

**The Welfare State and Health Spending: A Comparative Analysis of Social Spending and Public Health Expenditure in Latin America and the OECD**

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Welfare states in developing countries are emerging in response to different pressures than those faced by early welfare states in developed countries. However, much of our knowledge of the development of the welfare state centers on historical contingencies that characterized the industrial, political, and demographic context of Western Europe and North America. Recently, the study of welfare states has expanded to include other regions in an attempt to examine the determinants of social protections in developing regions. In addition, welfare states scholars have moved to consider particular domains of welfare states in an effort to better understand the dynamics of social provision in particular sectors rather than focusing on overall welfare effort. Healthcare provision, though now considered a standard in welfare provision, has only recently become a focus of welfare state research. First, I utilize newly available data to examine trends in public spending on welfare and social transfers and public spending on health in the 1980s and 1990s, comparatively for OECD nations and Latin American and Caribbean countries. I then employ cross-section time-series models to examine the relative effects of political, economic, and globalization factors on these public spending measures. Findings indicate that the established influences help explain social spending in both the European and North American and Latin American and Caribbean samples. For public health spending, these models seem to fare better in the European and North American context than the Latin American and Caribbean sample. Surprisingly, globalization measures do not have an effect on either social spending or health spending in the Latin American and Caribbean sample. The implications of this study for future research are discussed in the conclusion.

Welfare states in developing countries are emerging in response to different pressures than those faced by early welfare states in developed countries. However, much of our knowledge of the development of the welfare state centers on historical contingencies that characterized the industrial, political, and demographic context of Western Europe and North America. Social scientists are, however, beginning to explore welfare state development in other regions.

In addition, welfare state research is increasingly focused on particular domains (unemployment, pension, health, education) of welfare states' provision, rather than total social spending, and the different determinants of this type of spending. I capitalize on new data on welfare spending to explore regional trends in total and public health spending in Latin America and the Caribbean (LAC). I use data recently released by Huber and Stephens to compare overall and health spending levels in LAC to those in the OECD in an effort to extend classic welfare state models to a new context. In the second part of the paper I employ additional measures and, using cross-section, time-series models examine the relative effects of political, economic, and globalization factors on government spending on healthcare in the 1980s and 1990s in Latin America and the OECD. This allows me to assess both whether similar causes operate cross-regionally and how these effects differ across spending measures in comparing general social spending and health spending.

### **Welfare State Research in the OECD Context: Early Research and the Current State of the Art**

A rich tradition of research in political sociology and political science, dating at least back to Moore ([1966] 1993), has examined the origins, development and more recent changes in the welfare state in Western Europe, North America and Japan. Theoretically, the literature outlines three main approaches to the welfare state development: 1) the “logic of industrialism” approach which posits that differences in welfare state efforts and welfare state development are by-products of economic

development and its demographic and social organizational consequences; 2) the “state-centric” approach which is focused on the policy-making role of bureaucrats and finally, 3) the “political class struggle” or “power resources” approach which identifies the distribution of organizational power between labor organizations and left parties on the one hand and center and right-wing political forces on the other hand as primary determinants of differences in the size and distributive impact of the welfare state (Huber and Stephens 2001: 17; but see also Ragin 1994: 320-321 and Amenta, Bonastia and Caren 2001: 219-220).

Current scholarship on welfare states in Europe has turned towards debates about retrenchment, that is, significant curtailment in social spending, in light of globalization, recession, and neo-liberal pressures. Overall, the welfare state scholarship is ambivalent about the presence of a crisis and retrenchment (Brooks and Manza 2007; Kautto et al. 1999; though see Amenta, Bonastia and Caren 2001; Huber and Stephens 2001; Korpi and Palme 2003). Retrenchment, at least in the Nordic states, was overstated (Kautto et al. 1999). As Kautto et al. (1999: 272) argue, worsening economic circumstances and non-social democratic governance seemed to create an almost optimal situation for changes in policies in a more fundamental and systemic way however, these changes did not materialize. Huber and Stephens (2001: 309) argue that partisanship matters less with time (because of globalization there are fewer options). But constitutional arrangements which were found to be so important during the Golden Age continue to have a strong effect in the retrenchment period as illustrated by a lack of veto points facilitating retrenchment. These debates have given rise to new theoretical approaches. Pierson proposes that a “new politics” approach is in order as the context in which welfare states operate has fundamentally shifted, both because taking away benefits once given (the current situation) is fundamentally different than giving them and because the creation of the welfare state itself has created new interest groups, such as beneficiaries, state employees, etc. (1996: 146-147).

Therefore there seems to be little conclusive evidence that the welfare state is experiencing any large scale decline in Europe and North America; However, there are new “threats” to the welfare state that have recently been identified, namely globalization, global competition, and the continuing change in family and demographic structure (see Esping-Andersen 1999: 2; see also Huber and Stephens 2001: 312-345). As Esping-Andersen (1999: 145) notes, the contemporary paradox is that the more welfare states seem unsustainable, the greater the demands for social protection. However, it seems states are adapting their policies to match these new conditions, and additionally, welfare programs are increasingly being pursued by developing countries (Pierson 2005; Mesa-Lago 2006).

