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Rethinking Measures of Democracy and Welfare State Universalism: Lessons from Subnational Research

Agustina Giraudy

Jennifer Pribble
University of Richmond, jpribble@richmond.edu

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Agustina Giraudy
Assistant Professor, School of International Service
American University
giraudy@american.edu

Jennifer Pribble
Associate Professor of Political Science and International Studies
University of Richmond
jpribble@richmond.edu

Democracy and the welfare state are two of the most extensively studied concepts and themes in the field of comparative politics. Debate about how to best measure the two concepts has failed to contemplate the extent to which political and social rights are uniformly present across distinct regions of the national territory, despite the presence of substantial subnational research that underscores wide variation inside countries. We argue that this omission hampers our understanding of the two phenomena and we propose a new measure of democracy and healthcare universalism, which we call the *Adjusted Measures of Democracy and Welfare Universalism*. The new measures integrate territorial inequality into existing national-level indicators, providing a more accurate picture of country performance and opening the door to new, multi-level theory building.

Democracy and the welfare state are two of the most extensively-studied concepts and themes in the field of comparative politics. Accordingly, scholars have engaged in lengthy debates about how to best measure the two phenomena, producing a rich and nuanced understanding of what constitutes a democratic regime and a universal welfare state, and about how scholars can empirically identify the presence or absence of the concepts in a given country. These debates have largely focused on delineating the core attributes of each concept, identifying national-level measures that provide a sense of the extent to which a country has free and fair elections, is able to freely express opinions, and can actively engage in civic life (for democracy); and the extent to which education, health, and a minimum income are provided as a guaranteed right of citizenship (in the case of universalistic welfare states).

Interestingly, however, debate about these measures has failed to contemplate the extent to which these characteristics are uniformly present across distinct regions of the national territory. This is surprising because a growing body of subnational research (SNR) has uncovered wide variation inside countries in the provision of political and social rights. Studies on subnational democracy and subnational welfare provision have shown that countries around the world exhibit territorial variation in strength/presence of democracy and in the coverage/quality of social welfare policies.[1]

In this article, we argue that the lack of a territorial component in concepts and measures of democracy and welfare state universalism hampers our understanding of these phenomena. It does so for at least three reasons. First, from a conceptual point of view, full democracy and welfare state universalism both implicitly rest on the idea that all citizens, regardless of where they reside within a given country, will have the opportunity to fully exercise their political and social rights. In other words, a full democracy and an universal welfare state exist only when all citizens from all parts of the territory can vote, engage in civic activities, express freely their thoughts, have access to health care and education, as well as other forms of social protection. The fact that the territorial distribution of political and social rights is implicitly assumed to be a core element of the concepts of democracy and welfare universalism, but that it has not yet been explicitly

[1] For studies on subnational democracy see: Cornelius, Eisenstadt, and Hindley (1999), Fox (1994), Gibson (2005b), Hagopian (1994), McMann (2006), O'Donnell (1993), Snyder (2001), Solt (2003), Benton (2012) Borges (2007), Gervasoni (2010b), Gervasoni (2010a), Giraudy (2010), Giraudy (2013), Giraudy (2015), Lankina and Getachew (2006), Lankina and Getachew (2012), Rebolledo (2011), and Reisinger and Moraski (2010). For studies on subnational social policy, see: Niedzwiecki (2018), Singh (2011), Singh (2015), Alves (2015), Tillin, Deshpande, and Kailash (2016), and Otero-Bahamon (2017).

incorporated into national-level measures, points to a serious mismatch between the definition of the concept and how it is operationalized, or to what Goertz (2006) has defined, as lacking concept-measure consistency. We contend that this shortcoming requires that we revise existing measures to better match the underlying concept.

Second, from an empirical point of view, existing national-level measures of democracy and welfare state universalism, which do not account for territorial dispersion, may be misleading, as they only provide partial information for diagnosing whether countries are fully democratic or universalistic in the provision of welfare benefits. As such, existing measures hamper scholars' ability to empirically identify which cases have achieved full democracy and welfare state universalism, limiting us, in turn, from making accurate assessments about country performance.

Third, measures of democracy and welfare state universalism that lack a territorial dimension may limit our theory development, inhibiting us from identifying the ways that *multi-level* political interactions influence democracy and welfare state universalism. By contrast, a measure that captures territorial inequality of the prevalence of political and social rights may expose multi-level dynamics that were previously hidden, thereby encouraging scholars to rethink existing theories of democracy and welfare universalism.

In this article we seek to remedy these three shortcomings by revising and rethinking the way we conceptualize and measure national-level democracy and welfare state universalism. We focus on the two concepts together because both have been extensively studied from a subnational perspective with research uncovering notable territorial variation inside countries. Perhaps more importantly, unlike other concepts, both implicitly rest on assumptions of territorial uniformity in the provision of political and social rights, but existing national measures have failed to incorporate subnational dispersion. We propose a *Territorial Gini Index* and use it to adjust our national-level measures of democracy and welfare state universalism, creating a new measure, i.e., the *Adjusted Measures of Democracy/Welfare State Universalism* for a subset of Latin American countries. These new measures reveal that incorporating a territorial dimension into existing national-level concepts and measures alter our understanding of country performance. As importantly, the new measures reveal that some countries that have thus far been celebrated for advancement toward greater democracy and welfare universalism, appear less impressive when territorial variation is factored in. In the case of welfare state universalism, Chile's performance declines markedly after adjusting for territorial inequality, while Mexico and Peru perform even worse. By contrast,

Argentina changes very little. In the case of democracy, Argentina and Mexico perform less well than national level measures on democracy indicate, and even more surprisingly, the new adjusted measure of democracy reveals that in the 1990s, Mexico, contrary to conventional wisdom, has performed better than Argentina.

At a theoretical level, as discussed in Section III, the incorporation of a territorial dimension to existing concepts and measures also prompts us to revisit existing theories of democracy and welfare universalism that have only focused on national level actors and factors. Instead, we argue, theories should be multilevel thereby incorporating both national and subnational factors.

Before outlining the organization of the article, a caveat is in order. The predominant focus of this article is conceptual. We do not seek to explain cross-national variation, but instead our goal is to integrate a territorial dimension into existing measures of democracy and welfare state universalism and to explore how this new approach to measurement shifts our empirical understanding of a set of cases. We contend that this is needed and marks a first and important step toward integrating subnational and national research traditions on democracy and welfare state universalism.

For the analysis of democracy, we focus on two cases: Argentina and Mexico. In the case of welfare state universalism, we add two additional countries: Chile and Peru. The decision to focus on these four countries in the case of healthcare universalism is because they allow us to assess the validity and implications of the adjusted measure in *both* federal countries (Argentina and Mexico) and unitary states (Chile and Peru). During the 1980s and early ‘90s, the provision of public health and education services was decentralized to regional and municipal governments in many Latin American countries, even in unitary states like Chile and Peru. As a result, even in these two countries, territorial unevenness in the provision of social rights increased. For the analysis of democracy, by contrast, we focus exclusively on two federal cases. This is because in federal countries, subnational units have, by definition, the prerogative to autonomously create and change the rules that structure political regimes. As a result, electoral rules and institutions, as well as the political and civil rights enshrined in the provincial constitutions are likely to vary across territorial units, thus increasing territorial unevenness within countries. The same is not true in unitary states.

