sample sizes are calculated with a desired precision of the unemployment rate variable not exceeding a relative standard error of 5% and an unemployment rate of 10%. The calculations are made with the formulas corresponding to the type of sample design (DANE, 2017).

The instrument developed for the collection of information from the GEIH has a series of questions and incorporates chapters and modules (from A to R). Chapter M is regarding other incomes, in which the variable V2747 considers the More Families in Action program. The question in the survey is, Was the aid in money from More Families in Action? Then, variable V2745 includes the value that the family received for this program.
Chile: National socio-economic characterization survey. Finally, the Encuesta de Caracterización Socioeconómica Nacional / National Socio-Economic Characterization Survey (CASEN) of Chile is a cross-sectional household survey conducted by the Ministry of Social Development to characterize the population in terms of demographics, education, health, housing, employment, and income issues. “The information derived from CASEN is mainly used to estimate the magnitude of poverty and the income distribution and to evaluate the impact of different social programs targeted to the most vulnerable groups in the population. Since the first year in which it collected data, CASEN has increased the number of surveyed households, reaching 87,000 households in 2011” (Parro & Reyes, 2017, p. 7).

According to the Ministry of Social Development of Chile (2018a), the CASEN 2017 survey, as its previous versions, is an instrument for diagnosis, evaluation and targeting in order to: 1) periodically know the situation of households and the population, especially those in poverty and those groups defined as priority by social policy, in relation to demographic, education, health, housing, work and income aspects, 2) estimate the magnitude of poverty and income distribution, 3) identify gaps and demands of the population in the areas indicated, 4) evaluate the different gaps that separate the different social segments and territorial areas, and 5) evaluate the impact of social policy, in terms of coverage, targeting, and distribution of fiscal spending of the main national social programs among households, according to their income level as well as the impact of this expense on household income and its distribution.

In addition, the target population of the survey is the population residing in private dwellings throughout the national territory, excluding the areas of difficult access defined by the government. Inside each selected dwelling, all households and persons who declare themselves habitual residents are interviewed (Ministry of Social Development, 2018a). Moreover, the
survey’s coverage includes national, national urban, national rural, and regional areas (Ministry of Social Development, 2018a).

The questionnaire included 15 modules from A to Y. Module Y is called Work, which included the question: Do you have another activity or income? Responses included other sources of incomes such as unemployment insurance, allowances, income, and state transfers (Ministry of Social Development, 2018b). Additionally, the questionnaire included the module Y denominated as Incomes, which includes a section denominated State subsidies or transfers. This section includes the following question: Last month, did you receive Asignacion Familiar / Family Allowance subsidy? It also asked for the amount received to be indicated. Moreover, the questionnaire included the following questions: Does your family participate in Chile Solidario? Does your family nucleus participate in the Programa Seguridades y Oportunidades (Ingreso Ético Familiar) / Securities and Opportunities Program (Ethical Family Income)? Last month, did you receive income from ...? (Ministry of Social Development, 2018b).

As can be seen, the last national-household surveys of Mexico, Colombia, and Chile, which are included in this dissertation’s analysis, comprise specific questions regarding the participation of households in CCTs and the amount received. This is crucial because this information is also taken into consideration by the LIS, assigning a specific variable and permitting the analysis of the efficiency of CCTs and CCTs’ impact on inequality and poverty.
Table 3. General Information Survey: Chile, Colombia, and Mexico

<table>
<thead>
<tr>
<th>Description</th>
<th>Chile</th>
<th>Colombia</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Objective</td>
<td>To periodically assess the situation of households and of the population, especially of those in poverty and of those groups defined as priority by social policy. To estimate the coverage, targeting and distribution of fiscal spending of the main social programs of national scope among households, according to their level of income, to assess the impact of this expenditure on household income and on the distribution of income.</td>
<td>To gather information about the employment conditions of persons as well as about the general characteristics of the population. The GEIH provides information at the national, urban-rural, regional, and departmental levels, as well as for each one of the department capitals.</td>
<td>To obtain information on the distribution, amount and structure of incomes and expenditures for the household with the final aim of evaluating the developments in the standards of living of the population.</td>
</tr>
<tr>
<td>Frequency</td>
<td>The CASEN Survey has been carried out by the Ministry of Social Development since 1987, Continuous survey, with monthly subsamples. The GEIH was introduced in 2006, when it</td>
<td></td>
<td>Every other (even) year.</td>
</tr>
<tr>
<td>Description</td>
<td>Chile</td>
<td>Colombia</td>
<td>Mexico</td>
</tr>
<tr>
<td>-------------</td>
<td>-------</td>
<td>----------</td>
<td>--------</td>
</tr>
</tbody>
</table>

<p>| <strong>Sampling Procedure</strong> | The sample design of the CASEN 2017 survey can be characterized as probabilistic and stratified, according to geographic area and population size, both in urban and rural areas. The selection of the sample is carried out in two stages - two-stage sampling in rural and urban areas. The primary sampling units are selected with probability proportional to the size, in terms of total housing in the rural area, while in the urban area they are selected systematically and with equal probability. | Sample design is probabilistic, multi-staged, self-weighted, and stratified with unequal clustering. The sampling frame consists of the cartographic inventory and listings of dwellings by city from the Population and Housing National Census of 2005, with continuous updates and new counts of buildings and dwellings through the same sample, with the corresponding maintenance. | Stratified multi-phase sample with the dwelling as primary sampling unit includes: first, basic geostatistical areas, stratified according to five geographic and socio-economic criteria, are selected. It is developed by the National Census (Censo de Población y Vivienda). |
| <strong>Sample Size</strong> | To achieve the defined accuracy levels, the expected achieved 231,178 households including 778,238 individuals. | 231,178 households including 778,238 individuals. | 70,311 households and 257,805 individuals out of which 147 |</p>
<table>
<thead>
<tr>
<th>Description</th>
<th>Chile</th>
<th>Colombia</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>sample size was of 69,816 homes nationwide. To achieve this goal, interviews were attempted in around 95,159 homes (oversized sample). The LIS files contain 216,231 household members in 70,948 households (note that 208 domestic servants were excluded from the LIS individual file).</td>
<td></td>
<td>non-household members (domestic workers, lodgers and their family members) were not included in the LIS sample.</td>
</tr>
<tr>
<td>Description of Instruments</td>
<td>The questionnaire is composed of seven modules that aim at collecting information about the characteristics of the households: register of residents, education, employment, incomes, health, residents, and dwelling.</td>
<td>Questionnaire divided into several sections: The Dwelling, Household and persons roster sections, filled by the household head. At the individual level, directly completed by individuals age 18 or older and by individuals aged between ten and 17 if they work or are searching for a job, while for the others the questionnaire is completed by an adult.</td>
<td>The survey consisted of five questionnaires and one diary: Households and Dwellings Questionnaire: dwelling characteristics, identification of households in the dwelling, socio-demographic characteristics of all household members, access to food, household equipment, and transfer time to nearest hospital.</td>
</tr>
</tbody>
</table>
### Definitions

#### Household

Persons who usually live in the household, including persons temporarily absent for study, work, business, sickness, holiday, or other reasons, as long as those periods of absence are not longer than six months (with the exception of the household head and the children below six).

A person or a group of people occupying all or part of a dwelling who have partnered to share the dwelling and/or food. They may or may not be related to each other. The domestic servants and their families are part of the household as long as they sleep in the same house where they work. Boarders and lodgers are considered household members if there are less than five of them in one household.

A group of persons (not necessarily related by blood) who usually reside in the same private dwelling and share meals. Domestic servants and guests who usually reside and share meals in the dwelling are considered as usual residents of the dwelling but not as household members (they are part of the sample, but little information is collected for them). Several households can share the same dwelling, in which case the one including the owner of the dwelling is the principal household.

#### Household Head

As self-reported by the respondent.

The person recognized as such by other household members given considerations of age, financial support, or other reasons.

Person recognized as such by the household members.

### Data Quality Aspects

#### Non-Response Error

Non-response amounted to 25%.

Data is not available.

15.14%.

#### Weighting

Historically, for each CASEN survey, two expansion factors were developed for each person interviewed: one that expands the regional population projection (expr) and another that expands the communal population (expc). LIS note: the LIS uses the first of these two factors.

Household level weights, correcting for sampling bias, non-response, and population composition adjustments according to the latest population projections based on the 2005 Census.

The weighting household factor corrects for both sampling bias and non-response bias; it also inflates to total population. Another weighting factor is also available to inflate to the total number of dwellings.
<table>
<thead>
<tr>
<th>Labour Market Information</th>
<th>Eligibility</th>
<th>Employment</th>
<th>Reference Period</th>
<th>Income</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Persons aged 15 and older.</td>
<td>ILO definition of current Labour Force Status. Employed persons are then asked about job characteristics of their main job and some information about a secondary job. If they are not working, they are asked if they are willing to work, if they are looking for a job, and if they would accept one if it was offered to them. All inactives are asked up to 2 main reasons for not working.</td>
<td>Mostly the month before the interview (the previous three months for income from main regular job). Last 12 months for irregular or annual incomes.</td>
<td>Mostly monthly amounts, some annual amounts for irregular or annual incomes (end-of-year bonuses, farming income, and rental income).</td>
</tr>
<tr>
<td></td>
<td>Individuals aged 12 or older in the urban areas and those aged ten or older in the rural ones.</td>
<td>Main activity (in which the most time is spent), as well as questions on paid employment, job search and availability following ILO definition; only the ILO employed are routed to the Employed section.</td>
<td>Mainly the previous month for labour incomes and regular incomes (rental income, pensions and alimony) and the last 12 months for other incomes.</td>
<td>Monthly amounts for labour incomes and regular incomes (rental income, pensions, and alimony) and annual amounts for other incomes.</td>
</tr>
<tr>
<td></td>
<td>Household members aged 12 or older.</td>
<td>Employment is defined as &quot;any economic activity carried out against pay (in cash or in kind), including those activities that contribute to the obtention of incomes or to the production in the households.&quot; Reference period is the month preceding the interview.</td>
<td>The previous six months for most monetary income sources. Non-monetary incomes are collected with the same reference period as the expenditures (see the description of the Expenditure Questionnaire and Diary above).</td>
<td>Each monetary income source was collected on a monthly basis for each of the previous six months.</td>
</tr>
</tbody>
</table>
### Unit of Collection

All income sources were collected at the individual level for all household members (some income sources were collected only for adults).

Individual level mainly, aged 12 or older in the urban areas and those aged ten or older in the rural ones.

Monetary income sources and in-kind earnings are collected at the individual level for all household members (the income subcategories are more detailed for adults). Other non-monetary income sources (in-kind transfers, own-consumption and gifts from other households) are collected at the household level.

### Taxes and Contributions

Wage income is collected net of taxes and contributions, no mention of taxes and contributions for all other incomes.

Dependent employees report gross wages, all other incomes are net. Information on taxes and contributions paid is not collected; they were simulated externally.

All income sources are asked net of taxes and social contributions (or any other deduction such as union fees).

### Restrictions

- Some income sources are not included in the data (mostly social assistance household incomes).

Source: Database of non-contributory social protection programmes in Latin America and The Caribbean of the Economic Commission for Latin America and The Caribbean, conditional cash transfers programs [online] http://dds.cepal.org/bdptc/, and the CEPALSTAT database. Most of the information given in this table is literally taken from the source.
**Definition of Concepts and Variables**

In order to develop the method, it is necessary to define some concepts that this dissertation uses.

First of all, the main concepts applied in this dissertation are poverty and inequality. Poverty is:

> a denial of choices and opportunities, a violation of human dignity. It means lack of basic capacity to participate effectively in society. It means not having enough to feed and clothe a family, not having a school or clinic to go to, not having the land on which to grow one’s food or a job to earn one’s living, and not having access to credit. It means insecurity, powerlessness, and exclusion of individuals, households and communities. It means susceptibility to violence, and it often implies living in marginal or fragile environments, without access to clean water or sanitation. (United Nations, 1998)

In order to complement this definition and to use the measure of poverty as a variable, this dissertation uses the following definition of poverty: The Headcount, the Income Gap, and the Interval Measure. According to the LIS (2010), the head count ratio is defined as the percentage of the country’s population of individuals living in poor households. “The headcount ratio . . . measures poverty incidence (i.e., the number or proportion of poor people), but gives every person equal weight no matter how far they fall from the poverty line” (LIS, 2010, p. 28). In addition, it does not show how the poverty measure increases when there is a reduction in income of a person below the poverty line (Sen, 1976, p. 219).

Moreover, the Income Gap (I) measures poverty intensity or depth, “measured as the difference between the median income of the entire population and the mean income of the poor (…), standardized by the population median income” (Mahler and Jesuit, 2006 p. 496), meaning how poor are the poor, but not its distribution among the poor (LIS, 2010). Finally, the Interval Measure (HI), which is the product of H and I (Atkinson, 1987 and Brady, 2003), is a “simple, parsimonious measure combining quantity and depth on poverty” (Brady, 2003, p. 727), meaning “the depth of poverty among households that fall below half their country’s median income” (Jesuit & Mahler, 2006, p. 495).
Income inequality refers to the distribution of income among households or persons (Jesuit & Smeeding, 2002). The LIS uses the Gini coefficient in order to measure income inequality. Although there are many available variables to measure inequality, the most common is the Gini coefficient. The Gini index ranges from 0, in which all recipients receive exactly the same income to 1.0, in which one recipient receives all income (Mahler & Jesuit, 2006). There are different income concepts. One of the most useful variables by the LIS is the disposable household income (dhi), which is the post-government income, after the governmental intervention through taxation and transfers (Mahler & Jesuit, 2006). The dhi includes the variables of labour and capital income, private transfers, private pensions, work-related insurance transfers, universal benefits, and social assistance benefits, but excludes taxes and social insurance contributions (LIS, 2019b). There are three other important income concepts: “One of them is income before any government redistribution but including private pensions. The second is income after taxes, social insurance, and universal benefits, but before social assistance is included. The third one is after social assistance transfers, but before taxes, social insurance, and universal benefits” (LIS, 2019b, p. 29).

Finally, the LIS income and consumption variables are split into the six major blocks: current incomes; income deductions, transfers paid and loans repayments; extraordinary incomes; imputed rent; consumption expenditures; and major economic aggregates. This dissertation uses current incomes, income deductions, and major economic aggregates.

**Current incomes (variables suffixed by hi and pi).** “These consist of cash payments as well as the value of goods and services received by the household or by individual members of the household at periodic intervals (annual or smaller), that are available for current consumption
and that do not reduce the net worth of the household” (LIS, 2019a, p. 8). The definitions of the LIS current income variables that this dissertation uses are:

i. Total current income, household (hitotal): “Sum of cash and non-cash income from labor, income from capital, income from pensions (including both public and private pensions) and non-pension public social benefits stemming from insurance, universal or assistance schemes (including in-kind social assistance transfers), as well as cash and non-cash private transfers” (LIS, 2020b). This variable is comprised of the following factors: Labour income (hilabour), Capital income (hicapital), Pensions (hipension), Public social benefits excl. pensions (hipubsoc), and Private transfers (hiprivate). This dissertation focuses on Public social benefits (hipubsoc).

ii. Factor income (hifactor): “Sum of cash and non-cash income from labour and income from capital” (LIS, 2020b). This variable is always constructed according to the following formula: hifactor = labour income (hilabour) + capital income (hicapital).

iii. Labour income (hilabour): “cash payments and value of goods and services received from dependent employment, as well as profits/losses and value of goods from self-employment, including own consumption” (LIS, 2020b).

iv. Capital income (hicapital): “cash payments from property and capital (including financial and non-financial assets), including interest and dividends, rental income and royalties, and other capital income from investment in self-employment activity” (LIS, 2020b).

v. Pensions (hipension): “pension income from all pillars (private, occupational, public), all types (insurance, universal, assistance), all functions (old-age, disability, survivors)” (LIS, 2020b).
vi. Public social benefits excl. pensions (hipubsoc): “cash social security transfers (excluding public pensions) stemming from insurance, universal or assistance schemes, and in-kind social assistance transfers” (LIS, 2020b). “hipubsoc includes family benefits, unemployment benefits, sickness and work injury, disability benefits, general assistance, and housing benefits” (LIS, 2020a). This variable is constructed according to the following formula:

\[
\text{hipubsoc} = \text{family benefits (hi41)} + \text{unemployment benefits (hi42)} + \text{sickness and work injury pay (hi43)} + \text{disability benefits (hi44)} + \text{general assistance (hi45)} + \text{housing benefits (hi46)} + \text{public in kind benefits (hi47)} + \text{amounts that are directly placed at the level of hipubsoc.}
\]

This dissertation uses general assistance, which is the key variable of this research because it shows Conditional Cash Transfer programs.

vii. General assistance (hi45): “Monetary transfers from minimum income guarantee systems/last resort systems, received from the state through social programmes targeted towards individuals or households in need. Such means-tested systems are meant to provide a minimum subsistence level, covering frequently the totality of the population” (LIS, 2020b).

The general assistance variable takes CCTs into consideration. While Chile’s general assistance variable refers to the Family Support Bonus of the Ethical Family Income Program (LIS, 2020b), Mexico’s general assistance variable shows social assistance from PROSPERA (LIS, 2020b). Moreover, Colombia’s general assistance variable takes into consideration conditional cash subsidies from the government (LIS 2020b). In this dissertation, the variable, general assistance (hi45), is named CCTs.

viii. Public transfers excluding pensions and CCTs (hipubsoc – hi45): This dissertation creates the variable public transfers excluding pensions and CCTs, which is the variable public social benefits excluding pensions (hipubsoc) minus the variable, general assistance (hi45), or
The creation of these variables enables this dissertation to separately measure CCTs in the models that are going to be explained in chapter 4 and developed in chapter 5 to 7.

ix. Private transfers (hiprivate): “cash transfers and value of in-kind goods and services of a private nature that do not involve any institutional arrangement between the individual and the government or the employer, including transfers provided by non-profit institutions, other private persons/households, and other bodies in the case of merit-based education transfers” (LIS, 2020b).

This variable excludes non-monetary income from capital¹ and non-monetary universal transfers from the government², which are very difficult to evaluate at the individual level and are typically only available at the macro-level. For this reason, the value of these transfers is also excluded from the dhi and are not available in the LIS microdata (LIS, 2020b).

**Income deductions, transfers paid and loans repayments.** These variables (suffixed by hx and px) “consist of non-consumption expenditures such as taxes, contributions, donations, inter-household transfers and interest paid on loans” (LIS, 2019a, p. 8). This dissertation uses the variable income taxes and contributions (hxitse).

**Major income aggregates.** “These incomes aggregates are either derived from other LIS variables, ensuring prefect comparability across datasets, or are produced from original variables,

---

¹ According to LIS (in www.lisdatacenter.org), non-monetary incomes from capital “refer to the imputed value of the service of durable goods owned by the household, including the dwelling and other durables such as cars. As important as these incomes may be, they are rarely available in the income microdata and, when available, they are calculated with widely varying methodologies. For these reasons, they are excluded from dhi. Users wishing to include them can do so with the use of the LIS microdata.”

² According to LIS (in www.lisdatacenter.org), non-monetary universal transfers from government “refer to government-provided services that benefit individuals but are provided with the primary objective of meeting the general needs of the overall population, rather than that of assisting the poor. Specifically, we do not include non-monetary transfers in the areas of housing, care (including childcare), education, or health.”
in which case it is not possible to recreate them on the basis of other detailed LIS variables” (LIS, 2019a, p. 11). This dissertation uses the variables disposable household income and public transfers.

x. Disposable household income (dhi): “Sum of cash and non-cash income from labour, income from capital, income from pensions (including private and public pensions) and non-pension public social benefits stemming from insurance, universal or assistance schemes (including in-kind social assistance transfers), as well as cash and non-cash private transfers, less the amount of income taxes and social contributions paid” (LIS, 2020b).

xi. hpublic: “public transfers, which corresponds to the social security redistribution, and includes public pensions and public social benefits excl. pensions” (LIS, 2019a, p.11); this variable is further disaggregated into hpub_i, hpub_u, and hpub_a.

xii. hpub_i: “insurance transfers: transfers stemming from social security systems where eligibility is based on the existence and/or the length of an employment status; in most cases the benefits are financed by contributions paid by employers, workers or both, and their amount is usually dependent on either previous earnings or previous contributions” (LIS, 2019a, p. 11).

xiii. hpub_u: “universal transfers: transfers stemming from public programmes that provide flat-rate benefits to certain residents, provided that they are in a certain situation, but without consideration of income, employment or assets; note that in some cases the benefit amount may also depend on the other incomes of the individuals, which at the limit may result in some proportion of the population at the upper end of the income distribution being excluded from receipt” (LIS, 2019a, p. 11).
x.iv. *hpub_a:* “assistance transfers: transfers stemming from public programmes that provide benefits especially targeted to individuals or households in need (i.e. with a strict income and/or assets test); the amount of the benefit is either a flat rate or is based on the difference between the recipient income and a standard amount representing the minimum subsistence needs as guaranteed by the government” (LIS, 2019a, p. 11).
CHAPTER 4
METHODOLOGY AND OPERATIONALIZATION

The methodology applied in this dissertation is the Public Policy Analysis of Conditional Cash Transfer programs (CCTs), taking into consideration the case studies of Chile, Colombia, and Mexico. This chapter explains this methodology and some technical aspects for its operationalization. In addition, this chapter describes the methods for measuring the impact of CCTs on inequality: the analysis of fiscal redistribution that includes the impact of CCTs, and the decomposition of the Gini index in one period of time and multiple periods of time. Moreover, the effects of taxes, public transfers and CCTs on poverty and the counterfactual analysis are describes, which are used to measure the impact of CCTs on poverty. In addition, this chapter describes an index to measure the efficiency of CCTs. Finally, a cross-national comparative model based on the results of the previous models is described.

Public Policy Analysis and Operationalization

The main methodology applied in this dissertation is a Comparative Public Policy Analysis based on the analysis of microdata. As was explained in chapter 3, this dissertation uses the data of the Luxembourg Income Studies (LIS), which harmonized household national surveys of Chile, Colombia, and Mexico. The following subsections explain the method of the Public Policy Analysis used by this dissertation and some technical aspects that are necessary to apply in order to develop the method.
Methodology.

In order to answer the research question—have CCTs diminished inequality and poverty in Latin America?—this dissertation uses Public Policy Analysis to analyze how CCTs have impacted inequality and poverty in Latin America:

The analyst focuses on the effects generated by the state measures. . . . establishing the benefits and costs of policy, including where applicable whether groups have effectively modified their behavior. In summary, policy evaluation involves the empirical testing of the validity of the causality model on which the policy is based. Thus, the analysis concerns both the relevance of this ‘theory of action’ and the scope of its practical application. (Knoepfel, 2007, p. 221)

Policy evaluations are expected and planned in order to legitimize policies already adopted and prepare the basis for future decisions (Knoepfel, 2007). Four criteria can be established in order to evaluate the effects of a public policy: impact, effectiveness, efficiency, and relevance (Knoepfel, 2007). As it was described in chapter 2, most of the literature on CCTs has analyzed their impact on poverty. In addition, the literature has determined the effectiveness of CCTs by measuring the outcomes of the conditionalities, especially school attendance and nutritional check-ups for children. This dissertation focuses on the impact of CCTs in Latin America, by examining the overall success of the program in terms of income inequality and poverty reduction, and the analysis of targeting low-income groups as beneficiaries.

This dissertation first focuses on the impact of CCTs on inequality and poverty. According to Knoepfel (2007), the observation of the desired changes should be analyzed in all instances wherein implementation acts have been applied, adopting a causal perspective which allows the analyst to determine the causal relationships within public policies. CCTs main goal is to increase human capital, reducing poverty and inequality. The ultimate aim of public policies is to bring real changes, resolving the collective action problem (Knoepfel, 2007), in this case,
poverty and inequality. “The product resulting from an impact analysis is a methodologically and statistically sophisticated document detailing relationships and relative levels of importance among a number of variables” (Chatrejee & Vadapalli 2009, p. 85). In addition, this dissertation analyzes the efficiency of CCTs.

After analyzing the impact of CCTs on inequality, their impact on poverty, and their efficiency, this dissertation designs a descriptive multivariate, cross-national model, taking into consideration the measures and results of this dissertation regarding the impact of CCTs on inequality and poverty, and CCTs’ efficiency. Therefore, the dependent variables are the impact of CCTs on poverty and inequality, and CCTs’ efficiency. Moreover, the independent variable is the CCT, measured by budget and coverage; time is an intervening variable that can enhance the effect of the CCT or show that it is not able to effectively accomplish its goal. Finally, this chapter defines some control variables that will be described in chapter 6. The purpose is to show the level of poverty and inequality during the introduction of the CCTs from the late 1990s to the early 2000s, in the middle of the development of CCTs from 2006-2008, and from the last available data from 2016-2018.

Technical Details.

In order to analyze the fiscal redistribution and the impact of CCTs on inequality and poverty in Chile, Colombia, and Mexico, it is necessary to take into consideration a few technical details. First of all, there must be a review of the availability of the data and variables that are needed to develop the models: disposable household income, factor income, private pensions, insurance transfers, universal transfers, assistance transfers, private transfers, and income taxes and contributions (see Table 4).
Table 4. LIS Documentation Availability – Effects of Taxes and Public Transfers on Inequality–Part I

<table>
<thead>
<tr>
<th>Variable Label (Household)</th>
<th>Country</th>
<th>Chile</th>
<th>Colombia</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Year</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Short name</td>
<td>cl98</td>
<td>cl00</td>
<td>cl03</td>
</tr>
<tr>
<td>LIS Wave</td>
<td>Wave V</td>
<td>Wave V</td>
<td>Wave VI</td>
</tr>
<tr>
<td>Total current income</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Disposable household income</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Factor income</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Insurance transfers</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Universal transfers</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Assistance transfers</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Labor income</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Capital income</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Pensions</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Private pensions</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Public social benefits*</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>General assistance</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Private transfers</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Income taxes and contributions</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

*Excluding pensions.

Note 1: The unit of Analysis is household.

Note 2: 1 means the data is available; 0 means the data is not available.

Source: Luxembourg Income Study (LIS) METadata Information System (METIS), http://www.lisdatacenter.org (Chile, Colombia, and Mexico; February 12, 2020). Luxembourg: LIS.
Table 4. LIS Documentation Availability – Effects of Taxes and Public Transfers on Inequality–Part II

<table>
<thead>
<tr>
<th>Variable Label (Household)</th>
<th>Country</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Year</td>
<td></td>
</tr>
<tr>
<td>Short name</td>
<td>mx98</td>
<td>mx00</td>
</tr>
<tr>
<td>LIS Wave</td>
<td>Wave V</td>
<td>Wave V</td>
</tr>
<tr>
<td>Total current income</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Disposable household income</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Factor income</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Insurance transfers</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Universal transfers</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Assistance transfers</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Labor income</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Capital income</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Pensions</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Private pensions</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Public social benefits*</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>General assistance</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Private transfers</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Income taxes and contributions</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

*Excluding pensions.

Note 1: The unit of Analysis is household
Note 2: 1 means the data is available; 0 means the data is not available.
Source: Luxembourg Income Study (LIS) METadata Information System (METIS), http://www.lisdatacenter.org (Chile, Colombia, and Mexico; February 12, 2020). Luxembourg: LIS.
Once the availability of LIS variables was reviewed, two out of three case studies did not have information for the variable income taxes and contributions. For this reason, it was necessary to generate this variable with the available data. According to the LIS,

\[
dhi = hitotal - hxitsc : hxitsc = \text{Income taxes and contributions}
\]

\[
hitotal = hifactor + hipension + hipubsoc + hiprivate : hipubsoc \supset hi45
\]

According to the aggregation rules in the LIS User Guide, “while the disaggregation of total current income into the five main income blocks is always ensured (i.e. \(hitotal = hilabor + hicapital + hipension + hipubsoc + hiprivate\)), the disaggregation of each of these five blocks into further subcomponents is not always possible” (LIS 2019a). Knowing that the aggregation of \(hitotal\) and its five components are ensured, \(hkitsc\) is obtained by \((hitotal - dhi)\), where \(hitotal\) and \(dhi\) data are available for all of the case studies. In order to have traceability, \(hkitsc\) were obtained in the same way for the three case studies. Moreover, the result of obtaining Colombia’s \(hkitsc\) by \((hitotal - dhi)\) has the same result as the variable \(hkitsc\), meaning this disaggregation is ensured.