The literature on welfare states in the OECD has been strongly influenced by the typologies developed by Esping-Andersen (1990; 1999). Instead of conceptualizing the welfare state as linear (the amount of spending), Esping-Anderson develops a typology of welfare states (see also Korpi and Palme’s 1998 5-type classification). Traditional welfare state research before and after Esping-Andersen focused on “welfare effort,” (Janoski and Hicks 1994) or social spending as a percentage of GDP. Welfare effort remains a popular choice of outcome measure as it captures in a general sense the magnitude of the welfare state and social spending. This effort has been shown to ameliorate poverty and inequality and thus matters in meaningful ways. However, welfare states scholars are now increasingly turning their focus towards particular domains of social spending (see for example Arnesen and Lundahl 2006 on education; Ruggie 1996 on health) in an effort to capture the nuance of state-sponsored programs across sectors. This has been especially true of research on retrenchment where many argue that though there have been cuts in some programs others have been expanding (Kautto et al. 1999).

### **Welfare States in Latin America: New Contexts, New Theories?**

Though the geographical focus of welfare state literature has traditionally been Western Europe, North America, and Japan, recent work has begun exploring welfare state development in Latin America and other developing regions (Pierson 2005; Rudra 2007). This work is important in its own right as it enriches our information about other regions and contexts, but may also serve to shed light on the universality (or particularity) of existing welfare state theories developed based on the OECD experience. There are reasons to believe that the process of building welfare states in developing countries may be markedly different than that of European countries. For one, welfare states in less developed countries (LDCs) have developed in an era of globalization and economic openness, with domestic policy being heavily influenced by International Financial Institutions (IFIs, namely the World Bank, WB and the International Monetary Fund, IMF). Welfare state development is taking place while policy models from existing welfare states were available and amidst a context of national political instability (democratization and erosion of the Third Wave) (de Mesa and Mesa-Lago 2006).

It is therefore fruitful to consider what role factors that have been shown to be important for welfare state development in OECD countries play in developing countries' welfare effort and whether existing theories bear extension to these different contexts. In extending theories of welfare state development it is important to explore why and how welfare states would develop in LDCs in light of inhospitable conditions: much of the population is not yet commodified, globalization is focused on free markets and many governments in developing nations are unstable or weak, all of which conspire against welfare state development. Rudra (2007: 382-383) points to several reasons why we should expect welfare states to develop in less developed countries: 1) risk and uncertainty are present in all countries and LDCs are in a position of "maximum uncertainty" which welfare states can address; 2) social reactions to the market occur in both MDCs (more developed countries) and LDCs; 3) the recent spread of democracy may facilitate public demand for welfare state. In

addition, the lack of commodified status, she argues, is not necessarily a barrier to welfare state development. This is because the precedent set by MDCs has put pressure on all governments to decommodify and labor in LDCs is more reliant on the state to decommodify because labor is weakly organized and there is no minimum income.<sup>1</sup>

Empirically, in the exploration of the relationships between government spending, globalization, and political regimes in middle-income countries, Garret and Nickerson find that economically open countries have higher public spending and that democratization and globalization interact in their effect on public spending (2005). In democratic countries, increased market integration results in higher public spending, but the opposite holds for non-democratic countries (Garret and Nickerson in Glatzer and Rueschemeyer 2005: 47-48).

In terms of extending classic theories of welfare state development to developing country contexts the “logic of industrialism” approach is seemingly appropriate, since it relates to processes of economic development and the subsequent demographic changes. It proposes that we witness convergence between countries as they industrialize, as evidenced by lower fertility rates, higher divorce rates, and more opportunities for minority groups. This in turn increases demand for welfare states and the likelihood states will supply them. Glatzer and Rueschemeyer (2005: 1-2) take a similar evolutionary, structurally contingent approach. With the preponderance of “democratic capitalism” they argue we can expect a third transformation: the addition of social welfare to this economic liberalization and political democratization. There are three broad reasons why this might be likely: 1) social welfare policies are correlated with economic growth (as posited by the “logic of industrialism” welfare state argument); 2) the classic welfare states in Europe flourished in countries

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<sup>1</sup> Rudra’s (2007) argument about developing countries echoes Orloff’s (1993) gendered critique: Esping-Andersen’s assumption of single-breadwinner households but welfare states can and did develop before a large segment of the population (women) was commodified in developed nations; Therefore, the logic bears extension to LDCs: welfare states can exist in developing nations despite the noncommodified status (largely because of partial industrialization) of much of the population and arguments to the contrary are therefore theoretically misguided.

that were economically open; and, 3) welfare state policies have historically been associated with the trajectory of democratization.