The article is organized into four parts. In the next section, we provide a brief overview of the literature on national-level democracy and welfare state universalism, describing existing concepts and measures. We also briefly summarize some of the primary findings from the subnational literature. In the second part of the article, we present data on democracy and healthcare universalism at both the national and subnational level for a subset of Latin American countries. We then calculate the *Territorial Gini Index* and incorporate it to traditional measures of democracy and welfare state universalism to create the *Adjusted Measures of Democracy/Welfare State Universalism*. The analysis presents a discussion of our proposed measure, highlighting how it changes our perception of country performance. The third section reflects on how the Adjusted Measures of Democracy/Welfare Universalism can spur multilevel theorization. We conclude with a discussion of the shortcomings of our new measures, and an overview of the article's significance.

Democracy and Welfare State Universalism: Concepts and Measures

The "Third Wave" of democratization that swept the globe during the past 40 years (Huntington 1993) did not spread evenly inside countries. As scholars of newly-democratic countries ranging from Mexico to Russia, the Philippines, Argentina, and Brazil found, non-democratic regimes not only persisted at the subnational level, but were not isolated "backwaters" disconnected from the newly democratic national political arena (Cornelius, Eisenstadt, and Hindley 1999, Fox 1994, Hagopian 1994, McMann 2006, O'Donnell 1993, Snyder 2001, Solt 2003). Instead they became important sources of votes and other forms of political support for national political elites. According to experts, these subnational undemocratic regimes (SURs) have been resilient because of a number of factors, including, among others, the exclusionary practices of elites, such as the distortion of local electoral rules and procedures (Benton 2012, Behrend and Whitehead 2016, Calvo and Micozzi 2005), the stacking of electoral commissions with political allies (Rebolledo 2011), the politicization of local judiciaries (Brinks 2007, Castagnola 2012, Chavez 2004, Leiras 2015), and the perpetration of extra-legal violence against opposition (Gibson 2005a). Other studies have demonstrated that economic factors explain the emergence and durability of subnational authoritarianism, including local political economies (McMann 2006, Behrend 2011, Hale 2003), inter-governmental fiscal transfers (Gervasoni 2010b, Diaz-Rioseco 2016), and subnational undemocratic regimes insertion into global markets (Libman

and Obydenkova 2014). Still other studies offered multilevel theoretical frameworks that center on strategic interactions between local and national political actors to account for both the endurance and breakdown of subnational authoritarian regimes (Gibson 2005a, 2013, Giraudy 2013, 2015, Reuter and Robertson 2015).

Despite these important findings on the territorial uneven nature of democratic regimes, most definitions and measures of national democracy are not sensitive to this territorial variation. None of the traditional measures of democracy, i.e., Polity IV, Freedom House, V-Dem Project, have factored in territorial variation in their national-level measures[2]. As a result, these measures are not able to gauge whether political rights are distributed uniformly across the territory, thus failing to capture one of the core assumptions of democracy, namely, that all citizens ought to have equal political rights no matter where they live.

A similar trend exists in research on the welfare state. Analyses of Latin American, Indian, and Chinese welfare states from a subnational perspective have mostly focused on documenting and explaining territorial variation in the implementation of social policies. Some of these studies reveal that even in contexts of relatively universalistic legislation at the national level, such as those seen in some Latin American countries, the coverage, quality, and enforcement of social services and income transfers often varies across territorial units (Niedzwiecki 2018, Alves 2015, Chapman Osterkatz 2013, Otero-Bahamon 2017). Moreover, this research shows that theories that explain cross-national differences in social policy formation and change are often ineffective at explaining subnational variation. Similar findings exist for countries outside of Latin America, including India (Tillin, Deshpande, and Kailash 2016, Singh 2015) and China (Ratigan 2017).

Despite the growing volume of research documenting subnational variation in social policy implementation, scholars of cross-national politics pay little attention to whether or not access to services and transfers is uniform across different regions/state/provinces. Similarly, assessments of service quality/benefit generosity do not probe whether services and transfers are uniform across the territory. Finally, the analysis of whether eligibility criteria are transparently enforced has also been approached exclusively from a national-level perspective, turning a blind eye to the fact that state capacity and strength may vary across subnational units, thereby generating unevenness in the enforcement of rules. All of this suggests that a new and more comprehensive measure of

[2] An exception is the V-Dem project, which has a component of territorial variation, yet this component is not added to national level democracy measures.

universalism is needed. Such a measure must incorporate territorial inequality to fully assess to what extent social rights are provided to all citizens, regardless of their place of residence, in a uniform manner. In the next section we take upon this task.

Incorporating Territorial Dispersion into National-level Concepts and Measurement

In this section, we present traditional measures of democracy and state welfare universalism. We then create the *Territorial Inequality Gini Index* and calculate the *Adjusted Measures of Democracy/Welfare State Universalism* for each research program. The *Territorial Gini Index* is a measure of dispersion that calculates how far a distribution of values deviates from one of perfect equality (0). The Gini Index can be calculated for individuals or groups and our measures provide insight into dispersion in subnational democracy and healthcare coverage.

We use the Gini Index to adjust national-level measures of democracy and healthcare universalism because we find it to be the most transparent option, despite its drawbacks. Moreover, its use is well established in the literature (Jones and Mainwaring 2003, Hicks 1997), The Gini Index is a measure of inequality that gauges dispersion rather than gap. Gap measures of inequality focus on the distance between the tails of a given distribution. Dispersion measures, by contrast, capture the distance from a perfect distribution. In the context of this article, this means that if a country has uniform subnational performance (even if that performance is poor), it would have a low Gini Index, and therefore, the adjusted measure would vary only minimally from the original (national) rate. Otero-Bahamon (2017) and others note that measures of dispersion, like the Gini Coefficient, can be misleading because they neglect the issue of levels, focusing instead on the relative position of each unit vis a vis the other. The author argues that a better approach is to combine a measure of dispersion and a measure of gap, thus giving a sense of both the distance between the extremes of the distribution, but also whether those extremes represent the broader range of values across cases. Specifically, Otero-Bahamon (2017) proposes a new measure of subnational inequality, operationalized as the product of gap and the coefficient of variation. The measure cannot be used for the purpose of our article because it is not bounded. The Gini Index, by contrast, is bounded by 0 and 1, thereby increasing the transparency of our adjustment. Because of this, and since this particular group of cases do not have widely divergent gaps, we believe that relying on the Gini Index to adjust our national indicators makes good sense. Moreover, if a given

country has uniformly poor (or strong) performance, its national-level indicators of democracy and universalism will reflect this fact, thereby eliminating concerns that use of the Gini may keep us from effectively capturing cross-national variation.

