

# Pre-crisis Conditions and Government Policy Responses: Chile and Mexico during the Great Recession

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Bruno Martorano

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## PRE-CRISIS CONDITIONS AND GOVERNMENT POLICY RESPONSES: CHILE AND MEXICO DURING THE GREAT RECESSION

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**Abstract.** Chile and Mexico experienced extraordinary economic and social improvements over the first decade of the twenty-first century. Nonetheless, the 2008–2009 international crisis dramatically affected these two economies via real channels. Both countries reacted to the external shock by implementing several measures. However – thanks to the policies implemented during the period before the crisis – the Chilean government enjoyed more fiscal space and was able to introduce a stimulus package twice as large the Mexican one. In particular, Chile supported families with children via the expansion of the main social protection programme, additional cash transfers to the poorest families with children and passive labour market measures. In contrast, the worsening of fiscal conditions pushed Mexico into a fiscal consolidation process since 2010. As a result, child poverty dropped in Chile while it rose sharply in Mexico.

**Keywords:** economic recession, family policies, social protection, cash transfers

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## 1. INTRODUCTION

Latin American countries performed well both in economic and social terms during the first decade of the twenty-first century (Cornia, 2014). To different extents, they experienced positive economic growth as well as a sharp decline of poverty and inequality (López-Calva and Lustig, 2010). Nonetheless, the arrival of the international crisis and the resulting changes in external conditions severely affected the region (Fernández-Arias and Montiel, 2010). However, governments have been able to implement countercyclical fiscal policy to cope with the negative consequences of the crisis (Martorano, 2014).

Not all the Latin American countries achieved the same results. Chile and Mexico are two emblematic cases and their different experiences highlight the crucial role played by initial conditions. Indeed, the Chilean government introduced a stimulus package twice as large the Mexican one thanks to the availability of more fiscal space. In addition, the worsening of fiscal conditions pushed the Mexican government to embark on a process of fiscal consolidation since 2010. As a result, the Chilean economy recovered quickly while inequality and poverty continued to decrease. In contrast, the Mexican economy recovered slowly and poverty sharply increased.

The aim of this paper is to compare the initial conditions of Chile and Mexico, their policy responses to the recent economic crisis and the resulting consequences on poverty and inequality – with special attention being paid to households with children. The paper is organized in the following way: Section 2 discusses the conditions of Chile and Mexico before the crisis; Section 3 illustrates the impact of the crisis and the following policy reactions; Section 4 discusses the distributional consequences of the policy reactions; Section 6 concludes.

## 2. CHILE AND MEXICO BEFORE THE CRISIS

Notwithstanding the favorable external conditions, there are no doubts that a crucial contribution to the good economic and social performances of the 2000s was the adoption of a new economic model (Cornia, 2014). Indeed, the majority of Latin American countries implemented a set of fiscal and monetary policies that boosted economic development and promoted a sharp reduction of poverty and inequality (Cornia and Martorano, 2011).

The monetary policy was basically countercyclical. Indeed, “during periods of the bonanza, monetary authorities attempted to control the expansion in money supply, fall in interest rates and credit expansion triggered by export expansion and large financial inflows through an accumulation of reserves and sterilization” (Cornia, 2012: 26). Some countries explicitly introduced an inflation targeting regime. For example, the Chilean model targets an inflation rate of 3 per cent, “with a two-year horizon to correct deviations and a  $\pm 1$  percentage point tolerance range” (De Gregorio, 2011: 1). The Mexican model also targets an inflation rate of 3 per cent with a  $\pm 1$  percentage point tolerance range. Moreover, both countries adopted a floating exchange rate regime that allows authorities to correct it “under exceptional circumstances”. As a result – during the last decade – inflation declined and remained at low levels in Chile and in Mexico, while the exchange rate regime promoted stability and trade competitiveness.<sup>1</sup>

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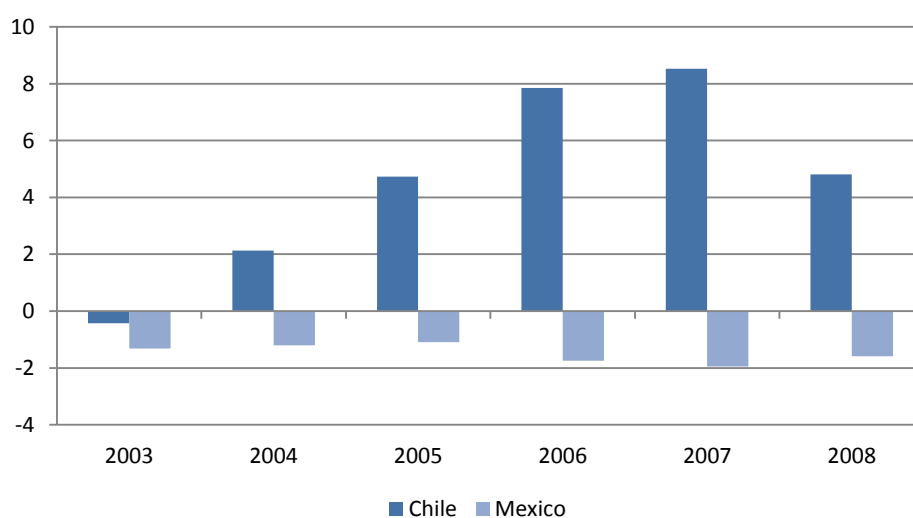
<sup>1</sup> This policy mix went under pressure in the late 2000s. The rise of international food and fuel prices led domestic prices up in 2008 and pushed monetary authorities to raise the interest rate in both countries.