While only six Latin American countries and three Caribbean countries can claim to have built a system of social protection vaguely resembling a welfare state, covering more than 60% of the economically active population with some form of social security as of 1980 (Argentina, Brazil, Chile, Costa Rica, Cuba and Uruguay and the Bahamas, Barbados and Jamaica in the Caribbean, Huber 2005: 76)<sup>2</sup> the current state of public social spending and welfare state reform in Latin American provides an exciting new arena for welfare state research. Despite not having large welfare states many Latin American countries “have long had occupational based welfare systems modeled along European lines, with defined-benefit pension plans, health services, and family allowances” (Kaufman 2001: 559-560) and welfare state building began in the 1920s (in Argentina, Chile and Uruguay), with a second wave in the 1930s and 1940s (including Brazil, Costa Rica, Mexico, Venezuela, Panama, and Colombia). Latin America offers a unique opportunity to examine welfare state development and the determinants of government social spending given deep recession in the 1980s, political instability in the form of democratic-authoritarian transitions in the context of third wave democratization, and neo-liberal pressures from international financial institutions.

Furthermore, social policy in Latin America has undergone profound changes in the 1980s and 1990s, largely in the direction of state retrenchment and market expansions in the financing, delivery, and administration of social services and transfer payments. But there is disagreement about the causes of reform: some argue that the old model of social policy was inextricably linked to import-substitution industrialization (ISI) and became unviable along with it. In this view, liberalization of Latin American economies is seen as requiring a corresponding adjustment of social

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<sup>2</sup> With the exception of Costa Rica, these pioneer countries introduced their first social security schemes in the 1920s and 1930s (Huber 2005: 76; Pierson 2005).



policy to reflect market principles. A different view holds that it was the power of IFIs (international financial institutions) rather than structural incompatibility that weighed heavily in Latin American countries to adopt market-driven social policy reform (Huber 2005).

### **Social Spending in Latin America: Different Context, Different Patterns?**

Existing analyses of public spending in Latin America thus highlight the importance of political factors (Avelino et al. 2005; Huber and Stephens 2001). Case-study analyses highlight global pressures by international organizations and the neo-liberal model (de Mesa and Mesa-Lago 2006; Mesa-Lago 2002; Mesa-Lago 2006; Mesa-Lago and Müller 2002). However, much of the theoretical literature points to the importance of demographic, globalization and domestic economic pressures for welfare states and welfare efforts. By moving towards systematic quantitative analyses of social spending in Latin America to complement existing case studies research, social scientists and welfare state scholars can better examine the applicability of theories developed based on OECD data for other regions. As the above indicates, conducting systematic quantitative analyses of spending on welfare and social transfers in Latin American and the Caribbean, in addition to providing an exciting new arena of social research in its own right, can provide insights on spending dynamics in OECD nations. This is particularly true insofar as they may shed light about how globalization similarly and differentially affects general and health social spending in the 1980s and 1990s in these two regions.

### **Further Extending Welfare State Research: Particular Domains? Different Patterns? Public Health Spending in a Comparative Perspective**

In addition to providing the comparative leverage of another region by conducting comparable analyses in Europe and Latin America on overall welfare effort, this paper focuses on a particular domain of the welfare state: public health spending. Though welfare states in Europe have their origins in specific worker protections, namely pensions and sickness and unemployment

benefits, welfare states have since expanded from their focus on worker protections and poverty amelioration to include health and education systems. Health has since become a sizeable component of welfare spending (cf. Street 2008). Though healthcare and education are comparatively recent benefits to be included under welfare state protections, they have become integral components of state sponsored social protection. It stands to reason, therefore, that government spending on healthcare may have different determinants, both economic and political, than general social spending. Indeed, recent research in OECD countries supports this contention (cf. Bambra 2005). In addition health care, like pensions, has been one of the main targets of recent reforms in the OECD and one in which the private sector is already developed. Furthermore, it is a particularly interesting arena in which to examine public expenditure because unlike other areas of social protection (e.g. education) it is not seen as integral to the “nation-building project” and is not viewed *a priori* as the responsibility of the state.

For several reasons, health care reform, both in OECD countries with established welfare states and newer welfare states in Latin America, is more complex a field than other sorts of reform, which may lead us to expect less variability in public health spending over time:

“Health care is more difficult to reform than pensions because it affects a greater number of people, their benefits are immediate instead of deferred, provision of health services is more complex than those of pensions, the health market is highly imperfect and have greater asymmetries of information, some health services have significant externalities and involve public goods (control and treatment of contagious diseases), the clientele of health care organisms is diverse, there is a larger number of health care than pensions employees organized and strongly resists reform, and a health reform may contain costs but cannot generate national savings” (Mesa-Lago 2008: 155).

Even within the varied and rich research on welfare state development in OECD countries health care has largely been bracketed: “health care, although it has been subject to separate comparative analysis, has been a significant and notable omission from the broader welfare state literature and particularly the regimes debate” (Bambra 2005: 32). The field of health care is more

complex than other fields that are more financial or straightforward in nature (e.g. pensions, unemployment), and these complexities are only compounded in the Latin American and Caribbean context where international agencies and NGOs sometimes make up a large proportion of health care provision (Mesa-Lago 2008).

