

Do We Live Longer and Healthier Lives under Democracy? A Configurational Comparative Analysis of Latin America

Davide Grassi

davide.grassi@unito.it

Università di Torino, IT

Francesca Luppi

francesca.luppi@upf.edu

Universitat Pompeu Fabra, ES

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Keywords: Democracy, Healthy Life Expectancy, Latin America, fsQCA

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Davide Grassi (Università di Torino, I)
davide.grassi@unito.it

Francesca Luppi (Universitat Pompeu Fabra, ES)
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Introduction

The impact of the political environment and democracy on human health has received considerable attention in social science literature. Although a majority of studies underscores a positive impact, overall the bearing of democracy on health is still controversial. Compared with previous research, we propose a novel and superior operationalization of life expectancy: we take into consideration, in addition to mortality figures, also ill health in the population. We also introduce a more complete and accurate definition of democracy, by separating duration from quality, and consider the two features as discrete conditions potentially affecting life expectancy. The methodology we employ, finally, reflects social causality more accurately and credibly than conventional quantitative techniques: it allows for multiple conjunctural causation and equifinality while escaping the limitations of additivity, uniformity of causal effects and symmetrical causation.¹ We believe that no single overarching theory may be recommended to explain public health outcomes in Latin America. Our purpose is, rather, to identify which countries share similar causal paths connecting democracy to public health results and determine, in each case, which combinations of causal conditions are at play. We find that in Latin America there are at least four different ‘models’ thorough which democracy exerted an impact on health in different groups of countries, through varying combinations of factors as prosperity, social equality and generous public health outlays.

This paper is organized as follows: first, we review the existing literature and in the ensuing paragraph we examine our outcome, main causal conditions, causal mechanisms and hypotheses. Next, we consider briefly some of the crucial characteristics of Fuzzy Set Qualitative Comparative Analysis (FSQCA) as a method of investigation and apply this technique to evaluate the impact of democracy on life expectancy in Latin America. In the discussion, we summarize our main findings and clarify our contribution to the debate. Conclusions, as usual, wrap up the inquiry.

A review of the existing literature

Lena and London (1993) claim that, in a sample of peripheral and non-core nations, regime type and ideology had an impact on population health and mortality rates. In short, they find that high levels of democracy and strong left-wing regimes are associated with positive health outcomes. In a similar vein, observing a sample of advanced OECD countries between 1945 and 1980, health policy scholars Navarro and Shi (2001) conclude that egalitarian political traditions, such as in social democratic countries, have been generally more successful in improving the health of populations. These findings were replicated by later studies, extended to more OECD countries in the period 1950-2000 (Navarro et al., 2004; Navarro et al., 2006). Working within the same disciplinary approach, Franco and others (2004) found that longer life expectancies prevailed in “free” and partially “free” rather than in “non-free” countries.

Economists have been particularly intrigued by the issue: analyzing the indirect and direct impact of democracy on population health outcomes in a large sample of developed and less developed countries, Safaei (2006) finds that, once the effects of socioeconomic factors are controlled for, democracy seems to have a direct and positive influence on various measures of population health. His colleagues Besley and Kudamatsu (2006) suggest that there is a robust correlation between democratic institutions and health, resulting in greater life expectancy in democracies. They also imply that it is a prolonged exposure to democracy that matters: countries that have been continuously democratic since 1956 have enjoyed a life expectancy that is about five years higher than countries that have been autocratic throughout the same period

(see also Tsai, 2006). Finally, Vollmer and Ziegler (2009) show that there is a strong and robust link between democracy and human development, measured through life expectancy and literacy, after controlling for the level of economic development and other important variables.

Several political scientists also found that democracy improves health. Przeworski and others (2000; 237-239) observe that higher health expenditures significantly reduce mortality rates, both in democratic and authoritarian regimes. In democracies, however, health expenditures are about twice as large as in dictatorship, which helps explain their better performance. Health expenditures also dramatically reduce infant mortality. Controlling for exogenous conditions, including fertility rates and social spending, does not alter these results: infant mortality rates are still much higher under dictatorships (Ibid.). Zweifel and Navia (2000) and Navia and Zweifel (2003) claim that during the 1950-1999 period, characterized by a sharp decline in infant mortality worldwide, democracies significantly outperformed dictatorships. Lake and Baum (2001) argue that democracy has real, substantively important effects on the daily lives and well-being of individuals around the globe. In general, increases in the level of democracy are positively related to levels of public services, such as clean water access, and to an overall rise in life expectancy; and negatively associated with death and infant mortality rates. Bueno de Mesquita and others (2003) conclude that, after controlling for income, moving from the most autocratic to the most democratic regime implies very significant gains in life expectancy, and a drastic reduction in death and infant mortality rates. Thus: "Infants have a vastly better prospect of surviving and going on to live a long, prosperous life if they are born in a democratic society than if they are born anywhere else" (Ibid.: 300).

These results, however, are not unambiguous. Some scholars found scant evidence that democracy matters for the material conditions of everyday life. McGuire (2002 and 2010)² argues that democracy, both long and short-term, has no effect on multiple measures of basic health care provision and under-five mortality. Likewise, analyzing infant mortality rates between 1975 and 1999 in a series of developing countries, Shandra and others (2004) argue that the separate role of political democracy is neither statistically significant nor empirically conclusive. More generally, even if democracy is usually associated with higher social spending (Huber, Mustillo, and Stephens, 2008), it is not always related to better social policy performance, regardless of whether the latter is observed through outputs, such as rates of education enrolment and immunization, or through outcome measures, as rates of literacy and infant mortality (Nelson, 2007:80). Major obstacles may consist in bureaucratic resistance to reform implementation or the public's lack of interest, information or capacity to assess changes: "politicians in democracies receive signals from the public and major interest groups that favor spending and expansion, but not reallocation or reform of social services" (Nelson, 2007:82). Finally, Ross (2006) rejects the positive impact of democracy on health since many studies have used biased samples, excluding high-performing non-democracies for which data is unavailable. After statistically imputing these missing observations, he finds that regime type has little or no effect on infant mortality rates. While he accepts that democracies spend more on healthcare, his claim is that the benefits of this additional spending bypass the poor, accruing instead to middle- and upper-income groups (Ibid).

These contrasting conclusions depend on a variety of factors. First, there are basic differences in research design: the impact of democracy on health is measured over shorter or longer terms; it may act directly, through mental depression or negative psychosocial experiences that eventually affect overall wellbeing, or indirectly, through

the workings of crucial intermediate variables, such as public expenditures; and democratic regimes are variously defined, in terms of scope and precision. A most fundamental reason, however, is that a single overarching theory is typically applied to all the countries under investigation: a series of causal conditions are supposed to interact in similar ways in different countries to produce analogous outcomes.