With respect to fiscal policy, Latin American countries recorded positive results thanks to the ability to contain expenditure together with a growing capacity to mobilize revenue (Martorano, 2014). As other countries in the region, Chile and Mexico were able to benefit from favorable terms of trade especially through state-owned companies operating in the export sector such as the Chilean *Corporación Nacional del Cobre* (CODELCO) and the Mexican *Pemex* (Cornia et al, 2011). Nonetheless, the main difference between Chile and Mexico lay in the capacity to generate revenue from taxes. On one hand, tax/GDP ratio increased in Chile from 19.6 per cent in 2002 to 21.4 per cent in 2007. On the other hand, Mexico was the only Latin American country that recorded a drop in tax/GDP ratio by about 2 points to 8.8 per cent over the same period (Cornia et al, 2012).

Many factors facilitated the growing ability of Latin American countries to mobilize revenue via taxation as the good economic conditions, the process of economic formalization, the introduction of new technologies and, last but not least, the increase of tax morale and reduction of tax evasion. This performance was also assured by fiscal reforms that generated the so called “silent revolution” (Lora, 2007). For example, in 2002 Chile implemented a fiscal rule targeting a structural balance of 1 per cent of GDP. Similarly, a fiscal rule was introduced by the Mexican government in 2006 which set a zero target cash balance. Without doubt, this first generation of fiscal rules contributed to increasing the fiscal discipline in Chile and Mexico, as well as in other Latin American countries. However, they showed considerable limits during the recent crisis since they reduced the space for implementing countercyclical policy measures. Thus, Chile and Mexico (as other Latin American countries) partially reformed their rules in order to increase the fiscal space to cope with the unexpected macroeconomic shock.

These various factors have helped Latin American countries to record positive fiscal results since the early 2000s. Fiscal balance turned positive or close to zero in almost all the countries. Chile was one of the best performers while Mexico continued to record fiscal deficits (Figure 1).

Figure 1. Fiscal Balance in Chile and Mexico over the period 2003–2008



Source: CEPALSTAT

Fiscal sustainability was also assured by a sharp reduction of indebtedness and a rapid accumulation of international reserves. On average, the regional debt/GDP ratio decreased from 60 to 30 per cent between 2002 and 2007 (Martorano, 2014). In Chile, it fell by 11 points from 15 to 4 per cent, while the Mexican debt/GDP ratio dropped by 8 points from 46 to 38 per cent over the same period (Table 1).

As a result of the different extent of these policy improvements, Chile and Mexico entered the crisis period under different conditions. In particular, Chile could count on a large fiscal space because the government was able to accumulate resources during the years of *economic bonanza* and to promote fiscal credibility and sustainability. The situation was more complicated in Mexico where the available policy space was smaller (Table 1).

Table 1. Fiscal indicators in Chile and Mexico in 2007

Countries	Primary balance (% of GDP)	Target primary balance	Structural primary balance	Required structural adjustment	Public Debt (% of GDP)	Currency Reserves (% of GDP)	EMBI Spreads
		(a)	(b)	(a-b)			
Chile	8.52	0.16	5.59	-5.43	3.89	13.50	100
Mexico	-0.51	0.83	-2.26	3.09	37.83	8.76	150

Source: Martorano (2014). Notes: The target primary balance measures the structural primary balance that is necessary to achieve for the sustainability of debt. Following Fernández-Arias and Montiel (2010), it is calculated assuming a GDP growth rate of 3 per cent and a long-term interest rate of 7 per cent. Structural primary balance shows the primary balance without the cyclical components. For more details see Martorano (2014).

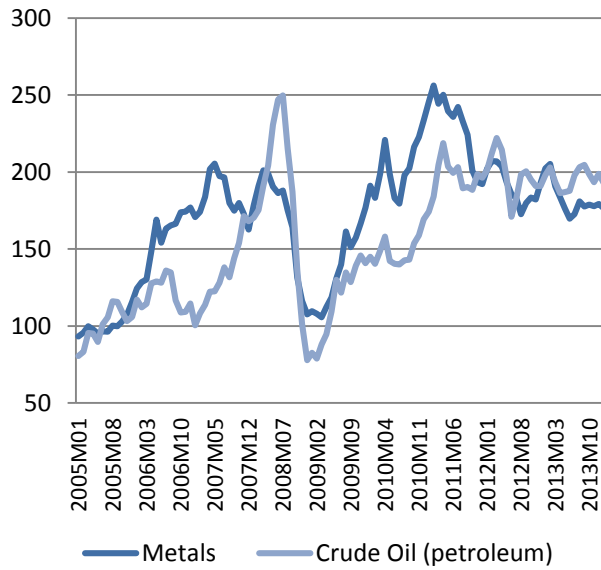
### 3. IMPACT OF THE CRISIS AND POLICY RESPONSES

#### 3.1 The unexpected shock of the late 2000s

After almost a decade of sustained economic growth, Chile and Mexico as well as other Latin American countries were hit by the financial crisis in late 2008. Due to the excessive concentration of exports in metal products and especially copper, the Chilean economy was dramatically affected by the worsening economic conditions in developed countries, the deceleration of the Chinese economy and the decline of international prices (Figure 2 and Figure 3). Although the Mexican exports were more diversified by products, they were more concentrated by destination since exports to the United States accounted for more than 70 per cent of total exports. Thus, the drop of GDP recorded by the United States in 2008 (-0.3 per cent) and 2009 (-3 per cent) negatively hit the Mexican economy (Figure 3).