Due to this, reform efforts in health care have tended to be piecemeal in Latin America (Weyland 2006: 143). In addition, comparative analyses of health care systems to date have emphasized, in both regions, the necessity of moving beyond a public/private, state/market distinction (cf. Ruggie 1996: 225; Gran and Béland 2008: 269). Though government health spending matters, Ruggie (1996) in her comparative analysis of Britain, Canada and the United States notes that “inequality, not spending, is a key factor behind differences in health outcomes” (250; see also Street 2008). However, an examination of public expenditure on health allows us to explore whether there is a decline in a government’s funding of health care, indicating increased privatization as suggested by much of the literature, and furthermore, whether the determinants of public spending on health are uniform across regions, related to global versus domestic pressures.

Therefore, despite the complexity inherent in health care provision and health care reform, an analysis of the determinants of public spending on health is informative insofar as health care remains a major spending arena of the welfare state and as it allows us to examine the differences between regions in spending on health, as well as the possible determinants of spending levels.

## **Data & Measures**

In order to explore social spending and health spending cross-regionally I analyze an unbalanced panel data set for 23 countries in Latin America and the Caribbean and 18 OECD countries<sup>3</sup> from 1980 to 2000.<sup>4</sup> The unit of analysis is the country-year (where each variable is

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<sup>3</sup> The countries included in this analysis are, in the OECD, states that have been members since the 1970s: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Sweden, Switzerland, United Kingdom and the United States. For the Latin American and Caribbean

measured for a particular country in a given year, between 1980 and 2000) and the research design a cross-section time-series analysis. I have two main dependent variables: spending on welfare and social security as a percent of GDP<sup>5</sup> (*totgdp*) and public spending on health as a percent of GDP (*hlthgdp*)<sup>6</sup>.

Data for the Latin American and Caribbean sample was taken from the Social Policy in Latin America and the Caribbean Dataset, 1960-2006 and the Latin America and the Caribbean Political Dataset, 1945-2001. Data for the OECD sample was taken from the Comparative Welfare States Data Set (December 1997, updated April 2004). Health spending among the OECD countries comes from the OECD Health Dataset 2008. Table 1 shows the descriptive statistics for the variables included in the models, by region.

I include explanatory variables that are theoretically linked to social spending and which have been empirically found to matter for social spending. The country's population is included as a control for country size whereas foreign direct investment (FDI) inflows are included, and have commonly been regarded as a measure of financial globalization, and is predicted to have a negative effect on social spending because of the “race to the bottom” arguments but may have positive

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sample the countries included in the analysis are: Argentina, Barbados, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Trinidad and Tobago, Uruguay and Venezuela. However, Haiti, Honduras and Peru only do not have data for total social spending, and are included only in the health spending analyses.

<sup>4</sup> There is no data on unemployment for the Latin American and Caribbean countries between 1970 and 1980 which prevents the analysis of a longer time series comparatively. Models excluding unemployment as an explanatory variable for both the OECD and Latin American samples yield comparable results for the other independent variables, however, since unemployment is both a theoretically relevant and a statistically significant predictor of total public spending and government health spending the models with the shorter time-series (1980-2000) are presented and discussed in the below sections. The analyses of the longer time-series are available from the author on request.

<sup>5</sup> For the OECD this is the *ssstran* variable from the Comparative Welfare State Dataset and the *ssngdp* measure for the Latin American sample, which captures spending on welfare and social security. I chose this measure, rather than total welfare effort, because in Latin America, this variable only includes data from 1980 to 1995 (limiting the analysis by a further 5 years). However, supplementary analyses with this restricted data reveal substantively identical effects in terms of the direction and magnitude of the predictors and these two measures of overall spending are correlated at 0.87. This supports the fact that though more limited, this measure adequately captures the overall size of the welfare state and welfare effort more broadly.

<sup>6</sup> For the OECD this is the public expenditure on health as percent of GDP from the OECD Health Data 2008 dataset. For Latin America and the Caribbean this is the *csblth* variable, taken from the Huber, Stephens, Mustillo and Pribble (2008) dataset.

effect on health spending because of arguments about the importance of human capital for potential employers, though this is probably more true for education spending than health, these effects are especially expected in the Latin American and Caribbean countries. The percent aged population – those 65 years or older – taps into an important demographic factor driving public social spending, and is also predicted to be positively associated with health spending. Unemployment is also predicted to be positively related to public social spending, as it creates a demand for benefits. Trade openness, a proxy for economic integration into the global system is predicted to be negatively associated with social spending, however, this is not a strong expectation given contradictory previous findings (cf. Avelino et al. 2005). Left parties have been identified in the literature as being important to the establishment and maintenance of welfare states in case studies, to capture this I include the percentage of left cabinet seats, though this effect is not always apparent in quantitative analyses in the OECD (see Brooks and Manza 2006a; 2006b). In addition, the literature in Latin America indicates that left party rule in the area was not necessarily associated with more social spending (cf. Huber Mustillo and Stephens 2008 on Latin America; Wibbels 2006 on developing countries), but rather, different views on the allocation of government social spending: “policy differences between left and right concerned the allocation of social security expenditures more so than their magnitude” (Huber, Mustillo and Stephens 2008: 423).