Another advantage of the Gini is that it is widely used and scholars are familiar with its calculation. The Gini measures distance from a perfect distribution. In the case of this paper, a country might have a perfect distribution of subnational democracy if all provinces/regions were equally democratic or equally undemocratic. Similarly, it could have a perfect distribution of vaccine coverage if all provinces/regions had 100 percent coverage or similarly low coverage. When countries vary from that perfect distribution, the Gini grows in value. In this paper, we calculate inequality between distinct provinces/regions, drawing on regional indicators of subnational democracy and coverage of the measles, mumps, and rubella vaccine (MMR). We then use STATA and the 'fastgini' command to calculate the territorial Gini Index.[3]

A final advantage of the Gini is that other scholars interested in adjusting national-level measures for territorial unevenness have also used the Gini Index. Hicks (1997), for example, analyzes the UNDP's Human Development index, noting that the aggregate index can be misleading for countries characterized by high levels of inequality. He contends that analyzing a country's average life expectancy may mask notable variation between different ethnic/racial groups, rural or urban status, gender, or class/caste. To address this shortcoming, the author proposes an inequality-adjusted HDI, which he calculates by adjusting aggregate values of gross national income, literacy, and average life expectancy by the Gini Index of inequality for each of these dimensions. The work builds upon Sen (1976) and Klasen (1994), who use a similar approach. In a separate project, Jones and Mainwaring (2003) build a measure of party nationalization drawing on a Gini Index that measures the extent to which a party wins equal vote shares across all the sub-national units. A Gini coefficient of 0 signifies that a party received the same share of the vote in every sub-national unit. A Gini coefficient of 1 means that it received 100 percent of its vote in one subnational unit and 0 percent in all the rest. The authors then subtract that Gini coefficient from 1 so that a high score indicates a high level of nationalization. They call this inverted Gini coefficient the Party Nationalization Score (PNS). We build upon the work of

[3] The "fastgini" calculates the Gini coefficient for either unit-level or aggregated level data. Optionally it returns the jackknife estimates of the standard error. Fastgini uses a fast optimized algorithm that could be especially useful when calculating the Gini coefficient and its standard errors for the large samples. The command implements algorithms for both exact and approximate calculation of the Gini coefficient.

these scholars, using an inverted *Territorial Gini Index* to adjust our national-level indicators of healthcare universalism and democracy. Extending Hicks (1997) and Jones and Mainwaring (2003), we use the following equation:

Adjusted Measure = [(National Measure) * (1-(Territorial Gini Index))]

We opt for this equation because slight iterations of it have been used by Klasen (1994), Sen (1976), and Hicks (1997). Importantly, the equation allows for a country's inequality-adjusted rate to remain unchanged if it exhibits no territorial inequality because one minus zero is equal to one. If, however, the country exhibits high rates of regional inequality, the national rate, will be adjusted downward. For example, if a country had a Gini Index of .8, then the final value for the national indicator would be only two-tenths of the original value. The drawback, therefore, is that the adjusted rate can decline dramatically in settings of high subnational inequality. We contend that this is appropriate because, wide dispersion in democratic integrity and access to basic healthcare services constitutes a violation of the underlying concepts of democracy and universalism.

It is instructive to consider two concrete examples of how we carried out this adjustment. The national level measure of electoral democracy in Argentina in 2000 was 0.87. The Gini Index of territorial inequality in electoral democracy for that same year was low: .3. We multiplied .87 by .7 to obtain the adjusted value of 0.610. For the case of healthcare universalism, we do the same. The national coverage of the MMR vaccine in Argentina in 2012 was 93.6 percent. The Gini Index of territorial inequality in vaccine coverage for that same year was low: .044. We, therefore, multiple 93.6 by .956 to arrive at the adjusted value of 89.48 percent coverage.

We calculate the *Territorial Gini Index* and the *Adjusted Measure* across Argentina's 24 provinces and Mexico's 32 states for the case of democracy, and across Argentina's 24 provinces, Mexico's 32 states, Chile's 15 regions, and Peru's 25 departments for the case of healthcare coverage. The reason we add Chile and Peru to the analysis of healthcare universalism is because after healthcare was decentralized, subnational units in both states became responsible for the administration of some public healthcare services. We focus our analysis on the MMR vaccine because it is required by all four countries' national immunization programs and it has been administered for a long time. The vaccination is generally given around the age of 1 year. Due to

data limitations, we are unable to analyze vaccine coverage across time,[4] but we do present cross-temporal data for the adjusted measure of democracy.

Democracy

For our analysis of democracy we draw on the V-Dem national *electoral* democracy measure and on Giraudy's (2015) measures of SURs to create a new, adjusted measure of country democracy. Both measures capture the *electoral* dimension of democracy, namely, the competitiveness of the political system, and the existence (or lack thereof) of electoral fraud, which is typically considered as a "minimalist" conceptualization of democracy. Specifically, we employ V-dem's electoral component index, which addresses the question "to what extent is the electoral principle of democracy achieved?" Electoral democracy is presumed to be achieved when "suffrage is extensive; political and civil society organizations can operate freely; elections are clean and not marred by fraud or systematic irregularities; and the chief executive of a country is selected (directly or indirectly) through elections" (V-Dem Codebook v6, 2016, page 51). The variable is an index measure which combines measures of these four features (suffrage, freedom of association, clean elections, and elected executive).

Giraudy's (2015) SUR index also taps onto the electoral dimension of subnational democracy. This measure combines three features of the electoral process: whether elections are contested and clean, and the competitiveness of the political system (i.e., whether the opposition has actual possibilities to access office (alternation).[5] The data used for this new adjusted measure spans the 1997-2009 period in Mexico, and 1983-2009 period in Argentina. As noted above, data is available for all 24 provinces in Argentina, and Mexico's 32 states.[6]

Figure 1 presents the national V-Dem electoral democracy measure for Argentina and Mexico. The figure reveals that, according to traditional national-level measures of democracy, Argentina's democratic performance is consistently higher than Mexico's by a 0.19 point average.

[4] Provincial vaccine coverage in Argentina is only available for one time point.

[5]Unlike the V-Dem index, the SUR index does not have a component on universal suffrage. This component is not needed as subnational political regimes that are embedded in a national democratic system, such as the two country cases analyzed here, guarantee citizens minimal electoral rights, such as universal suffrage.

[6] Time intervals in each country start with the most recent transition to democracy at the national level, as these transitions paved the way for "regime juxtaposition," (Gibson 2005a). The onset of democratization in Argentina is set in 1983, when military rule was replaced by a democratically-elected civilian government. In Mexico, it is set in 1997 since, according to prominent Mexican scholars, this year marked the onset of democratization in the country at the federal level (see, for instance, Magaloni 2005). In 1997, the Institutional Revolutionary Party (PRI) lost its majority in the lower chamber of Congress, and consequently its hegemony in the legislative arena. Time intervals in each country end in 2009, when mid-term national elections were held.

[Figure 1 here]

The Territorial Gini Index of Democracy

Figure 2 displays the *Territorial Gini Index* across time in Argentina and Mexico. Numerous studies have demonstrated that even though these two countries rank relatively high on electoral democracy at the national level when compared to other countries in the developing world, democracy has not trickled down evenly across the territory (Giraudy 2010, 2013, 2015, Benton 2012, Rebolledo 2011, Gibson 2005a, Gervasoni 2010a, Behrend 2011). In fact, the analysis of the *Territorial Gini Index* shows that Argentina has higher territorial inequality than Mexico, and that this inequality evens out over time. Interestingly, when seen from a cross-temporal point of view, both Argentina and Mexico show that democratic territorial inequality is not a static aspect of their respective political systems but that rather it can rise and decrease. Territorial inequality was lower at the onset of each country's transition to democracy, and it slowly but steady went up within the first 10 years of democratization. In the case of Argentina, territorial inequality begins to decrease in the late 2000s.

[Figure 2 here]

The Adjusted Measure of Democracy

As seen in Figures 3 and 4, when territorial variation is taken into account, the countries' measures of democracy vary significantly. Argentina ranks significantly lower when the measure is adjusted, revealing that the country should not be regarded as democratic as it is typically considered to be. A comparison between the measures suggests that the gap between them is higher in the 1990s, when the difference between them is of 0.28 points. This gap begins to close in 2008, with a 0.17 point difference among measures. Starting in 2008, the difference between the measures resembles the gap observed the late 1980s. A similar trend of disparity between measures can be seen in Mexico. Yet, the gap in this country is considerably lower than in Argentina. Mexico's difference never surpasses 0.14-point difference. In this case, both measures begin to look more attuned in 2004, with this difference being 0.12 points.