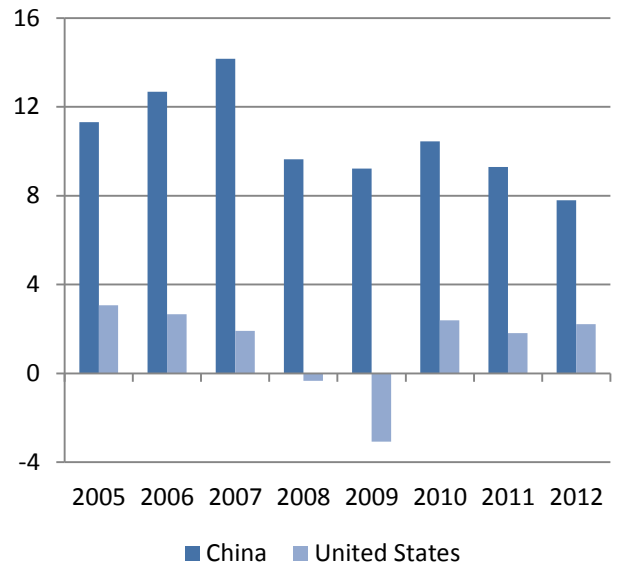


Figure 2. Commodity Price Index, 2005 = 100



Source: IMF and WEO database

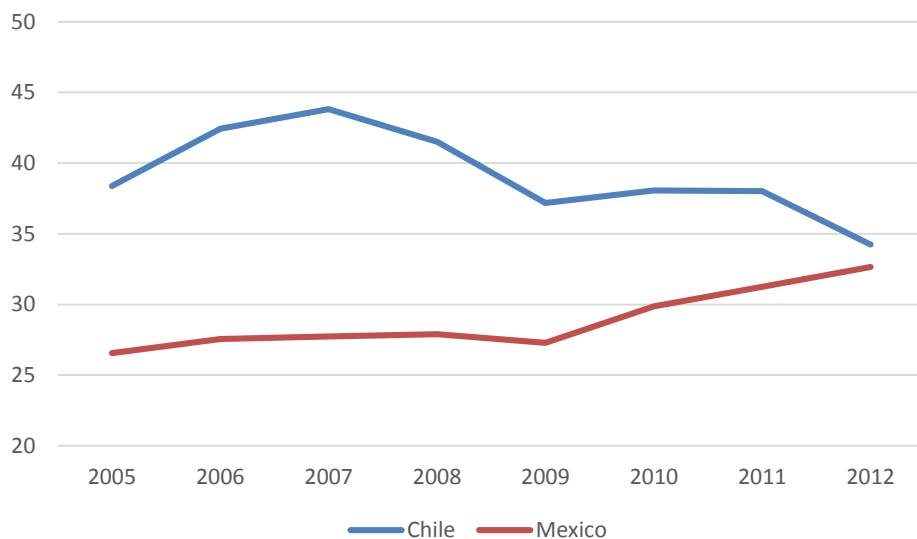
Figure 3. GDP growth rate in China and USA over the period 2005=2012



Source: IMF and WEO database

Figure 4 shows that the export/GDP ratio in Chile dropped by about 6 points over the period 2007–2011. In particular, exports declined by 2 points in 2007 and by 4 points in 2008 while they kept stable since 2009. In contrast, Mexican exports slightly declined between 2008 and 2009 though they recovered and performed well in the following years.

Figure 4. Export (% of GDP), 2005–2012

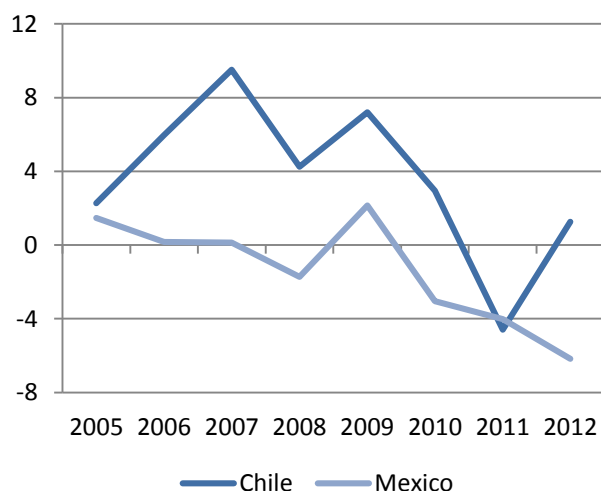


Source: World Development Indicator

Beyond this, the international turbulence provoked a reduction in the financial flows from rich economies to the rest of the world. Private portfolio flows (as percentage of GDP) decreased by more than 5 points in Chile and by 1.9 points in Mexico between 2007 and 2008; they went up by 3 points in Chile and around 4 points in Mexico in the following year and sharply declined by 11 points in Chile and more than 6 points in Mexico from 2009 to 2011 (Figure 5).

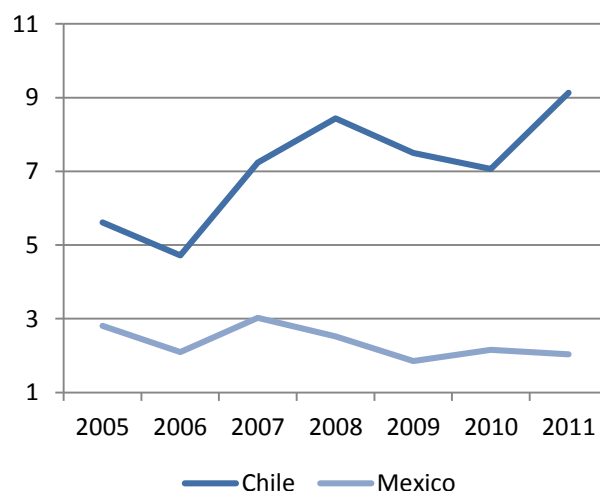
On the other hand, foreign direct investments (FDI) were much less volatile. Between 2008 and 2009, on average FDI dropped by 1.2 percentage points from 3.3 to 2.1 per cent of GDP and slightly recovered in the following years. Mexico experienced a reduction of FDI by about 0.7 points over the period 2008 and 2009 and an increase by 0.3 points between 2009 and 2010. More important was the change recorded in Chile, where the FDI/GDP ratio fell by 1 point between 2008 and 2009 and kept on decreasing in the following year by around 0.5 points to 7 points (Figure 6). In contrast to Chile, Mexico was also affected by the reduction of remittances that dropped from 2.6 in 2007 to 2 per cent of GDP in 2012.