In addition, most of the data does not include universal transfers except Mexico (2010 to 2018), affecting the analysis of the Gini after taxes, social insurance benefits, and universal benefits. Moreover, the LIS data from Colombia and Mexico (1996 to 2004) does not include private pensions, which affects the analysis of market income. Even though Colombia has a hybrid pension system, which includes both private and public systems, the latter is much larger than the former. In sum, the fiscal redistribution analysis and the impact on inequality and poverty should take into consideration the absence of some data in the case studies.

As can be seen, all the variables of general assistance (hi45) are available, excepting Colombia’s general assistance (hi45) in 1996 and Chile’s general assistance (hi45) in 1998 and
As explained in chapter 3, this is the main reason that this dissertation does not include the analysis of Colombia and Chile in these years. This is a weakness of this research because it does not include Colombia’s and Chile’s analysis before the implementation of CCTs, but the analysis of Colombia and Chile during the middle of the implementation of CCTs in 2006 and the last data available in 2016 is a contribution to the literature. Moreover, this dissertation includes the data of Chile in 2003, which is just one year after Solidarity Chile was developed.

Secondly, all the cases that have a missing value in any of the variables of interest for the research are dropped from the analysis by creating an indicator variable that is equal to one if dhi or any of its income and expenditure sub-components is missing, and equal to zero otherwise was created (LIS, 2019b).

Third, “[c]omparative researchers are typically interested in the characteristics of national populations, not the samples provided. It is very important to understand and use sample weights correctly in order to get representative results for the total underlying population” (LIS, 2019b, p. 9). The weighted descriptive statistics are obtained with the summarize command (LIS, 2019b):

sum <varlist> [w=<varname>], de

This dissertation uses analytic weights, which are “the natural kind of weights typically used with the summarize command” (LIS, 2019b, p. 11). The LIS records the household level weights in the variable hpopwgt.

Fourth, this dissertation builds the disposable household income, applying top- and bottom-codes to remove extreme values, using macros in this analysis. Because some inequality measures are sensitive to the extreme values of the income distribution due to reasons of confidentiality (Mahler & Jesuit, 2006), this dissertation applies top- and bottom-codes to avoid this problem (LIS, 2019b), ensuring comparability between the datasets of Chile, Colombia, and
Mexico. The problem with top coding is not so much that data on very high incomes are not reported as that the maximum value reported (e.g., all income above $2 million are reported as $2 million) differs from country to country. Rather than generating a new variable for the top-code value, a global macro is generated by using the Stata command global (LIS, 2019b): global topline = 10*r(p50).

Fifth, this dissertation creates an equivalized income variable that adjusts for household size. “In order to get measures of income inequality in a population, it is necessary to compare income across different types of households. It is not logical to directly compare total household income between households of different sizes and composition” (LIS, 2019b, p. 16). Because it is desirable to develop a scale that accounts for the number of household members in an equivalent way, taking into consideration economies of scale in larger households, this dissertation equivalizes income by dividing “the total household income by the value of the equivalence scale for each observation” (LIS, 2019b, p. 17), making sure that the weight matches the unit of analysis. It would be necessary to adjust the real value of income from the periods before and in the middle of the implementation in order to be consistent with the last period, using the general consumer price of each country. Nevertheless, the LIS provides a dataset that includes conversion factors for Consumer Price Index (CPI) adjustment and Purchasing Power Parities (PPPs) adjustment to 2011 international dollars:

All income variables have been expressed from nominal local currency units to 2011 international dollars. Converting income amounts in PPP terms is common in comparing incomes across countries and results in incomes that hold roughly equal purchasing power measured in international dollars. The conversion was done by applying first a national consumer price deflator to the nominal amounts to express them in terms of year 2011 prices. Those amounts were then converted to international dollars using PPPs. The national deflators and PPPs were taken from the World Development Indicators from the World Bank. (LIS, 2019a, p. 8)
The equivalizing weighting of household members produces a lower estimate of inequality than a per-capita measure due to the assumptions of economies of scale in large households (LIS, 2019b). The LIS uses the variable hpopwgt for weighting the variables which are intrinsically at the household level (LIS, 2019b).

In order to develop the fourth and fifth technical details, the foreach loop is used to repeat the same commands for multiple variables and to apply an equivalence scale and bottom codes to the four different income variables (LIS, 2019b):

```
foreach var in mi siti sa dhi
    gen e`var'_b = `var'
    replace e`var'_b = 0 if `var'<0
    replace e`var'_b = (e`var'_b/(nhhm^0.5))
```

Sixth, a new variable from public social benefits (excluding pensions) is generated, named hipubsoc2: hipubsoc2= hipubsoc- hi45. The variable hipubsoc2 represents public social benefits, excluding pensions and CCTs. This new variable allows a differential analysis of CCTs (hi45), analyzing the impact of CCTs on inequality.

**Impact on Inequality: Gini Index-Net Income and the Decomposition of the Gini Index**

Before analyzing the decomposition of the Gini index, this dissertation measures and compares the fiscal redistribution of Chile, Colombia, and Mexico in order to introduce the impact of government intervention on inequality. This dissertation develops three models in order to measure the impact on inequality. The first model calculates the Gini coefficients of Chile, Colombia, and Mexico based on disposable income and comparing income concepts. The second model decomposes the Gini index, analyzing the last year of data available for each country. The third model decomposes the Gini coefficients and analyzes the impact of CCTs on inequality in
three different periods of time: before CCTs, in the middle of implementation, and the most recent and available data.

**Impact of Taxes, Public Transfers, and CCTs on Inequality.**

Public transfers are a redistribution of income and wealth by the government, such as subsidies; CCTs are considered a public transfer. For this reason, this dissertation separates CCTs from public transfers in order to measure the impact of CCTs on inequality. The first model calculates the Gini coefficients of Chile (2003, 2006, and 2017), Colombia (2007 and 2016), and Mexico (1998, 2008, and 2018)\(^3\), which are the most recent and available data, based on current income. This model uses LIS data, is based on the works of Kakwani (1997), Shorrocks (1982), Lerman and Yitzhaki (1985), Stark, Taylor, and Yitzhaki (1986), and compares the following income concepts. First, income before taxes and government transfers or market income (mi), which is the sum of factor income, private transfers and private pensions, meaning the income before any taxes and government transfers but including private pensions (LIS, 2019b; Mahler and Jesuit, 2006).

Second, income after taxes, social insurance benefits, and universal benefits (siti) results from the addition of market income (mi), social insurance transfers and universal benefits, while subtracting taxes and social contributions paid (LIS, 2019b). This income is before social assistance is included (LIS, 2019b). Third, income after social assistance benefits (sa) is before taxes, social insurance, and universal benefits (LIS, 2019b).

---

\(^1\) The LIS variables’ denomination for these countries are cl03, cl06, cl17, co07, co16, mx98, mx08, and mx18, respectively. “For convenience, throughout our documentation, LIS uses short country/territory names – i.e., those that are commonly used in cross-national academia – in conjunction with standard two-letter ISO abbreviations. This convention does not imply the expression of any opinion whatsoever on the part of LIS concerning the legal status of any country or territory. LIS recognizes that several supranational organizations designate country/territory names which may differ from the ones that LIS uses” (LIS, 2020b).
Fourth, disposable household income (dhi) is the measure of post-tax and post-transfer income and is obtained by deducting “from total gross income the most important taxes that are paid directly by households at the source: income taxes and mandatory social insurance contribution” (Mahler & Jesuit, 2006, p.488). The total gross income measures the effect of direct state redistribution via taxes and transfers (Mahler & Jesuit, 2006; LIS, 2019b). Gross income includes “all income from employment and self-employment, property income, occupational pensions, state and private cash transfers, as well as other cash incomes” (Smeeding, O’Higgins & Rainwater, 1990).

Fifth, the Gini coefficient is calculated, obtaining some insight into the effect of government programs on inequality and using each of these four income concepts. This dissertation uses Stata in order to calculate the Gini index. The command used is: ineqdec0 [varname] [w=<weight>] (LIS, 2019b). This command includes zero values when it calculates the Gini coefficient (LIS, 2019b), which is the desirable result.

Subsequently, fiscal redistribution is obtained by focusing on the absolute change rather than the relative differences between the Gini components of market income and disposable income (Mahler & Jesuit, 2006; Pontusson, 2005). This formulation is more straightforward and “allows to compare the extent of state redistribution in a way that is not affected by trends in market income inequality” (Mahler & Jesuit, 2006, p. 488). Then, transfer reduction and taxes reduction are calculated.

Finally, this dissertation shows the reduction in the Gini index of private income inequality owing to CCTs (hi45) in order to determine the impact of CCTs on inequality. Following the method used by Mahler and Jesuit (2006), this dissertation measures the market income Gini including CCTs in all of the countries under examination. Then it reduces the
market income, obtaining the reduction of CCTs on the market income Gini index. The formula is: CCTs impact = (mi + hi45) – mi

**Decomposition of the Gini Index in One Period of Time.**

The impact of CCTs on inequality in a specific period of time is measured by the decomposition of the Gini index, taking as a reference Shorrocks (1982), Lerman and Yitzhaki (1985), and López-Feldman (2006). According to Stark, Taylor, and Yitzhaki (1986), the influence of any income source upon total income inequality depends on the importance of the income source with respect to total income, the distribution of the income source, and the correlation between the income source and the distribution of total income (López-Feldman, 2006).

We are often interested in which of the different income sources, or components of a measure of well-being, are primarily responsible for the observed level of inequality. . . . If one of the income sources were raised by 1 percent, what would happen to overall inequality? The simplest and most commonly used procedure is to compute the measure of inequality using the initial data, and then to simulate a new distribution (for instance, by raising wages by 1 percent) and recompute the measure of inequality. (Haughton & Khandker, 2009, p. 161)

This model decomposes the Gini coefficients of Chile (2017), Colombia (2016), and Mexico (2018). In order to measure the decomposition of the Gini index in one period of time, this dissertation uses the command *descogini* in Stata.

$$G = \sum_{k=1}^{K} S_k G_k R_k$$

“Where $S_k$ represents the share of source $k$ in total income, $G_k$ is the source Gini corresponding to the distribution of income from source $k$, and $R_k$ is the Gini correlation of income from source $k$ with the distribution of total income” (López-Feldman, 2006, p. 107). This dissertation analyzes CCTs, meaning the source $k$ is the variable hi45. Therefore, the effect that a 1% change in
The total current income household is decomposed into six categories: labor income, capital income, pensions, public social benefits (excluding pensions and CCTs), CCTs, and private transfers.

**The Decomposition of the Gini Index in Multiple Periods of Time.**

The impact of CCTs on inequality comparing different periods of time is measured by the decomposition of the Gini index, taking as a reference Kakwani (1980), Shorrocks (1982), Lerman and Yitzhaki (1985, 1994), Yitzhaki (1994, 1999), Wodon and Yitzhaki (2002), Soares et al. (2007), and Medina and Galvan (2008). “The Gini coefficient can be easily decomposed according to factor components. The resulting expression depends only upon the concentration coefficient of each component and its weight in total income” (Soares et al., 2007, p. 8).

Therefore, the decomposition of the Gini index can be used to establish the contribution of each source of income, such as CCTs, to the total change in the Gini index, through the analysis of their weight and concentration. This model decomposes the Gini coefficients of Chile (2003, 2006, and 2017), Colombia (2007 and 2016), and Mexico (1998, 2008, and 2018).

The calculation of the decomposition of the Gini index is based on the following equations (Soares et al., 2007:8-9):

Equation 1:

\[ G = \sum_{k} C_k S_k \]

\[ C_k = \text{Concentration coefficient} \]
\[ S_k = \text{Share in total income} \]
\[ C_k S_k = \text{Contribution to total inequality} \]

Equation 2:
\[ \Delta G = \sum_k (C_k - G) \Delta S_k + S_k \Delta C_k \]

\[ S_k \Delta C_k = \text{Concentration effect} \]
\[ (C_k - G) \Delta S_k = \text{Composition effect} \]
\[ (C_k - G) \Delta S_k + S_k \Delta C_k = \text{Concentration and composition} \]

When the concentration index of CCTs is lower than the Gini index of total income, it can be claimed that CCTs are contributing to diminishing inequality (Soares et al., 2007). Conversely, when the concentration coefficient is bigger than the Gini index, the variable measured by the concentration coefficient increases inequality. A negative concentration coefficient also has an inequality-reducing impact and suggests that the measured variable is more concentrated among the poorest. Finally, the product of the concentration coefficient of an income source and its share shows the total contribution of the source to the overall inequality as measured by the Gini index (see equation 1).

Total current income household is decomposed into six categories: labor income, capital income, pensions, public social benefits (excluding pensions and CCTs), CCTs, and private transfers. Thus, decomposing CCTs shows the impact of CCTs in the middle of their time of execution (2006 – 2008) and the point of time afterwards is the closest available (2016 – 2017).

The analysis of the decomposition of changes in inequality (see equation 2) shows the decomposition and the concentration effects.

The decomposition points out the contribution of the share (composition effect) and the concentration of each source of income to the total change in the Gini index. By dividing the contribution of the change in each factory by the change in the Gini index, we derive
the contribution of the factor as a percentage of the total change in inequality (Soares et al., 2007, p. 15)

In sum, the LIS data decompose the income in some sources, including CCTs, which are essential to identify the contribution of CCTs to a change in inequality. These variables are available for Chile, Colombia, and Mexico.

In conclusion, the hypotheses established to develop the analysis of the impact of CCTs on inequality in Latin America are:

Hypothesis 1: CCTs have diminished inequality in Latin America

**Impact on Poverty: Gini Index-Net Income and Counterfactual Analysis**

The main reasons to measure poverty are keeping poor people on the agenda, targeting domestic and worldwide interventions, monitoring and evaluating projects and policy interventions, and evaluating the effectiveness of institutions (Haughton & Khandker, 2009). First, this dissertation measures and compares the poverty reduction of Chile, Colombia, and Mexico, comparing poverty on market income and disposable income and getting the impact of CCTs on poverty. Then this dissertation measures the impact of CCTs on poverty using a counterfactual method.

**Effects of Taxes, Public Transfers, and CCTs on Poverty.**

This dissertation separates CCTs from public transfers in order to measure the impact of CCTs on poverty. This model calculates and compares two poverty measures: the Headcount Ratio and the Interval Measure. These poverty measures are used in Chile (2017), Colombia (2016), and Mexico (2018), which are the most recent and available data, based on the market income and the disposable income. On the one hand, as was explained in chapter 3, the Headcount Ratio is defined as the percentage of the country’s population of individuals living in poor households. “The headcount ratio (H) measures poverty incidence (i.e., the number or
proportion of poor people), but gives every person equal weight no matter how far they fall from the poverty line” (LIS, 2010, p. 28). The poverty line is defined as 50% of the median equivalized income. On the other hand, Interval Measure (HI) is the product of Headcount Ratio and the Income Gap (Atkinson, 1987 and Brady, 2003), which measures poverty intensity or depth.

This model uses LIS data based on the works of Kakwani (1997), Shorrocks (1982), Lerman and Yitzhaki (1985), Stark, Taylor, and Yitzhaki (1986), and compares the following income concepts: market income (mi); income after taxes, social insurance benefits, and universal benefits (siti); income after social assistance benefits (sa); and disposable income (dhi). These concepts were defined above.

In order to calculate the Headcount Ratio, which was explained above, this dissertation uses the following command to get the median equivalized income (LIS, 2019b):

```stata
sum edhi_tb [w=hpopwgt*nhhmem], de
```

Because the median will be stored in r(p50), a dummy variable is created to define the poverty line as 50% of the median equivalized (LIS, 2019b). The command used is:

```stata
gen byte poor=(edhi_tb<r(p50)*0.5)
```

Then, the Interval Measure rates are calculated. Before calculating the Interval Measure, the Income Gap must be calculated. Subsequently, the Interval Measure is obtained by multiplying the poverty Headcount by Income Gap.

Finally, the poverty reduction is obtained by focusing on the absolute change of poverty rates rather than the relative differences between the poverty components of market income and disposable income (Mahler & Jesuit, 2006; Pontusson, 2005).
Counterfactual Analysis of CCTs and Poverty.

Using the same methodology used by Stampini and Tornarolli (2012), this dissertation determines the percentage of the transfers in beneficiaries’ total income and estimates the impact in poverty “by comparing estimated incomes with a no-CCT counterfactual in which incomes are recalculated net of the transfers” (Stampini & Tornarolli, 2012, p. 11). According to Stampini and Tornarolli (2012), the implementation of this concept involves selecting a measure of welfare (for household or individual) and a poverty line.

Even though the literature recommends the use of consumption, the LIS and most of the household surveys in Latin America include questions on income. The LIS (2019b) allows for creating a relative poverty line based on the level and distribution of household disposable income in the total population. “Households are classified as poor or non-poor on the basis of whether their income is lower or higher than the relative poverty line” (LIS, 2019b, p. 25).

The poverty measures selected in this model are the Headcount Ratio and the Interval Measure. Therefore, a counterfactual with no-CCTs of Chile, (1997), Colombia (2016), and Mexico (1998) is developed, taking into consideration the Headcount Ratio and the Interval Measure, separately. These counterfactual analyses establish the impact of CCTs on poverty.

In conclusion, the hypotheses established to develop the analysis of the impact of CCTs in Latin America are:

Hypothesis 2: CCTs have diminished poverty in Latin America

Efficiency: Targeting Beneficiaries

Using the methodologies developed by Smeeding and Jesuit (2002), Smeeding (2005), and Mahler & Jesuit (2006), this dissertation determines the magnitude of redistribution of CCTs in
Chile, Colombia, and Mexico, analyzing the quality of the targeting mechanisms used for the inclusion of beneficiaries.

Following the method used by Mahler and Jesuit (2006), a summary index of the degree to which transfers are targeted towards low-income groups is calculated, applying Kakwani’s (1986) ‘index of concentration’ to transfers and using a program to produce target efficiency values provided by Joakim Palme; this index “takes on the value of -1.0 if the poorest person gets all transfer income, 0 if everybody gets an equal amount, and .1.0 if the richest person gets all transfer income” (Mahler & Jesuit, 2006, p. 292).

Kakwani’s (1986) ‘index of concentration’ only applies to households that are poor, meaning that its results show if CCTs target the poorest of the poor. This dissertation analyzes the efficiency of CCTs in Chile (2003, 2006, and 2017), Colombia (2007, 2016), and Mexico (1998, 2008, and 2018).

**Descriptive Multivariate, Cross-National Model**

The last part of this dissertation describes a cross-sectional/time-series model. The countries of analysis remain Chile, Colombia, and Mexico. The dependent variables are the measures of impact of CCTs on inequality and poverty, and CCTs efficiency, which were explained above. Moreover, the independent variables are the main features of CCTs explained in chapter 1, which are budget and coverage in terms of beneficiaries. Finally, this dissertation descriptively analyzes some control economic and institutional variables that could have caused the diminishing of inequality and poverty. This dissertation describes the cross-national model, but it does not develop it because of the narrow size of the sample (n=8). Nevertheless, the results for these countries can easily be compared to results for other countries in Latin America and elsewhere.
The key contribution of the LIS is that, while it does not collect any data on its own, it does allow for meaningful comparison in a way that was not previously possible.

Before summarizing the variables of this descriptive model, this section describes the control variables: GDP growth and economic globalization, the degree of intervention by the government (ideological orientation), participation and political voice and corruption.

The economic variables are the GDP and economic globalization. The larger the GDP, the larger the fiscal redistribution, meaning the larger the investment on CCTs. Furthermore, some theories show there is little evidence of the relationship between the three major modes of international integration—trade, foreign direct investment, and international financial flows—and the fiscal redistribution and more evidence of the relationship between financial openness and earnings inequality (Mahler, 2004).

In addition, institutional variables can explain this relationship: the degree of intervention by government (ideological orientation), participation and political voice, and corruption. The ideological orientation of governments may influence the degree of redistribution that include CCTs. The degree of intervention by governments to reduce inequality among and within societies differs from social democratic and right-wing parties. While social democratic corporatism is characterized by high levels of government expense, high rates of economic growth, and high deficits, right-wing parties have fewer progressive public policies, low rates of economic growth, and low deficits (Garrett, 1998).

Perhaps the most commonly addressed question from a power resources perspective is whether the partisan orientation of national governments is an important determinant of the extent of fiscal redistribution. Despite several decades of intensive work on this topic, the verdict is still in doubt. While a number of empirical studies have found support for the importance of partisanship, others have found little or no relationship. One reason for this lack of consensus may be that in nearly all of the empirical work on the topic the dependent variable is not fiscal redistribution per se but rather the size of social benefit programmes relative to the economy. (Mahler & Jesuit, 2006, pp. 501-02)
Moreover, participation and political voice could also affect the reduction of poverty and inequality in Latin America. According to the median voter theorem, the more unequal the income distribution, the more the median voter has to gain through the joint action of taxes and transfers, and the more likely the citizen is to vote for higher taxes and transfers (Mahler, 2010). Low-income groups and disadvantaged educated people are less likely to vote and participate in politics in the American democracy (Schlozman et al., 2012). Furthermore, public officials are more responsive to high-income groups than to average income groups and low-income groups (Kenworthy, 2008). The level of democracy measures participation and political voice.

Finally, corruption is a variable that can affect the fiscal redistribution and therefore the impact of CCTs on poverty and inequality. Social programs are used by politicians as a form of patronage in order to build political machines (Fukuyama, 2011), taking advantage of national programs with large number of beneficiaries for exclusively particular interests. Politicians can use CCTs to influence beneficiaries to vote, using the data to invite them to attend meetings of the official party that is in power.

In sum, the variables of the descriptive cross-national model are:

- **Dependent variables**
  - CCTs’ inequality reduction: based on the impact of CCTs on market income.
  - CCTs’ poverty reduction: measured by the counterfactual analysis of CCTs using the Interval Measure.
  - CCTs’ efficiency: measured by the results of the Kakwani’s (1986) ‘index of concentration’.

- **Independent variables**
  - CCTs’ budget: based on the public investment in CCTs as a percentage of GDP.
- CCTs’ coverage: measured by individuals in recipient households of CCTs as a percentage of total population.

- Control variables (described above)
  - Economic globalization.
  - Ideological orientation of governments.
  - Participation and political voice.
  - Corruption.
CHAPTER 5

IMPACT OF CONDITIONAL CASH TRANSFERS ON INEQUALITY

As was reviewed in chapter 2, most of the literature has focused on the effectiveness of CCTs and the impact of CCTs on poverty but not as much as the impact of CCTs on inequality and the efficiency of CCTs. The main purpose of this chapter is to analyze the impact of CCTs on inequality, using the Gini index.

This dissertation develops three models in order to measure the impact on inequality. The first model analyzes effects of taxes, public transfers, and CCTs on inequality, taking into consideration the fiscal redistribution. The second and third models are based on the method of the decomposition of the Gini index, which were explained in chapter 4. The first model calculates the Gini coefficients of Chile, Colombia, and Mexico based on current income and income concept comparisons, calculating the impact of CCTs on the market income Gini index in the years of analysis. The second model decomposes the Gini index, analyzing the last year of data available for each country. The third model decomposes the Gini coefficients and analyzes the impact of CCTs on inequality, comparing different periods of time. This third model looks to if and how CCTs decreased inequality in Chile from 2003 to 2017, in Colombia from 2007 to 2016, and in Mexico from 2008 to 2018.

The first model analyzes three different periods of time: before CCTs (Mexico 1998 and Chile 2003), in the middle of the implementation (Chile 2006, Colombia 2007, Mexico 2008), and the most recent and available data (Colombia 2016, Chile 2017, and Mexico 2018). The
second model only takes into consideration the most recent and available data. As it was mentioned in chapters 3 and 4, even though LIS data has most of the variables for the years of analysis, some data form the national household surveys and the LIS have not been included in some specific years. For this reason, the main analysis surveys according to the LIS waves and the available data are from Chile (2003, 2006, and 2017), Colombia (2007, 2016), and Mexico (1998, 2008, and 2018). Finally, the third model analyzes two different periods of time: before CCTs (Mexico 1998 and Chile 2003) and the most recent and available data (Colombia 2016, Chile 2017, and Mexico 2018).

**Effects of Taxes, Public Transfers, and CCTs on Inequality**

Before analyzing the decomposition of the Gini index, this dissertation measures and compares the fiscal redistribution of Chile, Colombia, and Mexico. In addition, this dissertation shows the impact of CCTs on the market income Gini index. Market income is the money that families earn either through work or through government aid programs prior to taxation. This section uses the Gini index to measure inequality. As was mentioned in chapter 3, the Gini index ranges from 0, in which all recipients receive exactly the same income to 1.0, in which one recipient receives all income (Mahler & Jesuit, 2006).

As was mentioned in chapter 4, most of the data does not include universal transfers except from Mexico in 2018, affecting the Gini after taxes, social insurance benefits, and universal benefits. For this reason, this Gini is not going to be included in the analysis. Even though the analysis of this Gini is not included, the future inclusion of the variable universal transfers in LIS data and the national household surveys of Colombia and Chile conducted by the governmental authorities is highly recommend in order to homogenize the data among the countries. This is one of the conclusions that this dissertation shows and expands upon in the
final chapter. Moreover, LIS data of Colombia and Mexico (1998) does not include private pensions. The absence of these data affects the analysis of market income. Nevertheless, it does not affect the results of fiscal redistribution because private pensions are neither taken into consideration in the Gini after taxes and all transfers (disposable household income).

**Impact of Taxes, Public Transfers, and CCTs on Inequality.**

As was reviewed in chapter 4, public transfers are a redistribution of income and wealth by the government, such as subsidies; CCTs are considered a public transfer. For this reason, this dissertation separates CCTs from public transfers in order to measure the impact of CCTs on inequality. Market income is the sum of factor income, private transfers, and private pensions, meaning the income before any taxes and government transfers but including private pensions (LIS, 2019b; Mahler & Jesuit, 2006); factor income is the “[s]um of cash and non-cash income from labor and income from capital” (LIS, 2020b).

Moreover, disposable household income (dhi) is the measure of post-tax and post-transfer income and is obtained by deducting “from total gross income the most important taxes that are paid directly by households at the source: income taxes and mandatory social insurance contribution” (Mahler & Jesuit, 2006, p. 488). These variables are important because they show the impact of public transfers and CCTs on inequality in market income, which means that the analysis of these variables show the impact of the intervention of government on inequality in market income through taxes and public transfers (redistribution).

Table 5 offers data on a number of aspects of fiscal redistribution, such as a number of aspects of the Gini index before taxes and government transfers (market income) as well as after taxes and all transfers (disposable household income). Moreover, it offers the impact of public transfers and taxes on the Gini of market income, which shows the impact of governmental
intervention on inequality. The expected result is that redistribution by the government impacts
the reduction of the Gini index of market income.

Table 5. Gini Index and Fiscal Redistribution

<table>
<thead>
<tr>
<th>Dataset</th>
<th>Gini index before taxes and government transfers – market income (mi)</th>
<th>Gini index after taxes and all transfers – disposable household income (dhi)</th>
<th>Fiscal redistribution (dhi-mi)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chile 2003</td>
<td>0.550</td>
<td>0.506</td>
<td>0.044</td>
</tr>
<tr>
<td>Chile 2006</td>
<td>0.521</td>
<td>0.477</td>
<td>0.044</td>
</tr>
<tr>
<td>Chile 2017</td>
<td>0.522</td>
<td>0.461</td>
<td>0.061</td>
</tr>
<tr>
<td>Colombia 2007</td>
<td>0.574</td>
<td>0.562</td>
<td>0.012</td>
</tr>
<tr>
<td>Colombia 2016</td>
<td>0.500</td>
<td>0.477</td>
<td>0.023</td>
</tr>
<tr>
<td>Mexico 1998</td>
<td>0.515</td>
<td>0.506</td>
<td>0.009</td>
</tr>
<tr>
<td>Mexico 2008</td>
<td>0.493</td>
<td>0.475</td>
<td>0.018</td>
</tr>
<tr>
<td>Mexico 2018</td>
<td>0.452</td>
<td>0.429</td>
<td>0.023</td>
</tr>
</tbody>
</table>

Note 1: ch96, col07, col16, mx96’ data do not include private pensions.
Note 2: All the dataset, excepting mx18, does not include universal benefits.
Source: Luxembourg Income Study (LIS) Database, http://www.lisdatacenter.org (Chile, Colombia, and Mexico; {1998 - 2018}). Luxembourg: LIS.

