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The Middle Class in Less Developed American Nations

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THE MIDDLE CLASS IN LESS DEVELOPED AMERICAN NATIONS

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1. INTRODUCTION

The purpose of this paper is to extend my previous work on how the middle class fares throughout the world. Pressman (2007, 2010) provided a working definition of ‘the middle class’ as well as estimates of the size of the middle class in several nations, mainly developed Western countries. These papers argued that differences in the fraction of households that are middle class, across nations and over time, were mainly due to government tax and spending policies. The more progressive the national tax system, and the more generous and more extensive government spending programs, the larger the proportion of middle-class households in the nation.

This work was done using the Luxembourg Income Study (LIS) Database, an international database containing extensive income as well as socio-demographic information.¹ LIS databases center around particular years, called ‘waves’. Each wave is around five years apart, with Wave #1 beginning in the early 1980s. The most recent data, Wave #6, covers the mid 2000s.

Until recently, Mexico was the only less developed American country in the LIS database. This changed during the summer of 2009, when the LIS released Wave #6

¹ <http://www.lisproject.org/techdoc.htm> (multiple countries; accessed 29 August 2009 through 28 August 2010). Those interested in more information about the LIS Database can consult a number of excellent summaries (Smeeding *et al.* 1985; Smeeding, Rainwater, Buhmann & Schmays 1988) or the LIS homepage at www.lisproject.org.

databases for five Latin American nations (Brazil, Columbia, Guatemala, Peru and Uruguay). In conjunction with previously available Wave #6 data for Mexico, these new LIS datasets provide a unique opportunity to assess the size of the middle class in less developed American countries, and to compare the size of the middle class in these countries with the size of the middle class in developed nations.

This issue is important for a number of reasons. Aristotle (1932: Book IV) first noted that political communities with a large middle class would likely be well governed and society would not be dominated by either of the income extremes. More recently, Thurow (1985) argued that “a healthy middle class is necessary to have a healthy democracy” because social unrest increases when incomes and people become polarized. Barro (1999) provides some empirical support for this view – countries are more likely to be democratic the higher the share of income going to middle-class households— although he admits that the causal connection can run in both directions.

There are also psychological reasons why a large middle class is important. Attaining a middle-class living standard comes with feelings of success and personal accomplishment. As Malthus (1803: 594) first pointed out in his second *Essay on Population*, “Our best grounded expectations of an increase in the happiness of the mass of human society are founded in the prospect of an increase in the relative proportions of the middle parts.”

Psychological optimism is likely to spill over to economic optimism, leading to more consumption, more investment and more rapid economic growth. In addition, just having more money go to the middle class should lead to greater consumption and more growth, since the poor do have money to spend and the wealthy have too much money to

spend. Landes (1998: 217-21) identifies a rising middle class as being the main reason Britain was the first country in the world to industrialize. Taking a broader perspective, Adelman & Morris (1967) argue that a growing middle class was the driving force behind economic development in all of Western Europe.

A robust middle class is likely to be just as important for the less developed American nations as it was for Europe. Estache & Leipziger (2009) argue that income distribution is more important for less developed countries because a rising middle class leads to greater economic development, and not just economic growth, and that it also provides a driving force for democracy and political support for economic policies that will aid both middle-class and low-income households. Easterly (2001) provides some empirical support for this view. Furthermore, it is fairly well-known that income distribution in Latin America is the most unequal in the world (Galbraith 2002; Krozeniewicz & Smith 2000), and government spending programs there tend to be rather regressive in nature (see Goldstein & Estache 2009).

The remainder of this paper measures the size of the middle class in some less developed American countries during the mid 2000s and seeks to identify some determinants of the size of the middle class in these nations. It begins by defining ‘the middle class,’ and estimating the size of the middle class in less developed American nations. It then goes on to assess the role of socio-demographic factors, government fiscal policies, and a few labor market factors in the development of a large middle class in these countries. The Appendix contains information on the particular year and the original national survey for each LIS dataset used in this paper.

2. WHO IS MIDDLE CLASS?

Unfortunately, there is no official economic definition of ‘middle class’, and no definition that most social scientists seem willing to accept. This paper employs a suggestion advanced by Birdsall et al. (2000), Pressman (2007, 2010), and Thurow (1985), where middle-class households are those households with incomes in the middle of the national income distribution. In particular, a household is considered middle class if and only if its *adjusted* household disposable income falls between 75 and 125 percent of median *adjusted* household disposable income. Such a relative definition of ‘middle class’ is justified by numerous studies showing that after a certain level of income is achieved, relative incomes matter most to people (Frank 2007; Layard 2005; Luttmer 2005), and by the work of many scholars who have argued that people are social beings (Fuchs 1967; Easterlin 2001; Sen, 1999: 71) continually comparing themselves to others. This work implies that we need relative definitions of ‘the middle class,’ ‘poverty’ and ‘human well-being’ rather than absolute definitions of these terms.