Figure 5. Private portfolio flows, net (%GDP)



Source: World Development Indicators

Figure 6. Direct investment, net (%GDP)



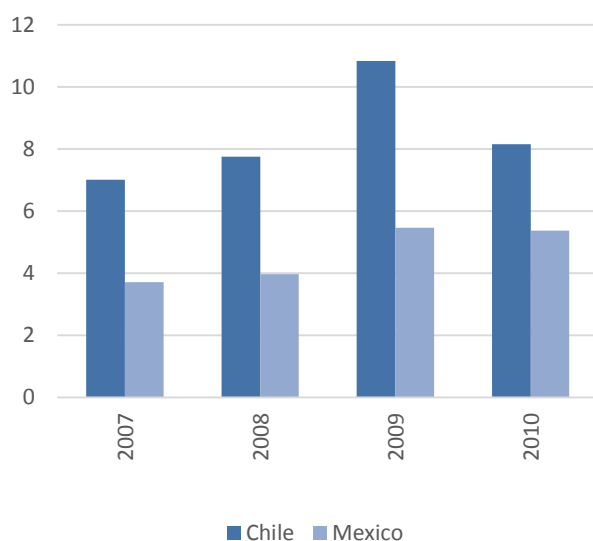
Source: World Development Indicators

These events generated important consequences. In particular, the unemployment rate rose by 3 points up to 11 per cent in Chile, and almost 2 points up to 5.5 per cent in Mexico (Figure 7). Lastly, external shock affected economic performance in both countries. In particular, the Chilean GDP recorded a negative growth rate from the second quarter of 2008 (Figure 8). The crisis reached its peak in Chile in the fourth quarter of 2008, after which the economy recovered, but still performed negatively in the first quarter of 2010 due to the earthquake.<sup>2</sup> The Mexican economy followed a similar pattern even though it recorded a negative growth rate later in the third quarter of 2008 (Figure 8). The crisis reached its peak in Mexico in the first quarter of 2009<sup>3</sup> and the drop in GDP recorded was larger, though performance remained positive, at low values, from the second half of 2009.

<sup>2</sup> The cost of earthquake was estimated between 1 and 1.5 per cent of GDP (Central Bank of Chile, 2010).

<sup>3</sup> In addition, Mexico was hit in 2009 by an epidemic of influenza A (H1N1) which caused a drop of 0.5 per cent in GDP (IMF, 2010).

Figure 7. Unemployment rate (per cent of total labour force)



Source: IMF WEO database

Figure 8. Growth rate compared to previous quarter, seasonally adjusted



Source: OECD database

### 3.2. Policy responses to the crisis

The Chilean and Mexican governments reacted to the international crisis quite differently as the “policy space” to implement countercyclical policies differed substantially.

#### 3.2.1 Chile: a prompt and aggressive response to the crisis

When inflationary pressures eased in January 2009, the Central Bank decided to lower the policy rate by 750 basis points to 0.75 per cent to boost economic activity. Moreover, the reaction of Chilean authorities promoted the normalization of financial conditions thanks to the implementation of additional measures. In particular, “the swap programme was extended from one to six months, thus offering the market up to US\$ 5 billion. As a complement to this measure, repurchase agreements with similar terms were set up to inject local currency liquidity into the system. The central bank also announced that it would accept bank deposits as collateral for renewable 7-day repos, which effectively broadened the range of guarantees permissible for transactions in the financial system” (ECLAC, 2009: 122).

On the fiscal side, the Chilean government implemented a stimulus package of US\$4 billion equivalent to 2.8–3 per cent of GDP (Zahler, 2011)<sup>4</sup>. By tapping the resources accumulated during the years of *economic bonanza*, the Chilean government increased public expenditure despite the sharp drop recorded in tax revenue. In particular, some expenditure measures aimed at sustaining the employment level and stimulating economic activity while others were specifically targeted to

<sup>4</sup> “The plan’s financing originated from the resources of the Economic and Social Stabilization Fund and the issuance of bonds authorized by the 2009 Budget Law. Of the US\$4 billion, it was announced that US\$3 billion would be assigned to finance spending and investments in Chilean pesos, while the remaining US\$1 billion would be used to finance spending and investments in dollars” (Zahler, 2011: 205).

the alleviation of the negative consequences of the macroeconomic shock on the most vulnerable groups.

To favour the economic recovery, the government increased public investment via the state owned copper mining company (CODELCO) while new economic resources were transferred to the Production Development Corporation (CORFO) and the Small Enterprise Guarantee Fund (FOGAPE) (ECLAC, 2009). Moreover, the government increased the resources available for the Technical Cooperation Service (SERCOTEC) and the *Banco Estado* in order to ease access to credit for small businesses (Contreras and Ffrench-Davis, 2012).

The government implemented additional measures to sustain employment such as the provision of economic support to vulnerable firms, a subsidy for younger people working in the formal sector and a progressive financial help for independent and seasonal workers (Contreras and Ffrench-Davis, 2012). Before the crisis, Chile was one of the few Latin American countries with a system of unemployment benefits. During the recent economic crisis, “unemployment insurance was expanded to cover workers with fixed-term employment or service contracts for up to two months at replacement rates of 35 percent of income” (Robalino et al, 2014: 111).