We question this assumption: by examining cases as configurations, we plan to outline context-specific assessments which are circumstantially delimited, and to identify the conditions that in each case enable or disable specific connections between causes and outcomes. Thus, by contextualizing general theories, we point out what conditions may, in given groups of countries, empower or deactivate the relation between democracy and good health outcomes: we maintain that this relation may be different in rich or poor countries, and in countries with higher or lower public health expenditures or social inequality. Accordingly, we suggest that the contradictory conclusions outlined above especially reflect the imposition of a general theory over countries that follow different causal paths to the achievement of good health outcomes. We wish, instead, to identify more specific explanations, in form of “limited historical generalizations”, which apply separately and distinctively to multiple groups of cases: QCA is an ideal tool for this task.³

It is crucial to recall, in this regard, that the epistemological assumptions, on which QCA and customary statistical analyses are centered, differ substantially. Hence, to compare analytical results, by applying QCA and standard statistical analysis to the same data, would be of limited use and do not make a comparison (or, worse, a competition for the ‘truth’) suitable (Ragin, 2006: 176-212). We plan, instead, to engage the existing literature by exploiting the particular strengths of FSQCA and put forward a configurational explanation of democratic impact on healthy life expectancy in Latin America: QCA does not replace case studies or statistical studies; rather it complements both approaches and submits a novel view of social phenomena (Schneider and Wagemann, 2010).

Main conditions, causal mechanisms and hypotheses

Our analysis aims at evaluating how democracies might be related to public health conditions in Latin America. We operationalize the concept by using a measure of Health Adjusted Life Expectancy at birth (HALE). HALE at birth is more easily understood as the number of years in full health that a new-born can expect to live, based on current rates of ill health and mortality. Alternative indicators of population health may include simple life expectancy (at birth and adult); and infant, maternal and adult mortality rates. The health adjusted life expectancy measure is considered to be a superior measure over simple life expectancy, since it accounts for morbidity or ill health in the population (World Health Statistics 2010, Table 1: 48-54).

Our model comprises a series of political, economic and social conditions. Our aim is to observe how the history and quality of democracy in a given country are related to the presence or absence of conditions that might favor (or oppose) robust healthy life expectancy. Thus, we analyze two different political dimensions: whether a regime is essentially democratic or authoritarian and, in the first case, whether it is a full-fledged democracy or a semi-democracy. The first dimension captures the overall impact of democratic rule. The second, in contrast, underlines the specific quality of democratic performance, which may be more or less satisfying. In addition, we add a time component: for each country, along with the intensity of the relevant democratic experience, we define the varying endurance of its political regimes. One of the

assumptions is that the effects of democracy derive from both the quality of democratic performance and their prolonged action over time. It is worth emphasizing that the object of our analysis is not so much the effect of democracy on population health outcomes, but rather the combined relation of democratic experience, and a host of other social conditions, with high life expectancy. We wish to verify, for instance, whether poor countries with a long and mature democracy (as Bolivia in our study) and rich countries with a brief and undeveloped democratic experience (say, for instance, Cuba) might display the same health outcomes.

Accordingly, we operationalize enduring democracies by counting, for each country, the number of both democratic and semi-democratic years over the 1946-2007 period: democracies are enduring if they last more than half this period (more than 31.5 years). Mature democracies, on the other hand, are identified by counting, for each country, the number of years of full democracy over the entire democratic period: democracies are mature if full democracy prevails over semi-democracy. A first combination comprises political regimes characterized by extended and mature democratic rule (enduring democracies: Uruguay, Chile, Argentina, Brazil, Costa Rica, Venezuela and Bolivia); the second refers to regimes where defective democracy endured in time (enduring semi-democracies: Colombia Honduras and Peru); the third covers regimes with short-lived democracies (countries where authoritarian regimes have been prevalent, but post-authoritarian regimes were fully democratic: Dominican Republic, Nicaragua and Panama); while the last embraces regimes where both democratic duration and quality were limited. This category corresponds to mostly authoritarian political regimes with varying degrees of defective democratic experience: short-lived semi-democracies (Haiti, Nicaragua and Paraguay), as well as longstanding dictatorships (Cuba) or mostly authoritarian regimes that democratized recently (Mexico).⁴ To distinguish between democratic and authoritarian regimes, on the one hand, and democracies versus semi-democracies, on the other, we rely on the index created by Mainwaring, Brinks and Pérez-Liñán (2000).⁵ MBP-L code regimes along four dimensions: the integrity and competitiveness of national elections; the inclusiveness of the franchise (by the historical standards of the period); respect for civil liberties; and the degree of actual control exercised by elected governments (in opposition to the military) over policy.⁶

Little attention has been paid to the ways political regimes operate on life expectancy. Public health scholars suggest a few direct mechanisms. Safaei, for instance, notes that: “political oppression [...] may enhance mental depression and other negative psychosocial experiences, through the suppression of people’s rights, hopes and aspirations. Negative psychosocial experiences, in turn, may initiate physical illnesses, such as adult diabetes, hypertension, atherosclerosis, autoimmune disorders and coronary artery diseases.” (Safaei, 2006: 770-71) On the contrary, to the extent that citizens’ rights and dignity are warranted, democracy promotes mutual respect and a supportive environment, which breeds positive feelings of self-worth, optimism and hopefulness.

A series of mechanisms have also been underlined by political scientists: in authoritarian governments there are fewer procedures that would promptly expose popular needs and make politicians responsive. A free press is crucial to communicate popular needs, while democratic incentives for re-election motivate politicians to listen. In politically closed societies, censorship prevails, no real debate develops on important issues and most public policies reflect the interests of the inner circles of power and the dominant classes. Furthermore, democracies demand accountability to a broader set of citizens at broader intervals, while dictatorships are accountable only to smaller groups,

as the military, mainly defending the interests of rich and privileged elites. This leads to massive misallocation of scarce resources that are vital to the well-being of the population. Under democracy, failure to pay attention to health issues will result in leaders being removed from office, while this link is much weaker or absent in autocracies. Democracies, finally, may count on more effective mechanisms for selecting competent and honest leaders, than under authoritarian governments. If health policies are implemented by capable and incorruptible leaders, health outcomes are more likely to be better.