[Figures 3 and 4 here]

As shown in Figure 5, and compared to the information displayed in Figure 1, the adjusted measure reveals that pattern of democratic evolution in Argentina and Mexico is more similar than when the measure does not weigh in a territorial dimension. As shown in Figure 5, during the 1990s and early 2000s, Argentina and Mexico exhibit similar levels of democracy, a smiliarity that is completely overlooked by a measure that does not factor in a territorial dimension. These results reveal that our assessment of democracy in these two countries is considerably different when alternate measures are employed. We claim that the adjusted measure of democracy is better equipped to capture one of the core dimensions of democracy, i.e., that all ctizens have equal political rights, and as result offers a better characterization of how individual countries perform.

[Figure 5 here]

Healthcare universalism

Welfare state universalism is a concept often associated with the advanced industrialized welfare states of Europe, but beginning in the early 2000s a group of scholars sought to adapt the term to the context of Latin America. Filgueira et al. (2006) were perhaps the first to build a Latin American conceptualization of universalism, focusing on what they called 'basic universalism.' Basic universalism refers to a system of social protection that guarantees coverage for all citizens for a group of essential services and transfers. The state plays a central role in providing benefits and ensuring that all citizens can effectively access and use services and transfers. Huber and Stephens (2012b), Pribble (2013), and Martínez Franzoni and Sánchez Ancochea (2016) adapt this concept to their analyses, defining social policies as universal if they cover the entire population; provide high-quality public services and generous transfers (with limited segmentation in benefit size); are granted on the basis of transparent criteria (i.e. as rights); and are financed in a sustainable and equitable manner.[7]

Creating a new measure of welfare state universalism that *both* accounts for aggregate national performance *and* subnational variation is challenging because existing measures of the concept are qualitative, based on extensive coding schemes that cannot be replicated across multiple subnational units. For example, adapting Pribble's (2013) coding of healthcare

[7] All three sets of authors recognize that many Latin American states will not reach 100 percent coverage and establish thresholds to differentiate between pure, advanced, and moderate forms of universalism.

universalism would require that scholars carry out in-depth research about both public and private-sector service quality in each and every province/state/region, as well as investigate whether eligibility criteria are enforced in legalistic and transparent ways in each state. Such a coding is possible for a handful of countries and a limited number of time points, but becomes less feasible for 15-25 provinces/states/regions across multiple countries.

As a result, the first step toward re-conceptualizing welfare universalism requires that we identify a quantitative indicator that can be measured at both the national and subnational level and provides a sense of a social policy coverage, quality, and eligibility criteria. Such a measure is difficult to come by and will vary by policy sector. A complete approach, therefore, requires that we identify such indicators for each of the welfare state's predominant policy sectors: education, healthcare, pensions, and family assistance. For the purpose of this article, however, we focus on only one dimension of the welfare state: healthcare.[8]

One way to measure the coverage, quality, and transparent enforcement of public healthcare services *quantitatively* is with an indicator of access to care. Vaccine coverage is such a measure and provides insight into what share of the national and subnational population were able to effectively use a key health service: immunizations. Since vaccine coverage can be measured at both the national and the subnational level, the indicator is ideal. Moreover, because the measure probes *actual use* of healthcare services, it provides a direct assessment of all three dimensions of universalism. In settings where virtually all citizens are covered by healthcare services, vaccine rates, especially for immunizations that are included in a country's public health recommendations, should be high.[9] If service quality is uniform across the territory; that is to say that all regions/provinces have similar levels of infrastructure, health personnel, and clinic space, then everyone who is covered by the healthcare system should be able to obtain the immunization easily and coverage rates at the national and subnational level should vary minimally. Finally, if the implementation of health services is carried out in a legalistic and transparent way, free of

[8] We choose to narrow the discussion to healthcare for several reasons. First, it is not realistic to build and analyze a new measure of overall welfare state universalism in an article-length manuscript. Thus, it is essential to narrow the scope and focus on one policy dimension. This approach has been taken by many scholars of comparative social policy, who argue that the politics of policy formation and reform often vary across sectors because of the presence of diverse stakeholders and distinct opportunity structures (Pribble 2013, Niedzwiecki 2018). Second, a focus on healthcare is especially appropriate for this article because the administration of health services has been decentralized to state and/or municipal governments in most Latin American countries. As a result, it is a policy domain that has been extensively researched from both the national and subnational perspective. It is also the policy sector that is likely to be heavily affected by territorial variation.

[9] For the four countries included in this analysis, we consider vaccines that are included in the national registry.

clientelism and favoritism, then vaccination rates, especially for required immunizations, should be uniformly high. We, therefore, use a country's vaccination rate, focusing on the MMR immunization, to probe healthcare universalism at the national and subnational level in four Latin American countries.[10] We contend that the selection of this vaccine is appropriate because it is included in the national vaccine schedule for the countries analyzed in the article and all four states have extensive experience providing the immunization. We compared these results to adjusted measures of vaccine coverage for Tuberculosis and the Diferia, tetnus, whooping cough vaccines and the results were similar.[11]

Studies of healthcare access sometimes focus on infant mortality, maternal mortality, and the share of births attended by a skilled physician. While all three of these options provide insight into the degree of healthcare universalism, the first two are also affected by a range of other factors, including santitation, regime type, wealth, and women's status in society (McGuire 2010a, Drèze and Sen 1989, Filmer and Pritchett 1999). For this reason, we do not adopt these two measures. (McGuire 2010a) and Niedzwiecki (2018) use the indicator births attended by a skilled technician to assess access to public health services. We agree that this measure probes healthcare access, but we argue that it is not appropriate for capturing territorial inequality in this particular set of countries. This is because, for example, births are handled by hospitals in Chile, but hospitals are not administered by subnational units. Instead, the national Health Ministry runs hopsitals through regional health directors that are appointed and respond to the central government. Vaccinations, by contrast, are distributed in Chile's primary care clinics, which are administered by the country's 346 municipal governments. For this reason, we are less likely to pick up on territorial gaps in social rights if we focus on services provided by hospitals than those provided by local governments. While some hospitals are run by provincial governments in Argentina, the federal government also administers hospitals, thereby blurring the lines of responsibility. Similar divisions and overlap exist in Peru and Mexico. For this reason, we contend that immunization coverage, which in all four cases provides insight into local-level health services, is the best proxy to capture both healthcare universalism and territorial variation.

[10] The data are taken from the following sources: Ministerio de Salud Républica de Peru (2017), Ministerio de Salud Républica de Chile (2017), Ministerio de Salud Presidencia de la Nación Argentina (2017), Subsecreatría de Prevención y Promoción de la Salud .

[11] Whereas there has been an increase in the share of families that rejecting vaccines in some income groups in the United States, this is less true in our selection of countries. Thus, declines in vaccine coverage are not likely to reflect personal preferences, but rather barriers to access.

Table 1 presents the national coverage rates for the MMR vaccine in Argentina, Chile, Mexico, and Peru, for the year 2012.[12] The variable is measured as the share of the target population that received the vaccine during that year. The table reveals that, with the partial exception of Mexico, all four countries exhibit high rates of vaccine coverage at the national level. Indeed, in Argentina coverage of the MMR vaccine was 93.6 percent. In Chile, 90.6 percent of the target population was vaccinated for MMR, whereas in Mexico and Peru, coverage rates were 88.67 and 92.9, respectively. The decision of whether or not these rates constitute "healthcare universalism" is complicated, but a look at advanced industrialized democracies suggests that the performance is very strong.

