LATIN AMERICA'S GLOBAL MIDDLE CLASS

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APRIL 26, 2011

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1. Introduction

In recent economic literature, the middle class has gained an important role in explaining comparative development. While some authors emphasize the economic channel linking the size of the middle class to consumption and growth, others focus on importance of values typically associated with this socioeconomic group, such as democratic attitudes, entrepreneurship, hard work and the importance of education. These values, it is often argued, are crucial for the development process.

Easterly (2001) encapsulates the concept by pointing that societies that have large middle classes are more consensual, which in turn results in higher provision of public goods. In societies lacking a significant middle class, elites under-invest in human and infrastructure capital, which is sub-optimal from the point of view of long run economic growth. Some of these ideas are reminiscent of the literature on the consequences of inequality, such as the work of Gailor and Zeira (1993), on human capital accumulation when credit markets are imperfect. Other contributions to the literature focus on the relationship between the middle class and household consumption. Schor (1999) has argued that what ultimately defines the middle class is an increasing desire for consumption, or "consumerism," that drives the demand for higher quality goods. A recent report by Nomura International (2009) finds that a S-curve relationship between per capita consumption (of "almost anything") and GDP per capita in PPP terms has its steepest points at around annual GDP per capita $6,000 (daily GDP per capita $16). Above this level, the income elasticity for items like consumer durables as well as for services like insurance rises well above one, and credit growth accelerates sharply. This remains the case until income

[1] We would like to thank Jeff Frank for his valuable contribution to the analysis of the Peruvian surveys. All monetary figures are given in US dollars in PPP terms.

levels surpass $25,000 (daily GDP per capita $69). As we explain below, the GDP per capita thresholds ($6,000-$25,000) in which the elasticity of demand is higher than one overlap with our definition of the *global middle class*.[2]

Aghion and Howitt (1992) find in this sequence of quality-improving innovations the engine of economic growth. It applies to both small and large economies, although obviously exports can also play a large role in small economies. Focusing on production, middle classes are sometimes identified with entrepreneurship, and the corresponding side effects on job creation, innovation and the strengthening of a country's productivity. Arguments based on values, as in a recent OECD (2010) report, underscore the role of middle classes to promote democratic attitudes and favor progressive political arenas. But this is not always the case. If middle classes have precarious and unstable incomes, their political preferences will be inclined towards more populist policies, undermining democracy and economic growth alike.

In this paper, we estimate the size of Latin America's middle class and simulate its likely expansion during the next two decades. We combine different growth and redistribution scenarios, and use a definition of the middle class that is based not on relative incomes but on an absolute level, which is useful for comparative purposes. In particular, we find that faster economic growth has a much larger impact on the size of the middle class compared to redistribution. In terms of attitudes and values of the middle class, we look at two recent surveys from Peru and find that the middle class in that country is adamantly opposed to taxation and redistribution, and tends to favor less democratic governance, relative to the poor. This is a sharp contrast to attitudes in the developed world. More analysis is needed to see if the Peru findings are more broadly applicable to other developing countries in Latin America. The policy implications of this exercise suggest that growth acceleration is probably the fastest and more politically viable strategy to expand the middle class.

2. Definitions

[2] We define the global middle class as those households with daily income/expenditures between $10 and $100 per person in purchasing power parity (PPP) terms. Although technically, GDP per capita differs from per capita expenditure or income (drawn from household surveys), in practice the latter is about 60 to 70 percent of the former.

Measuring the middle class is somewhat arbitrary as there is no common definition on what constitutes the middle class. As Fajardo and Lora (2010a) note, the existing literature has developed several relative definitions where the middle class is measured as the group of individuals belonging to specific segments of the income distribution. Solimano (2008), for example, uses the deciles 3 though 10; Easterly (2001) and Foster and Wolfson (2009) use the three middle quintiles; and Alesina and Perotti (1996) use the third and fourth quintiles. But middle class measurements based on quintiles of the income distribution are unappealing when the purpose is precisely to understand the effects of changes in the distribution of income over time, which is what we intend to do in this paper.

An alternative is to use "central tendency" measures (also considered a relative measure of social class) that defines the middle class as those with incomes in a given range around the mean or median of the income distribution. The choice is, however, a matter of taste, It is common in this literature to consider as middle class those individuals with incomes in the range between 0.5 and 1.5 times the median or mean income. Birdsall, Graham and Pettinato (2000) take a narrower definition and measure the middle class as those individuals with incomes in a range between 0.75 and 1.25 of the median of the income per capita. The problem with these definitions is that they are not useful for international comparisons, which is another purpose of this paper (households in the middle can have dramatically different incomes from country to country).

Definitions based on absolute income thresholds are needed for international comparisons. In general, these definitions require a choice as to which is the level of income (or expenditures) that truly identifies middle class' living standards. For example, Bhalla (2009) establishes an absolute threshold (PPP adjusted) and defines the middle class as those individuals with an annual income over $3,900 in PPP terms. Banerjee and Duflo (2007) use two alternative absolute measures: those with daily per capita expenditures between $2 and $4 and those between $6 and $10. One crucial issue is whether the measure of the middle class in developing countries should use the same yardstick as in developed economies. Ravallion (2009), for example, differentiates between the *developing world's middle class* (those who are not considered poor by the standards of developing countries but are still poor by the standards of

rich countries), *developing world's upper middle class* (those who are still poor by the standards of rich countries, but whose income is larger than the highest poverty line for developing economies), and the *western middle class (*those whose income is at least as high as the U.S. poverty line).

Here, we use the concept of a global middle class which according to Milanovic (2011) needs to be defined "on a global scale following the same rules used to find out if there is one (and how large it is) nationally". In particular, we follow Kharas (2010) and define the global middle class as those households with daily expenditures between $10 and $100 per person in purchasing power parity (PPP) terms. The lower bound is chosen with reference to the average poverty line in Portugal and Italy, the two advanced European countries with the lowest poverty line. The upper bound is chosen as twice the median income of Luxemburg, the richest advanced country. Defined in this way, the global middle class excludes those who are considered poor in the poorest advanced countries and those who are considered rich in the richest advanced country.