Other relevant causal conditions are income levels and distribution: both prosperity and social equality are supposed to improve life expectancy over time. More affluent citizens usually demand a higher level of welfare services and richer countries, in turn, can more readily afford to provide them (Lake and Baum, 2001: 605). There is also abundant evidence that inequality and social distance undermine social cohesion, by encouraging mistrust and feelings of inferiority and insecurity that could lead to violence, disrespect, shame, and depression: psychosocial factors that contribute to ill health and premature death include low social status, poor social affiliations, and negative childhood experiences. In addition, the literature agrees that improved public health infrastructure (especially access to water and sanitation), along with large scale immunizations, were key in determining the reduction of mortality observed in Latin America during the last 50 years. It is well known in historical epidemiology that safe water supplies, sanitation and sewage disposal systems have been far more important in disease prevention and reduced mortality than medical interventions (Soares, 2009). All else being equal, finally, higher health expenditures translate into more complete and effective health services which are, in turn, the main contributors for improvement in life expectancy.⁷ Data for income, health expenditures, inequality and access to appropriate sanitation facilities, were collected between 2004 and 2007. The classification of countries, along these data, has changed only very slowly over the last decades and more recent orderings closely reflect earlier rankings. In fact, classifications based on recent data (2004-2007) are consistent with rankings, along chosen turning points (0.5 fuzzy values)⁸ calculated over the longest time period for which reliable data was available.⁹ Thus, we use the 2004-2007 data as representative of the entire period.¹⁰

In short, we maintain that a series of conditions, namely high income (*income*), low social inequality (*inequal*), robust public health expenditures (*expend*), adequate sanitation facilities (*san*), democratic endurance (*endem*) and mature democracies (*matdem*) contribute to extend healthy life expectancy (*hale*) in Latin America (see table 1)¹¹.

Table 1.
Outcome and Causal Conditions in Latin America (1946-2007)

Country	hale	endem	matdem	income	inequal	expend	san
Haiti	54	0.1	0	392	MD	MD	19
Bolivia	58	0.56	0.74	1,125	57	35	43
Honduras	62	0.53	0.27	1,423	58	39	66
Dominican R.	63	0.48	0.93	3,553	56	50	79
Brazil	64	0.66	0.95	4,291	59	193	77
Nicaragua	64	0.39	0.5	882	53	31	48
Paraguay	64	0.31	0	1,464	54	31	70
Colombia	66	0.85	0.3	3,068	58	54	78
Venezuela	66	0.84	0.85	5,602	43	94	83
Argentina	67	0.65	0.68	9,353	52	439	91
Mexico	67	0.32	0.4	7,074	51	193	81
Panama	67	0.48	0.73	5,223	52	106	74
Peru	67	0.61	0.47	2,695	50	32	72
Uruguay	67	0.81	1	7,426	46	271	100
Costa Rica	69	0.98	0.93	5,131	48	248	96
Cuba	69	0.1	0	4,190	MD	345	98
Chile	70	0.73	1	6,100	52	172	94

Hale (2007): Healthy Life Expectancy at Birth in years. Data released every 5-7 years. See: http://apps.who.int/gho/indicatorregistry/App_Main/view_indicator.aspx?iid=66; **Endem**: democratic endurance (1946-2007) percentage democratic time over period; **Matdem**: mature democracies (1946-2007) percentage fully democratic over overall democratic (full and semi-democratic). See: Mainwaring, S. and D. Brinks (2008); **San** (2006) percentage of population using improved sanitation facilities. See: World Health Statistics (2009) http://www.who.int/whosis/whostat/EN_WHS09-Full.pdf; **Expend** (2006-2007). Public expenditures in health in US Dollars per capita. See: Cepal *Panorama social de AL* 2010. Cuadro III-A9, p. 173; **Inequal** (most recent between 2004 and 2007) Index inequality: Gini Index. See: Cepal *Statistical Yearbook* (2010) http://websie.eclac.cl/anuario_estadistico/anuario_2010/eng/index.asp; **Income** (2007) Gross Domestic Product (GDP) per capita. Constant 2000 Dollar prices. See: Cepal *Statistical Yearbook* (2010) http://websie.eclac.cl/anuario_estadistico/anuario_2010/eng/index.asp

Configurational comparative analysis: locating QCA

The investigation will be based on Qualitative Comparative Analysis (QCA). In particular, QCA aims at identifying both common and peculiar traits in causal relationships. This is possible given the way QCA works with cases and causal conditions or outcomes. Causal conditions and the outcome are not regarded as variables but as sets, to which each case can belong or not. Further, as cases can belong (or not) at the same time to different sets, each case may be seen as a configuration of conditions. These configurations are next organized in “truth tables”. A truth table reports in the rows all the possible logical combinations of the conditions and the number of cases displaying each configuration. Based on empirical evidence, the presence or the absence of the outcome is assigned to each singular case (to each row of the truth table displaying at least one case). “Truth tables”, finally, are minimized using

the procedures illustrated below, so that parsimonious “solutions” for the causal model may be reached.

There are several reasons why QCA may be considered the ideal method for carrying out our analysis. First, QCA allows combining systematic cross-case comparison with significant attention to within-case complexity. This is even more relevant as we are looking to *causal complexity* and *equifinality*. Conditions combine to cause the outcome (causal complexity). At the same time, different configurations of conditions may contribute to determine the same outcome (equifinality) in the population of cases under investigation, as when identifying “competing” paths leading to extended life expectancy: the heterogeneous literature on life expectancy often identifies different sets of conditions (medical, social and political), bringing about a longer life expectancy, individually or in conjunction (each specific condition being an INUS condition: insufficient but necessary part of an unnecessary but sufficient condition). A crucial feature of our analysis is QCA’s capacity to consider explicitly combinations and configurations of case aspects. While net-effect techniques, as statistics, are customarily centered on the task of estimating context-independent net effects, configurational approaches provide instruments to define conditions that have important consequences on the relation between causes and effects: the relation between democratic features and good health outcomes has been diverse in rich and poor countries, in countries with equal or unequal income distribution and in countries with substantive or reduced expenditures on public health. To insert openly these conditions into the analysis enables to calibrate more general theories within a focused context of strictly comparable cases, and to clarify the different paths through which the same results have been achieved in different countries of Latin America.¹² Finally, the technique allows for the discussion of outliers, single countries or group of countries that defy expectations: their analysis is equally important to correct general theories and to refine our understanding of the causal processes underlying the observed outcome.