[Table 1 here]

As displayed in Table 2, immunization rates for the universalistic welfare states of Sweden and Finland varied between 95.4 and 97.5 percent for MMR vaccine. This suggests that immunization coverage above 90 percent can safely be considered 'universalistic.' Using this cut-off, we can conclude that Argentina, Chile, and Peru have achieved healthcare universalism when viewed from the national-level. By contrast, Mexico might be considered moderately universal.

[Table 2 here]

The Territorial Gini Index of Healthcare Universalism

Table 1 presents the Territorial Gini Index of inequality in vaccine coverage in Argentina, Chile, Peru, and Uruguay. It shows that territorial inequality in healthcare provision is highest in Peru (.097), followed by Mexico (.076), Chile (.057), and finally Argentina (.044). The table reveals that when viewed from the subnational level and through a lens of territorial inequality, Chile, Mexico, Peru, and to a lesser extent Argentina, exhibit notable subnational variation with regard to access to vaccines. This suggests that the coverage, quality, and eligibility rule enforcement in each country's health system is not uniform across provinces/regions/departments, thereby undermining universalism. Put differently, it appears that the universalistic progress made at the national level in these four countries has not filtered down equally to all citizens. While some residents enjoy universal access, others encounter barriers to accessing basic healthcare

[12] Argentine data is only available for the year 2013. The closest available year for the other three cases is 2012.

services. All of this suggests that our national-level indicators need to be adjusted for subnational unevenness.

The Adjusted Measure of Healthcare Universalism

Table 1 presents our adjusted measure of vaccine coverage. The coverage of the MMR vaccine falls from 93.6 percent to 89.48 percent in Argentina. The decline is more severe in Chile and Peru, where the rates decline from 90.6 to 85.4 and 92.9 to 83.9 percent, respectively. In Mexico the coverage rate falls from 88.67 to 81.9 percent. A similar story is true for the Tuberculosis and Diferia, Tetnus, and Whooping Cough vaccines.[13]

We contend that the adjusted rates of vaccine coverage provide a more accurate empirical account of the extent to which a country's healthcare system is universal. Drawing on the evidence presented in Table 1, we can see that whereas Argentina maintains the label of universalism by holding coverage at 90 percent or higher, Chile, Mexico, and Peru slip into only a moderately universal terrain (80-89.9 percent). This is interesting, as it forces us to re-think a common finding in the comparative social policy literature, namely that Chile is one of the Latin American countries that has moved the furthers progress toward welfare state universalism since the 1990 transition to democracy (Pribble 2013, Huber and Stephens 2012b).

Chile's progress on the social policy front has been noted by several scholars. Huber and Stephens (2012) classify Chile as one of Latin America's advanced welfare states. Similarly, Pribble (2013) finds that Chile was able to reform both health and pension systems in the direction of greater universalism, achieving 'advanced universalism' in both policy sectors. Specifically, the author finds that the 2004 AUGE healthcare reform, which guaranteed coverage for a set of 40 illnesses, increased health universalism by improving coverage, decreasing the quality gap between the public and private sector, and creating transparent mechanisms for holding providers accountable for meeting treatment protocols.[14] The analysis, however, fails to consider whether the reform was implemented evenly across the territory or whether regional differences in the scope of health infrastructure allow for AUGE to work outside of Santiago. The data presented in Table 1 suggest that the reform failed to remedy subnational inequalities. In this way, the new

[13] Due to data limitations, we were not able to check the results for Mexico.
[14] The AUGE reform was eventually renamed (AUGE-GES) and expanded to cover 80 illnesses.

measure of healthcare universalism, both exposes new empirical information about country performance and pushes us to incorporate multi-level dynamics into our existing theories.

Adjusted Measures and Multilevel Theory Building

The Adjusted Measures we present above call into question existing measures and country classifications of national-level democracy and welfare universalism but they also force us rethink existing theories about the origins, change, and decay of national democracy and welfare universalism. We argue that the incorporation of a territorial dimension to these measures exposes previously un-noticed multi-level dynamics that must be incorporated into our theories.

Multilevel theories have a long pedigree in the field of International Relations (Evans et al. 1993; Gourevitch 1978; Singer 1961) and, as Giraudy, Moncada, and Snyder (forthcoming) note, because of the recent proliferation of SNR, they are now increasingly common in comparative politics (Hooghe and Marks 2001, 2016). These theories essentially capture the effects that factors operating at lower levels of government have on international or national level outcomes.[15] From this standpoint, national outcomes cannot be properly understood without paying attention to subnational institutions, actors, and events. Indeed, scholars attuned to multi-level theories show how the neglect to subnational variables results, at best, in incomplete explanations and, at worst, in fundamental misunderstandings of national-level outcomes.

Research on subnational democracy in Latin America provides insights into how national-level democratic consolidation can be achieved. Theories of democratic consolidation rarely pay attention to the politics that unfold beyond the central state. Most of them focus on the national elites, the working and or middle classes, international pressures, and/or economic variables (Barrington Moore 1966, Rueschmeyer, Stephens, and Stephens 1992, Boix 2003, Acemoglu and Robinson 2012). Yet, research on subnational democracy shows that obstacles to full democratization can also stem from the political clashes among actors situated in different levels of government.

Gibson (2013) and Giraudy (2015) show that clashes between presidents and governments in Mexico and Argentina, have prevented democracy from trickling down evenly throughout the

[15] Giraudy, Moncada, and Snyder (forthcoming) note that there are two types of multi-level theories: (a) *bottom-up theories* where subnational variables explain national-level outcomes and (b) *top-down theories*, where, conversely, national-level variables explain subnational outcomes. In this article we focus on (a).

territory. Democratically elected presidents who aspire to build winning electoral and legislative coalitions at the national level might likely require the political support of subnational autocrats. With their tight control over local party machines, as well as their capacity to prevent opposition forces from winning over voters, autocrats from SURs can help deliver votes that have a decisive impact on general and mid-term national elections (Snyder 1999; Gibson 2005; Tudor and Ziegfeld forthcoming). Subnational autocrats can also become attractive coalitional partners due to their capacity to deliver electoral support by engaging in "turnout buying" (Nichter 2008). Furthermore, autocrats' capacity to control local and federal legislators' political careers turns them into valuable coalitional partners, as they have considerable leeway to influence and discipline legislators' voting behavior, and thus secure congressional support for the passage of bills that are central to national incumbents' political projects (De Luca et al. 2002; Gordin 2004; Jones and Hwang 2005; Samuels 2003; Díaz-Cayeros 2006; Langston 2004, 2005; Langston and Aparicio 2008; Rebolledo 2011).

Democratic presidents, as Giraudy (2015) shows, who can exercise effective power over subnational autocrats have high incentives to contribute to the reproduction of peripheral undemocratic regimes, and in so doing prevent democracy from trickling down evenly throughout the territory, thus undermining full democratization. This type of multilevel theory provides and alternative account to democratic consolidation in Argentina and Mexico. In these countries the incapacity to achieve full democratization might have to do more with multilevel dynamics rather than with the strength of the working and middle classes, clashes among social classes, and/or with international influences.

