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## THE EXPLANATORY POWER OF THE WELFARE STATE DEVELOPMENT ON POVERTY AND INEQUALITY IN LATIN AMERICA AND THE CARIBBEAN

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This brief argues that:

- Poverty and inequality in Latin America and the Caribbean have declined steadily and are now at one of the lowest levels ever recorded.
- However, there are still millions of adults and children suffering from single or multiple deprivations, and the region remains the most unequal in the world.
- The development of social welfare programs and institutions can be an effective way of combating poverty in the region.
- Unfortunately, the actual scope of social investments is not yet at a sufficient level to promote significant reductions in income inequality in the region.

### Introduction

Scholars confirmed decades ago the role that the welfare state (WS) plays in reducing poverty and ensuring the common well-being (Esping-Andersen, 1990; Mishra, 1989). Barr (2012: 12) goes further by considering poverty reduction to be one of the top 10 goals of the WS and, together with redistribution, one of the two main goals of government.

“Welfare effort (social spending as a percentage of GDP) has conventionally been the preferred measure for comparisons in space and time of the level of development [between] welfare states” (Olaskoaga et al., 2013). Poverty is usually quantified using relative or absolute income poverty lines. Taking this into account, Caminada et al. (2012) and Kenworthy (1999), among other scholars, have shown the explanatory power of social spending on the reduction of income poverty. The question must be asked, however, whether income poverty lines and social spending are the ideal indicators to measure poverty and WS development. What about non-monetary deprivations faced by individuals in poverty?

The purpose of this brief is to examine the explanatory power and significance of WS development on single-dimension deprivation and income inequality in Latin America and the Caribbean (LAC), before and after controlling for demographic and cyclical factors. A pooled time series cross-section regression analysis of 18 countries<sup>1</sup> at three points in time was executed. Rather than operationalize the WS only by its social spending dimension, this brief will take into account its multidimensional nature by considering coverage and outcomes as complementary dimensions.

### Quantifying the variables: welfare state development, poverty and inequality

The term ‘WS development’ refers to the progress and institutionalization of welfare programs that address the

social risks of the population in order to assure a common well-being. The WS in LAC could be best described as an emerging WS (Huber & Stephens, 2012), meaning that the welfare programs and institutions are not yet as developed as their counterparts in Europe. In general, the state guarantees a basic minimum of social protection, but in many cases the protection is limited, targeted and not perceived as an entitlement.

We must begin to conceptualize the WS as a multidimensional variable. Using just social spending indicators is subject to criticism because of the over-riding importance given to this one dimension. A measure that seeks to reflect the level of development among the emerging/developmental WS in LAC can be constructed (see Cruz-Martínez, 2014). Using principal component analysis, eight indicators were reduced to three individual welfare indexes. These indexes represent three of the key dimensions of the WS: spending, coverage of welfare programs and outcomes of the interventions of welfare institutions. Through an arithmetic mean<sup>2</sup> each individual index was assigned the same weight in the construction of the multidimensional welfare index (MWI). The composite nature of this multidimensional welfare index rendered comparative analysis of the WS development in 18 Latin American and Caribbean countries possible. Data availability allowed us to calculate the MWI for the years 2000, 2005 and 2010.

Is poverty a multidimensional variable as well? There are plenty of definitions of poverty, but the important question is how to measure it. It is on this issue that the differences between supporters of the monetary and the capability approaches begin to become evident. The same happens between those who perceive poverty as a relative or an absolute problem. Advocates of the monetary approach conceptualize poverty as income or consumption below a set monetary value, usually represented by a poverty line. International organizations such as the World Bank and the Economic Commission for Latin America and the Caribbean use monetary thresholds as the main indicator to measure poverty. However, overcoming poverty is more than exceeding an income poverty line. Individuals in poverty suffer from multiple deprivations, so the poverty rates based on income poverty lines do not present the whole picture of poverty. Income poverty is just one of the multiple deprivations a poor individual confronts.

In contrast, the capability approach conceptualizes poverty as the deprivation of basic capabilities (Sen, 1999; Nussbaum, 2000). Individual deprivation hampers the process of transforming the valuable functioning of resources/goods into capabilities. According to this approach, an individual who is not able to do and be what he or she values is considered to be in poverty.

In this brief we use three indicators of deprivation experienced by individuals in poverty: income deprivation (ratio of population with an income below the cost of the national basic basket of goods and services; *P1*), undernourishment (ratio of population with food

inadequacy<sup>3</sup>; *P2*) and deprivation of hydration and hygiene facilities (ratio of population without access to improved water sources or sanitation facilities; *P3*). In addition, two indicators of income inequality are considered: the ratio of population with an income below 50% of the median income per capita (*In1*) and the Gini index<sup>4</sup> (*In2*). The OECD and the European Union have consistently used this last indicator as a relative poverty indicator, despite the fact that this indicator measures income distribution rather than deprivation or lack of material goods. Because income inequality refers to the unequal distribution of income among different groups in a population, *In2* is considered to be an income inequality indicator.