QCA encompasses a few variants, among which crisp-set and fuzzy-set are the most common. The differences among them are mainly based on the way they assign the degree to which cases belong to a set. Since social scientists are often interested in phenomena that vary by level or degree (e.g., degree of membership in the set of democratic countries), they generally dislike dichotomizing. Thus, fuzzy-set theory allows calibrating partial memberships in sets using values in the interval between 0 (fully outside the set) and 1 (fully within the set), signifying full membership and no membership, respectively. An additional qualitative anchor, i.e. the value 0.5, indicates the point of maximum ambiguity, where a case is neither in nor out of the set. Fuzzy values between 1 and 0.5 indicate different levels of membership in the set (the case is more in than out), while fuzzy set values between 0.5 and 0 indicate different levels of non-membership in the set (the case is more out than in).

For the aim of this study, Latin American countries are not classified in a dichotomous way as full democracies or full dictatorships. Using fuzzy-set, QCA allows degrees of partial democracy, which seems a more adequate choice in our attempt to graduate political freedom. In this technique, the procedure of defining the degree of membership of cases in each set (conditions and outcome) is named *calibration*. For the outcome and the remaining conditions (democratic endurance, income, inequality, public health expenditures and the presence of adequate sanitation facilities) we have determined the crucial 0.5 point by selecting qualitative thresholds points over the period under scrutiny. In some cases, the literature does not offer clear categories to identify qualitative thresholds differentiating high from poor performers (as, for instance, for life expectancy and sanitation facilities).

As a consequence, we first looked at the structure of the data. We examined the distribution of our cases and took into account their specificities: for each condition and for the outcome we identified high, intermediate and poor performers. In order to recognize and assign the qualitative anchors that allow distinguishing membership from non-membership of cases in each set (1, 0, 0.5), we finally exploited the threshold setter command in the *Tosmana* software. Thus, using both data evidence and in-depth case knowledge, we were able to assign qualitatively-defined values to the three thresholds. Finally, we fed these data into *FSQCA*'s calibrating function to obtain fuzzy membership scores. After providing the software the three qualitative thresholds values (identified in the previous step), the function simply interprets the entire distribution of values logarithmically, and assigns fuzzy values in the ranges 1-0.5 and 0.5-0.

Applying fsQCA to study the impact of democracy on health in Latin America

Our model is applied to all countries in the area.¹³ To improve comparability, we considered only Latin American countries with population above 500.000. This condition was satisfied by 17 countries.¹⁴ We began our analysis by looking for the presence of necessary conditions in our model. A necessary condition is a condition that must be present for the outcome to occur, even if its presence does not guarantee the occurrence of the outcome. Technically, a possible necessary condition is signaled whenever instances of the outcome in question constitute a subset of instances of a condition. In our analysis only the condition "Countries with a high access to adequate sanitary facilities" (*san*) is close to be a necessary condition. Further analyses indicated that *san* is also close to be a sufficient condition. For this reason, we decided to treat *san* as a necessary and sufficient condition, remove it from the model and discuss it apart. At a theoretical level, *san* may be thought of as an intermediate outcome, both necessary and sufficient for having high expectancies of healthy life.¹⁵

The second step is the analysis of sufficiency. A condition is sufficient for the outcome if it is a subset of the outcome: thus, minimizing all the configurations in the truth tables¹⁶ means to find out the smallest set of conditions explaining the largest part of the outcome. The software uses the Boolean minimization algorithms, which considers separately the results for the presence and the absence of the outcome. We will minimize both, because we do not expect to find a perfect "causal symmetry" in social phenomena. Yet, not all the truth table rows match with empirical cases. The logical configurations without empirical evidence are named "logical remainders". The inclusion or exclusion of logical remainders in the minimization process, which allow for more parsimonious solutions, is a selective decision of the researcher. By using all logical remainders we will achieve the most parsimonious solution.

The assumptions that accompany their use, however, may be theoretically implausible. Ragin and Sonnet (2004) have recently introduced a way to regulate the use of logical remainders by way of *directional expectations* (Schneider and Wagemann, 2012; Ragin, 2008): only those logical remainders that are consistent with the researcher's theoretical and substantive knowledge are incorporated into solutions. Thus, each analysis yields three possible solutions: a "complex" solution when no logical remainders are used; a "parsimonious" solution when all logical reminders are used, without any evaluation of their plausibility; and an "intermediate" solution when only logical remainders are used that "make sense" given the researcher's substantive and theoretical knowledge (Rihoux and Ragin, 2009: 110-111). Of all possible solutions, "complex", "intermediate" and "parsimonious", we will discuss especially the second, which is considered superior to both "complex" and "parsimonious" solutions, since it exploits more fully the researcher's substantive and

theoretical knowledge and the procedure's capacity to create more parsimonious explanations (Rihoux and Ragin, 2009: 111).

This solution was obtained by including two assumptions, namely that generous public health expenditures and enduring democratic regimes are key for positive health outcomes as superior life expectancy. Health measures require nationwide investments in physical infrastructure, environmental safety, as well as educational programs which have significant claims on public resources. A democratic system, extended over a longer period of time, should allow for more intense political participation and for the organization of social movements and political parties that represent the least privileged. These, once established, tend to favor income redistribution from the rich to the poor and more favorable welfare outcomes (Huber, Nielsen, Pribble and Stephens, 2006). The “intermediate” solution¹⁷ for “hale” yields the following results:

Table 2
Solutions with coverage and consistency for the analysis of sufficiency for the presence of the outcome

	Raw coverage	Unique coverage	Consistency
1 expend* income*~inequal	0.496531	0.074331	0.990119
2 expend*endem*matdem* income	0.479683	0.060456	0.962227
3 matdem* income*~inequal	0.500495	0.051536	0.961905
4 endem*~matdem*~ income	0.305253	0.131814	0.916667
Solution coverage	0.779980		
Solution consistency	0.926973		

The final solution comprises four alternative sufficient solutions (configurations 1, 2, 3 and 4). The comprehensive solution is sufficient for the outcome (consistency 0.93) and cover 78% of the outcome. Here we report the complete solution expressed as a linear formula:

$$\text{expend*income*~inequal} + \text{expend*endem*matdem*income} + \text{matdem*income*~inequal} + \text{endem*~matdem*~ income} + \rightarrow \text{hale}$$

By Boolean algebra conventions, a tilde sign (~) is used to indicate negation. Boolean algebra operators are: logical “AND” represented by the [*] (multiplication) symbol; and logical “OR” represented by the [+] (addition) symbol. None of the individual solutions cover 100% of the outcome: the part of the outcome that is explained by each solution is expressed by the value of the unique coverage. It means, for example, that the first configuration explains 50% of the outcome but only 7% is explained by this configuration alone. It must be noted that each solution is equivalent to the others, in the sense they are alternative equivalent paths towards the same outcome. Cases group under each solution in different ways: some solutions are more comprehensive, explaining more cases and/or more outcome (e.g. solution 1). Moreover, some countries may be included in more than one solution.¹⁸