A historical analysis for each country brings the following conclusions based on the results in Table 5. In 20 years, Mexico has diminished the Gini index of disposable household income in 0.077 due to the reduction of the Gini index of market income and the increase of fiscal redistribution. Mexico increased fiscal redistribution from 1998 to 2008 by 0.009 and from 2008 to 2018 by 0.005. This increase is parallel to the expansion of PROSPERA in terms of number of beneficiaries. The following subsections analyze the impact of PROSPERA on inequality.

On the other hand, Colombia has diminished the Gini index of disposable household income by 0.085 from 2007 to 2016. This decrease is due to the reduction of the Gini index of market income by 0.074 and the increase of fiscal redistribution by 0.011. Finally, Chile has
reduced the Gini index of disposable household income by 0.045 from 2003 to 2017. This decrease is due to the reduction of the Gini index of market income by 0.029 and the increase of fiscal redistribution by 0.017.

Table 5 shows that Chile’s (2017) fiscal redistribution is three times the fiscal distribution of Colombia in 2016 and Mexico in 2018, meaning Chilean government intervention through taxes and redistribution has a higher impact on inequality.

The most extensive overall fiscal redistribution occurs in Chile in 2017 while households in Colombia and Mexico experience the least extensive state redistribution. As can be seen in Table 5, while the Gini index went down 0.061 points from market income to disposable household income in Chile in 2017, the Gini index diminished 0.009 from market income to disposable household income in Mexico in 1998. In addition, the Gini index diminished 0.023 points in Colombia in 2016 and in Mexico in 2018.

The disposable household income is not only a product of state redistribution, but also a product of private sector income. While Chile’s Gini index of market income was 0.522 in 2017, Mexico’s Gini index was 0.452 in 2018, and Colombia’s Gini index was 0.500 in 2016. On the one hand, household’s income in Chile in 2017 is primarily a product of extensive state redistribution in which market income inequality is the most unequal among the three case studies, but after taxes and all transfers, Chile reaches and exceeds Colombia in 2016 and is close to that of Mexico in 2018. On the other hand, Mexico is a product of private sector income, having the lowest Gini index of market income among the cases studies. Nevertheless, Mexico’s Gini of disposable household income is equal only to Colombia and less than Chile because of its narrow egalitarian redistribution. Mexico’s Gini index of disposable household income was 0.429 in 2018, while Chile’s Gini index of disposable household income was 0.461 in 2017.
Conversely, Colombia in 2016 is the most unequal country among the three cases because the relatively inegalitarian distribution of its disposable income is more a result of limited state redistribution than of a highly inegalitarian distribution of private sector income; Colombia’s Gini index of disposable household income was 0.477 in 2016. Egalitarian distribution in Colombia is the same as Mexico, but its Gini index of market income is higher than Mexico.

In sum, Mexico has the lowest Gini index over time compared to Chile and Colombia, being very similar to Chile. Moreover, Chile has the highest Gini market income inequality over time. Nevertheless, Chile has a similar Gini index of disposable household income to Mexico because Chile has maintained the highest distribution over the years among the three case studies. Finally, Colombia is the most unequal country after government intervention through taxation and redistribution. Having done the analysis of fiscal redistribution, it is important to analyze the impact of CCTs on inequality.

**Impact of CCTs on Inequality of Market Income.**

This section measures the market income Gini index with CCTs added in order to calculate the impact of CCTs on inequality of market income. The expected result in this model is that CCTs impact the reduction of the Gini index of market income, which means that it is expected that CCTs diminish the Gini index after the intervention of government through taxes and redistribution. As was described in chapter 1, CCTs in Mexico started in 1997, in Colombia in 2001, and in Chile in 2002 (ECLAC, 2020).

Table 6 shows the market income, market income with CCTs, and the impact of CCTs on inequality of market income in all of the countries under examination. The impact of CCTs on inequality of market income is the result of the subtraction between the first and the second
variable and shows the contribution of CCTs from market income to disposable household income. A negative result of this impact means that CCTs reduce inequality. On the contrary, a positive result means that CCTs increase inequality. Chile’s CCTs, called the *Ethical Family Income Program*, has had the same impact on market income over the years, with a marginal reduction of 0.0003 Gini points in 2003, 2006, and 2017.

Conversely, Colombia’s *More Families in Action* has increased the positive impact of CCTs on inequality over the years. *More Families in Action* decreased the market income Gini index by 0.0001 Gini points in 2007 and 0.008 Gini points in 2016, meaning that CCTs in Colombia had a marginal impact on reducing inequality. Even though *More Families in Action* reduces inequality, this model shows that the impact is almost null. Finally, Mexico’s *Prosperity* increased the impact on inequality of the market income from 0.0016 in 1998 to 0.0104 in 2008, meaning that the program has increased its impact on reducing inequality. Nevertheless, *Prosperity* reduced its impact on market income from 0.0104 in 2008 to 0.0093 in 2018.

Table 6. Impact of CCTs on Inequality of Market Income in Chile, Colombia, and Mexico

<table>
<thead>
<tr>
<th>Country and year</th>
<th>Market Income (mi)</th>
<th>Market Income including CCTs</th>
<th>CCTs Impact on Inequality of Market Income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chile 2003</td>
<td>0.5504</td>
<td>0.5501</td>
<td>-0.0003</td>
</tr>
<tr>
<td>Chile 2006</td>
<td>0.5210</td>
<td>0.5207</td>
<td>-0.0003</td>
</tr>
<tr>
<td>Chile 2017</td>
<td>0.5219</td>
<td>0.5216</td>
<td>-0.0003</td>
</tr>
<tr>
<td>Colombia 2007</td>
<td>0.5737</td>
<td>0.5736</td>
<td>-0.0001</td>
</tr>
<tr>
<td>Colombia 2016</td>
<td>0.5003</td>
<td>0.4923</td>
<td>-0.0080</td>
</tr>
<tr>
<td>Mexico 1998</td>
<td>0.5145</td>
<td>0.5129</td>
<td>-0.0016</td>
</tr>
<tr>
<td>Mexico 2008</td>
<td>0.4927</td>
<td>0.4823</td>
<td>-0.0104</td>
</tr>
<tr>
<td>Mexico 2018</td>
<td>0.4517</td>
<td>0.4424</td>
<td>-0.0093</td>
</tr>
</tbody>
</table>

Source: Luxembourg Income Study (LIS) Database, http://www.lisdatacenter.org (Chile, Colombia, and Mexico; {1998 - 2018}). Luxembourg: LIS.
In sum, the impact of CCTs on inequality of market income in Chile, Colombia, and Mexico has had limited results with the exception of Mexico in 2008. This second model shows that CCTs have not had a robust impact on inequality of the market income Gini index. I expected that CCTs would have produced an important impact on inequality of market income. As was described in chapter 1, one objective of CCTs is the reduction of inequality. Large CCT programs in terms of targeting (number of beneficiaries) and budget, such as Mexico and Colombia have a greater impact than those smaller programs, such as Chile. Nevertheless, the impact of CCTs on inequality of market income is still not robust.

**Decomposition of the Gini Index in One Period of Time**

The impact of CCTs on inequality in a specific period of time is measured by the decomposition of the Gini index. Chapter 4 explains that the influence of any income source upon total income inequality depends on the share of the income source with respect to total income ($S_k$), the distribution of the source or source Gini ($G_k$), and the Gini correlation ($R_k$) between the income source and the distribution of total income (López-Feldman, 2006).

$$G = \sum_{k=1}^{K} S_k G_k R_k$$

The importance of measuring the share of the income ($S_k$) is that it shows how the CCTs are with respect to total income. If CCTs’ share of current income is large, it may impact inequality; conversely, if CCTs’ share of current income is small, is unlikely to have an impact on inequality. Furthermore, the importance of source Gini ($G_k$) is that it establishes how CCTs are equally or unequally distributed. If the CCT’s Gini is close to 1, it means that a CCT is unequally distributed and they have an impact on inequality. This impact could be positive (reducing inequality) or negative (increasing inequality), meaning this variable shows if CCTs have an impact on inequality, but it does not establish if the impact is positive or negative. Conversely, if
the CCT’s Gini is close to 0, it means that a CCT is equally distributed and it does not have any impact on inequality. Moreover, the importance of the Gini correlation ($R_k$) is how CCTs and the distribution of total income are correlated. If the Gini correlation of CCTs with the total household income is close to 0, it means CCTs target mostly low-income households; conversely if it is close to 1, it means CCTs target mostly high-income households.

If an income source represents a large share of total income, it may potentially have a large impact on inequality. However, if income is equally distributed ($G_k = 0$), it cannot influence inequality, even if its magnitude is large. On the other hand, if this income source is large and unequally distributed ($S_k$ and $G_k$ are large), it may either increase or decrease inequality, depending on which households (individuals) at which points in the income distribution earn it. If the income source is unequally distributed and flows disproportionately toward those at the top of the income distribution ($R_k$ is positive and large), its contribution to inequality will be positive. However, if it is unequally distributed but targets poor households (individuals), the income source may have an equalizing effect on the income distribution. (López-Feldman, 2006, p. 107)

The total current household income is decomposed into six categories: labor income, capital income, pensions, public social benefits (excluding pensions and CCTs), CCTs, and private transfers. The data is taken from the LIS. Total current income household is the income of a household that includes market income and government intervention through taxation and transfers.

As was reviewed in chapter 4, public transfers are a redistribution of income and wealth by the government, such as subsidies; CCTs are considered as a public transfer; labor income is “cash payments and value of goods and services received from dependent employment, as well as profits/losses and value of goods from self-employment, including own consumption” (LIS 2020b); capital income is “cash payments from property and capital (including financial and non-financial assets), including interest and dividends, rental income and royalties, and other capital income from investment in self-employment activity” (LIS, 2020b).
In addition, private transfers are “cash transfers and value of in-kind goods and services of a private nature that do not involve any institutional arrangement between the individual and the government or the employer, including transfers provided by non-profit institutions, other private persons/households, and other bodies in the case of merit-based education transfers” (LIS 2020b); public social benefits excluding pensions are the public transfers without considering pensions. Moreover, this dissertation creates the variable public transfers excluding pensions and CCTs, which is the variable public social benefits excluding pensions and CCTs in order to separately analyze the impact of CCTs. These variables are important because they comprise the total household income and are the sources of a micro analysis based on the LIS and the household surveys of Chile and Colombia. The results of this analysis are national.

This model decomposes the Gini coefficients of Chile (2017), Colombia (2016), and Mexico (2018) in order to show the impact that an increase of 1% in CCTs will have on total income inequality. The expected result in this model is that an increase of 1% in CCTs will reduce inequality. The larger the CCTs in terms of budget and targeting, the larger the impact on inequality, meaning it is expected that a 1% increase in Chile’s Ethical Family Income Program and Colombia’s More Family in Action will have a bigger impact on inequality than a 1% increase of Mexico’s Prosperity. In addition, it is expected that the distribution of the CCTs ($G_k$) will be close to 1, meaning CCTs will be unequally distributed and, therefore, CCTs will impact inequality. Finally, it is expected the Gini correlation of CCTs ($R_\kappa$) with the total household income will be close to zero, meaning CCTs target mostly poor households.

Tables 7, 8, and 9 offer data from Chile, Colombia, and Mexico on the shares of these sources of income in the current income ($S_k$), the distribution in terms of inequality of these
sources of income ($G_k$), and the Gini correlation of each income source with the total household income ($R_k$).

Table 7. Gini Decomposition by Income Source, Chile 2017

<table>
<thead>
<tr>
<th>Source</th>
<th>Sk</th>
<th>Gk</th>
<th>Rk</th>
<th>Share</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor</td>
<td>0.814</td>
<td>0.579</td>
<td>0.947</td>
<td>0.916</td>
<td>0.102</td>
</tr>
<tr>
<td>Capital</td>
<td>0.029</td>
<td>0.973</td>
<td>0.750</td>
<td>0.043</td>
<td>0.014</td>
</tr>
<tr>
<td>Pension</td>
<td>0.116</td>
<td>0.757</td>
<td>0.135</td>
<td>0.024</td>
<td>-0.092</td>
</tr>
<tr>
<td>Pub Transfer</td>
<td>0.012</td>
<td>0.797</td>
<td>-0.031</td>
<td>-0.001</td>
<td>-0.012</td>
</tr>
<tr>
<td>CCTs</td>
<td>0.001</td>
<td>0.967</td>
<td>0.050</td>
<td>-0.000</td>
<td>-0.001</td>
</tr>
<tr>
<td>Private</td>
<td>0.029</td>
<td>0.915</td>
<td>0.324</td>
<td>0.017</td>
<td>-0.011</td>
</tr>
<tr>
<td>Current income</td>
<td></td>
<td></td>
<td>0.488</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Luxembourg Income Study (LIS) Database, http://www.lisdatacenter.org (Chile; {2017}). Luxembourg: LIS.

Table 8. Gini Decomposition by Income Source, Colombia 2016

<table>
<thead>
<tr>
<th>Source</th>
<th>Sk</th>
<th>Gk</th>
<th>Rk</th>
<th>Share</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor</td>
<td>0.778</td>
<td>0.542</td>
<td>0.899</td>
<td>0.771</td>
<td>-0.007</td>
</tr>
<tr>
<td>Capital</td>
<td>0.042</td>
<td>0.955</td>
<td>0.654</td>
<td>0.053</td>
<td>0.011</td>
</tr>
<tr>
<td>Pension</td>
<td>0.115</td>
<td>0.924</td>
<td>0.690</td>
<td>0.149</td>
<td>0.034</td>
</tr>
<tr>
<td>Pub Transfer</td>
<td>0.004</td>
<td>0.939</td>
<td>0.445</td>
<td>0.004</td>
<td>-0.001</td>
</tr>
<tr>
<td>CCTs</td>
<td>0.007</td>
<td>0.898</td>
<td>-0.188</td>
<td>-0.002</td>
<td>-0.010</td>
</tr>
<tr>
<td>Private</td>
<td>0.053</td>
<td>0.899</td>
<td>0.266</td>
<td>0.026</td>
<td>-0.027</td>
</tr>
<tr>
<td>Current income</td>
<td></td>
<td></td>
<td>0.492</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Luxembourg Income Study (LIS) Database, http://www.lisdatacenter.org (Colombia; {2016}). Luxembourg: LIS.
Table 9. Gini Decomposition by Income Source, Mexico 2018

<table>
<thead>
<tr>
<th>Source</th>
<th>Sk</th>
<th>Gk</th>
<th>Rk</th>
<th>Share</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Labor</td>
<td>0.776</td>
<td>0.523</td>
<td>0.904</td>
<td>0.838</td>
<td>0.064</td>
</tr>
<tr>
<td>Capital</td>
<td>0.012</td>
<td>0.984</td>
<td>0.667</td>
<td>0.019</td>
<td>0.015</td>
</tr>
<tr>
<td>Pension</td>
<td>0.081</td>
<td>0.914</td>
<td>0.534</td>
<td>0.090</td>
<td>0.044</td>
</tr>
<tr>
<td>Pub Transfer</td>
<td>0.021</td>
<td>0.916</td>
<td>0.422</td>
<td>0.018</td>
<td>-0.005</td>
</tr>
<tr>
<td>CCTs</td>
<td>0.011</td>
<td>0.871</td>
<td>-0.203</td>
<td>-0.004</td>
<td>-0.036</td>
</tr>
<tr>
<td>Private</td>
<td>0.099</td>
<td>0.725</td>
<td>0.241</td>
<td>0.040</td>
<td>-0.089</td>
</tr>
<tr>
<td>Current income</td>
<td>0.438</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Luxembourg Income Study (LIS) Database, http://www.lisdatacenter.org (Mexico; {2018}). Luxembourg: LIS.

CCTs does not represent a large share of total household income, particularly in Chile. While Mexico’s CCTs represents 0.011 of current income, Colombia’s CCTs 0.007. Conversely, Chile’s CCTs represents 0.001 of current income. A small CCTs' share of current income may be unlikely to have an impact on inequality.

In addition, the decomposition of the Gini index shows that CCTs of Chile, Colombia, and Mexico are unequally distributed because G_k is close to 1. The distribution of Chile’s CCTs is the highest unequally distributed variable (G_k equals 0.967). It is followed by Colombia’s CCTs with a G_k that equals 0.898, and Mexico’s CCTs of G_k that equals 0.871. According to these results, Ethical Family Income Program, More Families in Action, and Prosperity could impact inequality because the beneficiaries are not equally distributed in terms of their total income. Nevertheless, the CCTs’ Gini (G_k) does not show if the impact is positive (reducing inequality) or negative (increasing inequality), meaning CCTs in Chile, Colombia, and Mexico may increase or decrease inequality, depending on the income groups targeted.
The Gini correlation of CCTs with the total household income is close to zero, meaning CCTs target mostly poor households. Nonetheless, there are differences among the programs. While Chile’s *Ethical Family Income Program* has a Gini correlation of current income that shows that most of the CCTs’ beneficiaries are poor households ($R_k = 0.050$), Mexico shows a correlation that does not exclusively target poor households ($R_k = -0.203$). Conversely, Colombia is in between these last cases, in which the correlation of $R_k$ equals -0.188, meaning that a large portion of beneficiaries are poor households. In sum, Chile’s CCTs mostly targets poor households. Therefore, Chile’s *Ethical Family Income Program* has a better chance of having an equalizing effect on income distribution than Colombia’s *More families in Action* and Mexico’s *Prosperity*. Nevertheless, as was explained above, Chile’s CCTs do not have a great share and their size is small, which made the good results of targeting much less robust.

The decomposition of the Gini index of Chile (1997), Colombia (1996), and Mexico (1998) shows that an increase of 1% in CCTs decreases the Gini index of total household income. The decomposition of the Gini index in Mexico shows that a 1% increase in CCTs, all else being equal, decreases the Gini coefficient of total household income by 0.036%. Similarly, in Colombia, a 1% increase in CCTs decreases the Gini index of total household income by 0.010%, meaning Mexico’s *Prosperity* has a slightly major impact than *More Families in Action* in Colombia. The results of *More Families in Action* and *Prosperity* are positive results, but it does not seem enough regarding the investment and the number of people targeted. While *Prosperity* targeted 24.13% of the total population and executed a budget equivalent to 0.35% of the GDP in 2018, *More Families in Action* targeted 21.61% of the total population and executed a budget equivalent to 0.29% of the GDP in 2016.
The decomposition of the Gini index in Chile shows that a 1% increase in CCTs, all else being equal, decreases the Gini coefficient of disposable household income by 0.001%, which is practically no impact on inequality. This absence of impact of Ethical Family Income Program on inequality could be caused by the size of the program: 4.4% of the total population and 0.14% of the GDP in 2017.

In conclusion, Chile’s Ethical family Income Program is highly unequally distributed—meaning CCTs are not equally distributed among low, medium, and high-income groups—and targets poor households, which suggests an impact on inequality. Nevertheless, its limited magnitude results in a negligible impact on inequality. In the case of Colombia, More Families in Action is also unequally distributed and targets poor households (less than Chile); even though Colombia’s CCTs is larger than Chile’s, it only shares 0.007 of the current income. Therefore, More Families in Action does not have a significant impact on inequality. Moreover, Mexico’s Prosperity is also highly unequally distributed, and it is the largest share of current income among the cases. Nevertheless, it does not exclusively target poor households. Therefore, Mexico’s CCTs has a negligible impact on inequality.

Finally, the decomposition of the Gini index in one period of time shows that the impact of CCTs on inequality is extremely limited. If CCTs represent a large share of current income and mostly target poor households, it may potentially have a significant impact on inequality.

**The Decomposition of the Gini Index in Multiple Periods of Time**

This model examines the magnitude of the changes in overall inequality in Chile, Colombia, and Mexico. The decomposition of the Gini Index in multiple periods of time shows the factor decomposition of changes in inequality of Chile from 2003 to 2017, Colombia from 2007 to 2016, and Mexico from 1998 to 2018, establishing the concentration effect and the composition
effect. While the concentration effect points out the concentration of CCTs to the total change in the Gini index, the composition effect shows the contribution of the changes in the share.

Inequality was and still is exceedingly high in all three countries. Table 10 shows changes of 0.020, 0.060, and 0.072 of the Gini indexes of Chile, Colombia, and Mexico respectively. While Mexico has a reduction on the Gini index of 14.06% from 1998 to 2018 and Colombia of 10.92% from 2007 to 2016, Chile only has a reduction on the Gini index of 3.97% from 2003 to 2017.

The total current household income is decomposed into six categories: labor income, capital income, pensions, public social benefits (excluding pensions and CCTs), CCTs, and private transfers. The data is taken from the LIS and its importance was explained in the model above.

**Share and distribution of each income source.**

Chapter 4 explained that the decomposition of the Gini index can be used to establish the contribution of each source of income, such as CCTs, to the total change in the Gini index, through the analysis of their weight ($S_k$) and concentration ($C_k$).

The calculation of the decomposition of the Gini index is based on the following equation (Soares et al., 2007:8-9):

$$G = \sum_{k} C_k S_k$$

: $C_k = \text{Concentration coefficient}$

: $S_k = \text{Share in total income}$

: $C_k S_k = \text{Contribution to total inequality}$

The share in total income weight ($S_k$) measures the weight of each income source with respect to total income. The concentration coefficient ($C_k$) is the product of the distribution of
CCTs—which is the source Gini ($G_k$)—and the Gini correlation ($R_k$), which were both explained in the model above. Finally, the product of the concentration coefficient ($C_k$) and the total income weight ($S_k$) measures the contribution of each income source to total inequality.

The importance of measuring the share of the income ($S_k$) is that it shows how the income source is with respect to total income. If the share of an income source is large, it may impact inequality; conversely, if the share of an income source is small, it is unlikely to have an impact on inequality (Soares et al., 2007). Furthermore, the importance of the concentration effect ($C_k$) is that it establishes if an income source contributes to the rise or the reduction of inequality. “When the concentration index of a source is higher than the Gini index of total income, we claim that this source is contributing to increase inequality” (Soares et al., 2007:12). Conversely, if the concentration index of a source is smaller than the Gini index of total income, the income source is contributing to inequality reduction. In addition, this model calculates the percentage contribution of each source to total inequality by dividing the concentration index over the Gini index (Soares et al., 2007). The expected result is that Colombia’s More Families in Action and Mexico’s Prosperity will have a positive contribution on reducing inequality, because of the large size of both CCT programs in terms of budget and targeting. In addition, it is expected that Chile’s Ethical Family Income Program will contribute less to reducing inequality than CCTs in Mexico and Colombia because of its small size in budget and targeting.
Table 10. Decomposition of the Gini Index and Gini Coefficients in Chile, Colombia, and Mexico

\[ G = \sum C_k S_k \]

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gini index - G_k</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labor</td>
<td>0.555</td>
<td>0.548</td>
<td>0.552</td>
<td>0.492</td>
<td>0.509</td>
<td>0.438</td>
</tr>
<tr>
<td>Capital</td>
<td>0.746</td>
<td>0.730</td>
<td>0.629</td>
<td>0.625</td>
<td>0.693</td>
<td>0.656</td>
</tr>
<tr>
<td>Pension</td>
<td>0.218</td>
<td>0.102</td>
<td>0.677</td>
<td>0.638</td>
<td>0.459</td>
<td>0.488</td>
</tr>
<tr>
<td>Pub Transfer</td>
<td>0.009</td>
<td>0.025</td>
<td>0.567</td>
<td>0.418</td>
<td>0.481</td>
<td>0.387</td>
</tr>
<tr>
<td>CCTs</td>
<td>-0.344</td>
<td>0.048</td>
<td>0.462</td>
<td>-0.169</td>
<td>-0.035</td>
<td>-0.177</td>
</tr>
<tr>
<td>Private</td>
<td>0.278</td>
<td>0.296</td>
<td>0.291</td>
<td>0.239</td>
<td>0.203</td>
<td>0.175</td>
</tr>
<tr>
<td><strong>Concentration Coefficient C_k</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labor</td>
<td>0.827</td>
<td>0.814</td>
<td>0.798</td>
<td>0.778</td>
<td>0.886</td>
<td>0.776</td>
</tr>
<tr>
<td>Capital</td>
<td>0.027</td>
<td>0.029</td>
<td>0.038</td>
<td>0.042</td>
<td>0.016</td>
<td>0.012</td>
</tr>
<tr>
<td>Pension</td>
<td>0.114</td>
<td>0.116</td>
<td>0.110</td>
<td>0.115</td>
<td>0.037</td>
<td>0.081</td>
</tr>
<tr>
<td>Pub Transfer</td>
<td>0.013</td>
<td>0.012</td>
<td>0.007</td>
<td>0.004</td>
<td>0.001</td>
<td>0.021</td>
</tr>
<tr>
<td>CCTs</td>
<td>0.001</td>
<td>0.001</td>
<td>0.000</td>
<td>0.007</td>
<td>0.004</td>
<td>0.011</td>
</tr>
<tr>
<td>Private</td>
<td>0.018</td>
<td>0.029</td>
<td>0.046</td>
<td>0.053</td>
<td>0.057</td>
<td>0.099</td>
</tr>
<tr>
<td><strong>Share in Current Income S_k</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labor</td>
<td>0.459</td>
<td>0.446</td>
<td>0.436</td>
<td>0.379</td>
<td>0.469</td>
<td>0.367</td>
</tr>
<tr>
<td>Capital</td>
<td>0.020</td>
<td>0.021</td>
<td>0.024</td>
<td>0.026</td>
<td>0.011</td>
<td>0.008</td>
</tr>
<tr>
<td>Pension</td>
<td>0.025</td>
<td>0.012</td>
<td>0.075</td>
<td>0.073</td>
<td>0.017</td>
<td>0.040</td>
</tr>
<tr>
<td>Pub Transfer</td>
<td>0.000</td>
<td>0.000</td>
<td>0.004</td>
<td>0.002</td>
<td>0.000</td>
<td>0.008</td>
</tr>
<tr>
<td>CCTs</td>
<td>0.000</td>
<td>0.000</td>
<td>0.000</td>
<td>-0.001</td>
<td>0.000</td>
<td>-0.002</td>
</tr>
<tr>
<td>Private</td>
<td>0.005</td>
<td>0.009</td>
<td>0.013</td>
<td>0.013</td>
<td>0.012</td>
<td>0.017</td>
</tr>
</tbody>
</table>

As can be seen in Table 10, labor income is the most important source of income in the
three case studies. Labor income’s share in current income varies from 78% in Mexico in 2018
and Colombia in 2016 to 89% in Mexico in 1998. Moreover, the importance of labor income has
decreased over time. The main reasons for a reduction in labor income varies from country to
country, which is caused by the increase of other sources of income. Mexico, which had the
biggest decrease in labor income of 11% from 1998 to 2018, is due to the increase of pensions
(4.4%); private transfers (4.2%); and public social benefits excluding pensions and CCTs (2%).
Moreover, Colombia and Chile suffered a decrease of labor income of 2% from 2007 to 2016
and 1.3% from 2003 to 2017, respectively. This trend was associated with a very small increase
in capital income, pension, and general assistance.

The second most important source of income varies across countries: pensions in Chile
and Colombia and private transfers in Mexico. On the one hand, the pensions share in current
income has slightly increased in all three countries, having the highest increase in Mexico of
4.4%. The pensions share in current income has an increase of 0.5% from 2007 to 2016 in
Colombia and 0.2% from 2003 to 2017 in Chile. On the other hand, the share of private transfers
in current income has also slightly increased in the three countries. Mexico’s share of private
transfers in current income increased 4.2% from 1998 to 2018; Chile’s private transfers share
increased 1.1% from 2003 to 2017, and Colombia’s private transfers share marginally increased
0.7% from 2007 to 2016.