We do not favor a wide definition of the middle class that would suit just developing countries, say between $2 and $13 in PPP dollars as Ravallion (2009) and others do. The main reason is that we want to avoid proclaiming somebody who is almost abjectly poor by Western standards to be a global middle-class individual. But it is also the case that according to our definition the Latin American members of the global middle class tend to be individuals in the upper end of the income distribution in their respective countries. This means that in some very poor countries in the region, redistributive policies are associated with a reduction in the size of their global middle class. In these countries, redistribution implies that income is transferred from individuals that are in the $10-$100 per capita per day income range, to those that are under $10 per day.

To measure the size of the middle class we use household surveys available through the World Bank's PovcalNet database.[3] The exercise makes the important assumption that the mean value of expenditures (or income) in the household data surveys, is equal to the mean household

[3] PovcalNet is the on-line tool for poverty measurement developed by the Development Research Group of the World Bank http://iresearch.worldbank.org/PovcalNet/povcalNet.html

consumption (or income) in the national accounts data. It has been widely documented that these two measures often do not coincide: national accounts consumption is usually higher than household survey consumption (see Dhongde and Minoiu, 2010, Ravallion, 2003 and Deaton, 2005 for a discussion). Deaton (2005) makes the important point that rich households are less likely to participate in surveys than poor people, thus resulting in an understated mean consumption of the country and therefore an overstated fraction of people living in poverty (which also understates the size of the middle class). Given that the purpose of this paper is to simulate future trends (2005-2030) in Latin America's middle class, using per capita mean consumption from national accounts has the advantage that mean consumption growth can be projected with GDP growth assuming that the mean of the distribution grows at the same rate.

Latin America is not currently a middle class region. Only four Latin American economies have a large middle class (more than half the population in 2005): Argentina (52.9 percent), Costa Rica (51.8 percent), Mexico (60.1 percent) and Uruguay (55.8 percent). Bolivia had the smallest middle class in 2005 with 13.7 percent of its population, followed by Honduras (16.5 percent) and by Guyana (17.4 percent). The average size of the middle class for the region is 36.3 percent (data for 2005). Latin America has a relatively large middle class in comparison to China and India, where it accounted for only 3.8 and 2.8 of the percent of the population, respectively in 2005.

3. Simulations: The effects of economic growth

This section examines the evolution of LAC's middle class between 2005 and 2030 under various economic growth scenarios, holding the distribution of income constant. We use a simple constant-returns-to-scale Cobb-Douglas production function, where output per capita (y) is given by:

$$y = A(K/L)^{\alpha}$$

That expressed in growth rates yields,

$$\frac{\dot{y}}{y} = \frac{\dot{A}}{A} + \alpha\frac{\dot{K}}{K} - \alpha\frac{\dot{L}}{L} \ ;$$

Which says that growth in output per capita is a function of technological progress ($\frac{\dot{A}}{A}$), capital accumulation$\left(\frac{\dot{K}}{K}\right)$, and labor force growth ($\frac{\dot{L}}{L}$). The rate of capital accumulation is based on the average investment rate between 1998 and 2007 using the perpetual inventory model (with a 6 percent depreciation rate). Labor force growth is taken from UN population projections of the 15-64 working age group. The rate of technological improvement in each country is assumed to depend on the global technology frontier (which shifts out with new advances in science, new products and new processes) as well as the rate at which individual countries catch–up with that technological frontier. We assume that the speed of convergence is inversely proportional to the gap between the per capita income level of each country *i* and that of the United States which is considered to be the global leader in technology. Countries with very low income levels are predicted to catch-up faster, while countries with per capita incomes that are closer to the United States will experience less rapid technological improvements. In particular, the global technology frontier is assumed to increase at a rate of 1.3 percent per year (the historical rate of total factor productivity growth in the U.S.). This rate of technological improvement has been very stable, and can therefore be taken as a good proxy for future potential technology growth. The following equation describes the evolution of total factor productivity (*A*) for country *i* in year *t*.

$$A_{i,t} = A_{i,t-1}[1.013 - \beta ln\left(\frac{y_{i,t-1}}{y_{US,t-1}}\right)]$$

As mentioned, the technological frontier is assumed to grow at 1.3 percent per year. The parameter β measures the speed of convergence. Despite the fact that most growth models predict convergence, a well-known fact for Latin American countries is that this has not been the case vis-à-vis the United States (with the exception of Chile). Thus, we work under two scenarios: convergence where we assume a value of β equal to 1 percent (indicating that the gap between the income of the U.S. and the specific country is closed at a speed of 1 percent per year); and lack of convergence which corresponds to a value of β equal to 0. This latter scenario is more consistent with Latin America's own track record. Table 1 shows the corresponding growth rates for each country in Latin America.

Based on the GDP growth projections, that are applied to household incomes, we proceed to measure the global middle class using household surveys to calculate the cumulative share of the population that is above a certain income threshold. Specifically, the fraction of the population that belongs to the middle class is the difference between the cumulative population under the $100 per day per capita and the cumulative population under $10. Of course, those cumulative shares depend on the specific distribution of income at every point in time. In this section we keep constant (at their 2005 values) the key parameters which characterize the distribution of income in each individual country and let the level of income increase according to the growth simulations.

The results are of interest. Given the fact that GDP growth rates are obviously higher in the converging than in the non-converging scenarios, the number of individuals belonging to the global middle class will naturally expand faster when there is convergence. Table 2 shows, for each country, the share of the middle class in the population in 2030 under the two growth scenarios. Table 3 depicts the change in percentage points between the share of middle class in 2005 and 2030.