To date, most studies of cross-national variation in social policy expansion and reform have focused exclusively on national-level variables, paying careful attention to political institutional design, electoral competition, political party character, and the distribution of power.[16] Only recently have scholars begun to consider how multi-level dynamics may also shape differences across countries. For example, Otero-Bahamon (2017) demonstrates that the relative power of subnational elites vis a vis national technocrats in Colombia and Peru explains cross-national variation in territorial inequality in human development. Relatedly, Pribble (2017) finds that

[16] Some examples of this research in the Latin American context include: (Huber and Stephens 2012a, Pribble 2013, Martínez Franzoni and Sánchez Ancochea 2016, Castiglioni 2005, Dion 2010, Brooks 2009, McGuire 2010b, Haggard and Kaufman 2009, Garay 2016)

variation in the quality and coverage of healthcare services in Chile is explained by multi-level political dynamics that emerged during the foundation of the national health system. Specifically, choices made by national elites about where to focus investment and infrastructure development, and the response from subnational elites and organized groups, established a pattern of development that continues to shape healthcare service delivery to this day.

In both of these last two examples, as well as in studies of democracy mentioned above, scholars are able to identify multi-level dynamics and develop multi-level theories because they adopt measures of universalism and democracy that had an explicit territorial dynamic. In so doing, these scholars provide new, alternative theories of democracy and welfare universalism, and in some cases challenged extant, well-established and popular explanations in these two themes in comparative politics.

Conclusion

SNR has made important contributions in two prominent research areas in comparative politics: democracy and welfare states, demonstrating that democracy and welfare provision have not trickled down evenly within countries. Despite these contributions, cross-national researchers in these two areas have not incorporated this territorial variation into existing concepts and measures. This article makes the case that this omission has impaired our proper understanding of democracy and welfare provision. More specifically, the article contends that existing national-level measures of democracy and welfare universalism lack precision, and may lead to unbiased assessments because they do not weigh within-country territorial variation.

The goal of this article has been to show empirically that incorporating territorial has important empirical implications for how we identify and think about democracy and welfare universalism. In this article we propose a *Territorial Gini Index* and incorporate it to existing national-level measures of democracy and welfare state universalism, creating a new measure, i.e., the *Adjusted Measures of Democracy/Welfare State Universalism*. Drawing on evidence from a subset of Latin American countries, we find that adjusted measures provide a different, more realistic picture of the performance of democracy and welfare universalism. The findings of this article suggest that our perceptions of cases such as Argentina and Chile are altered when a territorial dimension are weighed in. Argentina has less successful performance when it comes to democracy, and Chile's health care reform, which is widely considered to be an example of

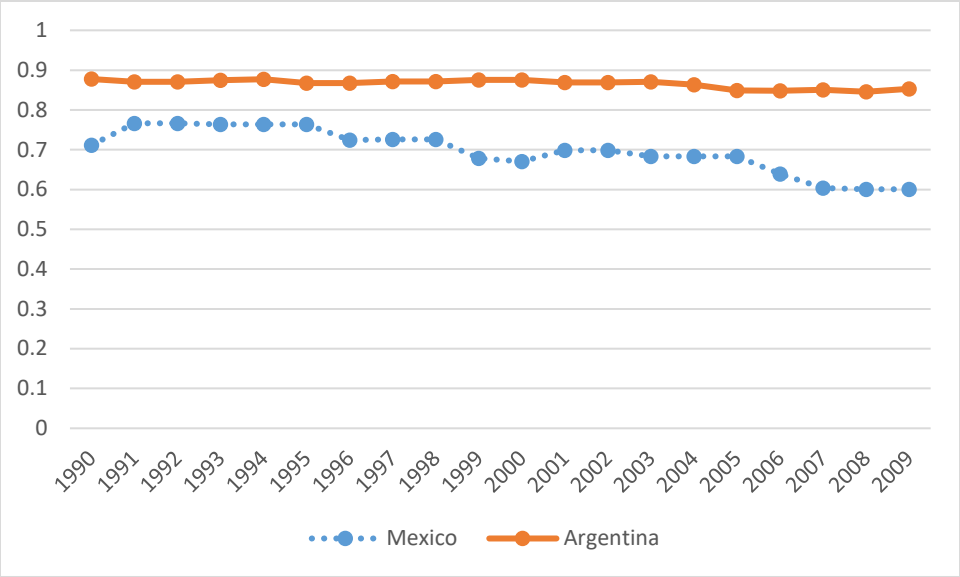
advanced universalism, did not address territorial inequality. The findings, as we suggest in the previous sections, also invite scholars to theorize about territorial variation can affect national level outcomes.

We would like to finish by stating that our proposed *Adjusted Measures of Democracy and Welfare Universalism* involve trade-offs, and the choices that we have made have implications for perceptions of country performance. We believe these choices make good theoretical and conceptual sense, but we recognize that a different approach might alter the outcome. One of the key trade-offs is that our Gini Coefficient of territorial inequality does not weigh each country's subnational unit for its relative population size. Instead, we count each unit equally, regardless of the number of residents that live in the region/province/department. This is true for the measure of democracy and immunization coverage. This influences our perception of inequality in ways that critics could consider misleading. It is possible that undemocratic regimes and segmented healthcare systems may emerge in sparsely populated regions/provinces/departments. If this is the case, then a majority of a country's inhabitants may not be affected by these regimes, nor by low-quality healthcare provision. As a result, some may argue that our system for adjusting the national indicator produces a skewed understanding of country-level performance. We, however, contend that this is appropriate for the study of democracy and universalism. Both of these concepts involve an idea of equal (political and social) rights among citizens. To say that some residents' rights are less relevant for understanding national-level performance than others (simply because they live in a sparsely populated region) skews our understanding of the underlying concept. We, therefore, contend that this approach to adjusting national-level indicators is appropriate.

A final consideration about our approach for adjusting national measures of democracy and healthcare universalism relates to the fact that a country's performance can only be adjusted downward. Put differently, in a setting of perfect territorial equality, a country's national-level measure of democracy and healthcare universalism remains unchanged rather than improving. We contend that this, too, is appropriate since perfect territorial equality suggests that the national aggregate measure is representative of the lived experience of residents in different portions of the territory. Thus, we do not believe that a given country should be considered more universal or more democratic in the absence of territorial inequality, but rather that the national-level indicator should be seen as representative, remaining unchanged by the adjustment.