Chile, Costa Rica, Argentina, Uruguay, Venezuela, Cuba and Mexico make up the first combination of countries. The fact of being rich countries showing high

expenditure levels on health and low levels of inequality is sufficient for high healthy life expectation. We have outlined above the mechanisms by which affluence, high public health expenditures and social inequality affect healthy life expectancy, while the role of mature and enduring democracies will be discussed below, in relation to solution 2 and 3.¹⁹ Cuba and Mexico are mostly authoritarian, relatively well-off and socially egalitarian countries, which are also characterized by considerable public health outlays. In the first country, a socialist government was committed to social equality and generous investments in public infrastructures. The Cuban medical sector is one of the most advanced in Latin America and enjoys a remarkable reputation: sustained infrastructure investments (by Latin American standards), combined with a well-developed public health strategy, have generated health status measures and outcomes comparable with those of industrialized countries (Cooper, Kennelly and Orduñez-García, 2006).

In Mexico, a labor-based party came to dominate government for decades: the Institutional Revolutionary Party (PRI) provided the foundations of Mexico's long-standing authoritarian regime. Over the post-war period, the PRI became increasingly non-ideological and patronage-oriented, still retaining strong corporatist ties to the union movement. Social policies, however, were less resolute than in Cuba and intensified only as political challenges from competing parties became more acute. The explosion of student protests in the late 1960s and rural land invasions in the early 1970s prompted greater attention to the demands of the domestic left and the rural sector. President López Portillo (1976-82) made significant progress in extending health services into rural areas (Mesa-Lago, 1989: 151). After the transition to democracy, a System of Social Protection in Health (SSPH) was created, aimed at funding health care for families, most of them poor, who had been previously excluded from social health insurance. Today, levels of life expectancy are robust, much the same as that of more developed countries: in short, Mexico is one of a select group of developing countries that can document continuous progress in the evolution of its health system (Frenk, Sepúlveda, Gómez-Dantés and Knaul, 2003).

In short, irrespective of political regime - democratic or authoritarian- where income is high, public expenditures in health are significant and social inequality lower than average, the expected outcome prevails. Our solution does not imply that political institutions are irrelevant; rather, it suggests that alternative political paths to stronger healthy life expectancy have been experienced in Latin America. Communist regimes, as in Cuba, radically redistributed resources not because of their responsiveness to underlying social pressures, but because of political and ideological commitments to a socialist transformation of society. Other authoritarian reformers, as in Mexico, compromised with the urban working class to achieve their broader, anti-oligarchic objectives. In Latin America, however, the most typical authoritarian regimes (largely military) have consistently been characterized by low social expenditures and poor health outcomes.²⁰

A second group of countries (Uruguay, Chile, Costa Rica, Argentina and Brazil) lives in the best of all possible worlds, enjoying the presence of several conditions that favor our outcome: (relative) affluence; higher social expenditures; and enduring and mature democratic governments. Affluence and high levels of public health outlays greatly helped to realize adequate sanitation facilities. Over time these mature and socially conscious democracies, as reflected in their pro-labor institutions and the prevalence of government led by left parties, have developed income safety nets and more generally social security provisions, including health policies. A concise exposition of a few key historical facts will help illustrate our argument: in Costa Rica,

the Social-democratic National Liberation Party dominated the legislature in 1961, when a constitutional amendment for the universal extension of social security, including health insurance, was passed. In Uruguay, the *Colorados* inspired by reformist President Batlle governed in the 1948-1954 period when the social security system was radically expanded and reorganized; and in 1970 when health insurance was finally made mandatory for all public and private-sector employees. In Chile, significant efforts to expand health coverage came in the 1960s and early 1970s, in the competition between the Christian democrats and the left and under pressure from the unions: a basic health program was launched in 1964 and later expanded under Presidents Frei and Allende (Haggard and Kaufmann, 2008: table 2.3).²¹ Argentina illustrates a partially alternative path to a welfare model, characterized by wide coverage via populist semi-democracy: the social security system, established by Perón in 1944, was extended along with health insurance through his democratic and then authoritarian periods as President. The government sponsored the expansion of health insurance, run through union-owned funds (*obras sociales*) and established a broad network of public hospitals that extended medical service to low-income sectors of the population (Rock, 1985: 263-265).²²

Brazil is an outlier: although most explicative conditions are present, contrary to expectations, healthy life expectancy is low. We can initially point at a series of relevant factors, as the social consequences of a democratic transition that was largely controlled by authoritarian elites and a health system where private care was dominant. The reestablishment of constitutional government in 1946 was characterized by significant limitations on political contestation: in these circumstances the impulse to expand the health system remained weak. After the 1964 coup, semi-competitive legislative elections were introduced in the early 1970s and by the end of the decade a majority of the population had acquired at least some formal entitlements to health care coverage. The progressive impact of these policies, however, was cut by an alliance between the dominant political and economic elites, the military and the patronage politicians of the Conservative ARENA party: the political connections linking the social security bureaucracy to private hospitals, as a consequence, drained resources away from efforts to expand the public health system. In the 1980s a 'sanitarista' campaign, led by a nationwide movement of healthcare professional and left-wing activists, targeted the political and financial influence that private hospitals and curative health services exerted within the social security institute. Their goals were incorporated into the 1988 Constitution, but battles over resources and pressure from stakeholders delayed implementation for another decade (Weyland, 1996: 162).

Cases with strong membership in the third combination are: Uruguay, Chile, Costa Rica, Argentina, Panama and Venezuela. Conditions are similar to those in the first combination, but democratic maturity substitutes for high health expenditures. We conjecture that mature democracy compensates for the drop in health expenditures, by supporting social cohesion, by encouraging trust and feelings of political equality and self-esteem, as well as individual well-being, respect, and confidence which, in turn, favor better individual health conditions and promote longer and healthier lives. Because of their superior accountability mechanisms, mature democracies are also vastly superior to both authoritarian and less democratic regimes in allocating scarce resources. Under mature democracy, finally, health policies are administered by more honest and competent leaders, thus offering a bigger return to public investments. In short, both solution 1 and 3 underline that, in cases where affluence is remarkable and social inequality is limited, robust public health investments or a mature democratic government are linked to high healthy life expectation: a growing number of

investigations confirms the existence and robustness of this link (for instance Carbone, 2009 and Safei, 2006).