GDP, a measure of the country’s wealth is predicted to be positively associated with social spending, as implied by the logic of industrialism argument. Finally, a cumulative measure of years of democracy since 1945, from Huber, Mustillo and Stephens 2008: 421) for the Latin American and Caribbean countries is predicted to be positively associated with social and health spending.

[TABLE 1 ABOUT HERE]

### **Analytic Strategy**

The estimation of CSTS data requires us to account for complex correlation patterns between and across panels (Beck and Katz 1995). Since the data are unbalanced in that some countries do not have data for all 20 years of the analysis the standard version of the Panel Corrected Standard Errors (PCSE) cannot be used. As an alternative, I use a fixed-effects estimator accounting for the variability across countries, the inclusion of country fixed effects is recommended because the coefficients of unit dummies are interpreted as measures of unobserved time invariant variables (Plümper et al. 2005).<sup>7</sup>

## Results

Figures 1 and 2 provide an overview of public spending in the OECD and Latin American and Caribbean countries included in the analysis, between 1980 and 2000. These figures, and the descriptive statistics provided in Table 1, indicate that, as expected, the amount total social spending and government spending on health as a percent of GDP are both lower in Latin American and Caribbean (LAC) countries than in OECD nations. In addition, it is apparent from Table 1 that the difference between health and total spending, on average, is much smaller in the Latin American and Caribbean countries than in the OECD nations, though, as noted, both numbers are much lower in LAC than OECD. As Figures 1 and 2 indicate, and bivariate analyses confirm, there is a slight positive time trend for social spending in LAC and public health spending in the OECD between 1980 and 2000.

[FIGURE 1 ABOUT HERE]

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<sup>7</sup> I also estimated the models using random effects because we have reason to believe that some exogenous variables levels' (rather than simply changes) have an effect on the dependent variable (Plümper 2005: 348), this is particularly true for level of democracy and left party strength. Some previous analyses of social spending in Latin America have used a lagged dependent variable (cf. Avelino, Brown, and Hunter 2005; Kaufman and Segura-Ubiergo 2001; Wibbels 2006), however I avoid this as "lagged dependent variable's coefficient measures the weighted average of the right-hand side variables" (Plümper 2005: 335) and therefore models the dynamics of the independent variables, rather than the dependent variable (Cochrane & Orcutt 1949 in Plümper 2005: 335). The random effects models yielded similar results as the fixed effects models presented below and are available upon request.

As Figure 1 and Table 1 demonstrate, spending on welfare and social security as a percent of GDP in OECD countries, is on average, the highest (as compared with health and total spending in LAC and health spending in the OECD), ranging from approximately 6 to 29%. Overall, most countries cluster in the range of 10-20% of GDP going towards public spending on welfare and social security in the OECD and there has been a slight positive trend in spending. Figure 1 shows a decrease in spending in almost all countries in the late 1980s, and again in the mid-1990s. Figure 1 therefore, does not demonstrate any major retrenchment in the OECD, though the effects of recession in the mid-1990s are clearly felt in social spending. In addition, most countries included in the sample demonstrate positive trending in the early 1990s following decreases in the mid to late 1980s, following decreases in the late 1980s.

In the Latin American and Caribbean sample, the overall trend seems to be slightly positive. Almost all of the countries show lower than 8% of spending, with the most notable exception Uruguay, which consistently displays spending levels about 10%. Chile is also an interesting case, with very high levels of spending in the early 1980s which, by the late 1980s had dropped to between 6 and 8% (still very high for the region) where it remained until 2000. In addition, several countries show less than 1% total spending: El Salvador, Ecuador, Guatemala Jamaica and the Dominican Republic (after 1984) for much of this period.

[FIGURE 2 ABOUT HERE]

Figure 2 plots public health spending averages in the OECD and LAC samples, and for select countries from each region. Public spending on health shows more clear positive trending than overall spending, though the overall level of spending is much lower, with most countries' spending falling in the range of 4% and 7% of GDP. Though the variation in spending is, in absolute terms, much smaller than that for total spending because of the lower levels of absolute spending, the patterns in public health spending are slightly more erratic than for welfare and

security spending. Sweden and Germany emerge as outliers, with Sweden dropping from a high of over 8% spending to approximately 6.5% between 1980 and 2000, whereas Germany experiences a steep rise in the early 1990s, with France exhibiting a less pronounced, but similar trend in increased spending. Norway too shows a sharp increase from approximately 3.5% in the late 1980s to over 5% in the late 1990s. There are less uniform period effects, i.e. signs of a recession as there was in welfare and social security spending, intimating that the dynamics of health spending are different than overall welfare effort.

Figure 2 further shows that for most countries in LAC, spending on health care has remained fairly stable (within a percentage point of variation) between 1980 and 2000. Most countries in LAC show levels of spending between 0.5 % and 4.5%. Argentina, Costa Rica, Panama and Nicaragua also show fairly consistent spending levels above 4% - a high figure for the region (this is also true of Barbados, for which, however we only have data until the early 1980s).