To protect families and children, an additional cash payment was given to beneficiaries of the *Chile Solidario* programme (ECLAC, 2009). For the poorest families not included in the *Chile Solidario* programme, the government provided a cash transfer called *Bono de Apoyo a la Familia* paid in three different instalments (Robles, 2013). Since April 2011, these transfers became regular and were part of the *Asignación Social* that represented the first step toward the introduction of a new anti-poverty programme called the *Ingreso Etico Familiar*.<sup>5</sup> For the elderly, the PASIS welfare pension was replaced with the *Pension Basica Solidaria* that assured a larger coverage rate and more generous benefits (Todd and Joubert, 2011). Last but not least, the housing subsidies programme was extended and strengthened (ECLAC, 2009).

Table 2. Chile: Countercyclical Fiscal Measures in the early stage of the crisis

Workfare (1)	Social Protection (2)	Fiscal Stimuli (3)	Have these policies been maintained or scaled back in 2010–11?
Employment subsidy for low-wage young workers	Additional cash transfers to low income households	Public investments in infrastructures and housing	(1) Maintained
Extension of Unemployment Solidarity Fund to provide access to all unemployed workers	Payment of US\$ 70 per family dependent made available for the most vulnerable households in March 2009.	Various tax reductions	(2) Scaled back  (3) Scaled back

Source: Powell (2012)

<sup>5</sup> This new programme was thought of as part of a more global reform of the Chilean social protection system in order to overcome its weakness and provide better protection to vulnerable groups (Martorano and Sanfilippo, 2012).

### 3.2.2 Mexico: a weak policy response followed by fiscal consolidation

Also in Mexico, monetary policy has been accommodating, although to a lesser extent than in Chile. After the reduction of inflation pressures, the Central Bank cut interest rates by 375 basis points to 4.5 per cent during the first half of 2009. As in Chile, financial conditions improved after 2008 thank also to external support. In particular, “in October 2008 the establishment by the U.S. Federal Reserve of temporary liquidity swap facilities with the Banco de México of up to US\$30 billion (extended in February and again in June 2009); and the approval in April 2009 by the IMF of a flexible credit line arrangement, with no conditionalities, of approximately US\$47 billion” (Ros, 2011: 174).

Yet, due to limited fiscal space, the Mexican stimulus package was smaller than in other Latin American countries (about 1.5 per cent of GDP in 2009).<sup>6</sup> As in the Chilean case, the Mexican authorities implemented several measures in different sectors. In order to boost economic recovery, the government promoted infrastructure spending, transfers to development banks, support to small and medium-sized enterprises, and to the export sector (OECD 2009). To reduce the negative consequences related to the sharp increase of unemployment, the government tried to focus more on the generation of employment introducing several measures such as training and temporary jobs (Khanna et al, 2014). In particular, the *Programa de Preservación del Empleo* was established, the *Programa Temporal de Empleo* was extended by about 40 per cent with respect to the original plan, and the *Servicio Nacional de Empleo* was strengthened (Valencia Lomelí et al, 2013). In contrast to Chile, “Mexico does not have a proper unemployment benefits system, but during the crisis the government issued regulations to facilitate the withdrawal of savings from the mandatory individual pension accounts” (Robalino et al, 2014: 111 - 112). Moreover, coverage of the medical insurance and maternity benefits for dismissed workers was extended from two to six months (Valencia Lomelí et al, 2013). Lastly, via the *Seguro de Cesantía en Edad Avanzada* the government guaranteed a pension to elderly people (aged 60 years and more) who became unemployed and had contributed at least for 24 years (Freije et al, 2014).

Through the 2009 National Agreement to Support the Household Economy and Employment, the Mexican government implemented several measures to help households facing economic difficulties. First of all, a reduction of the energy costs (gasoline, electricity fees, etc) was implemented. However, one of the most important measures to protect poor households and children was related to the changes implemented in the *Oportunidades* programme. First, the benefit was increased. Second, the government promoted an expansion in coverage of the *Oportunidades's* programme with support from the World Bank. Similarly, the coverage rate for other programmes such as the *Programa de Apoyo Alimentario* and the *Habitat* was extended. Overall, the cost of social protection measures was about 0.40 per cent of GDP (Valencia Lomelí et al, 2013).

However, since 2010 worsening of the fiscal balance pushed the government to promote a fiscal adjustment process cutting some current expenditures (excluding social programmes), levying new taxes or raising existing ones. In particular, “a new 3% levy was imposed on telecommunications.

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<sup>6</sup> See Zhang et al (2010), OECD (2009).

In addition, the maximum individual and corporate income tax rate was raised temporarily from 28% to 30%; VAT was increased from 15% to 16%; and the tax on gaming and lotteries jumped from 20% to 30%. Levies on tobacco, beer and other alcoholic beverages were also raised temporarily” (ECLAC, 2009: 174).