Conversely, CCTs are the least important income source in all three countries and the
income source that has changed the least. Regarding the analysis of the income sources’ share,
Table 10 shows that CCTs are the least concentrated income source in Chile, Colombia, and
Mexico. CCTs’ share in Chile in 2003 and 2017 was the same: 0.1% of total income. CCTs’
share in Colombia in 2007 was 0% of total income and it increased to 0.7% in 2016. Nevertheless, they remained the smallest share. CCTs’ share in Mexico in 1998 was 0.4% of total income and 1.1% in 2018. As was mentioned, if the share of an income source is small, it is unlikely to have an impact on inequality (Soares et al., 2007). For this reason, one can state that CCTs in Chile, Colombia, and Mexico may not contribute to impacting inequality because they are the smallest share of total income. Chile’s Ethical Family Income Program is about one tenth the size of the Colombia’s More Families in Action and Mexico’s Prosperity.

The concentration coefficients presented in Table 10 show how each income source is distributed across the population (Soares et al., 2007) and the effects of each income source on inequality varies from country to country. Table 10 shows that the high concentration of capital income contributes to the rise in inequality in all three countries. The concentration coefficient of capital income in Chile was 0.746 in 2003 and 0.730 in 2017, which were higher than the Gini index of 0.508 and 0.488 respectively. Similarly, the concentration coefficient of capital income in Colombia was 0.629 in 2007 and 0.625 in 2016, which were higher than the Gini index of 0.522 and 0.492, respectively. Comparably, the concentration coefficient of capital income in Mexico was 0.693 in 1998 and 0.656 in 2018, which were higher than the Gini index of 0.509 and 0.438 respectively.

Moreover, the high concentration of labor income contributes to the rise in inequality in Chile and Mexico. The concentration coefficient of labor income in Chile was 0.555 in 2003 and 0.548 in 2017, which were higher than the Gini index of 0.508 in 2003 and 0.488 in 2017. Similarly, the concentration coefficient of labor income in Mexico was 0.530 in 1998 and 0.473 in 2018, which were higher than the Gini index of 0.509 and 0.438, respectively. Conversely, labor income contributes to a reduction of inequality in Colombia. The concentration coefficient
of labor income in Colombia was 0.547 in 2007 and 0.487 in 2016, which were smaller than the Gini index of 0.552 and 0.492, respectively.

The pensions concentration coefficient shows different results in Table 10. While pensions contributed to reducing inequality in Chile in 2003 and 2017 and Mexico in 1998, it contributed to raising inequality in Mexico in 2018 and Colombia in 2007 and 2016. The concentration coefficient of pension in Chile was 0.218 in 2003 and 0.102 in 2017, which were smaller than the Gini index of 0.508 in 2003 and 0.488 in 2017. Conversely, the concentration coefficient of pension in Colombia was 0.677 in 2007 and 0.638 in 2016, which were higher than the Gini index of 0.552 and 0.492, respectively. Finally, pensions in Mexico changed from contributing to the reduction in inequality in 1998 to increasing inequality in 2018. The concentration coefficient of pension in Mexico was 0.459 in 1998, which was smaller than the Gini index of 0.509. Conversely, the concentration coefficient of pension in Mexico was 0.488 in 2018, which was higher than the Gini index of 0.438.

Finally, Table 10 shows the contribution of each income source to total inequality.

Moreover, Table 11 shows the percentage contribution of each source to total inequality by dividing the concentration index over the Gini index. As can be seen, labor income is the highest variable that contributes to total inequality, ranging from 77% in Colombia in 2016 to 92% in Mexico in 1998. Pension is the second highest variable that contributes to total inequality and capital income the third. Conversely, CCTs did not contribute (0%) to inequality in Chile in 2003 and 2017, Colombia in 2007 and 2016, or Mexico in 1998 and 2018. In sum, CCTs in Chile, Colombia, and Mexico have not contributed to total inequality, but neither have they contributed to a reduction in inequality.
Table 11. Contribution of income source to total inequality in Chile, Colombia, and Mexico

\[ G = \sum C_k S_k \]

<table>
<thead>
<tr>
<th>Gini index - ( G_k )</th>
<th>Income Source - ( k )</th>
<th>Chile 2003</th>
<th>Chile 2017</th>
<th>Colombia 2007</th>
<th>Colombia 2016</th>
<th>Mexico 1998</th>
<th>Mexico 2018</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Value</td>
<td>%</td>
<td>Value</td>
<td>%</td>
<td>Value</td>
<td>%</td>
</tr>
<tr>
<td>G = ( \sum C_k S_k )</td>
<td></td>
<td>0.508</td>
<td>100</td>
<td>0.488</td>
<td>100</td>
<td>0.552</td>
<td>100</td>
</tr>
<tr>
<td>Gini index - ( G_k )</td>
<td>Labor</td>
<td>0.459</td>
<td>90</td>
<td>0.446</td>
<td>91</td>
<td>0.436</td>
<td>79</td>
</tr>
<tr>
<td>C ( k ) S ( k )</td>
<td>Capital</td>
<td>0.020</td>
<td>4</td>
<td>0.021</td>
<td>4</td>
<td>0.024</td>
<td>4</td>
</tr>
<tr>
<td>Contribution to</td>
<td>Pension</td>
<td>0.025</td>
<td>5</td>
<td>0.012</td>
<td>2</td>
<td>0.075</td>
<td>13</td>
</tr>
<tr>
<td>Total Inequality</td>
<td>Pub Transfer</td>
<td>0.000</td>
<td>0</td>
<td>0.000</td>
<td>0</td>
<td>0.004</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>CCTs</td>
<td>0.000</td>
<td>0</td>
<td>0.000</td>
<td>0</td>
<td>0.000</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Private</td>
<td>0.005</td>
<td>1</td>
<td>0.009</td>
<td>2</td>
<td>0.013</td>
<td>2</td>
</tr>
</tbody>
</table>

Chapter 4 explained that the decomposition of the Gini index can be used to establish the concentration effect of an income source \((S_k \Delta C_k)\), the composition effect of an income source \(((C_k - G) \Delta S_k)\), and the concentration and contribution of an income source to total inequality \(((C_k - G) \Delta S_k + S_k \Delta C_k)\). The calculation of the decomposition of the Gini index is based on the following equation (Soares et al., 2007:8-9):

\[
\Delta G = \sum_k (C_k - G) \Delta S_k + S_k \Delta C_k
\]

- \(S_k \Delta C_k = \) Concentration effect
- \((C_k - G) \Delta S_k = \) Composition effect
- \((C_k - G) \Delta S_k + S_k \Delta C_k = \) Concentration and composition

The concentration effect shows “the concentration of each source income to the total change in the Gini index” (Soares et al., 2007, p. 15). Additionally, “By dividing the contribution of the change in each factor by the change in the Gini index, we derive the contribution of the factor as a percentage of the total change in inequality” (Soares et al., 2007:15). The higher the percentage of an income source’s concentration effect, the higher its contribution to the total change in inequality. Conversely, the smaller the percentage of an income source’s concentration effect, the smaller its contribution to the total change in inequality. In addition, the composition effect shows the contribution of the changes in the share. The higher the composition effect of an income source, the higher the impact of an income source on inequality.

Moreover, the concentration and composition effect measure the Gini points that each income source contributes to the total change in inequality. The higher the percentage of an income source’s concentration and composition effect, the higher its contribution to the total change in inequality. Conversely, the smaller the percentage of an income source’s concentration
and composition effect, the smaller its contribution to the total change in inequality. Moreover, if the percentage of an income source’s concentration and composition effect is positive, the value of contribution to the total change would be negative, meaning that the income source contributes to reducing inequality. Conversely a negative percentage means an increase in inequality. Finally, the size of the value of an income source’s concentration and composition effect depends not only on the percentage of the income source’s concentration effect and its share, but also on the total change of the Gini index from one period of time to other, which means that a high percentage of an income source’s concentration-and-composition-effect and a high share in the total change in inequality do not necessarily mean a high value in Gini points to the total change in inequality.

Table 12 shows the factor decomposition of changes in inequality from 2003 to 2017 in Chile, 2007 to 2016 in Colombia, and 1998 to 2018 in Mexico. The expected result is that the CCTs’ concentration and composition effect on Mexico and Colombia will be higher than Chile because of the size of budget and targeting. It is expected that the percentage of concentration and composition effect in the three cases will be positive, meaning the value will be negative, contributing to reducing inequality. Moreover, it is expected that the percentage and the value of concentration and composition effect of Colombia’s More Families in Action and Mexico’s Prosperity will be high and robust. Conversely, a small percentage and value in Chile’s Ethical Family Income Program is expected.

Table 12 shows the results in terms of the concentration and composition effect of each income source in Chile, Colombia, and Mexico. While labor income was the most significant income source causing changes in inequality in Colombia and Mexico, pension was the most significant income source causing change in Chile. Labor income was responsible for 77.6% of
the total change in inequality in Colombia and 70.4% in Mexico. In Chile, labor income was 29.4%, being the second income source responsible for the total change in inequality. Nevertheless, the contribution of labor income to the reduction of inequality is still small. Labor income reduced 0.006 Gini points in Chile from 2003 to 2017, 0.047 Gini points in Colombia from 2007 to 2016, and 0.050 Gini points in Mexico from 1998 to 2018.

In addition, pensions were responsible for 71.4% of the total change in inequality in Chile, 10% in Mexico, and 7.2% in Colombia. Pensions were the first income source responsible for the change in inequality in Chile and the second in Colombia and Mexico. Pensions reduced 0.014 Gini points in Chile from 2003 to 2017, 0.004 Gini points in Colombia from 2007 to 2016, and 0.007 Gini points in Mexico from 1998 to 2018.

Furthermore, private income was the third highest income source responsible for -25.8% and -14.2% of the total change in inequality in Chile and Mexico, respectively. Therefore, private income increased inequality by 0.005 Gini points in Chile from 2003 to 2017 and in Mexico by 0.010 Gini points from 1998 to 2018.

Regarding the impact of CCTs on inequality, Table 12 shows that CCTs’ contribution to the total change in inequality were insignificant. CCTs were responsible for 7.7% and 6.8% of the total change in inequality in Colombia and in Mexico, respectively, which represented a reduction of 0.005 Gini points in Colombia from 2007 to 2016 and 0.005 Gini points in Mexico from 1998 to 2018. Conversely, the CCTs were responsible for -1.9% of the total change in inequality in Chile, which represented a value of 0.000 Gini points. In sum, CCTs had a marginal impact on the total change in inequality in Chile, Colombia, and Mexico.
Table 12. Decomposition of the Gini Index and Changes in the Gini Coefficients in Chile, Colombia, and Mexico

\[
\Delta G = \sum_k (C_k - \bar{G}) \Delta S_k + \bar{S}_k \Delta C_k
\]

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value</td>
<td>%</td>
<td>Value</td>
<td>%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>-0.020</td>
<td>100</td>
<td>-0.060</td>
<td>100</td>
</tr>
</tbody>
</table>

|                      | Labor       | 26.0 | -0.047    | 77.7 | -0.047    | 66.1 |
|                      | Capital     | 2.3  | 0.000     | 0.3  | -0.001    | 0.7  |
|                      | Pension     | 65.7 | -0.004    | 7.4  | 0.002     | -2.4 |
|                      | Pub Transfer| -1.0 | -0.001    | 1.4  | -0.001    | 1.5  |
|                      | CCTs        | -1.9 | -0.002    | 3.7  | -0.001    | 1.5  |
|                      | Private     | -2.1 | -0.003    | 4.3  | -0.002    | 3.1  |

|                      | Labor       | 3.4  | 0.000     | -0.2 | -0.003    | 4.3  |
|                      | Capital     | -1.8 | 0.000     | -0.7 | -0.001    | 1.0  |
|                      | Pension     | 5.7  | 0.000     | -0.3 | -0.009    | 12.4 |
|                      | Pub Transfer| -0.7 | 0.000     | -0.8 | -0.001    | 1.1  |
|                      | CCTs        | 0.0  | -0.002    | 4.0  | -0.004    | 5.3  |
|                      | Private     | -23.7| 0.001     | -1.4 | 0.012     | -17.3|

|                      | Labor       | 29.4 | -0.047    | 77.6 | -0.050    | 70.4 |
|                      | Capital     | 0.4  | 0.000     | -0.4 | -0.001    | 1.7  |
|                      | Pension     | 71.4 | -0.004    | 7.2  | -0.007    | 10.0 |
|                      | Pub Transfer| -1.7 | 0.000     | 0.5  | -0.002    | 2.6  |
|                      | CCTs        | -1.9 | -0.005    | 7.7  | -0.005    | 6.8  |
|                      | Private     | -25.8| -0.002    | 2.9  | 0.010     | -14.2|


In conclusion, these results show that pensions and labor income were the most important income source for reducing inequality in Chile and Mexico. While pensions were responsible for 71.4% of inequality reduction in Chile and 10% in Mexico, labor income was responsible for...
29.4% of inequality reduction in Chile and 70.4% in Mexico. Conversely, private transfers contributed to 25.8% of inequality increase in Chile and 14.2% in Mexico. Similarly, labor income was the most important income source for reducing inequality in Colombia, representing 77.6% of inequality reduction. Nevertheless, the second most important factor of reducing inequality in Colombia was CCTs, which represents 7.7% of inequality reduction. In Mexico, CCTs were responsible for 6.8% reduction of inequality.

In sum, labor income was the most significant variable in the share of current income and the contribution to total inequality, while CCTs were less significant in both of them. CCTs have marginally increased their share in current income in Colombia and Mexico, but it had not increased in Chile. This model suggests that targeting the poorest has improved over the years in all three countries. The success of Colombia and Mexico in reducing inequality was not exclusively due to CCTs; labor income was the most important. Chile has not decreased inequality in recent years, but it is the least unequal country among the three cases. In addition, CCTs in Chile has been small in amounts and beneficiaries, having an irrelevant impact. CCTs was not responsible for any change in reducing inequality in Chile. CCTs contribute to diminishing inequality in Mexico and Colombia, representing the third and the second income source in reducing inequality, respectively. Nonetheless, the real amount of inequality reduction is marginal, with 0.005 Gini points in Colombia from 2007 to 2016 and 0.005 Gini points in Mexico from 1998 to 2008.

This chapter has analyzed the impact of CCTs on inequality. The impact of CCTs on inequality has been marginal. There lacks robust evidence to support the thesis that CCTs have diminished inequality. The next chapter analyzes the impact of CCTs on poverty, the efficiency of CCTs, and describes some control variables.
CHAPTER 6
IMPACT ON POVERTY AND THE EFFICIENCY OF CONDITIONAL CASH TRANSFER PROGRAMS

As was reviewed in chapter 2, most of the literature has focused on the impact of Conditional Cash Transfer programs (CCTs) on poverty, but it has not discussed sufficiently the efficiency of CCTs. This chapter examines the impact of CCTs on poverty in Chile, Mexico, and Colombia by developing two main models. The first one analyzes the effects of taxes, public transfers, and CCTs on the poverty Headcount Ratio of market income. The second model develops a counterfactual analysis measuring the impact of CCTs on two measures of poverty: the Headcount Ratio and the Interval Measure. Finally, this chapter analyzes the efficiency of CCTs applying Kakwani’s (1986) ‘index of concentration,’ which was explained in chapter 3.

Impact on Poverty: Gini Index-Net Income

This chapter analyzes the effect of CCTs on poverty in market income, comparing the results of two different measures: the poverty Headcount Ratio and the Interval Measure. Market income is the money that families earn either through work or through government aid programs prior to taxation.

Impact of Taxes, Public Transfers, and CCTs on Poverty.

Before the development of the counterfactual analysis of CCTs and Poverty, this section measures the poverty reduction of Chile, Colombia, and Mexico and compares the poverty rates
of market income and disposable household income, using the poverty Headcount Ratio. As was reviewed in chapter 3, “the Headcount ratio . . . measures poverty incidence (i.e., the number or proportion of poor people), but gives every person equal weight no matter how far they fall from the poverty line” (LIS, 2012, p. 28).

**Impact of taxes and public transfers on poverty.** This model separates CCTs from public transfers in order to measure the impact of CCTs on poverty. In addition, this section measures and compares the poverty reduction of Chile, Colombia, and Mexico, comparing poverty of market income (mi) and disposable household income (dhi), measuring the effects of taxes and public transfers on poverty. As was explained in chapter 4, market income is the sum of factor income, private transfers, and private pensions, meaning the income before any taxes and government transfers but including private pensions (LIS, 2019b; Mahler & Jesuit, 2006); factor income is the “[s]um of cash and non-cash income from labour and income from capital” (LIS, 2020b). Moreover, disposable household income (dhi) is the measure of post-tax and post-transfer income, meaning after the intervention of government through taxation and transfers.

As was reviewed in chapter 4, public transfers are a redistribution of income and wealth by the government, such as subsidies; CCTs are considered as a public transfer. For this reason, this dissertation separates CCTs from public transfers in order to measure the impact of CCTs on inequality. These variables are important because they show the impact of public transfers and CCTs on poverty in market income, which means that the analysis of these variables shows the impact of the intervention of government on poverty of market income through public transfers.

Table 13 offers data on a number of aspects of the poverty Headcount Ratio before taxes and government transfers as well as after taxes and all transfers. Moreover, it offers the impact of public transfers and taxes on poverty of market income, which shows the impact of
governmental intervention on poverty Headcount Ratio, meaning the impact of taxes and public transfers (redistribution) on this poverty measure. While poverty Headcount of market income (mi) is the percentage of people who are in poverty before governmental intervention through taxes and all transfers, poverty Headcount Ratio of disposable household income (dhi) is the percentage of people who are in poverty after taxes and all transfers. This information is important because it reflects the impact on poverty of government through taxation and redistribution (public transfers) of market income and establishes the poverty Headcount Ratio after all transfers and taxations.

Table 13. Poverty Headcount Reduction in Chile, Colombia, and Mexico (Data in Percentage)

<table>
<thead>
<tr>
<th>Dataset</th>
<th>Poverty Headcount before taxes and government transfers – market income (mi)</th>
<th>Poverty Headcount after taxes and all transfers – disposable household income (dhi)</th>
<th>Poverty Headcount reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chile 2003</td>
<td>27.44</td>
<td>19.35</td>
<td>8.09</td>
</tr>
<tr>
<td>Chile 2006</td>
<td>26.56</td>
<td>18.49</td>
<td>8.07</td>
</tr>
<tr>
<td>Chile 2017</td>
<td>26.71</td>
<td>16.01</td>
<td>10.01</td>
</tr>
<tr>
<td>Colombia 2007</td>
<td>25.22</td>
<td>23.24</td>
<td>1.98</td>
</tr>
<tr>
<td>Colombia 2016</td>
<td>23.48</td>
<td>20.06</td>
<td>3.42</td>
</tr>
<tr>
<td>Mexico 1998</td>
<td>24.13</td>
<td>22.02</td>
<td>2.11</td>
</tr>
<tr>
<td>Mexico 2008</td>
<td>24.88</td>
<td>19.67</td>
<td>5.21</td>
</tr>
<tr>
<td>Mexico 2018</td>
<td>22.37</td>
<td>16.04</td>
<td>6.33</td>
</tr>
</tbody>
</table>

Note 1: ch96, col07, col16, mx96’ data do not include private pensions
Note 2: All the dataset, excepting mx18, does not include universal benefits
Source: Luxembourg Income Study (LIS) Database, http://www.lisdatacenter.org (Chile, Colombia, and Mexico; {1998 - 2018}). Luxembourg: LIS.

The expected result is that redistribution by the government impacts the reduction of the poverty Headcount of market income, meaning that government redistribution efforts are expected to reduce poverty by increasing the disposable income of households. As can be seen in Table 13, the most extensive overall poverty reduction occurred in Chile in 2017. Chile’s (2017)
poverty reduction is almost three and 1.5 times the poverty reduction of Colombia in 2016 and Mexico in 2018, respectively, meaning the intervention of government in Chile through taxes and redistribution has a higher impact on poverty. While Chile’s poverty Headcount reduction was 10.01 in 2017, Mexico’s poverty reduction was 6.33 in 2018, and Colombia’s poverty reduction was 3.42 in 2016.

A historical analysis for each country brings the following conclusions. In 20 years, Mexico has diminished the poverty Headcount of disposable household income by 5.98% from 1998 to 2018 because of the increment in poverty reduction from 2.11% in 1998 to 6.33% in 2018 and the decrease of the poverty Headcount of the market income in 1.76% from 1998 to 2018. This decrease of poverty Headcount is parallel to the expansion of PROSPERA / Opportunities in terms of number of beneficiaries. In nine years, Colombia has diminished the poverty Headcount of disposable household income in 3.18% from 2007 to 2016. This decrease is caused by the decrease of the poverty Headcount of the market income in 1.74% and the increment in poverty reduction from 1.44% from 2007 to 2016. Finally, Chile has decreased the poverty Headcount reduction of disposable household income in 3.34% from 2003 to 2017. This reduction is due to the decrease of the poverty Headcount of market income in 0.73% and the increase of the poverty Headcount reduction in 1.92% in the same period of time.

While the poverty Headcount Ratio was reduced 10.01% from market income to disposable household income in Chile in 2017, the poverty Headcount Ratio diminished 6.33% from market income to disposable household income in Mexico in 1998. In addition, the poverty Headcount ratio diminished 3.42% in Colombia in 2016. Therefore, Chile has done much better at poverty reduction than Colombia and Mexico.
The poverty Headcount of disposable income is not only a product of state redistribution but also of market income. While Chile’s poverty Headcount of market income was 26.71 in 2017, Mexico’s poverty Headcount was 22.37 in 2018, and Colombia’s poverty Headcount was 23.48 in 2016. On the one hand, household’s income in Chile (2017) is primarily a product of extensive state redistribution in which the poverty Headcount is the highest rate among the three case studies, but after taxes an all transfers, Chile reaches and exceeds Colombia (2016) and Mexico (2018). Chile (2017) diminished the poverty Headcount in 10.01 points from market income to disposable household income. On the other hand, Colombia (2016) had the higher rate of poverty Headcount on disposable household income among the three case studies because the relatively high poverty Headcount Ratio of its disposable household income is more a result of limited state redistribution than of a highly negative distribution among the poor of private sector income. Table 13 shows that Colombia’s poverty Headcount of disposable household income was 20.06 in 2016. In addition, Mexico (2018) diminishes poverty Headcount in 6.33 points from market income to disposable household income. Even though Mexico (2018) has the smallest poverty Headcount of market income among the three countries, its poverty Headcount of disposable household income is higher than Chile because of its narrow poverty reduction through taxes and transfers. Mexico’s poverty Headcount of disposable household income was 16.04 in 2018 while Chile’s poverty Headcount of disposable household income was 16.01 in 2017.

In sum, Chile has the lowest poverty Headcount of disposable household income over time compared to Mexico and Colombia. Even though Chile has the highest poverty Headcount of disposable household income over time, Chile achieves the lowest poverty Headcount Ratio over the other two case studies, meaning Chile has the better reduction of the poverty Headcount.
after taxes and redistribution. In addition, Mexico has the lowest poverty Headcount of market income, but its poverty reduction after taxes and transfers has less impact on poverty than in Chile. Finally, Colombia has the highest poverty Headcount after government intervention through taxation and redistribution. Having done the analysis of poverty reduction from market income to disposable household income, it is important to analyze the impact of CCTs on poverty.

**Impact of CCTs on poverty of market income.** Poverty Headcount of market income (mi) is the percentage of people who are in poverty before governmental intervention through taxes and all transfers. This section measures the poverty Headcount Ratio of the market income adding CCTs in order to calculate the impact of CCTs on poverty of market income. The expected result in this model is that CCTs impact the reduction of the national poverty Headcount Ratio of market income, which means that it is expected that CCTs diminish the national poverty Headcount Ratio after the intervention of government through taxes and redistribution. Moreover, it is expected that the impact of CCTs on poverty are greater than the impact of CCTs on inequality because a cash transfer for poor households could let the beneficiaries rise above the poverty line easier than reduce the income gap with the richest households. In addition, it is expected that CCTs in Mexico and Colombia have a greater impact on poverty than CCTs in Chile because the first two have larger programs in terms of beneficiaries and budget.

Finally, it is expected that *More Families in Action* and *Prosperity* show better results in reducing poverty in recent years because of the increase of their budget and targeting (number of beneficiaries) through the years. For the same reason, it is expected that Chile has a similar result through the years because *Ethical Family Income* has not had a significant increase of budget
and targeting. As was described in chapter 1, CCTs in Mexico started in 1997, in Colombia in 2001, and in Chile in 2002 (ECLAC, 2020).

Table 14 shows components in the following columns: i) the poverty Headcount Ratio of market income, which is the percentage of people who are in poverty before governmental intervention through taxes and all transfers; ii) the poverty rate in market income adding CCTs, which is the percentage of people who are in poverty before governmental intervention through taxes and all transfers, but including the CCTs; and iii) the impact of CCTs on poverty in market income in all of the countries under examination. The impact of CCTs on poverty of market income is the result of the subtraction between the first and the second components and shows the contribution of CCTs from market income to disposable household income. This impact shows the percentage of poor people that CCTs help lift above the poverty line. A negative result of this impact means that CCTs reduces poverty. On the contrary, a positive result means that CCTs increase poverty.

Table 14. Impact of CCTs on Poverty of Market Income in Chile, Colombia, and Mexico

<table>
<thead>
<tr>
<th>Country and year</th>
<th>Poverty Headcount Ratio in market income (mi)</th>
<th>Poverty Headcount Ratio in mi including CCTs</th>
<th>CCTs impact on poverty Headcount Ratio in mi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chile 2003</td>
<td>27.435</td>
<td>27.412</td>
<td>-0.023</td>
</tr>
<tr>
<td>Chile 2006</td>
<td>26.560</td>
<td>26.513</td>
<td>-0.047</td>
</tr>
<tr>
<td>Chile 2017</td>
<td>26.706</td>
<td>26.649</td>
<td>-0.057</td>
</tr>
<tr>
<td>Colombia 2007</td>
<td>25.220</td>
<td>25.201</td>
<td>-0.019</td>
</tr>
<tr>
<td>Colombia 2016</td>
<td>23.477</td>
<td>22.034</td>
<td>-1.443</td>
</tr>
<tr>
<td>Mexico 1998</td>
<td>24.135</td>
<td>23.917</td>
<td>-0.218</td>
</tr>
<tr>
<td>Mexico 2008</td>
<td>24.876</td>
<td>23.304</td>
<td>-1.572</td>
</tr>
<tr>
<td>Mexico 2018</td>
<td>22.374</td>
<td>20.777</td>
<td>-1.597</td>
</tr>
</tbody>
</table>

Note 1: Poverty is measure by the Headcount Ratio.
Source: Luxembourg Income Study (LIS) Database, http://www.lisdatacenter.org (Chile, Colombia, and Mexico; {1998 - 2018}). Luxembourg: LIS.
Colombia’s *More Families in Action* in 2016 and Mexico’s *Prosperity* in 2008 and 2018 contributed to diminishing the poverty of market income by around 1.5 poverty Headcount points, meaning that 1.5% of the national population left poverty because of CCTs. It is notable how CCTs in Mexico and Colombia have improved over the years in diminishing poverty. While in 1998, *Prosperity* only reduced the poverty of market income in 0.218 points, it raised the impact in reducing poverty in 1.597 points in 2018. *More Families in Action* has had a greater increase in diminishing poverty, reducing the market income by 0.019 points in 2007 to 1.443 points in 2016.

These positive results in Colombia and Mexico could explain the increase of targeting and budget through the years. As was described in chapter 1, targeting is measured by the number of beneficiaries as percentage of the total population and budget is measured by the budget of CCTs as percentage of GDP. *Prosperity* increased targeting from 8.09% in 1998 (at that time the program was called *Opportunities*) to 24.13% of the total population in 2018 and the budget from 0.07% in 1998 to 0.35% of the GDP in 2018. *More Families in Action* increased targeting from 17% in 2007 to 21.61% of the total population in 2016 and the budget from 0.17% in 2007 to 0.29% of the GDP in 2016.