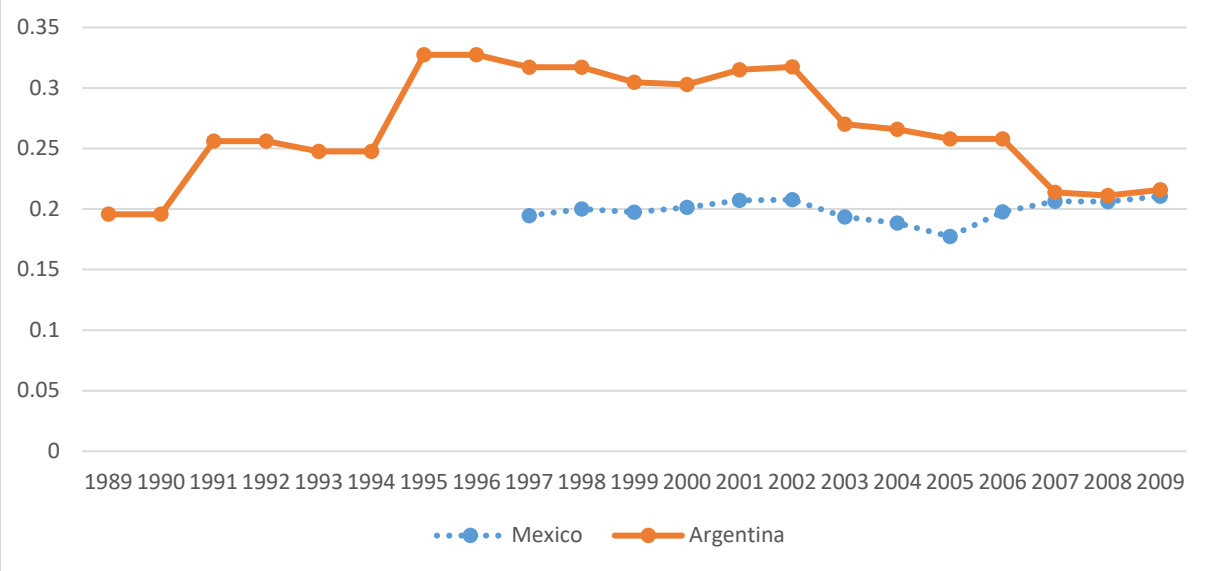
The findings presented in this article suggest that scholars should continue to refine national-level measures so that they reflect subnational dispersion and territorial differences. Improved cross-temporal and cross-national measures would permit a more thorough investigation of whether or not existing theories of the welfare state and democracy effectively explain cross-national and cross-temporal variation, once we adjust for subnational inequality. It might also allow new innovations in related fields, such as the study of state capacity. All of this would advance our theoretical and empirical understanding of two key concepts in comparative politics – democracy and the welfare state – and it would link scholars of subnational and cross-national politics in a shared discussion.

Figure 1: National Level Measure of Electoral Democracy



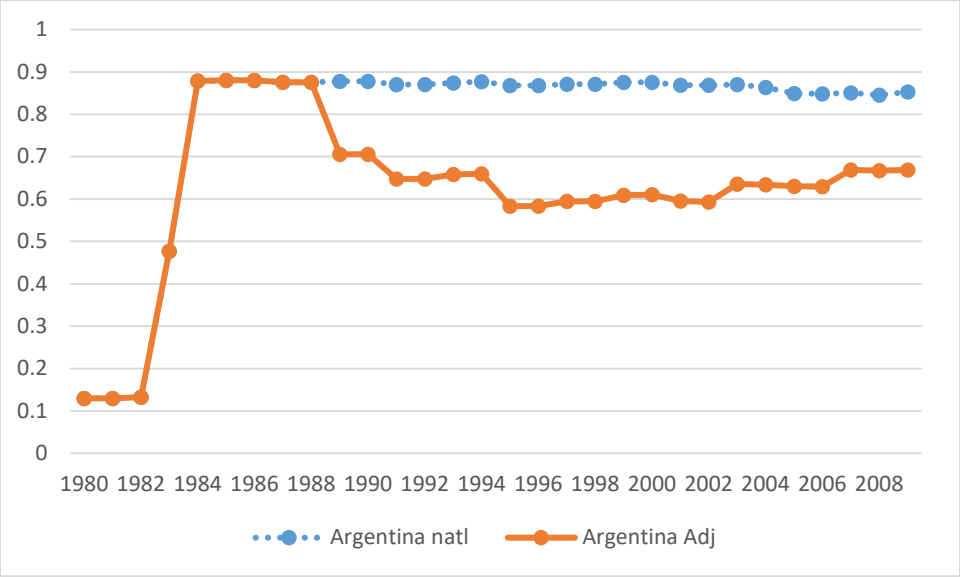
Source: V-Dem Project.

Figure 2: Territorial Gini Index of Subnational Undemocratic Regimes



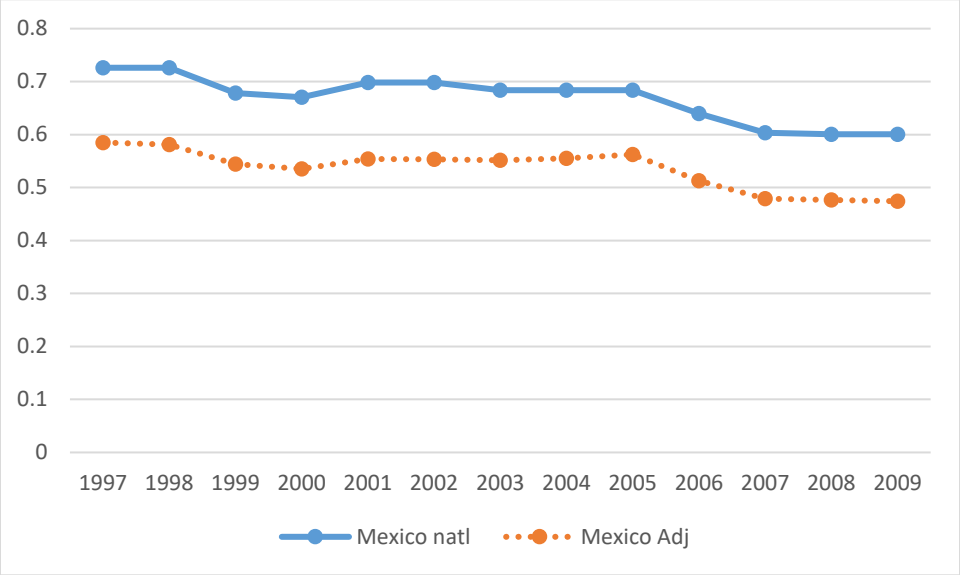
Source: Giraudy (2015), authors' calculations.

Figure 3: Adjusted vs. National Level Measure of Electoral Democracy (Argentina)



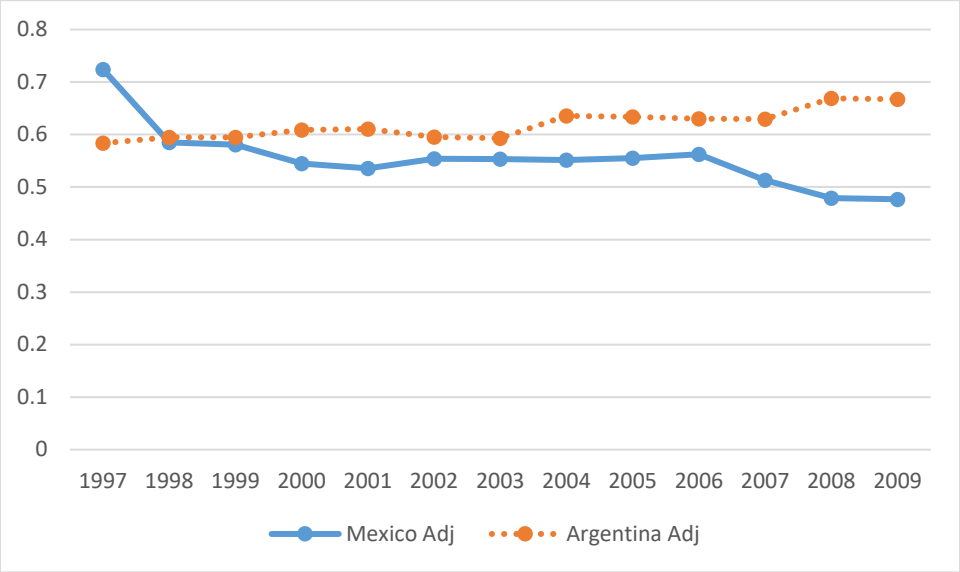
Source: V-Dem Project; Giraudy (2015), authors' calculations.

Figure 4: Adjusted vs. National Level Measure of Electoral Democracy (Mexico)



Source: V-Dem Project; Giraudy (2015), authors' calculations.