Table 3. Mexico: Countercyclical Fiscal Measures

Workfare (1)	Social Protection (2)	Fiscal Stimuli (3)	Have these policies been maintained or scaled back in 2010–11?
The temporary employment program at the federal level was expanded by 40% over what had been planned	Launch of the <i>Programa de Apoyo Alimentario</i> (PAL)	Public investments in infrastructures	(1) Temporary employment program further expanded. (26% vis-à-vis 2009). Employment Preservation Program scaled back
Launch of Employment Preservation Program for protecting employment in vulnerable businesses	Expansion of <i>Oportunidades</i> Program.	Support to private sector	(2) PAL expanded and <i>Oportunidades</i> maintained
		Reduction in energy price for households	(3) Maintained

Source: Powell (2012)

#### 4. POVERTY CHANGE AND DISTRIBUTIONAL IMPACTS OF THE CRISIS IN CHILE AND MEXICO

As reported above, the aim of this work is to analyze the impact of the crisis on poverty and inequality. For this purpose, we use data from national sources. For Chile, data are from the Encuesta de Caracterización Socioeconómica Nacional (CASEN) 2006 and 2011. For Mexico, data are extracted from the Encuesta Nacional de Ingresos y Gastos de los Hogares (ENIGH) 2006 and 2012. Income variables are equivalised using the OECD modified scale that “gives a score of 1 to the household head. Each of the other household members aged 14 and more receives a score of 0.5, while each child with age less than 14 receives a score of 0.3” (Bradshaw et al, 2012: 4). To measure poverty, we set a line fixed at 60 per cent of median disposable income in 2006 and we adjust it for inflation in the following years.

##### 4.1 Progressivity and redistributivity of social transfers

The measures implemented during the crisis had important consequences on income composition. Table 6 shows that the share of monetary transfers on disposable income rose in both countries. In particular, they increased from 3.5 to 5.3 per cent in Chile and from 2.8 to 4.7 per cent in Mexico.

Looking at the impact on the different income deciles, changes were progressive in both countries (Table 6). In particular, the poor gained more than others in both Chile and Mexico. In Chile, all the deciles recorded a growth in the share of social transfers on disposable income. The first and second decile gained more than the others since the share went up by almost 4 points (Table 6). In Mexico, the first deciles benefitted most since the share of social transfers on disposable income increased by nearly 7 points (Table 6).

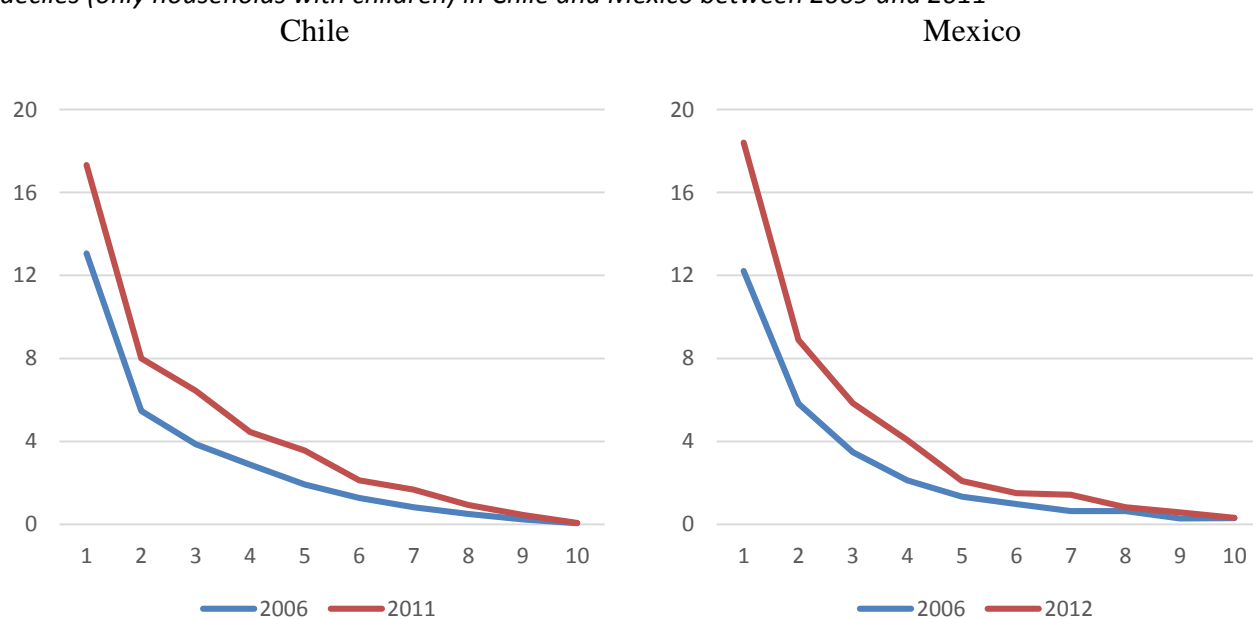
*Table 4. Change in the share of social transfers on disposable income for the different income deciles in Chile and Mexico between 2009 and 2011*

Decile	Chile			Mexico		
	2006	2011	<i>Diff</i>	2006	2012	<i>Diff</i>
1	14.53	18.05	<b>3.52</b>	11.91	18.86	<b>6.94</b>
2	7.01	10.81	<b>3.80</b>	5.77	9.48	<b>3.71</b>
3	4.79	7.65	<b>2.87</b>	3.60	6.25	<b>2.66</b>
4	3.36	5.87	<b>2.51</b>	2.19	4.29	<b>2.10</b>
5	2.10	4.44	<b>2.33</b>	1.36	2.41	<b>1.05</b>
6	1.48	2.72	<b>1.24</b>	1.05	2.00	<b>0.95</b>
7	0.84	2.09	<b>1.24</b>	0.74	1.48	<b>0.74</b>
8	0.51	1.29	<b>0.79</b>	0.66	0.94	<b>0.28</b>
9	0.25	0.59	<b>0.34</b>	0.46	0.61	<b>0.15</b>
10	0.05	0.14	<b>0.09</b>	0.40	0.43	<b>0.03</b>
Average	3.49	5.37	1.87	2.81	4.67	2.02

Source: author's elaboration on Casen and ENIGH data

Changes were progressive in the case of people living in households with children. In both countries, deciles at the bottom of the distribution gained more than others. Figure 8 confirms that changes were progressive in Chile. In addition, the first decile experienced the greatest variation since the share of transfers increased by more than 4 points up to 18 per cent (Figure 8). In Mexico, the changes in the share were positive and larger especially for children living in the bottom of the distribution. Figure 8 shows that the share of transfers on disposable income increased for the first and second deciles respectively by more than 6 points and 3 points. In contrast, this share kept stable for children living at the top of the distribution (Figure 8).