Under the ***growth without convergence scenario*** (which we can call business-as-usual for Latin America) the countries with the largest share of their population in the global middle class by 2030 would be Mexico, Uruguay and Costa Rica, while those with the smallest proportion of their population in the middle class would be Bolivia, Paraguay and Honduras, closely reflecting the rankings in 2005. Thus, if income distribution is assumed to remain at 2005 levels and economic growth does not speed-up, the size of the middle class will increase moderately without changes to the current rankings. However, if there is ***convergence,*** countries with low and low-middle incomes --such as Bolivia, Honduras and Guyana-- would experience considerable gains in the proportion of the population that belongs to the middle class by 2030 (Table 3). The reason is that when convergence is assumed, lower income countries' grow much faster (including the middle class) relative to countries with higher initial per capita incomes. But even if this is the case the countries with the largest global middle class share in 2030 will remain those that today have a large fraction of individuals in this group (Mexico, Panama and Costa Rica). For countries such as Mexico, the share of the middle class will not differ

considerably between the scenarios with and without convergence given its relatively high level of income today.

4. Simulations: The effects of income redistribution

The Lorenz curve is the simplest way of describing the distribution of income at any point in time. The curve can be characterized by three parameters which are calculated by PovcalNet and available in their website, two of which are relatively stable for the countries and years with available data. The remaining parameter –which shows significant variation across time-- is the focus of our simulations. In particular, we estimate for each country the linear time trend of the varying parameter. Then we apply the same annual change to extrapolate the parameter and construct a linear projection until 2030. This is the scenario with ***redistribution based on past performance***. Intuitively, each country is projected to follow its historical redistributive trend, which could be progressive, regressive or neutral (if the linear trend on the distributive parameter is not statistically significant). In principle, but not always, countries with a regressive trend are expected to see the size of their middle class reduced, while those with progressive redistribution trends will most likely experience increases in the size of their middle class. Based on past redistributive trends alone, the simulations indicate that Venezuela, Mexico, Brazil and Chile will experience the largest increases in the share of the middle class as percent of the population between 2005 and 2030. On the contrary, the countries whose proportion of middle class population would shrivel by 2030 are Honduras, Dominican Republic, Peru, Colombia, Ecuador and Argentina.

For the ***progressive redistribution*** scenario, we use a redistribution trend that follows very closely the experience of Chile and Mexico –the two countries with the fastest reductions in inequality in the region-- during the past two decades. As an illustration, if Peru were to follow a progressive redistribution trend such as the one that took place in Mexico and Chile in the last 25 years, its Gini coefficient would decline from 49.6 in 2006 to 45 in 2030. In general, more progressive redistribution scenarios would yield to a higher middle class. However, as we will see, this is not always the case. For very poor countries, where individuals who belong to the

global middle class have relatively high incomes, progressive redistribution policies raise the income of individuals in the far left of the distribution (and reduce the share of those with higher incomes). Thus, it is likely that for poor countries redistribution implies a reduction in the share of individuals who belong to the global middle class in favor of those that earn and spend less than $10 per day.

In fact, under the ***progressive redistribution*** scenario, Honduras, Bolivia, and Guyana experience a reduction in the proportion of individuals that belong to the global middle class in 2030 when compared to 2005. This is what we call the "global middle class paradox." In countries where mean and median income are well below the global middle class income threshold, and where people who belong to the global middle class are part of an elite, redistribution can actually imply the reduction of the group of individuals that is above the $10 per day mark. Table 5 shows how progressive redistribution policies raise the income of individuals in the far left of the distribution by reallocating from the elite, thus reducing the size of their global middle class.

On the contrary, countries whose average per capita income levels are relatively higher, progressive redistribution policies yield significantly larger middle classes. Uruguay is an interesting example. If the country were to implement redistributive policies that would result in redistribution trends as the ones Chile and Mexico had during the previous 25 years, the proportion of the population that belongs to the middle class would go from 55.8 percent in 2005 to 85.6 percent in 2030. This means more than one percentage point increase per year.

In order to appropriately interpret these scenarios, it is worthwhile noting that when analyzing the growth scenarios, we assumed the distribution was held constant at 2005 levels; and when analyzing the redistribution changes, per capita income was assumed to remain at its 2005 level. Therefore, the numbers presented in the tables disregard any possible interactions between trends in growth and equity. This is an important limitation of the exercise, as more egalitarian societies have a greater potential for long-run growth; but also, societies with higher growth rates can afford higher taxation and more redistribution. In particular, if the interaction from redistribution to growth is taken into account, the share of the population that is part of the global middle class could be even larger under the high growth with redistribution scenario.

These results have several policy implications. Countries should promote policies that will boast their economic growth rates, and by doing so enlarge the proportion of the population with middle class living standards. Such policies, amongst others, include those designed to increase the accumulation of human and physical capital, but especially those that accelerate productivity growth. Even if growth is essential to developing a well-nourished middle class, it is not always enough. Complementary redistributive policies can play a crucial role, although their impact on this outcome will be of a lower magnitude than growth. However, a better distribution of income will further boast economic growth, thus creating a virtuous cycle between redistribution and growth.

5. The experience of China and India

Table 6 presents the proportion of the population that belongs to the middle class in China and India under each different growth and redistributive scenarios. Table 7 depicts the change in percentage points (pp) between the percent of the population in the middle class in 2005 and 2030.

The share of the population that belonged to the global middle class in China and India in 2005 is relatively small (only 3.8 percent and 2.5 percent, respectively), but will increase considerably between now and 2030. Without income ***convergence***, the middle class will represent 28.1 percent of the population in 2030 in China and 15.8 percent in India. Although this represents a significant gain with respect to 2005 (24.2 and 13.3 percentage points, respectively), it is significantly inferior to the change in the share of the middle class by 2030 if ***convergence*** is assumed, which is the more plausible scenario. If China and India close the income gap with advanced countries, as they have been doing so for the past 20 years or so, the change in the share of the middle class between 2005 and 2030 is higher than for any other LAC country. The gains would be astonishing: the share of the middle class between 2005 and 2030 would rise by 61 percentage points in China and 70 percentage points in India.