Figure 5: Adjusted Measure of Electoral Democracy (Mexico and Argentina)



Source: Giraudy (2015), authors' calculations.

Table 1: National MMR Coverage, Gini Coefficient of Territorial Inequality and Adjusted Measure of Healthcare Universalism in Argentina, Chile, Peru, and Uruguay (2012)

Country	National Coverage	Gini Coefficient of Territorial Inequality	Adjusted Measure of Healthcare Universalism
Argentina	93.6	.044	89.48
Chile	90.6	.057	85.44
Mexico	88.67	.076	81.93
Peru	92.9	.097	83.89

Source: Ministerio de Salud Presidencia de la Nación Argentina (2017), Ministerio de Salud República de Chile (2017), Ministerio de Salud República de Peru (2017), and Departamento de Inmunizaciones CHLA-EP (2012).

Table 2: Coverage of MMR Vaccine, Sweden and Finland (children born in 2012)

	MMR Vaccine
Sweden	97.5
Finland	95.4

Source: National Institute for Health and Welfare (2017) and The Public Health Agency of Sweden (2017)

Appendix

Summary statics

Table A1: SUR Index (Mexico 1997-2009)

	Mean	Std. Dev.	Min	Max	Obs
Aguascalientes	1.15	0.12	1.03	1.34	13
Baja California	0.68	0.06	0.59	0.77	13
Baja California Sur	1.19	0.13	1.00	1.38	13
Campeche	0.70	0.13	0.56	0.86	13
Coahuila	0.56	0.00	0.55	0.56	11
Colima	0.63	0.05	0.58	0.70	13
Chiapas	1.26	0.21	1.08	1.63	13
Chihuahua	1.21	0.04	1.18	1.29	13
CDMX	1.39	0.13	1.30	1.57	10
Durango	0.74	0.07	0.65	0.82	13
Guanajuato	0.63	0.08	0.53	0.73	13
Guerrero	1.10	0.14	1.00	1.33	13
Hidalgo	0.58	0.06	0.51	0.63	13
Jalisco	0.66	0.09	0.57	0.80	13
Edo Mexico	0.78	0.19	0.60	1.06	13
Michoacán	1.36	0.21	1.07	1.62	13
Morelos	1.28	0.20	1.07	1.63	13
Nayarit	1.18	0.12	1.06	1.32	13
Nvo León	1.21	0.04	1.18	1.26	13
Oaxaca	0.53	0.03	0.50	0.56	13
Puebla	0.55	0.02	0.53	0.59	12
Querétaro	1.29	0.09	1.15	1.39	13
Quintana Roo	0.73	0.28	0.50	1.19	13
San Luis Potosí	1.24	0.09	1.15	1.36	13
Sinaloa	0.60	0.04	0.56	0.65	13
Sonora	1.17	0.18	1.00	1.40	13
Tabasco	0.50	0.00	0.50	0.50	13
Tamaulipas	0.62	0.03	0.59	0.66	12
Tlaxcala	1.17	0.19	1.00	1.38	13
Veracruz	0.65	0.06	0.52	0.74	13
Yucatán	1.05	0.03	1.02	1.11	13
Zacatecas	1.42	0.15	1.02	1.58	13

Table A2: SUR Index (Argetina 1989-2009)

	Mean	Std. Dev.	Min	Max	Obs
Buenos Aires	0.71	0.06	0.62	0.83	21
CABA	0.83	0.09	0.73	1.00	13
Catamarca	0.74	0.14	0.65	1.13	19
Chaco	1.23	0.09	1.10	1.39	21
Chubut	1.17	0.05	1.06	1.23	21
Córdoba	0.86	0.49	0.20	1.38	21
Corrientes	0.95	0.22	0.72	1.47	21
Entre Ríos	0.98	0.26	0.70	1.23	21
Formosa	0.28	0.31	0.03	0.75	19
Jujuy	0.72	0.06	0.64	0.82	21
La Pampa	0.40	0.26	0.16	0.71	21
La Rioja	0.20	0.23	0.00	0.51	18
Mendoza	1.03	0.32	0.69	1.40	18
Misiones	0.80	0.21	0.67	1.31	21
Neuquén	0.72	0.07	0.64	0.81	21
Río Negro	0.74	0.05	0.69	0.82	21
Salta	0.41	0.43	0.06	1.27	17
San Juan	1.26	0.16	1.04	1.51	21
San Luis	0.29	0.18	0.07	0.53	19
Santa Cruz	0.30	0.24	0.10	0.69	21
Santa Fe	0.70	0.02	0.66	0.74	21
Santiago del Estero	0.79	0.25	0.57	1.25	18
Tierra del Fuego	1.38	0.13	1.22	1.55	15
Tucumán	0.83	0.25	0.55	1.29	21

Table A3: MMR Vaccination Coverage Rates in Argentina's Provinces (2012)

Province	Coverage
Buenos Aires	88.71
CABA	82.84
Catamarca	86.61
Chaco	99.94
Chubut	90.86
Cordoba	102.96
Corrientes	92.82
Entre Rios	92.18
Formosa	92.34
Jujuy	100.23
Lapampa	97.95
La Rioja	81.07
Mendoza	91.48
Misiones	95.03
Neuquen	96.25
Rio Negro	99.07
Salta	102.47
San Juan	95.25
San Luis	98.83
Santa Cruz	113.9
Santa Fe	85.81
Santiago de Estero	93.04
Tierra del Fuego	104.79
Tucuman	103.22

Table A4: MMR Coverage in Chile's Regions (2012)

Region	Coverage
Arica	125.9
Tarapacá	90.5
Antofagasta	81.4
Atacama	97.1
Coquimbo	90.8
Valparaiso	93.8
Metropolitan Region	90.4
O'Higgins	91.5
Maule	93.2
Bío Bío	93.4
Araucania	87
Los Rios	83.7
Los Lagos	79.4
Aisén	75.9
Magallanes	87.5

Table A5: MMR Coverage in Mexico's States (2012)

State	Coverage
Aguascalientes	92.61
Baja California	73.51
Baja California Sur	96.95
Campeche	98.41
Coahuila	88.97
Colima	92.94
Chiapas	107.8
Chihuahua	79.68
DF	103.94
Durango	95.45
Guanajuato	104.58
Guerrero	66.63
Hidalgo	76.46
Jalisco	83.86
México	82.25
Michoacán	97.88
Morelos	95.98
Nayarit	87.75
Nuevo León	97.11
Oaxaca	71.47
Puebla	92.77
Querétaro	98.65
Quintana Roo	86.16
San Luis Potosí	101.64
Sinaloa	86.25
Sonora	77.18
Tabasco	116.52
Tamaulipas	88.97
Tlaxcala	96.12
Veracruz	68.86
Yucatán	75.37
Zacatecas	106.4

Table A6: MMR Coverage in Peru's Departamentos (2012)

Departamento	Coverage
Amazonas	98.6
Áncash	91.3
Apurimac	78.7
Arequipa	100.1
Ayacucho	75.5
Cajamarca	81.4
Callao	119.6
Cusco	83.3
Huancavelica	55.5
Huánuco	76.2
Ica	105
Junín	79.6
La Libertad	97.4
Lamayeque	95.5
Lima	96.6
Loreto	106.7
Madre de Dios	120.2
Moquegua	93.4
Pasco	93.9
Piura	102.1
Puno	71.7
San Martin	110.1
Tacna	85.1
Tumbes	113
Ucayali	121

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