*Figure 9. Change of the share of social transfers on disposable income along to the different income deciles (only households with children) in Chile and Mexico between 2009 and 2011*



Source: author's elaboration on Casen and ENIGH data

## 4.2 Changes in inequality

Table 7 shows how the Gini coefficient changed as a consequence of the recent economic crisis. In particular, it decreased by about 1 point in both countries to 49.3 points in Chile and to 45.5 points in Mexico.

Also in this case it is possible to suppose that these results are partially related to government policy responses. Thus, Table 7 reports the Reynolds and Smolensky index which measures the change in the Gini index before and after transfers. The measures introduced in Chile facilitated the government's ability to redistribute by transfers. While transfers reduced Gini by 1 point in 2006, the Reynolds and Smolensky index went up almost two points in 2011. Also the Mexican government recorded positive results in terms of redistribution. In particular, the Reynolds and Smolensky index went from 0.8 to 1.4 points (Table 7).

Table 5. Gini indicators and Reynold - Smolensky index in Chile and Mexico

	Chile		Mexico	
	2006	2011	2006	2012
<i>Disposable income</i>	50.22	49.29	46.77	45.48
<i>Gross income</i>	51.22	50.98	47.54	46.90
<b>Reynolds - Smolensky</b>	1.00	1.69	0.77	1.42

Source: author's elaboration on Casen and ENIGH data

Applying a Shapley decomposition, it is possible to measure the marginal contribution of selected income components on inequality change. Azevedo et al (2013) provide a simple methodology for this purpose. As a first step, it is necessary to define the different income components. Because information on taxes is not available from survey data, we can only distinguish between two main income components as social transfers ( $y^S$ ) and other income ( $y^M$ ):

$$Y_{it} = y_{it}^M + y_{it}^S \quad (1)$$

In this setting, the Gini coefficient could be expressed as a function of the distribution of the different income components. Formally:

$$Gini = \Phi \{F[Y(y^M, y^S)]\} \quad (2)$$

Thus the government contribution to inequality changes could be measured by analyzing the changes in social transfers. To do this, it is necessary to build a counterfactual distribution replacing the value of social transfers at period 1 with the observed value in the period 0. Formally:

$$\overline{Gini} = \Phi \{F[Y(y^M, \overline{y^S})]\} \quad (3)$$

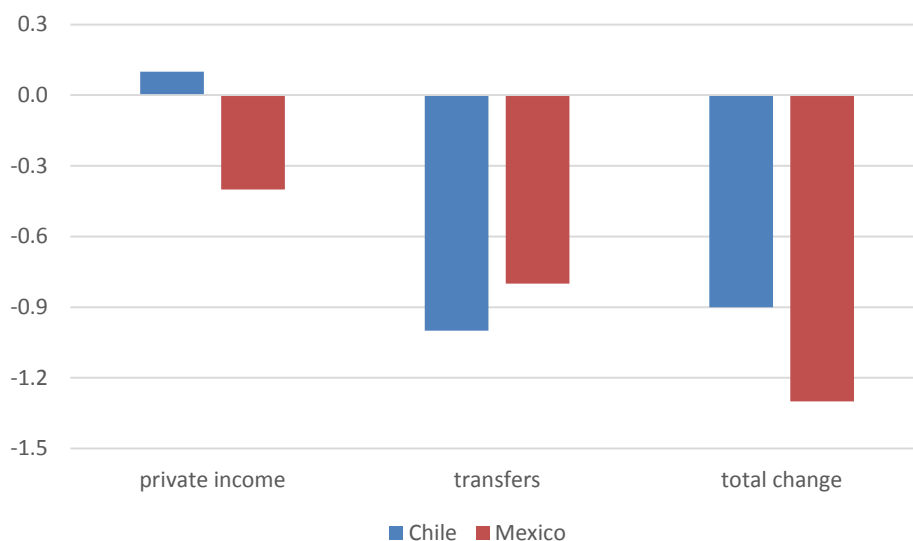
where  $\overline{Gini}$  is the counterfactual value of Gini while  $\overline{y^S}$  is the value of  $y^S$  in period 0. The contribution of social transfers to the Gini index variation is obtained from the difference between the Gini modified index ( $\overline{Gini}$ ) and the value of Gini at period 1. As reported above, this methodology has two important advantages: it is very simple to use and it does not require large



amounts of data which, in the context of developing countries, makes it a useful tool. The most important limit is the equilibrium-inconsistency of the counterfactual distribution.<sup>7</sup>

Figure 9 reports the results of our decompositions for Chile and Mexico over the period of the crisis. On one hand, it is possible to observe that the contribution of private income moved in opposite directions. In particular, it increased Gini in Chile, while changes in private incomes favoured a reduction of inequality in Mexico (Figure 9). On the other hand, social transfers favoured a reduction of inequality of about 1 point in both countries. Overall, the drop of more than 1 point recorded by the Gini coefficient in Mexico is explained by the favourable changes recorded in private incomes, but especially by the government responses to the recent economic crisis. In contrast, inequality dropped less than 1 point in Chile due to the changes in private incomes that partially reduce the redistributive effects of transfers (Figure 9).