Conversely, Chile’s *Ethical Family Income Program*, has not had the same impact as in Colombia and Mexico, reducing the poverty Headcount Ratio of market income by 0.023% in 2003, 0.047% in 2006, and 0.057% in 2017. These poor results can also be explained by the small targeting and small budget of this program. *Ethical Family Income Program*’s targeting was 2.56% in 2003 and 4.4% of the total population in 2017. Similarly, *Ethical Family Income Program*’s budget was 0.02% in 2003 and 0.14% of the GDP in 2017. The results of the model
above showed that Chile reduced poverty more than Mexico and Colombia, which may explain that Chile has funded CCTs less than Colombia and Mexico because of their other poverty-reducing programs.

In sum, CCTs have had an impact on diminishing the poverty Headcount Ratio of market income. While Chile has reduced it by 0.05 points in 2017, Colombia and Mexico have reduced it by 1.5 points in 2016 and 2018, respectively. I expected that CCTs would have had an important impact on the poverty of market income. As was described in chapter 1, the main objective of CCTs is the reduction of poverty. In fact, CCTs have an impact on the poverty of market income, but it depends on the features of the CCTs. Large CCT programs, in terms of number of targeting (number of beneficiaries) and budget, such as Mexico and Colombia, have a greater impact than those smaller programs, such as in Chile. Therefore, Chile’s CCTs do not have an impact on poverty. Nevertheless, the results do not show that CCTs produced an important impact on poverty in all three countries.

In addition, if one compares the results of the impact of CCTs on the poverty of market income developed in this model with the results of the impact of CCTs on inequality of chapter 5, in which the same method was applied, one can conclude that CCTs have a greater impact on poverty that on inequality of market income. This conclusion is logical if one thinks about the impact of a cash transfer for a poor household, in which the amount of the transfer will help the household to achieve and overcome the poverty line. Nevertheless, the results show that few families who receive the transfer go over the poverty line. These results show that the design of CCTs programs should have not included the reduction of inequality as one of their main objectives or they are not sufficiently funded in order to reduce inequality or that money is not being sufficiently transferred from the rich to the poor.
Counterfactual Analysis of CCTs and Poverty.

A model to determine the impact of CCTs on poverty is based on the percentage of the transfers in beneficiaries’ total income and on the impact in poverty by comparing estimated incomes with a no-CCT counterfactual. This counterfactual analysis recalculates incomes and poverty rates by taking out CCTs. The following subsections develop a counterfactual analysis, taking into consideration two different poverty measures: poverty Headcount Ratio (H) and Interval Measure (HI).

Interval Measure (HI) is the product of Headcount Ratio and the Income Gap (Atkinson, 1987 and Brady, 2003); Income Gap measures poverty intensity or depth. Therefore, the Interval Measure analyzes “the depth of poverty among households that fall below half their country’s median income” (Jesuit & Mahler, 2006, p. 495). It is expected that the CCTs increase the incomes of the poor families in Chile, Colombia, and Mexico by reducing the poverty Headcount Ratio, meaning the percentage of poor people over the total population. In addition, it is also expected that CCTs will reduce the Interval Measure, meaning CCTs reduce the poor's average difference from the median of income.

Moreover, a difference between the results of the counterfactual analysis based on Headcount Ratio and the counterfactual analysis based on the Interval Measure is expected, meaning that it is probable that CCTs show a better impact on the Interval Measure than the Headcount Ratio. It is expected that CCTs show a better impact on the Interval Measure because the transfer should more effectively reduce the income gap or depth of poverty as opposed to lifting the beneficiaries above the poverty line. Finally, it is expected that large CCTs, such as in Mexico and Colombia, will have a significant impact on reducing poverty on both Headcount Ratio and Interval Measure.
**Counterfactual analysis based on Headcount Ratio.** This section looks at the impact of CCTs on the poverty Headcount Ratio by recalculating income sources and the poverty Headcount Ratio without CCTs. The difference between the observed poverty rate—which is the index based on Headcount Ratio including all the income sources—and the poverty rate without CCTs shows the impact of the CCTs on the poverty Headcount Ratio. Figure 7 shows that Chile’s CCTs in 2017 did not have a significant impact on poverty, and CCTs in Colombia in 2016 and in Mexico in 2018 had a marginal reduction on the poverty Headcount Ratio.

Figure 7. Impact of CCTs on the Poverty Headcount Ratio in Chile, Colombia and Mexico

![Impact of CCTs on Poverty Headcount Ratio](chart.png)

Note 1: Poverty Headcount Ratio refers to the percentage of all households whose equivalized income falls <50% of their country’s median.

In sum, the counterfactual analysis of deducting CCTs’ income from disposable household income and recalculating the poverty Headcount Ratio in Chile, Colombia, and Mexico shows that CCTs do not have the expected impact, they do not appear to reduce poverty in Chile and do not significantly reduce poverty in Colombia and Mexico.
These results can be reinforced and complemented if one analyzes the immediate effect on poverty of not making transfers, without giving households time to readjust their support strategies.

Counterfactual analysis base on Interval Measure. In order to calculate the Interval Measure (HI), one needs to obtain the Headcount Ratio (H) and the Income Gap (I). Chapter 3 explained that the Interval Measure is the product of the Headcount Ratio and the Income Gap (Atkinson, 1987 and Brady, 2003). Headcount Ratio measures the percentage of the country’s population of individuals living in poor households. The Income Gap measures poverty intensity or depth. Table 15 shows the observed poverty rate of Chile in 2017, Colombia in 2016, and Mexico in 2018 in three different measures: H, I, and IH.

Table 15. Observed Poverty Rate: Poverty Measures in Chile, Colombia, and Mexico

<table>
<thead>
<tr>
<th>Country / year</th>
<th>Headcount Ratio (H)</th>
<th>Income Gap (I)</th>
<th>Interval Measure (IH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chile (2017)</td>
<td>0.16</td>
<td>30.39</td>
<td>4.86</td>
</tr>
<tr>
<td>Colombia (2016)</td>
<td>0.20</td>
<td>40.38</td>
<td>8.07</td>
</tr>
<tr>
<td>Mexico (2018)</td>
<td>0.16</td>
<td>32.22</td>
<td>5.17</td>
</tr>
</tbody>
</table>


Moreover, Table 16 shows the measures of poverty (H, I, and IH) without counting CCTs in Chile, Colombia, and Mexico. This data is the counterfactual analysis to determine the impact of CCTs on poverty (Interval Measure).
Table 16. Counterfactual Analysis: Poverty without CCT in Chile, Colombia, and Mexico

<table>
<thead>
<tr>
<th>Country / year</th>
<th>Headcount Ratio (H)</th>
<th>Income Gap (I)</th>
<th>Interval Measure (IH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chile (2017)</td>
<td>0.16</td>
<td>30.43</td>
<td>4.88</td>
</tr>
<tr>
<td>Colombia (2016)</td>
<td>0.21</td>
<td>42.96</td>
<td>9.04</td>
</tr>
<tr>
<td>Mexico (2018)</td>
<td>0.17</td>
<td>35.68</td>
<td>6.15</td>
</tr>
</tbody>
</table>


Figure 8 uses the data form the two previous tables and shows the impact of CCTs by measuring the poverty Interval Measure of disposable household income—which includes income after the intervention of government through taxation and redistribution—in Chile, Colombia, and Mexico and is compared with a counterfactual analysis, which measures the poverty Interval Measure of disposable household income without CCTs. The counterfactual shows what the impact of CCTs is on the poverty Income Gap. Income Gap is the product of the Headcount Ratio and the Income Gap, which measures depth. “Depth is measured as the poor's average difference from (...) the median of income” (Brady, 2003, p. 128). In sum, the counterfactual analysis of poverty without CCTs establishes the impact of CCTs on poverty, which is measured by the percentage of the country’s population of individuals living in poor households and poverty depth.

Figure 8 shows that Chile’s CCTs in 2017 did not have a significant impact on poverty, and CCTs in Colombia in 2016 and in Mexico in 2018 had a marginal reduction on the poverty Interval Measure. Chile’s *Ethical Family Income Program* marginally reduced the poverty Interval Measure by only 0.013 in 2017. The observed rate in Chile in 2017 was 0.16, which
means 16% of the total population were poor people (2,947,070 people); the poverty Headcount Ratio without CCTs (counterfactual analysis) was also 16%, meaning CCTs in Chile did not have an impact on the poverty Headcount Ratio. Moreover, the Income Gap in Chile in 2017 was 30.39, which means that the income of the poor people was 30.39% under the median income; the Income Gap without CCTs was 30.43%. Therefore, CCTs contributed to reducing the Income Gap by 0.04%, which is a marginal result. In sum, it can be established that Ethical Family Income did not have an impact on the Interval Measure in 2017; the poverty observed rate of Ethical Family Income was 4.88 in 2017. This result did not have any substantial change with the Interval Measure without CCTs, which was 04.86 in 2017. This result is similar to the one presented in the last two models.

Figure 8. Impact of CCTs on the Poverty Interval Measure in Chile, Colombia and Mexico


1 The total population estimated in Chile in 2017 was 18,419,192, according to the National Institute of Statistics (Instituto Nacional de Estadísticas).
Colombia’s *More Family in Action* decreased the poverty Interval Measure by 0.97 points in 2016. Even though this is a positive impact on reduction of poverty, it is a marginal result. The observed rate in Colombia in 2016 was 0.20, which means 20% (9,552,169 people) of the total population were poor people; the poverty Headcount Ratio without CCTs was 21%, meaning *More Family in Action* had an impact on reducing poverty Headcount Ratio by 1%, which represents 477,608 people. Moreover, the Income Gap in Colombia in 2016 was 40.38, which means that the income of the poor people was 40.38% under the median income; the Income Gap without CCTs was 42.97%. As a result, *More Family in Action* reduced the Income Gap by 2.6%, which is bigger than Chile.

Mexico’s *Prosperity* diminishes the poverty Interval Measure by 0.98 points, which is also a marginal result. The observed rate in Mexico in 2018 was 0.16, which means 16% (20,052,447 people) of the total population were poor people; the poverty Headcount Ratio without CCTs was 17%, meaning *Prosperity* had an impact on reducing poverty Headcount Ratio by 1%, which represents 1,253,277 people. Moreover, the Income Gap in Mexico in 2018 was 32.22, which means that the income of the poor people was 32.22% under the median income; the Income Gap without CCTs was 35.68%. As a result, *More Family in Action* reduced the Income Gap by 3.4%, which is bigger than Chile and Colombia.

Therefore, it can be inferred that *Ethical Family Income* does not have any impact on the reduction of poverty Interval Measure. As was mentioned in the last model, this result can be caused by the size of targeting and the budget of this program, which is smaller than Mexico and Colombia. Therefore, chapter 7 will deepen this analysis in the descriptive cross-national variance model.

---

2 The population of Colombia in 2017 was 47,760,845 based on governmental sources (DANE, 2020a).
3 The total population estimated in Mexico in 2018 was 125,327,797, according to the Government of Mexico.
As a conclusion, the poverty Headcount Ratio and the poverty Interval Measure present differences in the counterfactual analysis. CCTs in Chile, Colombia, and Mexico do not have an impact on poverty, using the Headcount Ratio measure. On the contrary, the same analysis using the Interval Measure shows that CCTs in Colombia and Mexico have an impact. The difference of the counterfactual analysis between both measures of poverty could show that CCTs in Mexico and Colombia are impacting the poorest. The Headcount Ratio and the Interval Measure take into consideration the percentage of the population socially excluded (H), but the Interval Measure also takes into consideration the depth of poverty. CCTs in Mexico and Colombia do not have the impact expected, taking into consideration the large coverage and budget described in chapter 1. This analysis will be described in chapter 7, describing the control variables.

Moreover, this counterfactual analysis shows the immediate effect on poverty of not making CCTs, without giving households time to readjust their support strategies. This is a static exercise that only considers the first-order effect of transfers. In a real situation, households would surely respond by changing their behavior—for instance working more hours for employed members, members previously inactive entering the labor market, etc.—and diminishing the impact on poverty, meaning the results will be even narrower than this counterfactual analysis shows. Finally, it can be established that CCTs have had a marginal impact on poverty.

**Efficiency: Targeting Beneficiaries**

This dissertation has analyzed the impact of CCTs on inequality in chapter 5 and on poverty in this chapter. In addition, the purpose of this dissertation is to measure and analyze the efficiency of CCTs. Chapter 2 reviewed the concept of efficiency, which establishes the degree to which
transfers are targeted towards low-income groups and it is measured by the Kakwani’s (1986) ‘index of concentration’.

The efficiency of CCTs in Table 17 shows Kakwani’s (1986) ‘index of concentration’. According to Mahler and Jesuit (2006), an index value of -1.0 means that the poorest person gets all of the transfer income, 0 means everybody gets an equal amount, and 1.0 means the richest person gets all of the transfer income. Kakwani’s (1986) ‘index of concentration’ only applies to households that are poor. Therefore, low target efficiency means that CCTs do not focus on the very poor among those who are merely poor, but it does not mean that they do not focus on the poor more generally. This dissertation analyzes the efficiency of CCT programs in Chile (2003, 2006, and 2017), Colombia (2007, 2016), and Mexico (1998, 2008, and 2018).

Table 17. CCTs Efficiency in Targeting the Poorest in Chile, Colombia, and Mexico

<table>
<thead>
<tr>
<th>Country / year</th>
<th>Kakwani’s (1986) ‘index of concentration'</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chile (2003)</td>
<td>-0.10</td>
</tr>
<tr>
<td>Chile (2006)</td>
<td>-0.08</td>
</tr>
<tr>
<td>Chile (2017)</td>
<td>-0.10</td>
</tr>
<tr>
<td>Colombia (2007)</td>
<td>0.14</td>
</tr>
<tr>
<td>Colombia (2016)</td>
<td>0.03</td>
</tr>
<tr>
<td>Mexico (1998)</td>
<td>0.01</td>
</tr>
<tr>
<td>Mexico (2008)</td>
<td>-0.03</td>
</tr>
<tr>
<td>Mexico (2018)</td>
<td>-0.02</td>
</tr>
</tbody>
</table>


The expected result in this model is that the coefficient for most of the case studies gets negative values, meaning that most of the beneficiaries are the poorest people. Moreover, it is
expected that the results are closest to -1.0, which means that the poorest of the poor people are the beneficiaries. Nonetheless, it is expected that the larger the CCT is, the less efficient it is, because it is easier to only target poor families when having a small size target and budget. Regarding the CCTs that have been increased over the years in targeting (number of beneficiaries and budget) and budget, such as Mexico and Chile, it is expected that the Kakwani’s (1986) ‘index of concentration’ will get closer to zero, but still being negative, which means that CCTs would be less efficient. Conversely, in the case of Chile’s CCTs, it is expected to be highly efficient because it is a small program in terms of targeting (number of beneficiaries) and budget, meaning the coefficient should be negative and close to -1.

Table 17 shows that Chile’s CCTs are the only programs that had a negative Kakwani’s index, meaning the poorest were targeted. The Kakwani’s index in Chile was -0.10 in 2003 and 2017. Still these results are closer to zero than one, meaning it targeted the poor, but not necessarily the poorest among the poor. Conversely, the Kakwani’s index for Colombia’s More Families in Action in 2007 and 2016 presented a positive result, meaning it did not target the poorest. Nevertheless, the index in Colombia was getting closer to 0, having a result of 0.14 in 2003 to 0.03 in 2016, meaning the program was getting more efficient, but still does not have good results. Finally, Mexico’s Prosperity was the closest to zero among the cases, meaning both the rich and poor were beneficiaries of the program.

In conclusion, there are slight differences among the three programs. On the one hand, Chile’s Ethical Family Income Program has the highest target-efficient among the three programs. On the other hand, Colombia’s More Families in Action is the least efficient. Moreover, it was expected that the changes of the size of the program, such as targeting and budget, will negatively affect the efficiency of the program. Two conclusions are made regarding
the size of CCTs: first, it seems that budget and size did not negatively affect the efficiency of the program, meaning that the size could have positively affected the efficiency of the program. Second, small programs have better efficiency, such as in Chile.

Colombia and Mexico have significantly grown the targeting and budget through the years, and their efficiency has decreased. Mexico’s *Prosperity* increased targeting from 8.09% in 1998 (at that time the programs was called *Opportunities*) to 24.13% of the total population in 2018 and budget from 0.07% in 1998 to 0.35% of the GDP in 2018. Conversely, *Prosperity* increased its efficiency from 0.01 Kakwani index points in 1998 to (0.02) Kakwani index points in 2018.

Similarly, while *More Families in Action* increased targeting from 17% in 2007 to 21.61% of the total population in 2016 and budget from 0.17% in 2007 to 0.29% of the GDP in 2016, *More Families in Action* increased its efficiency from 0.14 Kakwani index points in 2007 to 0.01 Kakwani index points in 2016. Nonetheless, these results should be verified in a variance model to establish the correlation between the variables efficiency with the variables targeting and budget. Therefore chapter 7 describes a Cross-National Model, in which dependent variables, independent variables, and some control variables are defined and described.

In conclusion, this chapter has shown that Chile reduced poverty more than Mexico and Colombia, which may explain that Chile funds CCTs less than Colombia and Mexico because of their other poverty-reducing programs. Therefore, Chile’s *Ethical Family Income Program* has not reduced poverty. In addition, larger CCTs’ sizes in terms of beneficiaries and budget have a greater impact that smaller sizes. Those are the cases of Mexico and Colombia. Nevertheless, the impact is still not robust.
Moreover, the measure of efficiency, which establishes the degree to which transfers are targeted towards low-income groups, has shown that only Chile’s CCTs have an efficient targeting, meaning it targets low-income groups. Conversely, Colombia and Mexico do not target only the poorest, meaning their targeting is less efficient. So, part of the problem with CCTs then is that they might not be targeting enough the poorest of the poor people to have much of an effect on inequality or poverty.
CHAPTER 7
DESCRIPTIVE MULTIVARIATE, CROSS-NATIONAL MODEL

Finally, this chapter describes a cross-national variance model, which could explain the changes on poverty and inequality in the countries of analysis taking into consideration some control variables. Because three dependent variables are described in this chapter, three models will also be presented. The small number of cases (n=8) of these models does not allow for generalizability. Nevertheless, because this dissertation uses LIS data, the results for these case studies can easily be compared to results for other countries in Latin America and elsewhere. Therefore, the contribution of this dissertation is that the results can easily be placed in a broader context. The variables that comprised this model are divided in two groups: first, some variables that have been found during the development of this dissertation; second, external variables that the literature has considered relevant to include in this kind of analysis.

The dependent variables are a result of the models developed in previous chapters that measures CCTs’ efficiency and the impact of CCTs on inequality and poverty. Moreover, the independent variables are defined by the key features of CCTs explained in chapter 1, which are related to their budget and coverage. Finally, the control variables are divided by two main groups: economic variables and institutional variables. The following subsections summarize the independent and dependent variables that were already explained and describes the control variables. In addition, each variable is ranked from one to three in order to describe the three models at the end of the chapter. This model seeks to find how significantly related the
dependent and control variables are with the changes of inequality in the countries of analysis, how significantly related they are to the changes of poverty, and finally, how significantly related they are to the efficiency of CCTs.

**Dependent Variables: CCTs’ impact on Inequality and Poverty, and CCTs’ Efficiency**

This section describes the three dependent variables that are the main focus of this dissertation: CCTs’ impact on inequality reduction, CCTs’ impact on poverty reduction, and CCTs’ efficiency. Therefore, three models are described at the end of this chapter, one for each dependent variable.

**CCTs’ impact on inequality reduction.**

First, CCTs’ impact on inequality reduction was measured by the factor decomposition of changes in inequality from 2003 to 2017 in Chile, 2007 to 2016 in Colombia, and 1998 to 2018 in Mexico. The concentration and composition effect measure the Gini points that each income source contributes to the total change in inequality. The higher the percentage of an income source’s concentration and composition effect, the higher its contribution to the total change in inequality. Conversely, the smaller the percentage of an income source’s concentration and composition effect, the smaller its contribution to the total change in inequality. Moreover, if the percentage of an income source’s concentration and composition effect is positive, the value of contribution to the total change would be negative, meaning that the income source contributes to reducing inequality. Conversely, a negative percentage means an increase in inequality. As was described in chapter 1, CCTs in Mexico started in 1997, in Colombia in 2001, and in Chile in 2002 (ECLAC 2020).

Table 18 shows that CCTs’ contribution to the total change in inequality were insignificant. CCTs were responsible for 7.7% and 6.8% of the total change in inequality in
Colombia and in Mexico, respectively, which represented a reduction of 0.005 Gini points in Colombia from 2007 to 2016 and 0.005 Gini points in Mexico from 1998 to 2018. Conversely, the CCTs were responsible for -1.9% of the total change in inequality in Chile, which represented a value of 0.000 Gini points. In sum, CCTs had a marginal impact on the total change in inequality in Chile, Colombia, and Mexico. The results are that Mexico’s Prosperity and Colombia’s More Families in Action are ranked 1st, and Chile’s Ethical Family Income Program is ranked 3rd.

Table 18. Decomposition of the Gini Index, Changes in the Gini Coefficients and Ranking

<table>
<thead>
<tr>
<th>Country and year</th>
<th>CCTs’ contribution to total inequality in Gini points</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chile (2003-2017)</td>
<td>0.000</td>
<td>3</td>
</tr>
<tr>
<td>Colombia (2007-2016)</td>
<td>-0.005</td>
<td>1</td>
</tr>
<tr>
<td>Mexico (1998-2018)</td>
<td>-0.005</td>
<td>1</td>
</tr>
</tbody>
</table>


In order to rank the results of this dependent variable, one can state that negative numbers are better than positive ones because they mean that the impact of CCTs reduce inequality. Conversely, a positive result means an increase on inequality. Therefore, Table 18 shows that the highest negative number is ranked one and zero is ranked as three because there was not decrease at all in inequality in Chile.

**CCTs’ impact on poverty reduction.**

Second, CCTs’ impact on poverty reduction was measured by the counterfactual analysis of the impact of CCTs on the poverty Interval Measure in Chile, Colombia, and Mexico in chapter 6. This dissertation measured the market income Gini index adding CCTs to calculate the
impact of CCTs on the poverty Interval Measure of market income. This is based on the percentage of the transfers in beneficiaries’ total income and the impact in poverty by comparing estimated incomes with a no-CCT counterfactual. This counterfactual analysis recalculates incomes and poverty Interval Measure by taking out CCTs. A positive result means that CCTs reduce the poverty Interval Measure; the larger the result, the larger the impact. Table 19 shows the impact of CCTs on reducing the poverty Interval Measure in Chile, Colombia, and Mexico.

Chapter 6 analyzed the results of the impact of CCTs on reducing the poverty Interval Measure. Chile’s CCTs in 2017 did not have a significant impact on poverty, and CCTs in Colombia in 2016 and in Mexico in 2018 had a marginal reduction on the poverty Interval Measure. Chile’s Ethical Family Income Program marginally reduced the poverty Interval Measure by only 0.01 in 2017. Colombia’s More Family in Action decreased the poverty Interval Measure by 0.97 points in 2016. Mexico’s Prosperity reduced the poverty Interval Measure by 0.98 points, which is also a marginal result.

Table 19. Impact of CCTs on the Poverty Interval Measure in Chile, Colombia and Mexico

<table>
<thead>
<tr>
<th>Country and year</th>
<th>CCTs impact on Interval measure of market income</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chile (2003)</td>
<td>0.04</td>
</tr>
<tr>
<td>Chile (2006)</td>
<td>0.05</td>
</tr>
<tr>
<td>Chile (2017)</td>
<td>0.01</td>
</tr>
<tr>
<td>Colombia (2007)</td>
<td>0.02</td>
</tr>
<tr>
<td>Colombia (2016)</td>
<td>0.97</td>
</tr>
<tr>
<td>Mexico (1998)</td>
<td>0.27</td>
</tr>
<tr>
<td>Mexico (2008)</td>
<td>1.40</td>
</tr>
<tr>
<td>Mexico (2018)</td>
<td>0.98</td>
</tr>
</tbody>
</table>

In order to describe the models and to rank the results of this dependent variable, this section determines the average of the results for each country (see Table 20). Then, the variables are ranked according to the impact on poverty. These results show that a positive result means a reduction on poverty. Conversely, a negative result means an increase in poverty. Therefore, Table 20 shows that the highest positive average-result is ranked as one and the lowest average-result is ranked as three.

<table>
<thead>
<tr>
<th>Country and year</th>
<th>Average of CCTs’ impact on Interval Measure of market income</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chile</td>
<td>0.03</td>
<td>3</td>
</tr>
<tr>
<td>Colombia</td>
<td>0.50</td>
<td>2</td>
</tr>
<tr>
<td>Mexico</td>
<td>0.88</td>
<td>1</td>
</tr>
</tbody>
</table>


CCTs’ efficiency.

Finally, CCTs’ efficiency was measured by the results of the Kakwani’s (1986) ‘index of concentration’ in chapter 6. This index establishes the degree to which transfers target low-income groups. Kakwani’s (1986) ‘index of concentration’ only applies to households that are poor. Therefore, low target efficiency means that CCTs do not focus on the very poor among those who are merely poor, but it does not mean that they do not focus on the poor more generally. This dissertation analyzed the efficiency of CCTs in Chile (2003, 2006, and 2017), Colombia (2007, 2016), and Mexico (1998, 2008, and 2018). Table 21 shows the efficiency of CCTs through the Kakwani’s (1986) ‘index of concentration’. 
According to Mahler and Jesuit (2006), an index value of -1.0 means that the poorest person gets all of the transfer income, 0 means everybody gets an equal amount, and 1.0 means the richest person gets all of the transfer income. Table 21 shows that Chile’s CCTs are the only programs that had a negative Kakwani’s index, meaning the poorest were targeted more than the rest of the poor. The Kakwani’s index in Chile was -0.10 in 2003 and 2017. Still these results are closer to zero than one, meaning it targeted the poor, but not necessarily the poorest among the poor. Conversely, Kakwani’s index for Colombia’s More Families in Action in 2007 and 2016 presented a positive result, meaning it did not target the poorest. Nevertheless, the index in Colombia was getting closer to zero, having a result of 0.14 in 2003 to 0.03 in 2016, meaning the program was getting more efficient, but still does not have good results. Finally, Mexico’s Prosperity was the closest to zero among the cases, meaning the poorest of the poor were not beneficiaries of the program.

Table 21. CCTs Efficiency in Targeting the Poorest in Chile, Colombia, and Mexico

<table>
<thead>
<tr>
<th>Country / year</th>
<th>Kakwani’s (1986) ‘index of concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chile (2003)</td>
<td>-0.10</td>
</tr>
<tr>
<td>Chile (2006)</td>
<td>-0.08</td>
</tr>
<tr>
<td>Chile (2017)</td>
<td>-0.10</td>
</tr>
<tr>
<td>Colombia (2007)</td>
<td>0.14</td>
</tr>
<tr>
<td>Colombia (2016)</td>
<td>0.03</td>
</tr>
<tr>
<td>Mexico (1998)</td>
<td>0.01</td>
</tr>
<tr>
<td>Mexico (2008)</td>
<td>-0.03</td>
</tr>
<tr>
<td>Mexico (2018)</td>
<td>-0.02</td>
</tr>
</tbody>
</table>


Table 22 shows the average of the results for each country in order to describe the models and to rank the results of this dependent variable. Therefore, the variables are ranked according
to the CCTs’ efficiency for each country. These results show that a negative index means the program is efficient because it targets the poorest of the poor. Conversely, a positive index means a CCT program is not efficient because it targets the poor but not the poorest among them. Consequently, Table 22 shows that the highest negative average-index is ranked one and the lowest average-index is ranked three. The results are Chile’s Ethical Family Income Program ranks as one, Mexico’s Prosperity as two, and Colombia’s More Families in Action as three. The next subsections describe the independent and control variables.

Table 22. CCTs Efficiency and Ranking

<table>
<thead>
<tr>
<th>Country / year</th>
<th>Average of Kakwani’s (1986) ‘index of concentration’</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chile</td>
<td>-0.09</td>
<td>1</td>
</tr>
<tr>
<td>Colombia</td>
<td>0.09</td>
<td>3</td>
</tr>
<tr>
<td>Mexico</td>
<td>-0.01</td>
<td>2</td>
</tr>
</tbody>
</table>


**Independent Variables: CCTs’ Most Important Features**

The cross-national model proposed and described by this dissertation comprises two independent variables, which are defined based on the main features of CCTs: budget size and scope of targeting. The budget size of the program refers to the percentage of the GDP that each national government expends on CCTs. The scope of the program refers to the coverage in terms of number of beneficiaries of CCTs. In order to establish the data of the independent variables in each of the models, the data is taken from the year the CCTs started to the year before the most recent data that the dependent variables use. Therefore, the independent variable is based on the data of Chile from 2002 to 2016, Colombia from 2001 and 2015, and Mexico from 1997 to 2017.
CCTs’ Budget Size.