Both China and India fall into the global middle class paradox. That is, if redistributive policies are implemented (***progressive redistribution)*** the share of the global middle class in

those countries will decrease (Table 8). For example, if China were to follow a progressive redistributive policy trend such as the one Chile and Mexico implemented in the last 25 years, China's Gini coefficient estimated with the Lorenz curve, would go from 38 in 2005 to 30 in 2030[4]. However, in this case, the middle class would fall by 2.7 percentage points, from 3.84 percent in 2005 to 1.2 percent of the population in 2030.

Furthermore, when a regressive policy is in place, redistribution takes place in such a way that there is more concentration of income amongst the relatively wealthy, thus enlarging the global middle class (Table 8). This is the case for both countries when assuming their ***own track record redistribution***, as they exhibit regressive historical redistributive trends for the years with survey data available (since 1981 in China and 1977 in India). Under this scenario, China's Gini coefficient increases from 38 in 2005 to 45 in 2030, this in turn increases the share of the population that belongs to the global middle class in 2030 by 1.8 percentage points. The change in the share of the population that belongs to the middle class in India between 2005 and 2030 is lower than in China (it only increases by 0.43 percentage points). This is explained by the fact that China's regressive trend is much steeper than in India.

Compared to Latin America, the Asian countries underperform in terms of the relative size of the middle class in 2030. If growth without convergence is assumed, India will have the smallest share of the global middle class by 2030 (15.8 percent of the population in the global middle class), followed by China (28.1 percent) and Bolivia (30.4 percent); while the largest middle class will belong to Mexico with 79.9 percent of its population living with global middle class standards. This is an abysmal difference, which is partly due to their small initial middle class proportion (3.8 percent in China and 2.4 percent in India), which also coincides with initial low levels of income per capita. The ordering does not change when implementing each country's own track record redistribution, nor a progressive redistribution.

[4] Povcal offers urban and rural disaggregated data for China and India. To construct the initial value of the parameter b for the entire country, used to project its value for 2030, distribution of income and population is obtained from WDI for 2005, and the Lorenz curve parameters estimated with Povcal Software. Projections were made following redistributive trends in urban areas only as it is mostly in urban areas where the middle class is located.

The outcome is significantly different, however, when assuming convergence. India and China are the countries with the largest gains in their share of the middle class when compared with 2005. However, in terms of their proportion of the middle class, the Asian countries still underperform Latin America. Mexico, Panama and Costa Rica are still projected to have the largest share of the middle class by 2030. But what does having a larger middle class mean? To answer that question we need to understand the values and attitudes of the middle class –a much debated issue in developed countries—and discuss whether they extrapolate to other latitudes.

6. The Global Middle Class in Peru is not so Global: Attitudes and Values

This section seeks to address the changing values and attitudes of the middle class in respect to the lower and higher income groups. The analysis is limited because we are only able to use data from the 2008 World Values Survey for one country, Peru, to examine the responses of 1,500 individuals living in various regions and socioeconomic classes. The questionnaire captures attitudes towards the government, economy and country. Using this database, we analyze the influence of income on attitudes. Consistent with the rest of this paper we define the middle class as the group with daily expenditures between $10 and $100 per person in purchasing power parity (PPP) terms. The lower income class is defined as those below $10 per day and the rich as those above $100.[5]

In particular, we examine to what degree respondents feel democracy is important for society. The survey also helps us understand how income levels influence where respondents place themselves on the political left-right scale. Through this set of political questions we get a wide look at the relationship between income and political attitudes. We also consider sentiments towards progressive taxation or redistribution from the rich to the poor. This is an important question for understanding the relationship between incomes and the role of government in generating an equitable distribution of wealth in society. This question is followed up with a look into how income levels influence perspectives on private versus state ownership of

[5] PPP values were calculated by first converting Peruvian income levels into 2008 USD using the average nominal exchange rate (3.0 soles per dollar) and multiplying by the 2008 International PPP Conversion factor (1.64) obtained from the World Bank's *World Development Indicators*.

business. We also consider two questions about what respondents feel are their personal goals and what ought to be the goals of the nation.

To estimate these effects we use a simple OLS linear regression model where attitudes and values are the dependent variable and income classes are the explanatory variables. In particular, we estimate the following equation:

$$W = \alpha + \beta_m M + \beta_r R + \gamma Z + \varepsilon$$

where, W is the attitudinal variable of interest, M is a dummy variable that captures whether the individual belongs to the middle class, R is a dummy variable that captures whether the individual belongs to the high income (more than $100 PPP per day), and Z is a vector of controls that includes age, age squared gender, years of schooling, marital status, employment status, children, weight, and ethnicity (black, quechua, white, and mulato).

The World Values Survey asks respondents whether they feel that governments taxing the rich and subsidizing the poor is an essential characteristic of democracy. This question allows respondents to indicate how much they agree or disagree with this sentiment by responding to a 10-point scale where the feeling that governments taxing the rich and subsidizing the poor is not an essential characteristic of democracy equals 1, and that it is an essential characteristic of democracy equals 10. In Table 9 it can be seen that the middle class has a strong negative relationship with the question. This means that the middle class does not believe that the taxation of the rich and subsidization of the poor is an essential characteristic of democracy. This finding highlights a potentially significant aspect of how the middle class in Peru may be likely to vote when faced with issues of taxation. While there may be a range of causes for these sentiments toward a top-down redistribution of wealth, a deeper understanding of these sentiments has the potential to inform tax policy preference.

Private versus state ownership of business is a contentious issue in any region of the world, perhaps no more so than in Latin America. Fortunately, the survey asks respondents to state their opinion on whether there should be more private ownership of business or more government ownership of business. Individuals are given a 10-point response category where 1

equals more private ownership of business and 10 equals more government ownership of business.