Figure 10. Gini decomposition in Chile and Mexico



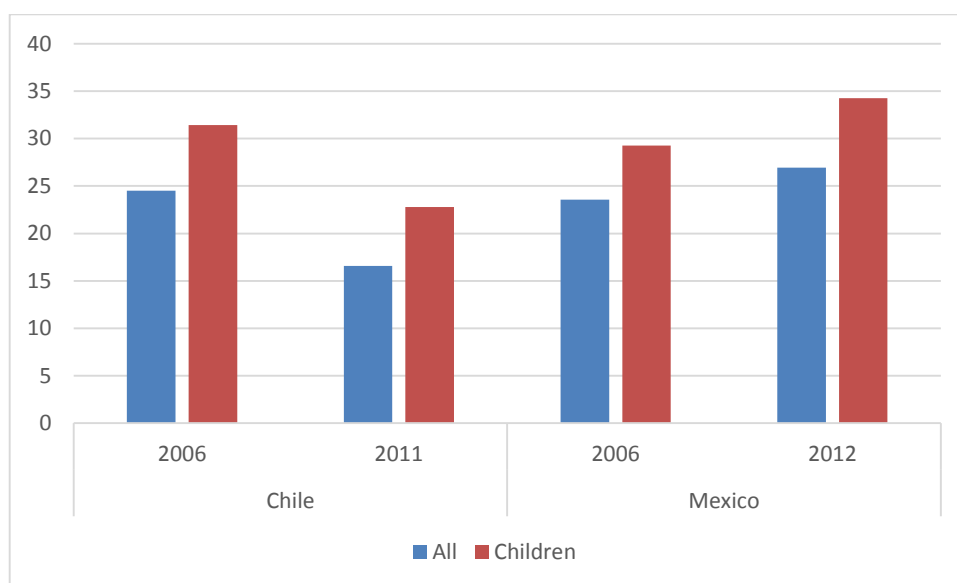
Source: author's elaboration on Casen and ENIGH data

### 4.3 Poverty changes in Chile and Mexico

Although changes in social transfers were progressive in both countries, poverty rates moved in opposite directions in Chile and Mexico. As can be seen in Figure 9, poverty dropped by 8 points in Chile, while it rose by 3 points in Mexico. In addition, child poverty decreased more than overall poverty in Chile while children were more affected by the crisis than other groups in Mexico (Figure 10).

<sup>7</sup> For more details see Azevedo et al, 2013

Figure 11. Chile vs Mexico: changes in child and overall poverty rates



Source: author's elaboration on Casen and ENIGH data

As shown earlier, the governments of Chile and Mexico introduced different measures to help families in economic difficulties. A simple exercise to measure the effectiveness of governments in protecting vulnerable groups is to compare the poverty rate before and after transfers. In 2006, the poverty rate after the government intervention dropped by near 2 percentage points in Chile while it dropped by only 1.5 points in Mexico (Table 8). The measures implemented in Chile strengthened the capacity of the government to support people in poor monetary conditions. Indeed, Table 7 shows that after government interventions poverty dropped by 3.5 points (Table 8). Also, the Mexican government's policy action became more redistributive since it decreased the poverty rate by 2.5 points in 2012 (Table 8). There are also some interesting results related to child poverty. Table 7 shows that the Chilean government's intervention decreased the child poverty rate by 1.8 points in 2006 and by more than 3.3 points in 2011. The capacity of the government to support poor children also recorded a positive variation in Mexico. Indeed, the child poverty rate dropped after government interventions by 1.5 points in 2006 while it decreased by 2.7 points in 2012 (Table 8).

Thus, we can conclude that the sharp increase of poverty in Mexico was mainly driven by the changes in private income. In particular, the policies implemented by the Mexican government were well targeted and promoted redistribution. However, they were not able to appropriately counter the effects of the crisis.

Table 6. Poverty before and after transfers in Chile and Mexico

		Chile		Mexico	
		2006	2011	2006	2012
All	before transfers	26.47	20.1	25	29.41
	after transfers	24.49	16.59	23.55	26.94
Children	before transfers	33.27	26.09	30.97	36.91
	after transfers	31.44	22.77	29.25	34.25
<b>poverty change</b>		<b>1.98</b>	<b>3.51</b>	<b>1.45</b>	<b>2.47</b>
<b>child poverty change</b>		<b>1.83</b>	<b>3.32</b>	<b>1.72</b>	<b>2.66</b>

Source: author's elaboration on Casen and ENIGH data

## 5. CONCLUSIONS

Chile and Mexico experienced sizeable economic and social improvements over the first decade of the twenty-first century. Nonetheless, the 2008–2009 international crisis dramatically affected these two economies via real channels. Although both countries reacted to the crisis by implementing several policy responses, they achieved different outcomes. In particular, the Chilean economy recovered faster than the Mexican one. However, the main differences are related to social outcomes. On one hand, the Gini coefficient decreased in both countries. On the other hand, both overall and child poverty dropped in Chile while they rose sharply in Mexico.

These results give us the possibility to extract useful policy implications. First, this analysis shows how important policy reactions are in terms of timing, quality and “quantity”. In both countries, the prompt government reaction helped the economy to recover faster and better than past episodes. Moreover, Chile and Mexico implemented measures aimed at promoting economic conditions as well as measures that tried to protect the most vulnerable groups. Nonetheless, it was not enough to compensate for the drop in private income suffered by Mexican households and to avoid the increase of child poverty.

Indeed, Chile introduced a stimulus package twice as large the Mexican one. The main explanation for these different reactions lies in the fiscal space available. After the return to democracy, Chile implemented an important tax reform and improved its fiscal position especially in the 2000s. As a result, the government was able to contain public expenditure and to increase tax revenue during the years of *economic bonanza*. Thus - when the financial crisis arrived in late 2008 - Chile and Mexico started from different positions, they generated a different public effort, which in turn led to different economic and social results.

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