## Results and Discussion

In order to examine the explanatory power of WS development on the levels of poverty and inequality in the region, a pooled time series cross-section regression analysis was carried out between the MWI and five indicators of individual deprivations and income inequality<sup>5</sup>. Focusing only on the bivariate relationship between the MWI and each of the five explanatory variables, without controlling for other relevant variables, may produce biased results and conclusions. Three indicators were therefore included in the model in order to control for demographic and cyclical effects: the percentage of elderly population, the unemployment rate and the gross domestic product per capita (GDPpc). According to the OECD (2008), Cantillon et al. (2003) and many other scholars, these three indicators appear to be the most relevant control variables in a cross-country analysis. The period considered in this analysis is the first decade of the 21st century. There is no sufficient data to calculate the MWI on a yearly basis, but the composite indicator was constructed for three years during this period: 2000, 2005 and 2010. The dependent and control variables also refer to these three years.

The pooled data results of MWI and five deprivation/inequality indicators for the 18 cases in 2000, 2005 and 2010 appear at first glance to confirm the negative relationship between poverty and the MWI, as well as the null relationship between income inequality and the MWI. In other words, countries with higher combinations of social spending, coverage of welfare programs, and better outcomes of welfare institutions appear to have lower levels of deprivation, but not necessarily lower levels of income inequality.

After taking a closer look at the results of the regression analysis, it was possible to confirm that the MWI indeed appears to have some explanatory power on poverty (*P1*, *P2* and *P3*) as well as on one of the two indicators of income inequality (*In1*). Now, what if we controlled for demographic and cyclical factors that may independently affect the levels of poverty and income inequality? After including controls in the model, the MWI continued to exhibit explanatory powers for poverty, but not for income inequality (*In1* or *In2*). However, it is important to note



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that the explanatory power of the MWI declined after including demographic and cyclical controls.

What is the importance of knowing the explanatory powers of the MWI on poverty and income inequality? Thanks to the analysis of the regression model and the respective regression coefficients it is possible to estimate the effect that increasing the MWI by one unit would have on poverty and income inequality<sup>6</sup>. For approximately each 0.1 unit increase in the MWI we can expect a 3.4% reduction of income deprivations, a 3% reduction of undernourishment and a 1.4% reduction of hydration and hygiene facilities deprivation, while holding the three control factors constant.

Gross Domestic Product per capita (GDPpc) is the other variable showing a statistically significant relationship with the 3 indicators of individual deprivation and the ratio of population below 50% of the median income per capita. However, after analysing the regression coefficients we can confirm that the significance of the GDPpc in the model is not accompanied by a substantial explanatory power on poverty and income inequality. For example, after holding the MWI and the other two controls constant, an increase of one dollar in the GDPpc of the region would reduce income deprivation (*P1*) by approximately 0.002%, the level of undernourishment (*P2*) by approximately 0.0009%, the deprivation of hydration and hygiene facilities (*P3*) by approximately 0.001%, and the ratio of population with an income below 50% of the median income per capita (*In1*) by approximately 0.0004%.

Although the explanatory power of GDPpc on poverty and income inequality is statistically significant, the change/estimated effect it would have on the dependent variables is not very relevant. It would be necessary to increase the GDPpc by about \$ 1000 dollars in order to expect a 0.4% reduction in *In1* and a 0.9% reduction in *P2*, and it would be necessary to increase the GDPpc by \$ 100 dollars in order to expect a 20 basis points change in *P1* (-0.2%) and a 10 basis points change in *P3* (-0.1).

## Conclusion

Poverty and inequality levels in LAC have declined steadily for almost a decade and a half, and are at one of the lowest levels ever recorded. Nevertheless, there are still millions of adults and children in the region suffering from single or multiple deprivations (ECLAC & UNICEF,

2010) and the region continues to be the most unequal region of the world (Tsounta & Osueke, 2014). Thus, reducing poverty and inequality remains an imperative in the Latin American and Caribbean region.

Poverty and inequality have many dimensions and determinants, but the results shown in this brief suggest that the development of social welfare programs and institutions seems to be an effective way of tackling poverty in LAC. On the other hand, the WS development did not appear to be effective in reducing income inequality. The WS as an institution tends to promote equality of opportunities, but this was not the case for LAC in the first decade of the XXI century. This does not mean that the institutionalization and development of the WS is not a solution for income inequality, but it shows that the actual scope, programs, infrastructures, coverage and social investments are not yet enough to promote significant income inequality reductions.