The middle class has a highly significant negative relationship with the question, meaning that being in the middle class strongly influences one's preference for private ownership of business over public ownership. This finding is important because the middle class is typically considered to be a highly entrepreneurial portion of society as well as those having a large amount of influence on the direction of a nation. Science and technology are pivotal aspects to economic growth as well as being indicators of innovation and advancement in education. The World Values Survey asks its respondents whether they feel the world is better or worse off due to the advancements of science and technologies. This question asks respondents to exhibit their preference on a 10-point scale ranging from 1 (a lot worse off) to 10 (a lot better off). The middle class has a highly significant relationship with this variable, meaning that being in the middle class heavily influences a respondent to feel that the world is much better off with science and technology. With the new growth of industry being centered around broadband internet and new technologies, this finding is a positive indicator of the ability of the Peruvian middle class to adopt technologies as a leverage point for growth.

The degree of entrepreneurism among the Peruvian middle class is an important issue when considering the country's recent growth. The World Values Survey asks respondents to rate whether competition is best defined as good or bad. The question offers a 10-point scale where 1 stands for competition being good and 10 for competition being bad. When considering Table 9 we see that the middle class has a highly negative relationship with the variable, meaning that being in the middle class highly influences one's feeling that competition is a good for society.

Next we examine two questions that focus on priorities of the individual and the nation. The first question asks respondents to choose which of four priorities is the most important. The results for this question are shown in Figure 1 where we compare the percent distribution of responses from each of the three income groups. We see in Figure 1 that the middle class has the highest preference for "maintaining national order". This preference is held by 42 percent of the population and is followed closely by the preference for "giving people more say". The

preference for "giving people more say" is ranked 10 percent higher among the middle class as compared to either the poor and rich income groups. These two priorities combined make up for 77 percent of the middle class's preferences. The other two categories of "fighting rising prices" and "protecting free speech" make up the remaining 23 percent of the middle class priorities. It is surprising that only 9.2 percent of Peru's middle class citizens consider "fighting rising prices" as a national priority, whereas 22.5 percent of the poor do. This can be interpreted in the light that inflation is a direct tax to the poor, not so directly felt by wealthier individuals. Based on the preferences it appears the Peruvians surveyed are eager for stability and greater participation in their political system. Notably the categories for "maintaining national order" and "protecting free speech" appear to be related to income levels. The priority of "maintaining order" decreases as income level increases. Similarly, the category for "protecting free speech" increases as income levels increase with the rich prioritizing free speech protection much higher than either the poor or middle class.

The next question asks respondents to identify what the aims of the country should be over the next 10 years. Results for this question can be seen in Figure 2 where responses are shown by their percent distribution among each income level. In this question we see a dramatic preference by all income categories toward two choices. The middle class displays the highest preference for the Peruvian government prioritizing "a high level of economic growth". This priority dominates all income levels and resonates very well with Peru's high levels of economic growth in recent years. These results show that there is clearly a national unity centered on the growth of the country.

The other highly preferred national priority is for, "people to have more say about how things are done". This finding echoes the individual priority of "giving people more say", which was highly preferred by the middle class. The national priority category of "people have more say about how things are done" appears to have a relationship with income as seen in Figure 2. Preference for this response increases as income levels increase suggesting that those with higher levels of income have a greater need to be heard by their government.

Through the lens of our analysis of the 2008 World Values Survey we see a view of the Peruvian middle class that is a driving force behind Peru's rapid economic growth. The Peruvian

middle class is firmly supportive of private industry and competition. While we cannot say that the middle class is firmly supportive of decreasing progressive tax structures, the findings show that the middle class does not believe that the redistribution of wealth through taxation is a necessary aspect of democracy.

7. Policy Discussion and Conclusions

The middle class has been calling the attention of researchers because of its role in explaining comparative development. A variety of channels have been explored, including those linking the middle class to long run economic growth, democratic attitudes, and entrepreneurship. In addition to forecasting plausible scenarios the size of Latin America's global middle class in the next 20 years, the paper looks at the values and attitudes of the global middle class (vis-à-vis other classes) in the specific case of Peru. We define the global middle class as those households with daily income between $10 and $100 per person in purchasing power parity terms, which implies that we exclude all those individuals who are considered poor in the poorest advanced countries and those who are rich in the richest advanced countries.

The main conclusion of the paper is that economic growth is the most powerful force in driving the size of the global middle class, of an order of magnitude larger than redistribution. The global middle class is defined by an income threshold that is high for most Latin American countries (as well as for China and India). This means that redistribution tends to favor those that are between the poverty level (say $2 per day) and the minimum global middle class income ($10 per day). In other words, those who belong to the global middle class are relatively affluent in developing and emerging economies. When modeling progressive redistribution scenarios, many low-income individuals are made better-off but fail to enter the global middle class, while economic growth (especially when there is convergence with the U.S.) raises the mean income of the distribution of all income groups homogeneously, thus having a larger impact on the size of the global middle class.

If economic convergence is assumed ─with a catch-up rate between the LAC countries and the U.S. at 1 percent per year─, the share of the middle class in LAC countries by 2030 will

be close to 72 percent of the population. Mexico is forecasted to have the largest share of the middle class by 2030 (86.5 percent of its population), followed by Panama (85.7 percent) and Costa Rica (81.9 percent). Honduras will have the smallest share of the middle class with 38.8 percent. In the case of China and India the global middle class' share will increase by 60.9 and 70.1 percentage points with respect to its 2005 level, respectively. That would put China and India ahead of most Latin American countries.

In terms of redistribution, countries with the most progressive trends are projected to have larger middle classes by 2030. This would be the case of Venezuela, Mexico, Brazil and Chile which will be the regional leaders in the share of their population that would belong to the global middle class by 2030. Combining redistribution with income convergence would produce very powerful results: most Latin Americans will be able to join the global middle class by 2030. If productivity growth accelerates, and begins a process of convergence with the U.S. level, every decade nearly 60 million Latin Americans will join the group of individuals that consumes between 10 and 100 dollars per day.

Therefore, the growth agenda is crucial for the expansion of the middle class. Equity can play a complementary role, but even under very optimistic scenarios will not be able to produce a large global middle class. Even if this is so, the speed with which countries reach a large middle class depends on initial conditions, redistribution, and the growth rate.