In Venezuela, the outcome was not as strong as we expected. In this country the Left has been dominant, and a considerable democratic quality was in fact built. Social policy performance was among the best in the region at least until the early 1980s: financed for the most part by an oil economy, which also created distortions and vulnerabilities, it worsened dramatically afterwards coinciding with the end of the partitocracia and the decay of the country's social and political pact, signed in the late 1950s. The exhaustion of the oil boom caused a collapse in growth, along with per capita income, social insurance expenditures and welfare services. Crucially, the concerted system of social funds' distribution, managed by the major political parties which had remained open to demands from below and to the input of powerful social organizations, gave way in the early 1990s to a more elitist approach to politics and social policies, exemplified by the presidency of Carlos Andrés Pérez Rodríguez (Márquez and Acedo, 1994). In short, the relative weakness of the outcome condition is explained, in this case, both by the vagaries of the oil economy and by the more restrictive social policies adopted in the 1990s.

Cases with strong membership in the fourth and last combination are Colombia and Peru, semi-democratic countries with a generally adverse economic and social situation that were able, nevertheless, to ensure a relatively satisfactory level of life expectancy to their citizens. A first explanation has to do with the effects of enduring (although partial) democracy: as suggested above, both direct and indirect mechanisms may positively affect healthy life expectancy. In both countries, however, a vicious civil war was fought recently that has plausibly annulled, or severely limited, this positive bearing. Thus, additional conditions are needed to explain this configuration. In Peru, the role of immunizations has been singularly central: the proportion of the children below 1 year of age receiving DPT immunizations has gone from only 20 per cent in 1980 to nearly 90 per cent twenty years later, an upsurge of seventy percentage points which has no equal in the region (Soares, 2009: Table VII). Measles immunizations show equally impressive gains. These data may explain why in Peru life expectancy is robust in spite of relatively low levels of access to sanitation and safe drinking water, the "intermediate condition" in our explicative model. Another (paradoxical) explanation may have to do with previous levels of internal civil strife. Motivated by the World Bank Report of 1993, and financed by the public Treasury, multi-lateral grants and by substantial aid by donor agencies, the (authoritarian) Fujimori administration built about 7.000 new health establishments, and endowed them with medical personnel and equipment, bringing for the first time health care to some of the most poverty-stricken areas in the country (Wilson, 2005).

Vaccination improvements were above regional averages in Colombia, as well. However, similar increases in immunization rates were also achieved in countries where healthy life expectancy remains poor. In addition, in Colombia income is low, social inequality high, and the amount of public health expenditure per capita below average, while the proportion of population covered by adequate sanitation facilities is significant. This apparent conundrum is clarified by looking at the relevant role played by local authorities and the private sector in the field of sanitation: an increasing number of poor people in Colombia have enjoyed access to water and sanitation thanks to an innovative approach sponsored by government, which has shared responsibility for these key services with local authorities and the private sector. In 1995, the first water and sanitation concession was awarded to a mixed public-private company in the city of Cartagena, followed by a second concession in Barranquilla in 1996 and more

concessions in the next years. In 2002, the government launched a program of business modernization to introduce private sector participation also in small and medium-sized municipalities, leading to significant improvements in quality and efficiency of service provision (Libhaber, Troyano and Ulloa, 2004).

Further insights on the ways democracy contributes to determine health conditions in Latin America are offered by an analysis of negative cases. These are instances where the absence of the outcome condition, a poor healthy life expectancy, prevails: again we will consider the “intermediate” solution using the premises (directional expectations): $\sim\text{expend} * \sim\text{endem}$.²³

The intermediate solution is:

Table 3
Solutions with coverage and consistency for the analysis of sufficiency for the absence of the outcome

	Raw coverage	Unique coverage	Consistency
1 $\sim\text{expend} * \sim\text{income} * \text{inequal}$	0.839363	0.202605	0.850440
2 $\sim\text{expend} * \sim\text{income} * \sim\text{matdem}$	0.654124	0.017366	0.788831
Solution coverage	0.856729		
Solution consistency	0.787234		

Such solution identifies a first combination of cases, namely Haiti, Honduras, Paraguay, Nicaragua, the Dominican Republic, Bolivia and Colombia. In this group of countries poverty, lower health expenditures and inequality have combined to determine lower life expectancy. Purely economic reasons seem to prevail, while political regimes do not seem to matter much. Be they democratic, semi-democratic or openly authoritarian, they appear unable to escape the trap of underdevelopment.

This trap affects health in a number of ways: first, poor people do not have the material resources to buy health care. As a consequence, poor people are more likely to be unhealthy. They are also more likely to be malnourished and more exposed to infectious diseases. Second, since they are unable to afford expensive drugs, large medical corporations tend to invest their research on rich people’s diseases, where their chances to make larger profits are better. Finally, they usually have less education, understand less the need to seek medical help and are less likely to follow basic, but crucial, health and hygienic routines (Sala-i-Martin, 2005: 96-97). Poorer nations, finally, are unable to afford adequate health expenditures. In Paraguay, for instance, where democratic endurance and quality have been very weak, poverty and inequality have been rampant and investments on health well below regional average. Correspondingly, exposure to adequate sanitation facilities has been deficient (Borda, 2008).

Cases with strong membership in the second combination are: Haiti, Honduras, Nicaragua and Paraguay. In these countries a lower life expectancy was associated with poverty, lower public health expenditures and incomplete democratic forms. In the two solutions associated with lower healthy life expectancy, social inequality and incomplete democratic maturity are functionally equivalent: irrespective of political regimes, when added to poverty and low health expenditures strong inequality leads to shorter healthy life expectancies. In turn, in similar cases, irrespective of inequality issues, authoritarian or semi-democratic regimes may trigger the same outcome through direct and indirect mechanisms. To wrap up, political oppression; negative psycho-

social experiences; the lack or poor working of mechanisms to expose popular needs and make politicians responsive; and the absence or limited extent of advanced welfare policies may act as instruments and mechanisms responsible for this negative outcome.

Conclusions

Unlike most investigations based on simple life expectancy, less complete definitions of democracy and less systematic qualitative analyses or conventional quantitative techniques, our study was premised on healthy life expectancy, on both the quality and duration of democratic regimes, and on a methodical qualitative analysis of causal conditions associated with longer and healthier lives. We were able to specify which combinations of causal conditions were sufficient to explain the presence (or absence) of extended healthy life expectancy in specific countries of the area. In Latin America, we identified four major ‘causal paths’ for achieving this outcome. In a first group of countries, the explanation is based on socio-economic conditions: irrespective of political regimes, the blessings of development (prosperity, generous expenditures and social equality) are enough to guarantee longer and healthier lives. In a second and third group, most of our hypothesized conditions were present: a combination of affluence, enduring and mature democratic regimes, and robust public health expenditures, on the one hand, or affluence, low inequality and democratic maturity, on the other, was sufficient to bring about the outcome. In particular cases, finally, we relied on more specific explanations. As for the absence of the outcome condition, we found that the “trap of underdevelopment” played a relevant part: whenever poverty, low health expenditures and inequality prevailed, they were able to cut healthy life expectancy. In other cases, deficient democratic regimes, as well as authoritarian ones, joined to do the job.