### ***Total Social Security and Welfare Spending***

Regression models for the OECD members indicates that higher unemployment is associated with higher social spending, and the positive time trend remains significant when controlling for the other variables (see Panel 1 of Table 2, which shows a fixed effects model of total government social spending as a percent of GDP). Of particular interest to this study is the fact that increased integration into the world economy (operationalized as trade openness) is associated with lower social spending, which consonant with previous analyses in this area, however only in the OECD sample. This indicates that globalization is negatively impacting spending on welfare in developed nations, however, this finding is not present in the Latin American in the Caribbean sample.

[TABLE 2 ABOUT HERE]



In these countries (see panels 2 and 3 of Table 2) like in the OECD sample increased unemployment is associated with higher public spending, however, demographics, that is domestic factors, seem to be strongly driving increased spending, with a percent increase in the population 65 years and older associated with a 1.4 percent increase in total public social spending.

Overall, we see that the model performs similarly well for both regions: a coefficient of determination of 0.44 for the OECD countries and 0.40 for the Latin American sample.

### *Health Expenditure*

In the OECD nations, having a larger elderly population is associated with higher spending. In addition, higher unemployment, left party strength, GDP and trade openness are all associated with lower spending on health. Some of these results are unexpected, however, because of the dearth of previous quantitative time-series research on health spending it is unclear whether they are atypical. Some of these patterns, however, are not present at the bivariate level: bivariate analyses indicate that higher GDP is positively and significantly associated with higher health spending, however, the inclusion of the time trend reverses the effect. Left cabinet does not have a significant effect on health spending among OECD countries in bivariate analyses, however, once the percent of the population that is 65 years or older is included into the model, the coefficient moves into significance. Finally, unemployment does not have a significant bivariate effect on public health spending, it becomes negative and significant when the time trend, in conjunction with GDP or in conjunction with trade openness, are included in the model. That is, unemployment has a significantly negative effect on public health spending only net of wealth or openness (and both).

Within the Latin American and Caribbean sample, countries with higher populations, unemployment rates and GDP per capita are associated with higher levels of spending. Once again, domestic factors are largely driving spending trends in LAC. Though the time trend coefficient is negative and significant in the full model, a bivariate analysis does not indicate significant trending.

Overall, the coefficient of determination for the fixed effects model in the OECD sample is 0.43 whereas in the LAC sample it is only .17. The poor model fit for these “usual suspect” predictors has been found in previous analyses as well (cf. Avelino et al. 2005: 634). In addition, as Figure 2 indicates, there has been little change in the region’s overall in public health spending over this period. These patterns are somewhat surprising in light of previous literature which has highlighting the effects of globalization and global pressures on public spending in Latin America: the models (see Table 2) do not indicate that trade openness or FDI, the two measures of globalization, significantly affect neither social nor health spending in Latin America. In addition, an effect of democratization, which has also been cited as an important determinant of social spending in this region is similarly absent.

[TABLE 3 ABOUT HERE]

As Table 3 demonstrates, the Bayesian Information Criteria (BIC) indicates that for both the OECD and LAC samples, the full model (shown in Table 2) is preferred for both government spending on welfare and social security and health spending. However, the inclusion of the explanatory variables in the model predicting public spending on health in Latin America has the smallest effect on the BIC, compared with the other models. This further supports the contention that these predictors are simply not explaining public spending on health in these countries.

## **Conclusion**

Systematic, over-time comparisons of the determinants of social spending and public health spending across macro-regions have the benefit of allowing us to explore the power of established influences in explaining welfare spending across regional contexts. This study has, capitalizing on newly available data for Latin America and then Caribbean, extended our understanding of the determinants of welfare spending by comparing trends and exploring the predictors of spending across macro-regions.

Spending on welfare and social security in Latin America over the 1980-2000 period is seemingly being driven by domestic demographic and economic, rather than political and global factors – which elderly population and unemployment significantly affecting spending. In the OECD on the other hand, trade openness, in addition to unemployment, are driving changes in spending, net of other variables. Results further indicate that the important influences as established by the literature fare better in predicting spending on welfare and social security than on health in both regions. However, whereas in the OECD some of usual influences powerfully pattern public health spending, in Latin America and the Caribbean, the full model only slightly outperforms the null model by much (see Table 3). These results indicate that public health spending dynamics in Latin America are subject to different pressures than those that pattern total social spending in LAC and OECD countries and health spending in OECD countries.

The literature indicates that the recent dynamics of reform in health care systems, and public spending over the last couple of decades in Latin American and Caribbean countries are a function of interactions between the private and non-profit sectors and neo-liberal pressures from international organizations, which are ill-captured by regression models, which may be one reason for the poor performance of these models for health spending in Latin America. This highlights a need for increased country-level analyses of Latin American public health spending in order to further explore the role that global pressures may play in government spending. More generally, it speaks to the need for more analyses of different domains of social spending, as these may have different determinants, political, demographic and economic, domestic and global, than overall social spending.