At the same time, participation in economics and politics is of high importance for the middle class, who wants to have a voice and say in what happens in their country. This has policy implications for the nature of public debate on economic policy, which will be more open and transparent. The consolidation of a middle class will bring along several policy challenges, which need to be addressed in advance. In particular, countries in the region need to avoid future bottlenecks that could potentially undermine structural growth.

The emergence of a large middle class will bring some positive side-effects. One is the expansion of the tax base which should result in greater state capacity to deliver public goods, aimed at improving economic efficiency and increased opportunity. In addition, as per capita income is raised above the $10 threshold, fewer individuals require fiscal transfers to support

their income, thus implying a smaller fiscal burden for the state. However, demands on the state do not disappear with the enlargement of the middle class. They are simply transformed. There will be a greater need to bring the middle class not only to a given level of income, but also to certain standards in terms of the provision of public goods, such as security and justice, as well as access to high quality education and health.

Based on the Peruvian surveys, the middle class sees taxes as a redistributive policy from them to the poor and are not inclined to support them. But this may be too narrow an interpretation. Pay-for-service, such as tolls or fees for health and education may be more acceptable to the middle class than simple taxes. At the same time, the status quo in many Latin American countries is a very low level of income taxation for the middle classes. Given their attitudes and political say, it is very unlikely that the expansion of the middle class will result in greater levels of personal income taxation. This is the main difference in tax structures compared to the developed world.

The emerging middle class will likely increase its consumption of housing and durable goods. This effect alone should increase the capacity of the state to collect property taxes, but few countries in the region have developed a good cadastre for housing, and therefore miss on a very important source of potential revenue. A middle income society is one where property taxation plays a greater role that it currently does in Latin America.

In light of the consumption boom that will likely be boosted by the emerging middle class, the question of whether the durable goods will be imported or domestically produced is relevant, and its decision has important implications. Many countries will opt for a productive structure based on exports of natural resource-based products and imports of technologically advanced industrial goods. Conversely, governments can design and implement an industrial policy in which the middle class is used as a leverage of local manufacturing. Some countries are planning to take advantage of the expansion of the middle class to promote structural change.

The region's global middle class citizens will be exposed to global trends in information and technology, and by definition will aspire to living standards comparable to advanced nation's middle class. This will make the region's subpar educational quality more visible, which will

expose an inherent contradiction: A class of citizens with global middle class purchasing power, but with poor educational standards (as shown in the 2009 PISA test scores[6]). Hopefully, this contraction will trigger greater demands for quality improvements in education.

Finally, the Peruvian survey results suggest that the middle class has a high affinity for free markets and its support for private industry and competition. This is consistent with the negative attitude toward progressive taxation and the lack of support for top-down wealth redistribution. There is a clear primacy of growth policies and relative decline in support for state-owned enterprises and government as the owner of business. This sentiment resonating from the center of the income bracket suggests that the middle class may be optimistic about their own potential but skeptical of the role of the state. When presented with a range of national priorities, the middle class overwhelmingly chooses economic growth over the alternatives. This is positive to the extent that is consistent with the priorities of the growth agenda. However, global middle classes in Latin America do not seem too keen on strengthening state capacity, which is essential to remove some of the constraints that limit economic growth today.

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Table 1. Average per capita GDP growth rates (2005-2030)

	w/o convergence	with convergence
Argentina	2.78	4.64
Bolivia	2.50	5.94
Brazil	2.14	3.94
Chile	2.48	3.91
China	3.73	6.50
Colombia	2.51	4.96
Costa Rica	2.77	4.72
Dom. Rep	3.27	5.67
Ecuador	2.23	4.77
El Salvador	2.41	5.07
Guatemala	2.48	5.32
Guyana	1.98	5.32
Honduras	2.83	6.05
India	3.51	7.30
Jamaica	1.94	4.24
Mexico	2.27	3.87
Panama	3.05	4.98
Paraguay	2.20	5.40
Peru	2.89	5.25
Uruguay	2.64	4.45
Venezuela	2.88	4.47

Source: Authors' calculations

Table 2. Size of the middle class as % of the population

Country	*2005*	*2030 (simulations)*			
		Growth		*Redistribution*	
		Without convergence	*With convergence*	*Own track record*	*Progressive*
Argentina	52.86	69.33	71.91	48.65	59.10
Bolivia	13.46	30.50	57.88	13.46	13.30
Brazil	33.75	53.30	67.08	51.77	51.77
Chile	46.22	69.29	78.59	53.67	53.67
Colombia	24.85	45.87	64.45	22.35	25.64
Costa Rica	51.81	75.77	81.91	51.81	58.65
Dom. Rep.	31.10	63.10	79.28	29.15	32.51
Ecuador	27.81	48.86	70.46	25.30	28.61
Salvador	46.89	69.01	76.98	46.89	51.18
Guatemala	33.84	59.33	76.90	39.17	36.61
Guyana	17.43	42.71	77.93	17.43	13.39
Honduras	16.49	39.31	38.75	16.26	16.40
Jamaica	46.87	69.69	64.52	46.87	53.72
Mexico	60.12	79.93	86.53	69.55	69.55
Panama	41.62	64.21	85.71	41.62	46.25
Paraguay	18.65	38.67	70.92	18.65	30.94
Peru	30.58	58.65	71.20	28.61	33.30
Uruguay	55.84	77.13	68.54	55.84	85.60
Venezuela	40.00	67.89	75.52	91.30	91.30

Source: Authors' calculations

Table 3. Change in the share of the Middle Class between 2005 and 2030 (in percentage points)