CCTs’ budget was defined in chapter 1 as the governmental budget of CCTs as a percentage of the GDP. There are three objectives of this model with this independent variable: i) to find how significantly related is the size of the budget with the impact of CCTs on inequality; ii) to find how significantly related is the size of the budget with the impact of CCTs on poverty; and iii) to find how significantly related is the size of the budget with the efficiency of CCTs.

Table 23 shows the CCTs’ budget as a percentage of the GDP in Chile, Colombia, and Mexico.

<table>
<thead>
<tr>
<th>Year</th>
<th>Chile</th>
<th>Colombia</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>N.A</td>
<td>N.A</td>
<td>0.03%</td>
</tr>
<tr>
<td>1998</td>
<td>N.A</td>
<td>N.A</td>
<td>0.07%</td>
</tr>
<tr>
<td>1999</td>
<td>N.A</td>
<td>N.A</td>
<td>0.14%</td>
</tr>
<tr>
<td>2000</td>
<td>N.A</td>
<td>N.A</td>
<td>0.14%</td>
</tr>
<tr>
<td>2001</td>
<td>N.A</td>
<td>0.01%</td>
<td>0.18%</td>
</tr>
<tr>
<td>2002</td>
<td>N.A</td>
<td>0.04%</td>
<td>0.23%</td>
</tr>
<tr>
<td>2003</td>
<td>0.02%</td>
<td>0.10%</td>
<td>0.29%</td>
</tr>
<tr>
<td>2004</td>
<td>0.07%</td>
<td>0.07%</td>
<td>0.29%</td>
</tr>
<tr>
<td>2005</td>
<td>0.09%</td>
<td>0.07%</td>
<td>0.32%</td>
</tr>
<tr>
<td>2006</td>
<td>0.09%</td>
<td>N/A</td>
<td>0.32%</td>
</tr>
<tr>
<td>2007</td>
<td>0.08%</td>
<td>0.17%</td>
<td>0.32%</td>
</tr>
<tr>
<td>2008</td>
<td>0.09%</td>
<td>0.25%</td>
<td>0.34%</td>
</tr>
<tr>
<td>2009</td>
<td>0.10%</td>
<td>0.28%</td>
<td>0.38%</td>
</tr>
<tr>
<td>2010</td>
<td>0.08%</td>
<td>0.36%</td>
<td>0.47%</td>
</tr>
<tr>
<td>2011</td>
<td>0.13%</td>
<td>0.23%</td>
<td>0.39%</td>
</tr>
<tr>
<td>2012</td>
<td>0.14%</td>
<td>0.18%</td>
<td>0.35%</td>
</tr>
<tr>
<td>2013</td>
<td>0.13%</td>
<td>0.23%</td>
<td>0.41%</td>
</tr>
<tr>
<td>2014</td>
<td>0.14%</td>
<td>0.30%</td>
<td>0.42%</td>
</tr>
<tr>
<td>2015</td>
<td>0.15%</td>
<td>0.29%</td>
<td>0.41%</td>
</tr>
<tr>
<td>2016</td>
<td>0.13%</td>
<td>N.A</td>
<td>0.42%</td>
</tr>
<tr>
<td>2017</td>
<td>0.14%</td>
<td>N.A</td>
<td>0.36%</td>
</tr>
</tbody>
</table>

Source: Prepared by the author, on the basis of the database of non-contributory social protection programs in Latin America and the Caribbean of the Economic Commission for Latin America and the Caribbean, Conditional cash transfers programs [online] http://dds.cepal.org/bdptc/, and the CEPALSTAT database.
In order to describe the models and to rank the results of this independent variable, this section determines the average of the results for each country in the years defined above (see Table 24). Then, the variables are ranked according to the amount of the budget as a percentage of GDP. The higher the budget of CCTs as a percentage of GDP, the higher the means that let a government impact the poor. Therefore, Table 24 shows that the highest average of the budget as a percentage of GDP is ranked as one and the lowest average is ranked as three. The results are Mexico’s average budget of CCTs as a percentage of GDP was 0.3% and it was ranked as one; Colombia’s average was 0.18%, ranked as two; and Chile’s average was 0.10, ranked as three.

Table 24. Average of Budget of (percentage of GDP) and Ranking

<table>
<thead>
<tr>
<th>Country</th>
<th>Average of Budget of CCTs as a percentage of GDP</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chile</td>
<td>0.0010</td>
<td>3</td>
</tr>
<tr>
<td>Colombia</td>
<td>0.0018</td>
<td>2</td>
</tr>
<tr>
<td>Mexico</td>
<td>0.0030</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: Prepared by the author, on the basis of the database of non-contributory social protection programs in Latin America and the Caribbean of the Economic Commission for Latin America and the Caribbean, Conditional cash transfers programs [online] http://dds.cepal.org/bdptc/, and the CEPALSTAT database.

The expected results of the correlation among CCTs’ budget size vary according to the analysis of each dependent variable. This dissertation has shown the relation between the budget size of CCTs and the impact of the program on poverty. For this reason, it is expected that the higher the budget of CCTs, the greater the impact of CCTs are on lowering poverty. In addition, this dissertation has described that there lacks robust evidence of a relationship between the budget size of a CCT and the impact of the program on inequality. Therefore, it is expected that there is not a significant relationship between the budget size of CCTs and the impact of CCTs.
on poverty. Finally, Chile’s *Ethical Family Income* has had a smaller budget than Colombia’s *More families in Action*, and Mexico’s *Prosperity*, and *Ethical Family Income* has been more efficient than the other two programs. For this reason, the expected result is that the higher the budget of CCTs, the smaller the efficiency.

**CCTs’ Targeting Size.**

The second independent variable is CCTs’ targeting size, which is the coverage in terms of number of beneficiaries of CCTs. This variable was defined in chapter 1 as the individuals in recipient households of CCTs as a percentage of the total population. There are three objectives of this model with this independent variable: i) to find how significantly related is the coverage with the impact of CCTs on inequality; ii) to find how significantly related is the coverage with the impact of CCTs on poverty; and iii) to find how significantly related is the coverage with the efficiency of CCTs. Table 25 shows the individuals in recipient households of CCTs in Chile, Colombia, and Mexico as a percentage of the total population.

The expected results of the correlation among CCTs’ targeting size vary according to the analysis of each dependent variable. This dissertation has described the relationship between the targeting size of CCTs and the impact of the program on poverty. For this reason, it is expected that the higher the targeting of CCTs, the greater the impact of CCTs on poverty, whether the people targeted are actually poor. In addition, this dissertation has described that there lacks robust evidence of a relation between the targeting size of a CCT and the impact of the program on inequality. Therefore, it is expected that there is not a significant relationship between the targeting size of CCTs and the impact of CCTs on poverty. Finally, this dissertation has analyzed that Chile’s *Ethical Family Income* has targeted fewer people (meaning fewer beneficiaries) than Colombia’s *More families in Action* and Mexico’s *Prosperity; Ethical Family Income* has been
more efficient than the other two programs. For this reason, the expected result is that the higher the targeting of CCTs, the smaller the efficiency.

Table 25. Individuals in recipient households of CCTs (Percentage of Total Population)

<table>
<thead>
<tr>
<th>Year / Country</th>
<th>Chile</th>
<th>Colombia</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>N.A.</td>
<td>N.A.</td>
<td>1.55%</td>
</tr>
<tr>
<td>1998</td>
<td>N.A.</td>
<td>N.A.</td>
<td>8.09%</td>
</tr>
<tr>
<td>1999</td>
<td>N.A.</td>
<td>N.A.</td>
<td>11.51%</td>
</tr>
<tr>
<td>2000</td>
<td>N.A.</td>
<td>N.A.</td>
<td>12.19%</td>
</tr>
<tr>
<td>2001</td>
<td>N.A.</td>
<td>2.68%</td>
<td>15.14%</td>
</tr>
<tr>
<td>2002</td>
<td>1.15%</td>
<td>3.93%</td>
<td>20.35%</td>
</tr>
<tr>
<td>2003</td>
<td>2.56%</td>
<td>4.16%</td>
<td>20.12%</td>
</tr>
<tr>
<td>2004</td>
<td>3.96%</td>
<td>3.98%</td>
<td>23.44%</td>
</tr>
<tr>
<td>2005</td>
<td>5.41%</td>
<td>5.60%</td>
<td>23.13%</td>
</tr>
<tr>
<td>2006</td>
<td>6.73%</td>
<td>7.38%</td>
<td>22.78%</td>
</tr>
<tr>
<td>2007</td>
<td>7.73%</td>
<td>17.00%</td>
<td>22.41%</td>
</tr>
<tr>
<td>2008</td>
<td>8.93%</td>
<td>17.50%</td>
<td>22.26%</td>
</tr>
<tr>
<td>2009</td>
<td>10.11%</td>
<td>26.01%</td>
<td>22.34%</td>
</tr>
<tr>
<td>2010</td>
<td>11.09%</td>
<td>24.37%</td>
<td>24.29%</td>
</tr>
<tr>
<td>2011</td>
<td>12.33%</td>
<td>22.36%</td>
<td>23.35%</td>
</tr>
<tr>
<td>2012</td>
<td>13.37%</td>
<td>19.11%</td>
<td>22.47%</td>
</tr>
<tr>
<td>2013</td>
<td>2.38%</td>
<td>24.04%</td>
<td>22.93%</td>
</tr>
<tr>
<td>2014</td>
<td>1.55%</td>
<td>23.52%</td>
<td>23.89%</td>
</tr>
<tr>
<td>2015</td>
<td>1.78%</td>
<td>22.29%</td>
<td>23.57%</td>
</tr>
<tr>
<td>2016</td>
<td>4.68%</td>
<td>21.61%</td>
<td>23.06%</td>
</tr>
<tr>
<td>2017</td>
<td>4.44%</td>
<td>21.50%</td>
<td>25.11%</td>
</tr>
</tbody>
</table>


Note 1: Chile: Solidarity Chile.
Note 2: Colombia: More Families in Action.

Table 26 shows the average of the results for each country in the years defined above in order to describe the models and to rank the results of this independent variable. Therefore, the
variables are ranked according to the amount of individual recipient households of CCTs as a percentage of the total population. The higher the targeting as a percentage of total population, the higher the impact of CCTs. Consequently, Table 26 shows that the highest average of individual recipient households of CCTs as a percentage of total population is ranked as one and the lowest average is ranked as three. The results are Mexico’s average of the beneficiaries of CCTs as percentage of total population was 20%, ranked as one; Colombia’s average was 15%, ranked as two; finally, Chile’s average was 6%, ranked as three.

Table 26. Average of Beneficiaries of CCTs (Percentage of Total Population) and Ranking

<table>
<thead>
<tr>
<th>Country</th>
<th>Average of targeting</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chile</td>
<td>6.25%</td>
<td>3</td>
</tr>
<tr>
<td>Colombia</td>
<td>14.93%</td>
<td>2</td>
</tr>
<tr>
<td>Mexico</td>
<td>19.71%</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: Prepared by the author, on the basis of the database of non-contributory social protection programs in Latin America and the Caribbean of the Economic Commission for Latin America and the Caribbean, Conditional cash transfers programs [online] http://dds.cepal.org/bdptc/, and the CEPALSTAT database.

Note 1: Colombia’s 2016 data is not available. The value showed is from 2015.

Descriptive Control Variables: Economic and Institutional Variables

Finally, this model proposes two economic control variables and four institutional variables. The economic variables are GDP growth and economic globalization. The institutional variables are ideological orientation of government, participation and political voice and corruption. The following subsections describe and analyze these control variables in Chile, Colombia, and Mexico. In order to establish the data of the control variable in each of the models, the data is taken from the year before the CCTs started to the year before the most recent data that the dependent variables use. Therefore, the control variable is based on the data of Chile from 2001 to 2016, Colombia from 2000 and 2015, and Mexico from 1996 to 2017.
Economic Control Variables.

As was explained, the economic control variables of this proposed model are GDP growth and economic globalization.

**GDP growth.** The importance of controlling the models by GDP growth is that it can cause the reduction of inequality and poverty. Measuring the GDP growth instead of the GDP size may give a better understanding of the share of the economy and its influence on poverty and inequality. Table 27 and Figure 9 show the GDP growth of Chile, Colombia, and Mexico.

Table 27. Rate of Growth of Annual Gross Domestic Product at Constant Prices (Percentage)

<table>
<thead>
<tr>
<th>Years/ Country</th>
<th>Chile</th>
<th>Colombia</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>7.41</td>
<td>2.06</td>
<td>6.77</td>
</tr>
<tr>
<td>1997</td>
<td>7.43</td>
<td>3.43</td>
<td>6.85</td>
</tr>
<tr>
<td>1998</td>
<td>4.32</td>
<td>0.57</td>
<td>5.16</td>
</tr>
<tr>
<td>1999</td>
<td>-0.41</td>
<td>-4.20</td>
<td>2.75</td>
</tr>
<tr>
<td>2000</td>
<td>5.33</td>
<td>2.92</td>
<td>4.94</td>
</tr>
<tr>
<td>2001</td>
<td>3.30</td>
<td>1.68</td>
<td>-0.40</td>
</tr>
<tr>
<td>2002</td>
<td>3.11</td>
<td>2.50</td>
<td>-0.04</td>
</tr>
<tr>
<td>2003</td>
<td>4.09</td>
<td>3.92</td>
<td>1.45</td>
</tr>
<tr>
<td>2004</td>
<td>7.21</td>
<td>5.33</td>
<td>3.92</td>
</tr>
<tr>
<td>2005</td>
<td>5.74</td>
<td>4.71</td>
<td>2.31</td>
</tr>
<tr>
<td>2006</td>
<td>6.32</td>
<td>6.78</td>
<td>4.50</td>
</tr>
<tr>
<td>2007</td>
<td>4.91</td>
<td>6.85</td>
<td>2.29</td>
</tr>
<tr>
<td>2008</td>
<td>3.53</td>
<td>3.26</td>
<td>1.14</td>
</tr>
<tr>
<td>2009</td>
<td>-1.56</td>
<td>1.21</td>
<td>-5.29</td>
</tr>
<tr>
<td>2010</td>
<td>5.84</td>
<td>4.35</td>
<td>5.12</td>
</tr>
<tr>
<td>2011</td>
<td>6.11</td>
<td>7.36</td>
<td>3.66</td>
</tr>
<tr>
<td>2012</td>
<td>5.32</td>
<td>3.90</td>
<td>3.64</td>
</tr>
<tr>
<td>2013</td>
<td>4.05</td>
<td>4.57</td>
<td>1.35</td>
</tr>
<tr>
<td>2014</td>
<td>1.77</td>
<td>4.73</td>
<td>2.80</td>
</tr>
<tr>
<td>2015</td>
<td>2.30</td>
<td>2.96</td>
<td>3.29</td>
</tr>
<tr>
<td>2016</td>
<td>1.67</td>
<td>2.09</td>
<td>2.91</td>
</tr>
<tr>
<td>2017</td>
<td>1.28</td>
<td>1.35</td>
<td>2.12</td>
</tr>
</tbody>
</table>

Note 1: ECLAC estimates based on national sources.
Source: Prepared by the author, on the basis of the database from ECLAC in https://cepalstat-prod.cepal.org
Figure 9. Rate of Growth of Annual Gross Domestic Product at Constant Prices (Percentage)

Note 1: ECLAC estimates based on national sources.
Source: Prepared by the author, on the basis of the database from ECLAC in https://cepalstat-prod.cepal.org

Mexico is one of the largest economies, being the second economy in Latin America after Brazil in 2018. The GDP reached US$ 1,223 billion, which was 269% higher than Colombia’s GDP. Colombia generated a GDP of US$ 330.9 billion in 2018. It was ranked as the fourth economy in Latin America. Nonetheless, the GDP per capita in Colombia was US$ 6,642, which was lower than Chile and Mexico (Ministry of Commerce of Colombia, 2020b). Chile was the fifth economy in Latin America with a nominal GDP of US$ 298.1 billion in 2018. Nevertheless, the GDP per capita in Chile was US$ 15,902 in 2018, being the highest among the three countries (Ministry of Commerce of Colombia, 2020a).

Because of its economic structure, Chile was affected by the slowdown in the world economy and the reduction of international prices of commodities, such as copper. Nevertheless, the GDP grew at rates higher than 5% at the beginning of the 2010s. Then it narrowed to 1.3% in 2016 and 1.5% in 2017. Subsequently, the economy raised to 4% in 2018. Finally, a difficult
external environment and the internal social crisis and the loss of institutional confidence generated resentment in economic activity and the GDP grew 1% in 2019 (Ministry of Commerce of Colombia, 2020a).

In addition, Mexico's GDP decreased 0.1% in 2019. Mexico has not shown a negative variation since the international financial crisis in 2009. The country was affected by uncertainties generated by the external context, with world trade tensions and the commercial war between the United States of America and China. Mexico demonstrated a fall in investment and a low level of consumption, all in public adjustment related to the new government (Ministry of Commerce of Colombia, 2020c). Moreover, the reduction in international prices of mining products, especially oil, and the drop in external and internal demand impacted economic growth in Colombia. After growing 5.1% on average in 2011-2014, Colombia’s economy registered variations in GDP of 2.1% and 1.4% in 2016 and 2017, respectively. However, the recovery was evident with GDP growth of 2.5% in 2018 and 3.3% in 2019 (Ministry of Commerce of Colombia, 2020b).

As was mentioned in chapter 4, there is a relationship between GDP growth and disposable household income inequality. The larger the GDP, the larger the fiscal redistribution, meaning the larger the investment on CCTs. For this reason, a negative relationship between GDP growth and inequality and poverty is expected. Even though some studies show that the greater the GDP growth, the smaller the inequality and the poverty, other studies show that GDP growth does not necessarily reduce poverty or inequality. The models that this chapter is describing consider that GDP growth could positively affect the impact of CCTs on inequality and poverty.
Consequently, the expected result is that the greater the GDP growth, the greater the impact of CCTs on inequality and poverty, meaning a significant relationship between globalization and the impact of CCTs is expected. Conversely, the larger the investment on CCTs—which is caused by the increase of the GDP growth—, the smaller the efficiency of CCTs. Therefore, a negatively significant relationship between GDP growth and the efficiency of CCTs is expected. The greater the GDP growth, the smaller the efficiency of CCTs.

In order to describe the models and to rank the results of this control variable, this section determines the average of the results for each country in the years defined above (see Table 28). Then the variables are ranked according to the percentage of annual GDP growth. The higher the percentage of annual GDP growth, the higher the means that let a government impact the poor. Therefore, Table 28 shows that the highest average of the percentage of growth of annual GDP is ranked as one and the lowest average is ranked as three. The results are Chile and Colombia ranked as one; the decision to rank the same position was because of the proximity of their results. While the average of the percentage of the GDP growth in Chile from 2001 to 2016 was 3.98, the percentage of the GDP growth in Colombia from 2000 to 2015 was 4.19. Moreover, Mexico’s average was 2.78. Therefore, Mexico ranks as three.

Table 28. Average of the GDP Growth (Percentage) and Ranking

<table>
<thead>
<tr>
<th>Country</th>
<th>Average of GDP growth (percentage)</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chile</td>
<td>3.98</td>
<td>1</td>
</tr>
<tr>
<td>Colombia</td>
<td>4.19</td>
<td>1</td>
</tr>
<tr>
<td>Mexico</td>
<td>2.78</td>
<td>3</td>
</tr>
</tbody>
</table>

Source: Prepared by the author, on the basis of the database from ECLAC in https://cepalstat-prod.cepal.org
Economic globalization. Economic globalization is a variable that could impact the change of inequality and poverty. “The most traditional vehicle of economic openness cited by globalization critics is international trade” (Mahler, 2004), which is represented by commercial balance. In addition, a second variable to take into consideration is direct foreign investment (Mahler, 2004). Therefore, this dissertation recommends using the degree of openness of the economy, which is an index that measures how commerce (imports and exports) take place and affect the size and growth of a national economy. This index is measured by adding imports and exports in goods and services and divides this sum by GDP. The larger the ratio, the more the country is exposed to international trade. Figure 10 and Table 29 shows the degree of openness of the economy, at current prices in Chile, Colombia, and Mexico.

Figure 10. Degree of Openness of the Economy in Chile, Colombia, and Mexico (Current Prices)

Note 1: ECLAC estimates based on national sources. Source: Prepared by the author, on the basis of the database from ECLAC in https://cepalstat-prod.cepal.org
Table 29. Degree of Openness of the Economy in Chile, Colombia, and Mexico (Current Prices)

<table>
<thead>
<tr>
<th>Years / Country</th>
<th>Chile</th>
<th>Colombia</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>54.77</td>
<td>31.02</td>
<td>50.42</td>
</tr>
<tr>
<td>1997</td>
<td>54.95</td>
<td>30.67</td>
<td>48.78</td>
</tr>
<tr>
<td>1998</td>
<td>54.32</td>
<td>30.93</td>
<td>51.00</td>
</tr>
<tr>
<td>1999</td>
<td>55.35</td>
<td>30.51</td>
<td>50.62</td>
</tr>
<tr>
<td>2000</td>
<td>59.32</td>
<td>34.37</td>
<td>52.43</td>
</tr>
<tr>
<td>2001</td>
<td>63.14</td>
<td>35.76</td>
<td>47.17</td>
</tr>
<tr>
<td>2002</td>
<td>63.39</td>
<td>34.81</td>
<td>46.70</td>
</tr>
<tr>
<td>2003</td>
<td>66.32</td>
<td>38.52</td>
<td>50.21</td>
</tr>
<tr>
<td>2004</td>
<td>69.73</td>
<td>37.79</td>
<td>53.49</td>
</tr>
<tr>
<td>2005</td>
<td>71.62</td>
<td>37.54</td>
<td>53.94</td>
</tr>
<tr>
<td>2006</td>
<td>73.10</td>
<td>39.75</td>
<td>56.09</td>
</tr>
<tr>
<td>2007</td>
<td>76.41</td>
<td>37.18</td>
<td>56.80</td>
</tr>
<tr>
<td>2008</td>
<td>80.79</td>
<td>39.24</td>
<td>57.78</td>
</tr>
<tr>
<td>2009</td>
<td>66.34</td>
<td>35.14</td>
<td>55.97</td>
</tr>
<tr>
<td>2010</td>
<td>69.06</td>
<td>34.32</td>
<td>60.76</td>
</tr>
<tr>
<td>2011</td>
<td>72.21</td>
<td>39.53</td>
<td>63.47</td>
</tr>
<tr>
<td>2012</td>
<td>68.27</td>
<td>38.87</td>
<td>65.77</td>
</tr>
<tr>
<td>2013</td>
<td>64.97</td>
<td>38.01</td>
<td>63.76</td>
</tr>
<tr>
<td>2014</td>
<td>65.27</td>
<td>37.49</td>
<td>64.96</td>
</tr>
<tr>
<td>2015</td>
<td>58.97</td>
<td>38.36</td>
<td>71.17</td>
</tr>
<tr>
<td>2016</td>
<td>55.71</td>
<td>36.20</td>
<td>76.10</td>
</tr>
<tr>
<td>2017</td>
<td>55.67</td>
<td>35.26</td>
<td>77.19</td>
</tr>
</tbody>
</table>

Note 1: ECLAC estimates based on national sources.
Source: Prepared by the author, on the basis of the database from ECLAC in https://cepalstat-prod.cepal.org

According to the Ministry of Commerce of Colombia (2020d), the economic globalization has had an impact on income inequality. The increase in wage inequality in Latin America—especially in Mexico and Chile—was the consequence of technological change biased by international trade and investment (De Ferranti et al., 2003). Most countries in the region experienced a significant increase in relative demand and skill premiums for more educated workers. Nonetheless, this qualification of the workforce offers an opportunity for
long-term development, as families and the public sector can focus on improving the quality and coverage of education required by technological change. If Latin American countries increase the supply of skills, they can accommodate high wages and an equitable wage distribution.

Even though Mexico is among the largest exporter and importer of goods in the world, it has a highly dependent external sector on the United States. Mexican exports of goods reached US$ 450.5 billion in 2018 and grew 2.3% in 2019, while imports were US$ 464 billion in 2018 and decreased 1.9% in 2019 (Ministry of Commerce of Colombia, 2020c). Colombian and Chilean exports have a traditional dependence on mining-energy goods. Due to the low prices of commodities, exports in Colombia had a reduction. While Colombian exports represented US$ 62 billion in 2012, they were near to US$ 38 billion in 2017. Colombia has registered a trade deficit in goods since 2014, which was US$ 10.775 million in 2019. Although trade in services is in a deficit, its export trend is increasing, with variations of 4.6% in 2016, 8.9% in 2017, 14.1% in 2018 and 3.5% in 2019 (Ministry of Commerce of Colombia, 2020b).

Chile's goods exports were affected because of the fall in international prices, particularly mining. They suffered a reduction from US$ 81.437 million in 2011 to US$ 60.732 million in 2016. Nevertheless, Chilean exports recovered, growing 14% in 2017 and 9% in 2018. In 2019, they suffered a reduction of 7.6%. Imports registered similar behavior, diminishing 7.5% in 2019. Foreign trade in goods and services represented 57.5% of GDP in 2018 (Ministry of Commerce of Colombia, 2020a).

As it was mentioned in chapter 2, the relationship between economic globalization and market income inequality have both supporters and critics. On the one hand, globalization affects the wages, benefits and job security of low-income groups (Mahler, 2004). On the other hand, globalization is a potential confounding factor of inequality, specifically in trade and imports.
(Kenworthy, 2008). This dissertation considers the supporters’ analysis. For this reason, a negative relationship between globalization and inequality and poverty is expected. The greater the globalization, the smaller the inequality. Therefore, globalization could positively affect the impact of CCTs on inequality and poverty. Consequently, the expected result is that the greater the globalization, the greater the impact of CCTs on inequality and poverty will be, meaning a significant relationship between globalization and the impact of CCTs is expected. Conversely, a significant relationship between globalization and the efficiency of CCTs is not expected.

Table 30 shows the average of the results for each country in the years defined above in order to describe the models and to rank the results of this control variable. Therefore, the variables are ranked according to degree of openness of the economy in Chile, Colombia, and Mexico. The higher the degree of openness of the economy, the higher the impact of CCTs on reducing inequality and poverty. Consequently, Table 30 shows that the highest average of the degree of openness of the economy is ranked as one and the lowest average is ranked as three. The results are Chile’s average of the degree of openness of the economy was 68% of the GDP, ranked as one; Mexico’s average was 58%, ranked as two; finally, Colombia’s average was 37%, ranked as three.

Table 30. Globalization: Average of the Degree of Openness of the Economy and Ranking

<table>
<thead>
<tr>
<th>Country</th>
<th>Average of the degree of Openness of the Economy</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chile</td>
<td>67.83</td>
<td>1</td>
</tr>
<tr>
<td>Colombia</td>
<td>37.29</td>
<td>3</td>
</tr>
<tr>
<td>Mexico</td>
<td>57.93</td>
<td>2</td>
</tr>
</tbody>
</table>

Note 1: ECLAC estimates based on national sources.
Source: Prepared by the author, on the basis of the database from ECLAC in https://cepalstat-prod.cepal.org
**Institutional Control Variables.**

The institutional control variables of this model are ideological orientation of governments, participation and political voice, and corruption.

**Ideological orientation of national governments.** Regarding ideological orientation, leftist governments may be more likely to support the poor. While Colombian and Mexican governments have been in recent years center right, Chile has been traditionally center left. Nevertheless, the Chilean government has been a neoliberal left, which is not common in Latin America. After the dictatorship of General Augusto José Ramón Pinochet Ugarte (1974 – 1990) most of the administrations have been moderately left.