Socio-economic combinations of conditions have been central in the explanation of both short and longer healthy life expectancies. Affluence, higher health expenditures and equality (the blessings of development) were sufficient by themselves to determine longer and healthier lives in a majority of cases, irrespective of duration of political regimes and degrees of democracy. Poverty, on the other hand, along with lower expenditures and inequality (the trap of poverty) was often sufficient to undermine this outcome in an equally numerous number of countries. The role of democracy, although subordinate in many cases, has been crucial in others. If democracy is absent, an authoritarian regime may be compatible with prolonged life expectancy, but only if social equality is strong and public health expenditures are robust, indicating a progressive content of public policies. Thus, only certain types of authoritarianism are conducive to this outcome, types that have been quite unusual in Latin America. On the contrary, in cases when both democratic duration and quality were present, together with higher affluence levels and vigorous public health expenditures, the direct and indirect effects of democracy on life expectancy have unfolded, contributing to increase healthy life expectancy in the region. In at least half of the cases in our population, higher life expectancy was connected to the presence of mature and enduring democracy: no other political arrangement appears as frequently in combinations of conditions leading to longer and healthier lives.²⁴

We reached these conclusions by adhering to a complex, equifinal, asymmetric and conjunctural causal model, based on set-theoretic relationships which make use of the concepts of necessary and sufficient conditions. QCA is well-equipped to model this kind of causality: our preliminary results, however, would benefit from a triangulation with more detailed case studies and standard statistical techniques, which we could not add due to space limitations. For instance, the cases of Brazil and Uruguay point at

crucial additional factors: the role of authoritarian elites in determining health outcome during transitions from authoritarian rule; and the diverse responsibility of military governments in the handling of health care policies. To recognize fundamental common features in these processes, also by way of conventional statistical techniques as cluster and factor analysis, may lead to the identification of novel conditions to be added to our general model.

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Appendix A: Truth table for HELA

inequal	wealth	matdem	endem	expend	number	hela	raw consist.	PRI consist.	SYM consist
0	1	1	1	1	4	1	0.988010	0.976526	0.668831
1	0	0	0	0	4	0	0.624096	0.054545	0.508841
0	1	0	0	1	2	1	1.000000	1.000000	0.605327
0	0	0	1	0	1	1	0.995652	0.974358	0.545238
0	1	1	0	0	1	1	1.000000	1.000000	0.569767
0	1	1	1	0	1	1	1.000000	1.000000	0.579158
1	0	0	1	0	1	1	0.906667	0.582090	0.538614
1	0	1	0	0	1	0	0.847507	0.388235	0.530275
1	0	1	1	0	1	0	0.878338	0.517647	0.540146
1	1	1	1	1	1	1	0.953020	0.842697	0.576065
0	0	0	0	1	0	?	1.000000	1.000000	0.558442
0	0	0	1	1	0	?	1.000000	-1.#IND	0.500000
0	0	1	0	0	0	?	0.996063	0.975610	0.542918
0	0	1	0	1	0	?	1.000000	1.000000	0.527687
0	0	1	1	0	0	?	0.996269	0.981482	0.555094
0	0	1	1	1	0	?	1.000000	1.000000	0.556164
0	1	0	0	0	0	?	1.000000	1.000000	0.520891
0	1	0	1	0	0	?	1.000000	1.000000	0.508876
0	1	0	1	1	0	?	1.000000	1.000000	0.512422
0	1	1	0	1	0	?	1.000000	1.000000	0.544503
1	0	0	0	1	0	?	1.000000	-1.#IND	0.500000
1	0	0	1	1	0	?	1.000000	-1.#IND	0.500000
1	0	1	0	1	0	?	1.000000	1.000000	0.524355
1	0	1	1	1	0	?	1.000000	1.000000	0.534826
1	1	0	0	0	0	?	1.000000	1.000000	0.518732
1	1	0	0	1	0	?	1.000000	1.000000	0.544928
1	1	0	1	0	0	?	1.000000	1.000000	0.507936
1	1	0	1	1	0	?	1.000000	1.000000	0.512121
1	1	1	0	0	0	?	0.967972	0.852459	0.552846
1	1	1	0	1	0	?	1.000000	1.000000	0.540476
1	1	1	1	0	0	?	0.993103	0.968254	0.559223

Endnotes

¹ Multiple conjunctural causation and functional equivalence are explained below. Additivity assumes that each single cause has its own separate and independent impact on the outcome: the latter may not be explained by combinations of causes; uniformity of causal effects posits that a given condition, combined with others, may not act both in favor and against a specific outcome; symmetrical causation, finally, maintains that the presence and the absence of the outcome never require different explanations (Rihoux and Ragin, 2009: 8-10).

² Elsewhere, McGuire (2001) acknowledges that this form of government is at least one of the two roads to the rapid expansion of survival-related capabilities (the other one being the “shared growth” exemplified by post-60s Taiwan and South Korea).

³ QCA belongs to the tradition of “grounded” social science approaches that are historical, qualitative, and empirically differentiated (Mjøset, 2003).

⁴ As of 2007, Nicaragua had experienced 12 years of full democracy and 12 years of semi-democracy. Thus, Nicaragua appears in both mature and non-mature democracy sets.

⁵ This data set exclusively covers Latin America. There are other influential data sets that measure democratic performance in the world, such as Freedom House and Polity IV. Our choice is justified by superior accuracy and validity. As MBP-L argue, Freedom House in its early years and Polity IV made coding mistakes that suggest limited knowledge of Latin American cases and problems of accuracy. For a detailed discussion, see Mainwaring and Brinks (2008: 33-45).

⁶ Democratic requirements are stringent: countries with “major” violations in one or more of these criteria are coded as authoritarian; if the violation is only “minor”, they are coded as “semi-democratic”. For definitions of major and minor violations, see MBP-L (2008).

⁷ Here is a list of omitted conditions: the condition “high access to safe drinking water” is of limited use to differentiate among our cases, as this access is very high throughout the region (its average value is close to 90 per cent). Vaccinations were eliminated since in Latin America immunizations campaigns have been often funded by external agencies, thus potentially suppressing the relationship between political regimes and public health. Population density, finally, was left out of the model since Latin America is very sparsely populated.