Country	*Due to Growth*		*Due to Redistribution*	
	Without convergence	*With convergence*	*Own track record*	*Progressive*
Argentina	16.47	19.05	-4.21	6.24
Bolivia	17.04	44.42	0.00	-0.16
Brazil	19.55	33.32	18.02	18.02
Chile	23.07	32.37	7.45	7.45
Colombia	21.03	39.61	-2.50	0.79
Costa Rica	23.96	30.10	0.00	6.84
Dom. Rep.	32.00	48.18	-1.95	1.41
Ecuador	21.05	42.65	-2.51	0.81
Salvador	22.12	30.09	0.00	4.29
Guatemala	25.48	43.06	5.33	2.77
Guyana	25.28	60.49	0.00	-4.04
Honduras	22.82	22.26	-0.23	-0.09
Jamaica	22.82	17.65	0.00	6.84
Mexico	19.81	26.41	9.43	9.43
Panama	22.59	44.09	0.00	4.63
Paraguay	20.02	52.27	0.00	12.29
Peru	28.07	40.62	-1.98	2.72
Uruguay	21.30	12.70	0.00	29.77
Venezuela	27.89	35.52	51.30	51.30

Source: Authors' calculations

Table 4. Trends in Income Distribution:
Gini coefficient

Country	*Initial*	*Mid-Period*	*Final*
Colombia	57.22 (1995)	57.92 (1999)	58.49 (2006)
Brazil	60.97 (1988)	59.23 (1998)	55.02 (2007)
Chile	56.43(1987)	55.74 (1998)	52 (2006)
Costa Rica	47.49 (1981)	45.88 (1997)	47.23 (2005)
Argentina (urban)	44.51 (1986)	49.84 (1998)	48.77 (2006)
Bolivia	42.04 (1990)	57.79 (1999)	58.19 (2005)
Dom. Rep	47.78 (1986)	49.58 (1997)	51.91 (2006)
Ecuador	50.49 (1987)	53.53 (1998)	54.37 (2007)
El Salvador	48.96 (1989)	52.17 (1998)	49.7 (2005)
Guatemala	58.26 (1987)	55.65 (1998)	53.69 (2006)
Guyana	51.55 (1992)	44.58 (1998)	44.58 (1998)
Honduras	59.49 (1989)	53.05 (1997)	55.31 (2006)
Jamaica	43.16 (1988)	40.47 (1996)	45.51 (2004)
Mexico	55.14 (1989)	48.99 (1998)	48.11 (2006)
Panama	48.74 (1979)	48.53 (1997)	54.93 (2006)
Paraguay	39.74 (1990)	56.85 (1999)	53.24 (2007)
Peru	45.72 (1985)	46.24 (1996)	49.55 (2006)
Uruguay	43.65 (1981)	42.33 (1989)	42.33 (1989)
Venezuela	55.82 (1981)	48.79 (1996)	43.44 (2006)

Source: Authors' calculations

Table 5. The Poor's Middle Class Redistributive Paradox- Percent of the population by income group after a progressive redistribution policy

Country	% of the population in each income group:	$0-$2	$2-$5	$5-$10	$10-$100	$100 and more
Honduras	2005	28.79%	31.98%	22.52%	16.49%	0.21%
	2030 after progressive redistribution	21.88%	34.30%	27.27%	16.40%	0.14%
	Change in pp from 2005 to 2030	-6.91	2.32	4.75	-0.09	-0.06
Bolivia	2005	35.49%	31.37%	19.50%	13.46%	0.17%
	2030 after progressive redistribution	31.32%	33.49%	21.75%	13.30%	0.14%
	Change in pp from 2005 to 2030	-4.18	2.12	2.25	-0.16	-0.03
Guyana	2005	14.42%	34.26%	33.76%	17.43%	0.11%
	2030 after progressive redistribution	2.96%	29.40%	54.21%	13.39%	0.04%
	Change in pp from 2005 to 2030	-11.46	-4.86	20.45	-4.04	-0.07

Source: Authors' calculations

Table 6. Size of the global middle class as % of population

		2030 (simulations)			
		Due to Growth		*Due to Redistribution*	
Country	*2005*	*Without convergence*	*With convergence*	*Own track record*	*Progressive*
China	3.84	28.09	64.7	5.62	1.19
India	2.48	15.82	72.65	2.92	1.01

Source: Authors' calculations

Table 7. Change in the share of the Middle Class between 2005 and 2030

	Growth		*Redistribution*	
Country	*Without convergence*	*With convergence*	*Own track record*	*Progressive*
China	24.25	60.86	1.78	-2.65
India	13.33	70.17	0.43	-1.47

Source: Authors' calculations

Table 8. Effects of redistribution on the size of the Global Middle Class in low income countries

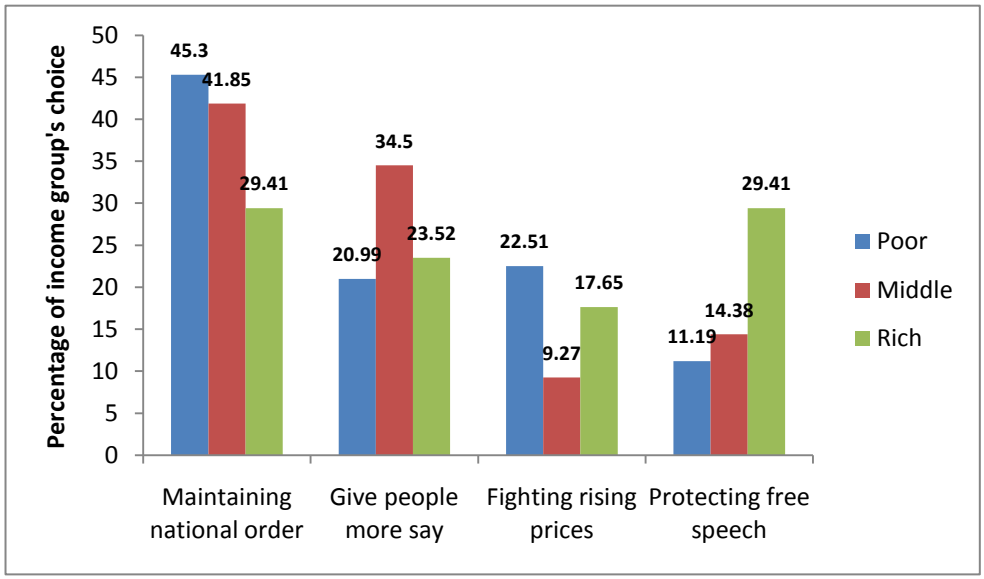
Country	**Percent of the population in each income group:**	**$0-$2**	**$2-$5**	**$5-$10**	**$10-$100**	**$100 and more**
China	2005	33.27	46.1	16.79	3.84	0
	2030 after regressive redistribution	40.91	38.2	15.26	5.62	0
	Change in pp from 2005 to 2030 due regressive redistribution	7.63	-7.88	-1.53	1.78	0
	2030 after progressive redistribution	23.96	56.8	18.01	1.19	0
	Change in pp from 2005 to 2030 due to progressive redistribution	-9.31	10.7	1.22	-2.65	0
India	2005	38.85	49.5	9.15	2.48	0.02
	2030 after regressive redistribution	43.21	44.3	9.55	2.92	0.02
	Change in pp from 2005 to 2030 due regressive redistribution	4.36	-5.21	0.4	0.43	0
	2030 after progressive redistribution	8.27	84.9	5.83	1.01	0
	Change in pp from 2005 to 2030 due to progressive redistribution	-30.6	35.4	-3.32	-1.47	-0.01