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Table 1		Descriptive Statistics for the Variables Included in the Sample, 1980-2000							
	Description	OECD				Latin America & the Caribbean			
		Mean	Standard Deviation	Minimum	Maximum	Mean	Standard Deviation	Minimum	Maximum
<b>totgdp<sup>a</sup></b>	Government Social Spending as a Percent of GDP	15.21	4.35	6.47	28.91	4.74	4.21	0.14	19.74
<b>hlthgdp<sup>b</sup></b>	Government Health Spending as a Percent of GDP	5.62	0.95	3.5	8.4	2.72	1.71	0.24	10.6
<b>popth<sup>c</sup></b>	Population in Hundreds of Thousands	410.02	608.03	31.44	2821.25	191.22	336.33	2.05	1682.28
<b>fdiinhm<sup>c</sup></b>	Foreign Direct Investment Inflows in Hundreds of Millions	120.11	325.94	-21.16	3212.74	247.16	703.11	-102.3	6164.7
<b>pop65pct<sup>c</sup></b>	Percent of the Population 65 Years or Older	13.78	2.12	9.1	18.11	5.59	2.52	2.64	13.01
<b>unemp<sup>c</sup></b>	Unemployment as a Percent of the Total Labor Force	7.32	3.56	0.46	16.98	10.13	5.45	1.4	35.5
<b>tradopen<sup>c</sup></b>	Trade Openness (Imports Plus Exports over GDP)	59.12	30.42	13.33	186	65.31	38.13	11.55	280.36
<b>leftcabi<sup>c</sup></b>	Left Seats as a Percentage of Seats Held by All Government Parties	0.35	0.38	0	1	0.04	0.07	0	0.37
<b>rgdppct<sup>c</sup></b>	Real GDP per Capita in Thousands of Constant Dollars	19.94	3.67	9.96	33.29	6.01	2.94	0.87	16.42
<b>cumhmsdem<sup>c</sup></b>	Cumulative Democracy Score since 1945, from Huber, Mustillo and Stephens 2008	-	-	-	-	13.07	10.09	0	51.5

Notes: <sup>a</sup>These descriptive statistics are based on a sample size of 350 in the OECD and 232 in LAC

<sup>b</sup>These descriptive statistics are based on a sample size of 360 in the OECD and 312 in LAC

<sup>c</sup>These descriptive statistics for these independent variables are based on the full sample of observations on the independent variables: 374 for the OECD and 355 for LAC

Table 2	Spending On Welfare and Social Security as a Percent of GDP, Fixed Effects Models, 1980-2000			Public Health Spending as a Percent of GDP, Fixed Effects, 1980-2000		
	OECD	Latin America & the Caribbean	Latin America & the Caribbean with Democratization	OECD	Latin America & the Caribbean	Latin America & the Caribbean with Democratization
<b>Population</b>	0.002 (-0.003)	0.001 (-0.003)	0.001 (-0.003)	0.005*** (-0.001)	0.007** (-0.002)	0.006** (-0.002)
<b>Foreign Direct Investment Inflows</b>	<0.001 (-0.001)	<0.001 (-0.001)	<0.001 (-0.001)	<0.001 (-0.001)	<0.001 (-0.001)	<0.001 (-0.001)
<b>Elderly Population</b>	-0.302* (-0.142)	1.724*** (-0.489)	1.784*** (-0.491)	0.084* (-0.034)	0.074 (-0.263)	0.062 (-0.264)
<b>Unemployment</b>	0.552*** (-0.065)	0.243*** (-0.034)	0.240*** (-0.034)	-0.064*** (-0.015)	0.093*** (-0.018)	0.095*** (-0.018)
<b>Trade Openness</b>	-0.073*** (-0.015v)	-0.007 (-0.008)	-0.007 (-0.008)	-0.017*** (-0.004)	0.002 (-0.004)	0.002 (-0.004)
<b>Left Party Strength</b>	-0.067 (-0.333)	1.312 (-1.774)	1.39 (-1.773)	-0.184* (-0.075)	0.885 (-1.017)	0.855 (-1.019)
<b>GDP</b>	-0.03 (-0.139)	-0.144 (-0.125)	-0.148 (-0.124)	-0.138*** (-0.031)	0.180* (-0.077)	0.182* (-0.077)
<b>Year, 1980-2000</b>	0.165** (-0.063)	-0.033 (-0.037)	-0.038 (-0.037)	0.091*** (-0.013)	-0.044* (-0.019)	-0.043* (-0.019)
<b>Legacy of Democracy</b>	- -	- -	0.013 (-0.01)	- -	- -	-0.004 (-0.006)
<b>N</b>	350	232	232	360	312	312
<b>R-Squared</b>	0.441	0.392	0.397	0.438	0.165	0.166
<b>BIC</b>	1505.2947	881.84865	885.56598	508.4983	917.1787	922.3709

Source: Data for Latin American and the Caribbean comes from the Social Policy in Latin America and the Caribbean Dataset, 1960-2006 and the Latin America and the Caribbean Political Dataset, 1945-2001. Data for the OECD sample was taken from the Comparative Welfare States Data Set (December 1997, updated April 2004). Health spending among the OECD countries comes from the OECD Health Dataset 2008.

Notes: \*\*\*p<0.01, \*\* p<0.05, \* p<0.10 (two-tailed tests)

All models were estimated in Stata10.