⁸ Critical turning points were set at the mean value for all conditions, except the Gini index, for which the turning point was established at .56. In a set-based analysis, the population of cases remains stable in time if their classification along qualitative turning points (i.e. countries with ‘high’ or ‘low’ health expenditures) does not change. This was the case for our data: comparing cases along these conditions in 1980, or 2005, yields the same results. Rankings for all countries are available upon request by contacting the authors.

⁹ For health expenditures, inequality and access to appropriate sanitation facilities we used WHO and Cepal data extending from the late 1980s to 2005. Longer reliable data (drawn from Huber, Stephens, Mustillo and Pribble, 2008) were available for income: in this case observations were gathered since 1960.

¹⁰ In short, recent data closely reflect data over the entire period. For example, the fact that a country belongs to the set of “rich countries” is constant passing time. On the other side, the definition of the two conditions for the qualities of the democratic experience takes into consideration that Latin American countries had sometimes very different trajectories in their democratic experience. So, the fact that a country is a “democracy” today does not mean that it has been the same in the past. In other words, in order to historically compare our cases we cannot simply assume that the last situation is the most relevant to explain the outcome, but as we did for the other conditions, we have to take into consideration that they must be historically comparable on the same condition. As long as democratic qualities changed quickly and differently among cases, we cannot assume that the actual picture can reproduce a comparable picture in the past.

¹¹ Although it would be interesting to verify the existence of a dynamic interplay (with substantial lag) between democracy and health, the existing data do not permit this analysis, since the values for our outcome condition (hale) are only available for the latest years.

¹² It is crucial to recall that the epistemological assumptions on which QCA and statistics are based are fundamentally different (for an overview, Ragin, 2006:176-212). Thus, to confront analytical results, applying QCA and standard statistical analysis to the same data, is only of limited use. QCA does not replace case studies or statistical analyses; rather it complements both approaches and offers a diverse view of the same social phenomena (Wagemann and Schneider, 2010).

¹³ The choice of Latin America is justified by the robust comparative framework offered by a most similar research design, providing a maximum of heterogeneity over a reasonably small number of cases.

¹⁴ Among countries with more than 500.000 inhabitants, we discarded Guatemala, Ecuador and El Salvador for their ambiguous position on san. The World Health Organization offers contrasting data on their sanitation conditions: according to the World Health Statistics (2010) the proportion of their population with access to improved sanitation systems was extraordinarily high (between 84 and 86 per cent in 2006). This figure strains credibility, since these countries are poor and devote limited resources to health care. Additional WHO statistics suggest that improved sanitation in urban and rural settings only involved 78 and 40 per cent of the population in El Salvador in 2002; in Guatemala, the numbers for the same year and areas were 72 and 52 per cent, respectively; in Ecuador 80 and 59 per cent (WHO, 2006: 43 and 45). In all three countries the ‘outcome’ condition is missing; thus, this exclusion merely concerns ‘negative’ results. While re-specification of cases and conditions violates best practices in statistical research, in the qualitative research tradition an understanding of the results and processes in the cases is much more important: thus going back and forth between a preliminary data analysis and adaptations of the data set is very usual (see Schneider and Wagemann, 2010: 7).

¹⁵ The values for the analysis of necessity and sufficiency for San and the presence of the outcome are: Consistency sufficiency: 0.89; Coverage sufficiency: 0.92; Consistency necessity: 0.92; Coverage necessity: 0.88.

¹⁶ Truth Table in Appendix A.

¹⁷ The “complex” solution yields the following results:

~income*~matdem*endem*~expend+~inqual*income*matdem*~expend+income*matdem*endem*expend+ ~inequal*wealth*~matdem*~endem*expend.

The “parsimonious” solution is: income + ~matdem *endem.

¹⁸ Each configuration shows logical contradictions. Contradictory configurations lead to the presence of the outcome for some cases and to the absence of the outcome for other cases. More problematic contradictory configurations, finally, should be discussed in depth (e.g. Brazil in solution 2). QCA is especially suitable for this task, since it is a case-sensitive method which depends, for the interpretation of results, on discussing solutions case by case

¹⁹ Uruguay belongs to all three solutions although, given the values on causal conditions, we would expect a better than observed life expectancy. In spite of a brilliant record before the 1950s, Uruguay saw a worsening of life expectancy figures in the 1970s and 1980s. Health problems were thought to include the high cost of health care, which diverted resources away from direct patient attention (OPS, 1999: 3). In addition, the military government, while less inclined than in neighboring Chile to undertake privatization of the social welfare developed over the previous decades, was also considerably more willing than its democratic forerunners to restrict financing and reduce the provision of services.

²⁰ Even if (non-socialist) authoritarian governments have occasionally favored the less advantaged, they have been generally less inclined than democracies to extend coverage of social security to new sectors of the population. In Peru, for instance, under military President Velasco (1968-75), the welfare system was consolidated, but not expanded. In Brazil (1971-1985) semi-competitive political regimes somewhat extended social protection. However, welfare policies were implemented mostly in order to prevent a revival of social unrest in the

countryside and to fuel patronage politics in favor of the government-backed Arena party (Haggard and Kaufman, 2008: 16).

²¹ Although efforts to bring down infant mortality were especially pronounced under dictator Pinochet, he also sponsored cuts in social spending that meant substantial losses for families just above the poverty line. As a consequence, overall inequality and poverty increased, despite the high growth rates achieved in the late 1970s and in the second half of the 1980s.

²² Liberal reforms were undertaken in all these countries during the 1980s and 1990s. However, technocrats found it difficult to transform the complex bureaucratic structures of the health sector, with the partial exception of Chile under Pinochet: also, the democratic governments that followed, while refraining from frontal challenges to the privatized scheme, worked hard to improve the quality and effectiveness of the health system (Haggard and Kaufmann, 2008: 110-113).

²³ The “complex” solution is: 1. ~ income*~expend *inequal*; 2. ~income*~expend*endem*~matdem; The “parsimonious” solution is: 1. ~ income.

²⁴ Our contextualized explanations are also directly relevant to policy debates. As Ragin noted: “policy discourse often focuses on categories and kinds of people (or cases), not on variable and their net effects across heterogeneous populations (2008: 181). While it may be good to know that democracy, in general, increases the chances of living a longer and healthier life, from a policy perspective it is far more useful to know under what condition democracy has a decisive impact, shielding an otherwise vulnerable group of countries from negative health outcomes.