Source: Authors' calculations

Table 9. ***Peruvian Middle Class Values and Attitudes***

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Variables	Is the world better or worse off because of science and technology?	Governments should tax the rich and subsidize the poor	Importance of democracy	Private vs. state ownership of business	Individual vs. Government responsibility	Competition good or bad	Trust in neighbors	Importance of politics in life	Self positioning on political scale
Middle	0.744***	-0.446**	0.228	-0.383**	-0.0877	-0.643***	0.00405	-0.0169	-0.00653
	(0.187)	(0.192)	(0.147)	(0.190)	(0.207)	(0.172)	(0.0832)	(0.0639)	(0.172)
Rich	1.363*	-1.010	-0.537	-0.725	0.0344	-0.556	-0.457	-0.0935	0.476
	(0.700)	(0.715)	(0.553)	(0.703)	(0.776)	(0.663)	(0.314)	(0.240)	(0.594)
Gender	-0.0672	-0.0892	0.132	0.595***	-0.157	0.0801	0.295***	0.169***	-0.00249
	(0.174)	(0.179)	(0.138)	(0.178)	(0.194)	(0.161)	(0.0773)	(0.0593)	(0.157)
Age2	-0.000316	-0.000620	0.000236	0.000676*	0.000165	0.000548	0.000663***	-0.000235*	0.000361
	(0.000379)	(0.000393)	(0.000302)	(0.000395)	(0.000430)	(0.000359)	(0.000169)	(0.000131)	(0.000349)
Age	0.0345	0.0448	-0.0131	-0.0835**	-0.00847	-0.0601*	-0.0672***	0.0180	-0.0407
	(0.0342)	(0.0354)	(0.0272)	(0.0355)	(0.0387)	(0.0322)	(0.0152)	(0.0118)	(0.0312)
Education	0.206	-0.246*	0.408***	-0.414***	-0.199	-0.295**	-0.132**	-0.178***	-0.139
	(0.135)	(0.139)	(0.106)	(0.137)	(0.149)	(0.124)	(0.0600)	(0.0460)	(0.123)
Marital	-0.115	-0.0122	0.0559	0.0672	-0.0799	0.0275	0.0865	-0.0427	0.144
	(0.203)	(0.211)	(0.161)	(0.211)	(0.228)	(0.190)	(0.0904)	(0.0694)	(0.190)
Employment	-0.299	-0.0650	0.328**	0.568***	0.0229	-0.103	0.00846	-0.0215	-0.0778
	(0.190)	(0.197)	(0.151)	(0.197)	(0.214)	(0.178)	(0.0846)	(0.0650)	(0.176)
Children	-0.123**	0.0907	-0.0149	0.0661	0.0119	0.0461	0.0162	0.0135	0.0617
	(0.0594)	(0.0615)	(0.0472)	(0.0631)	(0.0672)	(0.0556)	(0.0264)	(0.0203)	(0.0558)
Black	-0.473	0.0866	-0.401	-0.0927	0.261	-0.439	0.0290	-0.170	-0.749
	(0.590)	(0.614)	(0.467)	(0.604)	(0.671)	(0.555)	(0.264)	(0.204)	(0.524)
Quechua	-0.0104	0.257	-0.500*	0.684*	-1.167***	-0.222	-0.0408	-0.143	-0.357
	(0.347)	(0.361)	(0.276)	(0.360)	(0.389)	(0.323)	(0.155)	(0.118)	(0.322)
White	0.232	-0.0287	-0.0131	-0.230	0.00361	1.086***	0.187	0.0695	0.516
	(0.457)	(0.463)	(0.351)	(0.473)	(0.502)	(0.419)	(0.199)	(0.152)	(0.432)
Mulato	-0.165	0.0279	-0.256	-0.104	-0.749**	-0.0819	0.0296	-0.113	-0.0323
	(0.335)	(0.349)	(0.266)	(0.347)	(0.375)	(0.311)	(0.149)	(0.114)	(0.308)
Weight	-0.0259	1.179**	1.301***	1.131*	-1.545**	-0.404	0.515**	-0.0511	0.894*
	(0.562)	(0.580)	(0.443)	(0.577)	(0.625)	(0.521)	(0.250)	(0.191)	(0.496)
Constant	4.268***	5.054***	6.254***	6.873***	8.200***	5.927***	4.054***	2.863***	5.958***
	(0.904)	(0.933)	(0.718)	(0.933)	(1.010)	(0.841)	(0.402)	(0.308)	(0.818)
Observations	1,238	1,214	1,232	1,175	1,217	1,210	1,258	1,245	977
R-squared	0.045	0.034	0.044	0.073	0.022	0.048	0.048	0.035	0.019

Figure 1. Peruvian Individual Top Priorities



Authors' calculations based on World Value Survey for Peru 2008.

Figure 2. Peruvian National Priorities

Authors' calculations based on World Value Survey for Peru 2008.