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## References

- Barr, N. (2012) *Economics of the Welfare State*, Oxford: Oxford University Press.
- Caminada, K., K. Goudswaard & F. Koster. (2012) Social income transfers and poverty: A cross-country analysis for OECD countries. *International Journal of Social Welfare* 21: 115-126.
- Cantillon, B., I. Marx & K. Van den Bosch. (2003) The Puzzle of Egalitarianism: About the Relationships Between Employment, Wage Inequality, Social Expenditures and Poverty. *European Journal of Social Security* 5: 108-127.
- Cruz-Martínez, Gibrán (2014). Welfare State Development in Latin America and the Caribbean (1970s–2000s): Multidimensional Welfare Index, Its Methodology and Results. *Social Indicators Research*, 119(3), 1295-1317.
- CEDLAS & World Bank. (2015) *Socio-Economic Database for Latin America and the Caribbean*: <http://sedlac.econo.unlp.edu.ar/eng/index.php>.
- ECLAC. (n/d) CEPALSTAT. United Nations: <http://estadisticas.cepal.org/cepalstat/web/cepalstat/Portada.asp?idioma=i>
- ECLAC & UNICEF. (2010) Pobreza Infantil en América Latina y el Caribe. United Nations: [http://repositorio.cepal.org/bitstream/11362/1421/1/S2010900\\_es.pdf](http://repositorio.cepal.org/bitstream/11362/1421/1/S2010900_es.pdf)



- Esping-Andersen, G. (1990) *The Three Worlds of Welfare Capitalism*, Princeton, NJ: Princeton University Press.
- Esping-Andersen, G. (1996) *Welfare States in Transition: National Adaptations in Global Economy*, London: Sage Publications.
- FAO. (2013) *Food Security Indicators*: <http://www.fao.org/economic/ess/ess-fs/ess-fadata/en/#.VijyWkaHjSg>
- Heston, A., R. Summers & B. Aten. (2012) Penn World Table Version 7.1. *Center for International Comparisons of Production, Income and Prices at the University of Pennsylvania*.
- Huber, E. & J.D. Stephens. (2012) *Democracy and the Left. Social Policy and Inequality in Latin America*, Chicago: The University of Chicago Press.
- Inter-American Development Bank. (2012) *Sociometro-BID*: <http://data.iadb.org/DataCatalog/Dataset>.
- Kenworthy, L. (1999) Do Social Welfare Policies Reduce Poverty? A Cross-National Assessment. *Social Forces* 77: 1119-1139.
- Mishra, R. (1989) El estado de bienestar después de la crisis: Los años ochenta y más allá. En: Muñoz De Bustillo, R. (ed) *Crisis y Futuro del Estado de Bienestar*. Madrid: Alianza Universidad.
- Nussbaum, M. (2000) *Women and Human Development: The Capabilities Approach*, Cambridge: Cambridge University Press.
- OECD. (2008) *Growing Unequal? Income Distribution and Poverty in OECD Countries*, <http://www.oecd.org/els/soc/growingunequalincomedistributionandpovertyinoecdcountries.htm>
- Olaskoaga, Jon, Ricardo Alaez-Aller, & Pablo Díaz-De-Basurto-Uraga (2013). Beyond Welfare Effort in the Measuring of Welfare States. *Journal of Comparative Policy Analysis*, 15(3), 274-287.
- Riesco, M. (2009) Latin America: A new developmental welfare state model in the making? *International Journal of Social Welfare* 18: S22-S36.
- Sen, A. (1999) *Development as Freedom*, Oxford: Oxford University Press.
- Tsounta, E. & A.I. Osueke. (2014) What is behind Latin America's Declining Income Inequality? *IMF Working Paper* 14: 1-34: <http://www.imf.org/external/pubs/ft/wp/2014/wp14124.pdf>
- UNICEF. (2014) *Child Mortality Estimates. Global Databases*: <http://www.who.int/peh-emf/research/en/>
- World Bank. (2013) *World Development Indicators*, Washington D.C.: <http://data.worldbank.org/products/wdi>.
- World Health Organization. (2015) *Data and statistics*: <http://www.who.int/research/en/>.

## Notes

- 1 Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, and Venezuela.
- 2 Because the dimensions of individual welfare indexes were normalized (max =1, min =0) it was not possible to use the geometric mean as in the new HDI method.
- 3 According to the FAO (2013) "(...) it measures the percentage of the population that is at risk of not covering the food requirements associated with normal physical activity, and therefore including also those who, even though cannot be considered chronically undernourished, are likely being conditioned in their economic activity by insufficient food".
- 4 A measure of the deviation of the distribution of income among individuals or households within a country from a perfectly equal distribution, where a value of 0 represents absolute equality and a value of 1 represents absolute inequality (World Bank, 2013).
- 5 This analysis presents the degree of correlation and significance between variables, but does not try to explain poverty/inequality levels and poverty/inequality structure in the region.
- 6 The regression coefficient analysis is *ceteris paribus*, which means that we are going to examine how much a 1 unit change in X variable changes a Y variable while holding other X's constant.

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