A left coalition of parties ruled the Chilean country from 1990 to 2010. The Coalition of Parties for Democracy (*Concertación de Partidos por la Democracia*) was founded in 1988 and won all the presidential elections from when military rule ended in 1990 to 2010 when the conservative President Miguel Juan Sebastián Piñera Echenique (2010 – 2014 and 2018 – present) won the Chilean presidential election in 2010.

The *Ethical Income Family Program* was created during the administration of President Ricardo Froilán Lagos Escobar (2000 – 2006). It continued during the administrations of President Verónica Michelle Bachelet Jeria (2006 – 2010 and 2014 – 2018), who was from the same left coalition. Moreover, CCTs in Chile have also been continued by the conservative President Piñera. CCTs in Chile were developed by left parties and have received the support of conservative’ parties as well. Even though Chilean leftist parties developed CCTs in Chile, this program has been the smallest in size and budget.

Mexico has a dominant party that ruled Mexico for 71 years in a row in the 20th century, from 1929 to 2000. The Institutional Revolutionary Party (*Partido Revolucionario Institucional*,
PRI) was founded by Plutarco Elías Calles, President of Mexico from 1924 to 1928. Since that time to 2000, Mexicans elected 12 presidents in a row from the PRI. A dominant party is similar to a dictator party, in which their main difference is that the first continue in power by winning the electoral process in a ‘democratic’ system. Even though the PRI is a full member of the Socialist International, it is not considered as a social democratic party.

From 2000 to 2012 the National Action Party (Partido Acción Nacional, PAN) won two presidential elections in a row: President Vicente Fox Quesada (2000 – 2006) and President Felipe de Jesús Calderón Hinojosa (2006 – 2012). The PAN, which was founded in 1939, is a conservative political party in Mexico. In 2012, the PRI returned to power when Mexicans elected President Enrique Peña Nieto (2012 – 2018). In sum, CCTs were created in Mexico under the administration of the PRI hegemonic party. It has continued during the two administrations of the PAN party. Both of them are center right parties, meaning CCTs have not been developed exclusively by leftist governments.

Finally, Colombia has traditionally been ruled by center-right-wing parties. Academics consider that this is because Colombia worked out democratic pact in 1958 that excluded left and has suffered the longest internal conflict in the hemisphere. For 52 years, the guerrilla group, especially The Revolutionary Armed Forces of Colombia—People's Army (Fuerzas Armadas Revolucionarias de Colombia—Ejército del Pueblo, FARC–EP and FARC), has attacked the civil population in rural areas, gotten involved in illegal drug business, and has had territorial control of some remote areas. The conflict had disastrous consequences to the country: 240,000 people were killed, approximately six million people were displaced, and more than 2,000 people were kidnapped. Also, the guerrillas entered into an illegal business, the production and sale of cocaine, that has affected the economy, the security, and the image of the country.
In 1998, a conservative president, Andrés Pastrana Arango (1998 – 2002), began a peace process with the FARC. During this peace process, the government cultivated the conversation between the government’s negotiators and the leaders of the guerrilla group in a place where the military force could not enter. In the meantime, during the conversations, Pastrana’s government strengthened the military forces with the cooperation of the United States’ government, which gave significant amounts of resources through Plan Colombia. Nevertheless, the guerrillas violated the agreement established on the negotiation and the government’s generosity, using this land to keep the people who were kidnapped in this area, and to hide their members after a civil attack. After that, President Pastrana decided to halt the peace process, thus ending the illusion of peace for millions of Colombians. Because of the non-conclusion of the peace process and the sensation that the FARC were playing with the government, the Colombian people elected a right-wing president in 2002.

Álvaro Uribe Vélez (2002 – 2010) promised to fight and diminish the capacity of the guerrillas based on the Democratic Security Plan. The principal achievements of this plan were to recover militarily territories where the guerrillas had control, to diminish the capacity of the guerrillas, and to achieve better security indicators. Alvaro Uribe was reelected president in 2006 and continued with the same public policy. The attacks of the guerrillas FARC on civilians diminished, the guerrilla members had to go to the borders of the country and to more remote zones to hide from the public forces. It was the right time to initiate a new peace process to end the conflict because the enemy was weak and tired. In 2010, President Juan Manuel Santos Calderón (2010 – 2018) was elected and began a peace process with the guerrillas FARC. This peace process ended this year and was ratified by the Congress. At this current time, it is already
in implementation. Three different Colombian administrations implemented a state policy in order to diminish the FARC, and then, to obligate them to negotiate and to end the conflict.

Finally, a right-wing president was elected who was strongly supported by former President Uribe. President Iván Duque Márquez (2018 – present) is a member of the Democratic Center Party (Partido Centro Democrático) which lead the opposition to the peace process developed by the former government. More Families in Action has been developed and increased its budget and size during these last administrations. All four of these administrations have been center-right governments. In sum, although Mexican and Colombian leftist presidents did not get elected; Colombia and Mexico established CCTs even though they were not leftist governments.

Ideological orientation of national governments can be establish based on the measure ‘cabinet balance’ (Armingeon et al., 2019), which calculates the partisan orientation of national governments and “classifies national cabinets in a given year on a 5-point scale ranging from hegemony of right-wing parties (1) to hegemony of left-wing parties (5)” (Mahler & Jesuit 2006, p. 502). This measure is developed by Prof. Dr. Klaus Armingeon and collaborators at the Institute of Political Science of the University of Zurich, Switzerland, through the "Comparative Political Data Set" (CPDS), which is a collection of political and institutional country-level-annual data for 36 democratic countries (36 OECD and/or Europe Union member states) for the period of 1960 to 2017 or since their transition to democracy (Armingeon et al., 2019).

One can develop the same methodology in order to classify ideological orientation of national governments in Latin America from one to three, in which one is the most centre-left ideological orientation and three is the most centre-right ideological orientation. Table 31 shows the classification of the ideological orientation of national governments for Chile, Colombia, and Mexico in the years of analysis.
Table 31. Ideological Orientation of National Government in Chile, Colombia, and Mexico

<table>
<thead>
<tr>
<th>Country</th>
<th>President/ Term of Office</th>
<th>Political Party</th>
<th>Party Ideological Orientation</th>
<th>Measure Ideological Orientation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chile</td>
<td>Michelle Bachelet (2006 – 2010)</td>
<td>Socialist</td>
<td>Centre-left</td>
<td>1</td>
</tr>
<tr>
<td>Chile</td>
<td>Sebastián Piñera (2010 – 2014)</td>
<td>Conservative</td>
<td>Centre-right</td>
<td>1</td>
</tr>
<tr>
<td>Chile</td>
<td>Michelle Bachelet (2014 – 2018)</td>
<td>Socialist</td>
<td>Centre-left</td>
<td>1</td>
</tr>
<tr>
<td>Colombia</td>
<td>Andrés Pastrana (1998 – 2002)</td>
<td>Conservative</td>
<td>Centre-right</td>
<td>3</td>
</tr>
<tr>
<td>Colombia</td>
<td>Álvaro Uribe (2002 – 2010)</td>
<td>Colombia First</td>
<td>Centre-right</td>
<td>3</td>
</tr>
<tr>
<td>Colombia</td>
<td>Juan Manuel Santos (2010 – 2018)</td>
<td>National Unity</td>
<td>Centre-right</td>
<td>2</td>
</tr>
<tr>
<td>Mexico</td>
<td>Ernesto Zedillo (1994 – 2000)</td>
<td>PRI</td>
<td>Centre-right</td>
<td>3</td>
</tr>
<tr>
<td>Mexico</td>
<td>Vicente Fox. (2000 – 2006)</td>
<td>PAN</td>
<td>Centre-right</td>
<td>3</td>
</tr>
<tr>
<td>Mexico</td>
<td>Felipe Calderón (2006 – 2012)</td>
<td>PAN</td>
<td>Centre-right</td>
<td>3</td>
</tr>
<tr>
<td>Mexico</td>
<td>Enrique Peña Nieto (2012 – 2018)</td>
<td>PRI</td>
<td>Centre-right</td>
<td>3</td>
</tr>
</tbody>
</table>

Source: Prepared by the author. The measure of ‘ideological orientation’ is based on Institute of Political Science of the University of Zurich, Armingeon et al. 2019.

In chapter 2, it was mentioned that the main mechanism of income distribution is the welfare state in liberal democracies. The welfare state, developed in some western countries, especially in Europe, involves compensatory arguments, taxing high-income groups, and redistribution in order to reduce inequality (Scheve and Stasavage, 2016), especially through social transfers and pensions. Social-welfare programs differ in the size and mode of social assistance provided. Garrett (1998) states that the basic patterns of partisan politics show the differences of the political-economic models of states in the era of global markets. The expected
result is the leftist political orientation, the greatest impact of CCT programs on inequality and poverty.

In order to describe the models and to rank the results of this control variable, this section determines the average of the results for each country, reclassifying the measure of ‘cabinet balance’ from one to three, taking into consideration the years defined above: Chile from 2001 to 2016, Colombia from 2000 and 2015; and Mexico from 1996 to 2017. Table 32 shows the following results: While the average of ideological orientation of Chile is one, the average of ideological orientation of Colombia and Mexico is three.

Table 32. Average of Ideological Orientation in Chile, Colombia, and Mexico

<table>
<thead>
<tr>
<th>Country</th>
<th>Ideological Orientation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chile</td>
<td>1</td>
</tr>
<tr>
<td>Colombia</td>
<td>3</td>
</tr>
<tr>
<td>Mexico</td>
<td>3</td>
</tr>
</tbody>
</table>

Source: Prepared by the author. The measure of ‘ideological orientation’ is based on Institute of Political Science of the University of Zurich, Armingeon et al. 2019.

**Participation and political voice.** As was discussed in the last subsection, some Latin American countries have been ruled by the same party or similar group of parties for several decades, often ruled by the oligarchy. Most governments have been elected under democratic systems since the last half of the twentieth Century. As it was mentioned, Mexico was ruled by the PRI for seven decades of the last century, weakening the democratic system and becoming the political system in a dominant party system. Dominant parties need to establish legal barriers and monitor electoral fraud in order to keep the hegemonic party (Magaloni, 2006).
Nevertheless, two additional parties have won the presidential election in Mexico during the current century.

A democratic regimen was established in Chile after the end of the dictatorship of Pinochet in 1990. Even though a left-center coalition has won most of the presidential election, conservatives (right-center) have won some elections too. In fact, the last five administrations have been left-center and right-center presidents. During 2019 and 2020, before the COVID-19 pandemic, class workers, young people, and women have protested for several months, fighting for reduction of inequality, access to better public services, and fighting against corruption and the traditional ruling class. In the end, Chileans were asking for a new constitution.

A large part of the population in Colombia also protested during 2019 and 2020 before the pandemic. Similarly, Colombians have protested against corruption, inequality, and the damage to the environment. In addition, Colombians have protested to ask the government to accomplish the peace agreement signed by the former administration and the guerrillas FARC. Colombia is the longest democracy in Latin America. Nevertheless, a traditional ruling class has controlled the country.

This section proposes to measure participation and political voice by using the Electoral Democracy index developed by the V-Dem Institute, which is an independent research institute at the Department of Political Science, University of Gothenburg, Sweden. The Institute was founded by Professor Staffan I. Lindberg in 2014.

The electoral principle of democracy seeks to embody the core value of making rulers responsive to citizens, achieved through electoral competition for the electorate’s approval under circumstances when suffrage is extensive; political and civil society organizations can operate freely; elections are clean and not marred by fraud or systematic irregularities; and elections affect the composition of the chief executive of the country. In between elections, there is freedom of expression and an independent media capable of presenting alternative views on matters of political relevance. In the V-Dem conceptual scheme, electoral democracy is understood as an essential element of any
This measure has an interval scale from low to high (0-1). Table 33 shows the Electoral Democracy index in Chile, Colombia, and Mexico. The data levels added in the figure correspond to the years of study for each country that this section uses in its analysis. In addition, Figure 11 shows the electoral index for the three countries from 1998 to 2019.

### Table 33. Electoral Democracy Index. Chile, Colombia, and Mexico

<table>
<thead>
<tr>
<th>Year</th>
<th>Chile</th>
<th>Colombia</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>0.853</td>
<td>0.574</td>
<td>0.528</td>
</tr>
<tr>
<td>1997</td>
<td>0.853</td>
<td>0.581</td>
<td>0.546</td>
</tr>
<tr>
<td>1998</td>
<td>0.859</td>
<td>0.558</td>
<td>0.596</td>
</tr>
<tr>
<td>1999</td>
<td>0.852</td>
<td>0.553</td>
<td>0.606</td>
</tr>
<tr>
<td>2000</td>
<td>0.875</td>
<td>0.562</td>
<td>0.619</td>
</tr>
<tr>
<td>2001</td>
<td>0.876</td>
<td>0.530</td>
<td>0.698</td>
</tr>
<tr>
<td>2002</td>
<td>0.880</td>
<td>0.555</td>
<td>0.711</td>
</tr>
<tr>
<td>2003</td>
<td>0.880</td>
<td>0.571</td>
<td>0.715</td>
</tr>
<tr>
<td>2004</td>
<td>0.880</td>
<td>0.553</td>
<td>0.720</td>
</tr>
<tr>
<td>2005</td>
<td>0.881</td>
<td>0.589</td>
<td>0.720</td>
</tr>
<tr>
<td>2006</td>
<td>0.898</td>
<td>0.538</td>
<td>0.698</td>
</tr>
<tr>
<td>2007</td>
<td>0.902</td>
<td>0.562</td>
<td>0.661</td>
</tr>
<tr>
<td>2008</td>
<td>0.902</td>
<td>0.583</td>
<td>0.648</td>
</tr>
<tr>
<td>2009</td>
<td>0.895</td>
<td>0.570</td>
<td>0.672</td>
</tr>
<tr>
<td>2010</td>
<td>0.894</td>
<td>0.596</td>
<td>0.657</td>
</tr>
<tr>
<td>2011</td>
<td>0.880</td>
<td>0.593</td>
<td>0.670</td>
</tr>
<tr>
<td>2012</td>
<td>0.893</td>
<td>0.627</td>
<td>0.665</td>
</tr>
<tr>
<td>2013</td>
<td>0.905</td>
<td>0.624</td>
<td>0.674</td>
</tr>
<tr>
<td>2014</td>
<td>0.902</td>
<td>0.676</td>
<td>0.681</td>
</tr>
<tr>
<td>2015</td>
<td>0.890</td>
<td>0.711</td>
<td>0.649</td>
</tr>
<tr>
<td>2016</td>
<td>0.865</td>
<td>0.652</td>
<td>0.680</td>
</tr>
<tr>
<td>2017</td>
<td>0.879</td>
<td>0.644</td>
<td>0.660</td>
</tr>
</tbody>
</table>


Chapter 2 reviewed the literature regarding the relationship between political voice and inequality. According to the median voter theorem, the more unequal the income distribution, the more the median voter has to gain through the joint action of taxes and transfers, and the more likely the citizen is to vote for higher taxes and transfers (Mahler, 2010). Moreover, a positive relationship between turnout and state redistribution is expected (Mahler & Jesuit, 2006), meaning “low voter turnout means unequal and socioeconomically biased turnout” (Lijphart, 1997, p. 2). For this reason, a significant relationship between the political voice/participation and inequality is expected. The weaker the political voice, the lower the inequality. Therefore, the result expected is that the weaker the political voice, the less impact of CCTs will have on inequality and poverty. In addition, a stronger political voice results in higher control over the redistribution of public transfers. Moreover, the higher the control over public
transfers, the higher the efficiency of CCTs. For this reason, it is expected that the stronger the political voice, the higher the efficiency of CCTs, establishing a significant relation between political voice and the efficiency of CCTs.

Table 34 shows the average of the results for each country in the years defined above in order to describe the models and to rank the results of this control variable. Therefore, the variables are ranked according to the level of electoral democracy. The higher the degree of electoral democracy, the higher one can assume may be the impact of CCTs on reducing inequality and poverty. Consequently, Table 34 shows that the highest average of the degree of electoral democracy is ranked as one and the lowest average is ranked as three. The results are Chile’s average of electoral democracy was 0.89, ranked as one; Mexico’s average was 0.66, ranked as two; finally, Colombia’s average was 0.59, ranked as three.

Table 34. Average of Electoral Democracy Index in Chile, Colombia, and Mexico

<table>
<thead>
<tr>
<th>Country</th>
<th>Average of Electoral Democracy Index</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chile</td>
<td>0.89</td>
<td>1</td>
</tr>
<tr>
<td>Colombia</td>
<td>0.59</td>
<td>3</td>
</tr>
<tr>
<td>Mexico</td>
<td>0.66</td>
<td>2</td>
</tr>
</tbody>
</table>


Corruption. The last control variable that this dissertation proposes to this model is corruption. Mexico, Chile, and Colombia are the only three Latin American members of the Organisation for Economic Co-operation and Development (OECD). Even though being part of
an organization such as the OECD is a sign of economic stability, transparency, and government
discipline, Mexico and Colombia have been negatively qualified in terms of transparency. The
Global Corruption Barometer Latin American and the Caribbean 2019 is the largest and most
detailed survey of Latin American citizens’ views on corruption and their experiences of bribery
developed by Transparency International. According to this survey, 34% of public service users
paid a bribe in the previous 12 months in Mexico, 20% in Colombia, and 13% in Chile (Pring
and Vrushi, 2019). Moreover, 54% think corruption has increased in the previous 12 months in
Chile, 52% in Colombia, and 44% in Mexico (Pring and Vrushi, 2019).

Mexico has been characterized because of its large bureaucracy and corruption in all
levels. Dominant parties, such as the Mexican PRI, need to offer rewards and access to
government positions to different politicians, and to mobilize voters in order to establish co-
option (Magaloni, 2006). For instance, the PRI in Mexico, which was a hegemonic party for 71
years, used clientelism, giving economic transfers to elites and communities in exchange for
their loyalty to the party and their votes (Magaloni, 2006).

Similarly, Colombia has had a high index of corruption perception. Citizens frequently
complain about corruption and the absence of justice in these cases. On the contrary, Chile has
been traditionally seen as a model in Latin America because of its strong institutions.
Nevertheless, Colombian and Chilean citizens, as was mentioned above, protested for several
months in 2019 and the beginning of 2020 against corruption and other issues. Young people,
women, ethnic minority groups, and the working class do not believe in current institutions and
are asking for a structural change. However, momentum has been building against corruption.

A growing distrust and disappointment in government has contributed to increasing anti-
corruption sentiment across the region, but this is empowering populist leaders who
frequently make matters worse. Despite these challenges, people are overwhelmingly
positive in their desire to make a difference in the fight against corruption. Ultimately,
people have the right to report corruption, demand that politicians act with integrity, and seize opportunities to actively shape the decisions and processes which affect their lives, families and communities. (Pring and Vrushi, 2019, p. 3)

Chapter 2 described how politicians use CCTs to influence elections. For this reason, this dissertation recommends using the Clientelism index, which has been developed by the V-Dem Institute.

Clientelistic relationships include the targeted, contingent distribution of resources (goods, services, jobs, money, etc) in exchange for political support. The point estimates for this index have been reversed such that the directionality is opposite to the input variables. That is, lower scores indicate a normatively better situation (e.g. more democratic) and higher scores a normatively worse situation (e.g. less democratic). Note that this directionality is opposite of that of other V-Dem indices, which generally run from normatively worse to better. (Coppedge et al., 2020, p. 273)

The Clientelism index has an interval scale from low to high (0-1). Figure 12 shows the Clientelism index in Chile, Colombia, and Mexico. The data levels added in the figure correspond to the years of study for each country that this dissertation uses in its analysis. In addition, Table 35 shows the electoral index for the three countries from 1998 to 2019. Chile has a better situation than Mexico and Colombia. Moreover, Chile has reduced the Clientelism index from 0.144 in 2006 to 0.09 in 2017. Conversely, Colombia has had a high Clientelism index; it was 0.686 in 2016. Finally, Mexico had a high index of 0.418 in 2018.

Chapter 2 explained that social programs are used by politicians as a form of patronage in order to build political machines (Fukuyama 2011), taking advantage of national programs with a large number of beneficiaries for exclusively particular interests. Clientelism and corruption negatively impact the outcomes of the social programs and public transfers. Therefore, a negatively significant relationship between clientelism and the impact of CCTs on inequality and
poverty is expected. For this reason, the expected result is that the higher the clientelism index, the lower the impact of CCTs on inequality and poverty.

Figure 12. Clientelism Index. Chile, Colombia, and Mexico


Moreover, the higher the clientelism and the corruption, the lower the efficiency of CCTs. For this reason, it is expected that the higher the clientelism index, the lower the efficiency of CCTs, establishing a negatively significant relationship between clientelism and the efficiency of CCTs.
Table 35. Clientelism Index in Chile, Colombia, and Mexico

<table>
<thead>
<tr>
<th>Year</th>
<th>Chile</th>
<th>Colombia</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>0.157</td>
<td>0.745</td>
<td>0.603</td>
</tr>
<tr>
<td>1997</td>
<td>0.155</td>
<td>0.745</td>
<td>0.546</td>
</tr>
<tr>
<td>1998</td>
<td>0.125</td>
<td>0.766</td>
<td>0.485</td>
</tr>
<tr>
<td>1999</td>
<td>0.126</td>
<td>0.778</td>
<td>0.485</td>
</tr>
<tr>
<td>2000</td>
<td>0.139</td>
<td>0.778</td>
<td>0.463</td>
</tr>
<tr>
<td>2001</td>
<td>0.139</td>
<td>0.778</td>
<td>0.288</td>
</tr>
<tr>
<td>2002</td>
<td>0.139</td>
<td>0.745</td>
<td>0.288</td>
</tr>
<tr>
<td>2003</td>
<td>0.139</td>
<td>0.754</td>
<td>0.300</td>
</tr>
<tr>
<td>2004</td>
<td>0.139</td>
<td>0.754</td>
<td>0.313</td>
</tr>
<tr>
<td>2005</td>
<td>0.138</td>
<td>0.733</td>
<td>0.313</td>
</tr>
<tr>
<td>2006</td>
<td>0.112</td>
<td>0.677</td>
<td>0.364</td>
</tr>
<tr>
<td>2007</td>
<td>0.144</td>
<td>0.663</td>
<td>0.415</td>
</tr>
<tr>
<td>2008</td>
<td>0.144</td>
<td>0.663</td>
<td>0.415</td>
</tr>
<tr>
<td>2009</td>
<td>0.145</td>
<td>0.663</td>
<td>0.434</td>
</tr>
<tr>
<td>2010</td>
<td>0.127</td>
<td>0.687</td>
<td>0.410</td>
</tr>
<tr>
<td>2011</td>
<td>0.100</td>
<td>0.668</td>
<td>0.410</td>
</tr>
<tr>
<td>2012</td>
<td>0.114</td>
<td>0.668</td>
<td>0.406</td>
</tr>
<tr>
<td>2013</td>
<td>0.112</td>
<td>0.678</td>
<td>0.422</td>
</tr>
<tr>
<td>2014</td>
<td>0.102</td>
<td>0.680</td>
<td>0.422</td>
</tr>
<tr>
<td>2015</td>
<td>0.073</td>
<td>0.684</td>
<td>0.429</td>
</tr>
<tr>
<td>2016</td>
<td>0.073</td>
<td>0.683</td>
<td>0.469</td>
</tr>
<tr>
<td>2017</td>
<td>0.075</td>
<td>0.686</td>
<td>0.441</td>
</tr>
</tbody>
</table>


In order to describe the models and to rank the results of this control variable, this section determines the average of the results for each country in the years defined above (see Table 36). Then, the variables are ranked according to the level of corruption. The narrower the index of clientelism, the higher the means that a government has to impact the poor people. Therefore, Table 36 shows that the lowest average of clientelism is ranked as one and the highest average is
ranked as three. The results are Chile’s average of the Clientelism index was 0.12, being the narrowest. Therefore, Chile was ranked as one. Mexico’s index was 0.41, ranked as two. Finally, Colombia’s Clientelism index was 0.70, ranked as three.

Table 36. Average of Clientelism Index in Chile, Colombia, and Mexico

<table>
<thead>
<tr>
<th>Country</th>
<th>Average of Clientelism Index</th>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chile</td>
<td>0.12</td>
<td>1</td>
</tr>
<tr>
<td>Colombia</td>
<td>0.70</td>
<td>3</td>
</tr>
<tr>
<td>Mexico</td>
<td>0.41</td>
<td>2</td>
</tr>
</tbody>
</table>


Multivariate Effects on the Dependent Variables

This section describes the effects of the independent and control variables on the three dependent variables. The first model uses the dependent variable CCTs’ impact on inequality; the second model uses the dependent variable CCTs’ impact on poverty, and the third model uses CCT’s efficiency as a dependent variable.

Model 1: CCTs’ Impact on Inequality Reduction.

CCTs’ impact on inequality reduction was measured by the factor decomposition of changes in inequality from 2003 to 2017 in Chile, 2007 to 2016 in Colombia, and 1998 to 2018 in Mexico. Table 37 shows the model of the impact of CCTs on inequality reduction. The dependent variable is based on the CCTs’ contribution to total inequality in Gini points.
Table 37. Model 1: CCTs’ Impact on Inequality Reduction

<table>
<thead>
<tr>
<th>Variable / Country</th>
<th>Chile</th>
<th>Colombia</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent Variable 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Budget Size of CCT</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Independent Variable 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CCT's Targeting</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Control Variable 1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>GDP Growth</td>
<td>1</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Control Variable 2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Globalization</td>
<td>1</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Control Variable 3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Government Ideology</td>
<td>1</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Control Variable 4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Democracy</td>
<td>1</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Control Variable 5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corruption</td>
<td>1</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Dependent Variable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inequality Reduction</td>
<td>3</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

Source: Prepared by the author.

Table 37 shows the model on the impact on CCTs budget size and targeting on inequality reduction. Moreover, the model includes the following control variables: GDP growth, globalization, government ideology, democracy, and corruption. Each variable was explained through the development of this dissertation and in this chapter. The rank ordered of the independent variables is closer to the rank-ordering of the dependent variables than any of the control variables, which means that the size and targeting is more important in reducing inequality than what can be explained by the control variables.

Nevertheless, as was explained in Chapter 5, the impact of CCTs on inequality has been marginal. Chile’s Ethical Family Income Program has the narrowest impact on inequality, which was null. Table 37 shows that in terms of inequality, Chile’s Ethical Family Income Program is
the narrowest program, having the worst results. In addition, it seems that Chile’s strong performance in the control variables have enabled the country to have the best Gini index compared to Colombia and Mexico. Chile is the first among the three countries in economic openness, democracy, and controlling corruption. One can infer that this strong performance in the control variables has enabled Chile to have public policies that have an impact on inequality. Therefore, Chile has not increased the budget of CCTs, keeping it very small, and has not increased the number of beneficiaries in comparison to Colombia and Mexico.

Regarding government ideology, Chile is the only centre-left administration between the three countries. It was expected that the leftist governmental orientation will result in a robust size and budget of CCTs. Nevertheless, it seems that ideological orientation does not have a correlation with the reduction of inequality, which depends on the size and targeting. Similarly, the governments of Mexico and Colombia have been both center-right and both have robust CCT programs. Finally, the impact of CCTs on inequality has been highly marginal, as was explained in Chapter 6.

**Model 2: CCTs’ Impact on Poverty Reduction.**

CCTs’ impact on poverty reduction was measured by the counterfactual analysis of the impact of CCTs in poverty Interval Measure in Chile, Colombia, and Mexico in chapter 6. Table 38 shows the model of the impact of CCTs on poverty reduction. The dependent variable is based on the impact on the Interval Measure of market income. This model uses the same independent and control variables that the last model. All the variables have been described in this chapter.

Chile’s *Ethical Family Income Program* has had the narrowest impact on poverty. Table 38 shows a relation between the smaller impact on poverty and the size of CCTs. The smaller the
coverage and number of beneficiaries of CCTs, the smaller the impact of CCTs on poverty.

Moreover, the smaller the budget of the government to finance the CCTs, the smaller the impact of CCTs on poverty.