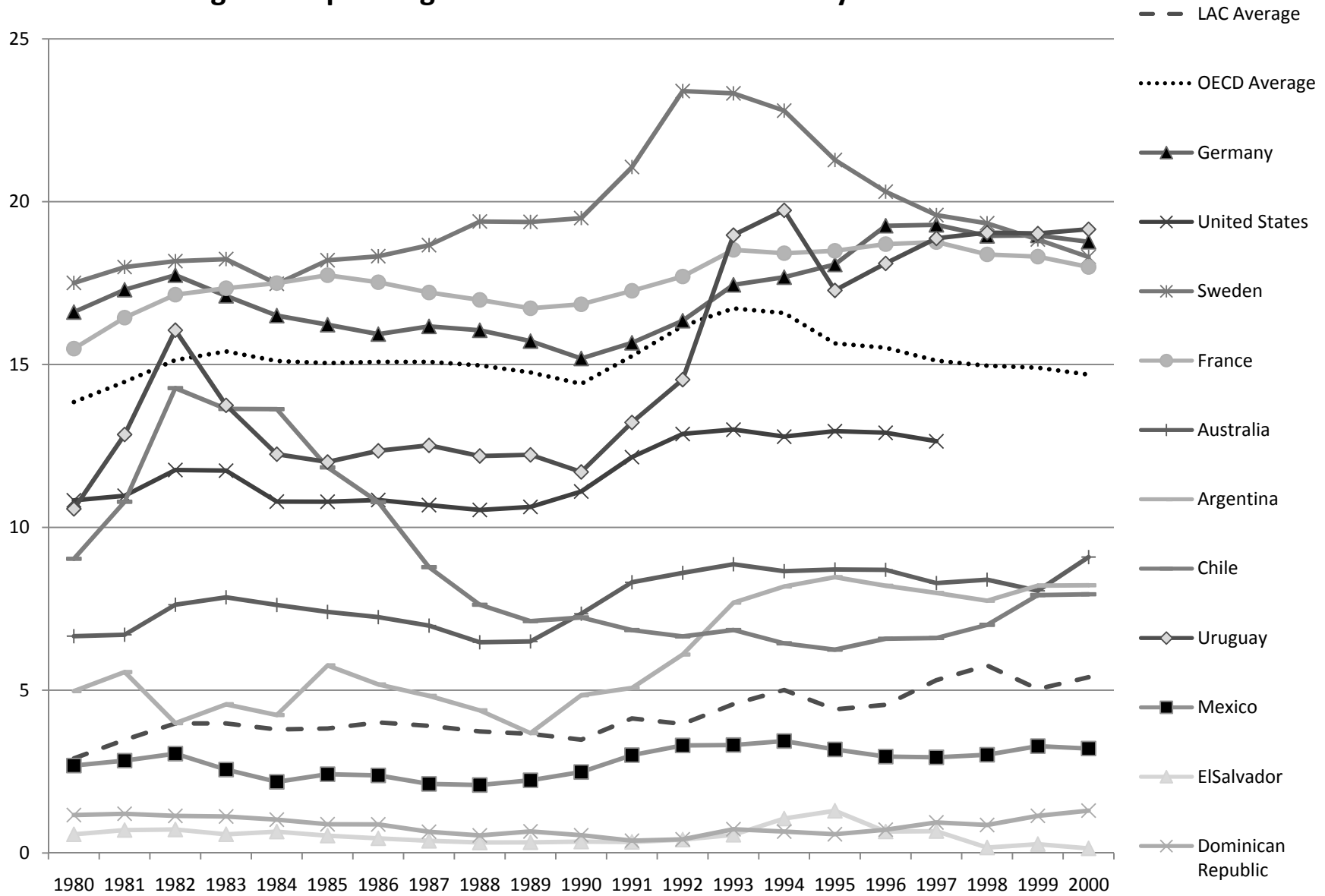
Each cell reports the unstandardized coefficient, with the standard error in parentheses. Constant included, but coefficients not reported

	Spending On Welfare and Social Security as a Percent of GDP, Fixed Effects Models, 1980-2000			Public Health Spending as a Percent of GDP, Fixed Effects, 1980-2000		
	OECD	Latin America & the Caribbean	Latin America & the Caribbean with Democratization	OECD	Latin America & the Caribbean	Latin America & the Caribbean with Democratization
<b>BIC – Full Model (from Table 2)</b>	1505.2947	881.84865	885.56598	508.4983	917.1787	922.3709
<b>BIC – Constant Only Model</b>	1661.7942	953.79735	953.79735	668.98347	927.44827	927.44827
<b>BIC – Constant &amp; Time Trend</b>	1665.9015	936.81248	936.81248	633.29538	933.14148	933.14148

Notes: The BIC was calculated as  $BIC\_p = -2 \ln(\text{likelihood\_p}) + \ln(N\_p) * k$  where  $k$  = model degrees of freedom, adjusted to include the degrees of freedom lost by including indicators for the countries in the fixed effects models and  $N$  = total number of observations.



**Figure 1: Spending on Welfare and Social Security as a Percent of GDP**



**Figure 2: Public Spending on Health as a Percent of GDP**