Table 38. Model 2: CCT’s Impact on Poverty Reduction

<table>
<thead>
<tr>
<th>Country / Variable</th>
<th>Chile</th>
<th>Colombia</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent Variable 1</td>
<td>Budget Size of CCT</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Independent Variable 2</td>
<td>CCT's Targeting</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Control Variable 1</td>
<td>GDP Growth</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Control Variable 2</td>
<td>Globalization</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Control Variable 3</td>
<td>Government Ideology</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Control Variable 4</td>
<td>Democracy</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Control Variable 5</td>
<td>Corruption</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Dependent Variable</td>
<td>AVE Poverty Reduction</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

Source: Prepared by the author

Moreover, one can establish that there is a strong relationship between the budget size of CCTs and the impact of CCTs on poverty reduction. The higher the budget, the higher the impact, as was expected. Moreover, it can be inferred that there is a strong relationship between the targeting of CCTs and the impact of CCTs on poverty reduction. The higher the number of beneficiaries of CCTs over the total population, the higher the impact of CCTs on poverty.
In addition, it seems an inverted relation between the average of poverty reduction (dependent variable) and most of the control variables. While Chile’s reduction on poverty has been the worst, Chile had the best practices in the openness of the economy, democracy, and control of corruption. In addition, Colombia has had the worst performance among the three cases in these areas.

It does not seem there is a relation between governmental orientation and the impact of CCTs on reducing poverty. Perhaps because Chile has been the most centre-left among the three countries, it has had the smallest impact on poverty. Furthermore, Chile has not had a robust CCT size.

**Model 3: Efficiency of CCTs.**

The efficiency of CCTs was measured by the results of the Kakwani’s (1986) ‘index of concentration’ in chapter 6. Table 39 shows the model of efficiency of CCTs. The dependent variable is based on the efficiency of CCTs in targeting the poorest. This model uses the same independent and control variables as the last two models. All the variables have been described in this chapter.

Table 39 shows that the bigger the budget of CCTs, the less efficient the CCTs, as was expected. Therefore, it can be inferred that there is a strong relation between targeting and the efficiency of CCTs. The smaller the size of CCTs in terms of targeting, the more efficient the CCTs are in targeting low-income groups. Chile has had the smaller percentage of the number of beneficiaries over its total population and Chile’s Ethical Family Income Program has been the more efficient among the three CCTs. Conversely, Colombia’s More Families in Action has had a robust program in terms of beneficiaries and has been the least efficient, meaning it did not
target the poorest of the poor. As was expected that a robust budget and number of beneficiaries could negatively affect the efficiency of CCTs because of the large bureaucracy that is required.

Table 39. Model 3: Efficiency of CCTs

<table>
<thead>
<tr>
<th>Country / Variable</th>
<th>Chile</th>
<th>Colombia</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Independent Variable 1</td>
<td>Budget Size of CCT</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Independent Variable 2</td>
<td>CCT's Targeting</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Control Variable 1</td>
<td>GDP Growth</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Control Variable 2</td>
<td>Globalization</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Control Variable 3</td>
<td>Government Ideology</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Control Variable 4</td>
<td>Democracy</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Control Variable 5</td>
<td>Corruption</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Dependent Variable</td>
<td>AVE Efficiency</td>
<td>1</td>
<td>3</td>
</tr>
</tbody>
</table>

Source: Prepared by the author

In addition, one can infer that there is a close relation between the efficiency of CCTs and most of the control variables than with the independent variables. The most open, the most center-left, the most democratic, and the least corrupt is the most efficient. Chile has had the strongest globalization, has had the best indexes in democracy and control of corruption, has had the best economic performance (GDP growth), and Chile’s CCTs have been the more efficient. Conversely, Colombia has been the least economically open, the center-rightest, the least democratic, and the most corrupt among the three countries, and Colombia’s CCTs have been the
least efficient. But paradoxically, as was reviewed in the last two models, Chile’s CCT program has had the least effect on reducing inequality and reducing poverty, owing to the smaller size of its program and its targeting. These results appear to support the paradox of redistribution posited by Korpi and Palme, in which shallowly progressive but very large programs can accomplish more redistribution than more targeted programs.

Therefore, further analysis of small CCTs that take into consideration these control variables can be developed in order to determine if the efficiency on targeting in Chile is due to the small number of beneficiaries and small budget, due to the control variables, or due to the both of them.

As a conclusion, the description of this cross-national variance model is a contribution to determine additional variables that could affect the impact of CCTs on inequality and poverty and the efficiency of CCTs. Additional data is necessary in order to develop the model and generalize results. Other Latin American countries could be included, which their data is comprised in the LIS. This model can be used for further studies.
CONCLUSIONS

This brief chapter reviews the key conclusions of this study, suggests some important implications of the findings of this dissertation, and proposes some avenues for future research.

**CCTs in Mexico, Colombia, and Chile**

CCTs have been a common strategy for most Latin American countries for combating poverty and inequality and have become an international reference because other regions in the world have replicated CCTs. Mexico, Colombia, Chile, and Peru comprise the Pacific Alliance, which is an initiative of regional integration founded in 2011; one of its main objectives is “[to] drive further growth, development and competitiveness of the economies of its members, focused on achieving greater well-being, overcoming socioeconomic inequality and promot[ing] the social inclusion of its inhabitants” (Pacific Alliance, 2019). This dissertation analyzed the impact and efficiency of three important CCT programs: *Prosperity* in Mexico, *More Families in Action* in Colombia, and *Ethical Family Income Program* in Chile.

Mexico, Colombia, and Chile have increased the number of beneficiaries over the years. The three programs look to diminish poverty by increasing the income of low-income families by giving a cash subsidy. In addition, the programs have some conditions regarding children’s school attendance and health-nutritional check-ups. Nevertheless, there are some differences between the programs, such as budget and coverage, which are causal relationships. According to ECLAC (2020), Mexico has large and expansive CCTs that covered 24.13% of its population
in 2018, expending 0.37% of the GDP. It is followed by Colombia, which covered 21.50% of its population in 2017, expending 0.28%. Meanwhile, Chile covered only 4.44%, expending 0.12 of the GDP. Most of the literature has analyzed the effectiveness of CCTs in Latin America and the impact of the reduction of CCTs on poverty. The main contribution of this dissertation is the evaluation and analysis of the impact of CCTs on inequality and poverty reduction. In addition, this dissertation has evaluated the efficiency of CCTs and has studied the criteria of budget and targeting to determine the variations of these criteria that could explain the differences among CCTs in their impact and effectiveness.

**Mexico’s Prosperity.**

The data presented in this dissertation shows that CCTs contribute to diminishing inequality in Mexico, representing the third income source in reducing inequality. Nonetheless, the real amount of inequality reduction is marginal, with 0.004 Gini points from 1998 to 2008. Moreover, *Prosperity’s* contribution to the total change in inequality was insignificant. CCTs were responsible for 6.8% of the total change in inequality in Mexico, which represented a reduction of 0.005 Gini points from 1998 to 2018. Conversely, pensions and labor income were the most important income source for reducing inequality in Mexico.

Mexico’s *Prosperity* in 2018 contributed to diminishing the poverty of market income by around 1.5 poverty Headcount points, meaning that 1.5% of the national population left poverty because of CCTs. Moreover, Mexico’s *Prosperity* diminished the poverty Interval Measure by 0.98 points, which is also a marginal result. The observed rate in Mexico in 2018 was 0.16, which means 16% (20,052,447 people) of the total population were poor; the poverty Headcount Ratio without CCTs was 17%, meaning *Prosperity* had an impact on reducing the poverty Headcount Ratio by 1%, which represents 1,253,277 people. Moreover, the Income Gap in
Mexico in 2018 was 32.22, which means that the income of poor people was 32.22% under the median income; the Income Gap without CCTs was 35.68%. Nevertheless, Mexico has not targeted only low-income groups, meaning their targeting is inefficient.

These results could explain the increase of targeting and budget through the years. 

*Prosperity* increased targeting from 8.09% in 1998 (at that time the program was called *Opportunities*) to 24.13% of the total population in 2018 and the budget from 0.07% in 1998 to 0.35% of the GDP in 2018. The higher the budget, the higher the impact, as was expected. Moreover, it can be inferred that there is a strong relationship between the targeting of CCTs and the impact on poverty reduction. The higher the number of beneficiaries of CCTs over the total population, the higher the impact of CCTs on poverty.

It will be interesting to analyze how *Prosperity* will continue under the current administration of President Andrés Manuel López Obrador (2018 – present), who is a left-wing and populist president elected in Mexico in 2018 and founder of the National Regeneration Movement (*Movimiento Regeneración Nacional*).

**Colombia’s More Families in Action.**

The data presented in this dissertation shows that *More Families in Action* only shared 0.7% of the total income in 2016; the share measures the weight of each income source with respect to total income. Therefore, *More Families in Action* have not had a significant impact on inequality. In addition, *More Families in Action*’s contribution to the total change in inequality were insignificant. Colombia’s CCTs were responsible for 7.7% of the total change in inequality in Colombia, which represented a reduction of 0.005 Gini points from 2007 to 2016.

Colombia’s *More Families in Action* in 2016 contributed to diminishing the poverty of market income by around 1.5 poverty Headcount points, meaning that 1.5% of the national
population left poverty because of CCTs. Moreover, Colombia’s *More Families in Action* decreased the poverty Interval Measure by 0.97 points in 2016. Even though this is a positive impact on the reduction of poverty, it is a marginal result. The observed rate in Colombia in 2016 was 0.20, which means 20% (9,552,169 people) of the total population were poor; the poverty Headcount Ratio without CCTs was 21%, meaning *More Family in Action* had an impact on reducing the poverty Headcount Ratio by 1%, which represents 477,608 people. Moreover, the Income Gap in Colombia in 2016 was 40.38, which means that the income of the poor people was 40.38% under the median income; the Income Gap without CCTs was 42.97%.

These positive results could explain the increase of targeting and budget through the years. *More Families in Action* increased targeting from 17% in 2007 to 21.61% of the total population in 2016 and the budget from 0.17% in 2007 to 0.29% of the GDP in 2016. The higher the budget, the higher the impact, as was expected. Moreover, it can be inferred that there is a strong relationship between the targeting of CCTs and the impact of CCTs on poverty reduction. The higher the number of beneficiaries of CCTs over the total population, the higher the impact of CCTs on poverty. Finally, Colombia has not targeted the poorest of the poor, meaning their targeting is inefficient.

**Chile’s Ethical Income Family Program.**

The data presented in this dissertation shows that even though Chile has had the most egalitarian redistribution, CCTs in Chile have had a low impact on inequality and poverty. The main reason that explains this paradox is the number of beneficiaries. Chile’s *Ethical family Income Program* has been small in amounts and beneficiaries, having an irrelevant impact. CCTs’ in Chile were not responsible for any change in reducing inequality in Chile. CCTs were responsible for -1.9% of the total change in inequality in Chile, which represented a value of
0.000 Gini points. Conversely, pensions and labor income were the most important income source for reducing inequality in Chile.

Chile’s Ethical Family Income Program in 2017 did not contribute to diminishing the poverty of market income. The observed rate in Chile in 2017 was 0.16, which means 16% of the total population were poor people (2,947,070 people); the poverty Headcount Ratio without CCTs (counterfactual analysis) was also 16%, meaning Ethical Family Income Program did not have an impact on the poverty Headcount Ratio. Moreover, the Income Gap in Chile in 2017 was 30.39, which means that the income of the poor people was 30.39% under the median income; the Income Gap without CCTs was 30.43%. Therefore, Ethical Family Income Program contributed to reducing the Income Gap by 0.04%, which is a marginal result. Chile’s Ethical Family Income Program marginally reduced the poverty Interval Measure by only 0.013 in 2017. Ethical Family Income Program did not have an impact on the Interval Measure in 2017; the observed poverty rate of Ethical Family Income Program was 4.88 in 2017. This result did not have any substantial change with the Interval Measure without CCTs, which was 04.86 in 2017.

These poor results can be explained by the small targeting and small budget of this program. The smaller the coverage and number of beneficiaries of CCTs, the smaller the impact of CCTs on poverty. Moreover, the smaller the budget of the government to finance the CCTs, the smaller the impact of CCTs on poverty. Ethical Family Income Program’s targeting was 2.56% in 2003 and 4.4% of the total population in 2017. Similarly, Ethical Family Income Program’s budget was 0.02% in 2003 and 0.14% of the GDP in 2017.

Chile’s Ethical Family Income Program has the highest target-efficient among the three programs. The measure of efficiency, which establishes the degree to which transfers are
targeted towards low-income groups, has shown that only Ethical Family Income Program has an efficient targeting, meaning it targets low-income groups. Chile has had the smaller percentage of the number of beneficiaries over its total population and Chile’s Ethical Family Income Program has been the more efficient among the three CCTs.

In sum, CCTs had a marginal impact on the total change in inequality in Chile, Colombia, and Mexico. The bigger the size, the higher the impact on poverty, but the narrower the efficiency and complementary institutional arrangements.

**Findings in this Research**

The analysis of fiscal redistribution shows some differences in the importance of income sources in reducing inequality among Chile, Colombia, and Mexico. While labor income was the most significant income source causing changes in inequality in Colombia and Mexico, pension was the most significant income source causing change in Chile. Labor income was responsible for 77.6% of the total change in inequality in Colombia and 70.4% in Mexico. In Chile, labor income was 29.4%, being the second income source responsible for the total change in inequality. Nevertheless, the contribution of labor income to the reduction of inequality is still small. Labor income reduced 0.006 Gini points in Chile from 2003 to 2017, 0.047 Gini points in Colombia from 2007 to 2016, and 0.050 Gini points in Mexico from 1998 to 2018.

CCTs’ contribution to the total change in inequality were insignificant. CCTs were responsible for 7.7% and 6.8% of the total change in inequality in Colombia and in Mexico, respectively, which represented a reduction of 0.005 Gini points in Colombia from 2007 to 2016 and 0.005 Gini points in Mexico from 1998 to 2018. Conversely, the CCTs were responsible for -1.9% of the total change in inequality in Chile, which represented a value of 0.000 Gini points.
In sum, CCTs had a marginal impact on the total change in inequality in Chile, Colombia, and Mexico.

Regarding the analysis of poverty, this dissertation shows that Chile reduced poverty more than Mexico and Colombia, which may explain why Chile funds CCTs less than Colombia and Chile because of their other poverty-reducing programs.

Finally, chapter 7 suggested that the size of the programs and the targeting of the programs had the same rank ordering as the reduction and both inequality and poverty. At the same time, there did not seem to be any relationship between the controls and the dependent variables, suggesting that it was the independent variables that had the most effect on the dependent variables. Nevertheless, as was explained in Chapter 5, the impact of CCTs on inequality has been marginal. Chile’s Ethical Family Income Program has the narrowest impact on inequality, which was null.

One can establish that there is a strong relationship between the budget size of CCTs and the impact of CCTs on poverty reduction. The higher the budget, the higher the impact, as was expected. Moreover, it can be inferred that there is a strong relationship between the targeting of CCTs and the impact of CCTs on poverty reduction. The higher the number of beneficiaries of CCTs over the total population, the higher the impact of CCTs on poverty.

In addition, it seems an inverted relation between the average of poverty reduction (dependent variable) and most of the control variables. While Chile’s reduction on poverty has been the worst, Chile had the best practices in the openness of the economy, democracy, and control of corruption. In addition, Colombia has had the worst performance among the three cases in these areas.
Finally, the results show that the bigger the budget of CCTs, the less efficient the CCTs, as was expected. It can be inferred that there is a strong relation between targeting and the efficiency of CCTs. The smaller the size of CCTs in terms of targeting, the more efficient the CCTs are in targeting low-income groups. As was expected that a robust budget and number of beneficiaries could negatively affect the efficiency of CCTs because of the large bureaucracy that is required.

One can infer that there is a close relation between the efficiency of CCTs and most of the control variables than with the independent variables. The most open, the most center-left, the most democratic, and the least corrupt is the most efficient. Chile has had the strongest globalization, has had the best indexes in democracy and control of corruption, has had the best economic performance (GDP growth), and Chile’s CCTs have been the more efficient. Conversely, Colombia has been the least economically open, the center-rightest, the least democratic, and the most corrupt among the three countries, and Colombia’s CCTs have been the least efficient. But paradoxically, as was reviewed in the last two models, Chile’s CCT program has had the least effect on reducing inequality and reducing poverty, owing to the smaller size of its program and its targeting.

**Challenges of this Dissertation and Improvement Opportunities**

There is some absence of data on the household national surveys that LIS cannot take into consideration in its harmonized dataset, affecting the analysis of some studies. Most of the LIS data used in this dissertation did not include universal transfers except for Mexico in 2018, affecting the Gini after taxes, social insurance benefits, and universal benefits. For this reason, this Gini was not included in the analysis. Moreover, the LIS data of Colombia and Mexico (1998) does not include private pensions. The absence of these data affects the analysis of market
income. Nevertheless, it did not affect the results of fiscal redistribution because private pensions
are neither taken into consideration in the Gini after taxes and all transfers (disposable household
income). Finally, taxes have not been included in Mexico and Chile, which kept this research
from including a specific analysis of the impact of taxes on inequality and poverty.

The future inclusion of the variable universal transfers in LIS data and the national
household surveys of Colombia and Chile conducted by the governmental authorities is highly
recommended in order to homogenize the data among the countries. Moreover, Chile, Mexico,
and Colombia are members of the OECD and the Pacific Alliance. It would be highly
recommended that these organizations contribute to the harmonization of the national household
surveys of their country-members in order to facilitate further research in different areas.

**Implications of the Results of this Dissertation**

Even if inequality has slightly diminished in Latin American, the gaps are still immense and
most Latin Americans are not conscious enough about the risks and threats of inequality. This
situation suggests that governments, academia, international organizations (IGOs and NGOs),
social organizations, and local communities must prioritize this problem, analyze and evaluate
alternatives, and design public policies and programs that address this situation. It is highly
recommended that Latin American governments switch from CCTs to another kind of program
in which poor citizens get the support to generate their own incomes, improve their education,
working skills, and opportunities to develop their own small and medium businesses.

The main reason that CCTs don’t have much of an effect on inequality reduction across
the entire income spectrum is due to how small these programs are as a share of GDP.
Consequently, one can state that if the problem is that not enough money is being put into CCTs,
then one solution is to increase the amount of the subsidy to the beneficiaries. Nevertheless, the
sustainability of the program is already at risk due to the large number of families that are beneficiaries of the program, concretely in large CCT programs, such as in Colombia and Mexico. More Families in Action’s targeting was 21.61% of the total population in 2016 and Opportunities’ targeting was 24.13% of the total population in 2018.

The results of this dissertation appear to support the paradox of redistribution posited by Korpi and Palme, in which shallowly progressive but very large programs can accomplish more redistribution than more targeted programs. Therefore, the role of the state must strongly come back to the supply-side, giving opportunities for the development of all citizens, including low-income groups, rural areas, and ethnic groups, through high-quality education, health access, promotion of cultural and sports activities, productive projects and employment, identity documents, and the right to vote and participate. As Milanovic (2016) establishes, adopting a goal of establishing equalizing endowments—such as the ownership of assets and quality in education in long-term periods—should control and then reduce market income inequality, making government intervention via transfers and taxes less important (Milanovic, 2016). The supply side-programs should be implemented in order to let societies have access to fundamental goods, which include education, health, housing, culture, and the right to vote and to participate (Piketty, 2020). Because of the threats and risks of CCTs, the role of the state should focus on the supply-side factor instead of the demand-side factor. Any cash transfer, including conditional ones, must be given in extremely concrete and specific conditions and targeted to very specific populations. CCTs have become a political machine and an unsustainable tool that has increased without any control and with the support of international organizations.

Because this dissertation has inferred that CCTs have marginally impacted inequality reduction and have slightly impacted poverty reduction, I propose that CCTs should be
developed only to specific and vulnerable communities (the poorest of the poor) or those affected by a natural disaster or a pandemic that have a vulnerable position. The propose of these CCTs should not be the reduction of poverty and, more obviously, should not be the reduction of inequality. The main objective of CCTs should be to support communities that are in great danger and high vulnerability. I propose that CCTs should follow the following criteria: CCTs should be targeted to only people who live in rural areas, should complement supply-side programs, should have as beneficiaries a maximum of 5% of the total population, and should have specific exit rules.

CCTs should be targeted only to people who live in rural areas because governments in Latin America have historically struggled to develop socio-economic programs and public policies for these communities. CCTs should only be developed if and only if the government is simultaneously developing supply-side public policies in order to give real opportunities for the development of these communities and the access of fundamental goods.

In addition, CCT beneficiaries should consist of a maximum of 5% of the total population in order to get the sustainability in the middle- and long-term of the program and to guarantee its continuity during crisis stages. Moreover, the smaller the CCTs, the higher the efficiency. Even though CCTs in Chile have not had any impact on inequality and have had a marginal impact on poverty, Chile has been the less unequal country among the three cases studies of this dissertation, which means Chile has developed other public policies that had a better impact on inequality and poverty than those developed in Mexico and Colombia. Since 2013, beneficiaries in Chile made up 5% of the population, spending less than 0.15% of its annual GDP, which means CCTs in Chile are sustainable in the long term. Moreover, Chile has been the more efficient program among the three case studies. A small CCT program such as Ethical Family
Income Program is more efficient, meaning the public transfers are used in a better way. A small program also contributes to controlling corruption and clientelism.

In addition, CCTs should have specific exit rules that give the opportunity to other vulnerable people to participate in the program. The cycle must be clearly defined, giving enough time for the supply-side programs and access to the fundamental goods, such as education, health, productive projects, and the right to vote by the distribution of income and wealth. In sum, CCTs should be only considered as an impact-program to support highly vulnerable communities that need rent, which should only be developed in a parallel way to the supply-side programs.

In addition, it is important to design “universal-local” strategies that benefit all the members of a community or set of communities, including broad communication and active participation in their territories. These strategies could avoid some of the tensions caused when some families are beneficiaries of policies, but others are not. In addition, it is necessary to design methodologies that include the communities’ participation and decision in their territory regarding governmental investment and its application.

In the design and implementation of a public policy aimed at rural communities, local autonomy must be strengthened, and structural reforms must be developed to avoid a culture of dependency. Furthermore, these structural reforms should emphasize cultural independence so that local communities are less likely to experience vulnerability or self-doubt regarding the ability to improve independently (UNDP, 2010).

It is necessary to continue to develop strategies for building trust between the community and the actors of different levels. The community has expectations, but it distrusts institutions because of the perpetual absence of the state in rural areas. Therefore, it is highly recommended
that the strategy includes the inter-institutional articulation and the immediate implementation of some projects of social and economic impact as early victories. In addition, this strategy must include the socialization of progress and accountability to the community in a systematic and regular basis to build this trust. Furthermore, it is necessary to strengthen inter-agency coordination in the fields of national, regional, and local governments. In public administration, it is a constant challenge to coordinate between the various bodies involving the same territory. Governments must be very careful with a community that has been isolated from the presence of the state because these communities can be greatly affected if the process of project development is done in a disorganized way: an action without damage is a priority.

Finally, it is going to be very difficult for Latin American governments to reduce or to end CCTs because of the social and political implications. It is necessary to plan a transition, based on new models that reestablish the supply-side, in which the current families that are beneficiaries could take part in every stage of this new policy. Socialization and strong communication during the process will be necessary, as well as an evaluation of impacts and learned lessons.

**CCTs in Crisis, COVID-19, and Universal Income**

Currently, the globe is struggling with a health and economic crisis caused by the pandemic named COVID-19. Because of the global economic crisis of COVID-19, ECLAC expects a negative growth of the GDP of -5.3% in Latin America., in which Chile’s GDP will decrease -4%, Colombia’s GDP -2.6%, and Mexico’s GDP -5.5% ECLAC (2020b). This pandemic has shown that the poorest are more affected.

As in most crises, low-income groups struggle with the worst consequences. COVID-19 has not been the exception. The coronavirus pandemic is having severe repercussions for lower-
income households in Latin America (Bottan et al., 2020). Some of the measures that some Latin American governments have taken are cash transfers to low-income groups. For instance, the Colombian government has not only given extra money for the current beneficiaries of More Families in Action (2.6 million families) during this pandemic but also it has developed a new program called Solidarity Income (Ingreso Solidario), benefiting an additional 2.5 million families. CCTs should be implemented as a tool to support vulnerable communities in the middle of an economic crisis, natural disaster, or a pandemic and should be used for a very specific period of time.

There is a new discussion around the world on providing universal basic income. The universal basic income is a broader discussion and has some similarities and differences with CCTs. The main similarity is that universal rent and CCTs are cash subsidies. The main difference is the conditionality to the beneficiaries; as was described, CCTs have some conditions upon the beneficiaries, such as school enrollment and nutritional check-ups. Instead of having the discussion of a universal income, I recommend focusing the discussion on the importance of implementing a program of supply-side programs for the most vulnerable communities, guaranteeing their access to fundamental goals, such as education, health, housing, culture, and productive programs in order to give opportunities for their socio-economic development.

**Further Studies**

Chile is a highly interesting case study. Perhaps Chile has been the most unequal country in the market income among the three case studies, meaning that Chile has had the least Gini index before taxes and government transfers while Chile has the highest fiscal redistribution with the intervention of government through taxation and public transfers. This high fiscal redistribution
has led Chile to be less unequal than Mexico and Colombia. CCTs in Chile were not the cause of these results because the *Ethical Family Income Program* has not had an impact on inequality reduction and has had a slight impact on poverty reduction. Therefore, the government intervention that has good results is caused by other public policies and programs different from CCTs. It is highly recommended to study what programs have caused a high fiscal redistribution on Chile and their impact on inequality and poverty reduction in order to take into consideration the learned-lessons that could be applied to other Latin American countries.

In addition, further analysis of small CCTs that take into consideration economic and institutional control variables can be developed in order to determine if the efficiency of targeting in Chile is due to the small number of beneficiaries and a small budget, due to the control variables, or due to both of them.

A future study can better assess the effects of CCTs by including more countries in the methods of the fiscal redistribution, the decomposition of the Gini index, the counterfactual analysis, and the descriptive multivariate cross-national model in order to achieve some statistically significant results. The LIS includes the following data for other CCTs in Latin America: Brazil’s *Bolsa Familia Program* from 2006 to 2016; Guatemala’s *Mi Familia Progresa* and *Social Allowance* from 2011 to 2014; Panama’s *Opportunities Network* from 2007 to 2013; Paraguay’s *Tekoporá* from 2010 to 2016; and Uruguay’s *National Social Emergency Response Plan* and *Value of Assistance Card Social Uruguay* from 2007 to 2016. These data can be included in this research in order to have more robust results.
REFERENCE LIST


Cecchini, Simone, et al. (2009). Desafíos de los programas de transferencias con corresponsabilidad: los casos de Guatemala, Honduras y Nicaragua. Santiago de Chile: CEPAL.


Coppedge, M et al. (2020). ”V-Dem Codebook v10” Varieties of Democracy (V-Dem) Project.


Departamento de Planeación Nacional (DNP) and Departamento para la Prosperidad Social (DPS). (2012). Impactos de largo plazo del programa familias en acción en municipios de menos de 100 mil habitantes en los aspectos claves del desarrollo del capital humano. Unión Temporal Econometria – SEI.


ECLAC. (2020). Non-contributory social protection programmes in Latin America and the Caribbean database. Social Development Division, ECLAC. https://dds.cepal.org/bpsnc/home


VITA

Jorge Humberto Guzmán González is a Colombian Fulbright Scholar, former Diplomat, and member of the Alpha Sigma Nu, the international Jesuit Honor Society. Dr. Guzman attended the Instituto de Estudios Superiores de Administracion in Caracas, Venezuela, where he received a Master’s in Public Management in 2011. From 1997 to 2001, he attended the Universidad Externado de Colombia, where he earned a bachelor’s in government and International Relations.

Doctor Guzman has experience in the management of social projects, the design of public policies, and the identification, design, and evaluation of regional and bilateral social development and integration projects, with specific knowledge of vulnerable communities and rural areas. During his studies in the Ph.D. program, Dr. Guzman was Consul General of Colombia in Calgary, Canada from 2018 to 2020. Before his studies at Loyola, Dr. Guzman was advisor of the Office of the Minister of Foreign Affairs from 2010 to 2016, was advisor of the Office of the Vice-President of Colombia from 2007 to 2010, and advisor of the Ambassador of Colombia in Venezuela from 2002 to 2006.