In order to measure economic well-being we need to adjust household income to account for differences in household size. For example, an income of \$24,000 can support a single individual in the US reasonably well. In 2009, it would have provided more than twice the poverty-level income for a single person. But for a family of 5, an income of \$24,000 provides each person with just \$4,800 on average. This cannot support the same lifestyle as \$24,000 for a single individual; in fact, according to the US Census Bureau, a family of five would have been considered poor with this income in 2009.

One way to deal with household size differences is to treat the income needs of all household members the same and look at per capita household income. But this ignores economies of scale in living arrangements. Two people can live more cheaply together

than separately and will have a higher standard of living than two single individuals with the same combined income. What we need is some middle ground between assuming no economies of scale in living arrangements and assuming that household size does matter at all for household living standards.

In what follows, we adjust household incomes using the OECD (1982) recommendations regarding equivalence scales for household size. According to this standard, income requirements for children are 50 percent of the requirements of the household head, and income needs for additional adults in the household are 70 percent of the requirements of the household head. These are pretty close to the implicit household adjustments or equivalence scale in the set of poverty lines developed by Mollie Orshansky (1965, 1969) when she established the official US poverty lines for different household sizes. Since the Orshansky poverty lines came from surveys of food consumption and expenditures for different households, this approach provides a good empirical foundation for using the OECD standards when adjusting income to account for household size. However, not a great deal depends on this decision. Other adjustment formulae have been suggested and tested, and studies have found that this decision makes little difference to the broad results that one gets when using the LIS (Smeeding, Buhmann & Rainwater 1988); obviously, though, the actual figures will differ.

3. THE SIZE OF THE MIDDLE CLASS IN LATIN AMERICA

Table #1 provides information on the size of the middle class for our sample of Latin American countries. Looking at our main definition (adjusted household disposable income between 75% and 125% of median adjusted household income), 21% of households can be regarded as middle class. Uruguay, by far, has the largest middle class,

with nearly 27% of all households falling into this category. This is followed by Columbia at 22.6%. The rest of our countries are bundled around 19%. By means of contrast, for Wave #6 LIS databases, the middle class in developed countries averages around twice as much—40% of all households. And in the Scandinavian nations of Denmark, Norway and Sweden, the middle class approaches 50% of the entire population. For the other two American nations, Canada and the US, Pressman (2010) estimates the size of the middle class at 35% and 29%, respectively.

The figures in Table #1 are roughly consistent with what we know from other sources about these countries and their distribution of income. The LIS summary statistics of income distribution for the six nations in Table #1,² ranks Uruguay as having (by far) the most equal distribution on various distribution measures, including the Gini coefficient and the Atkinson coefficient, and the ratio of income received by someone at the 90th percentile relative to someone at the 50th percentile of the income distribution. At the other extreme, it is generally recognized (and confirmed by LIS summary statistics) that Brazil has one of the most unequal distributions of income in Latin America and the entire world; and, as Table #1 shows, Brazil has the smallest middle class of our six nations.

Because there is no generally accepted definition of ‘the middle class’, and because the choice of any income range will be arbitrary to some extent, Table #1 also provides a sensitivity analysis of our estimates. The latter columns employ three additional income-related definitions of ‘middle class’ -- (D2) household adjusted income between 75 percent and 150 percent of median adjusted disposable income, (D3)

² These are available from the LIS website at www.lisproject.org.

household adjusted income between 75 percent and 175 percent of median adjusted disposable income, and (D4) household income between 75 and 200 percent of median adjusted disposable income.

Definition D2 is noteworthy because, in a recent analysis of the middle class in the US, the Pew Research Center (2008) maintained this was the most appropriate range for identifying middle-income households and used this range throughout its study of the middle class. Definition D4 is noteworthy because it yields an income range for the middle class close to what US households actually report when asked about the income levels necessary to put a family of four in the middle class (Pew Research Center 2008; Cashell 2008). There are some drawbacks to D4, however. Including those with 200% of median income as part of the middle class means that only around 3 percent of the US population gets classified as wealthy or upper class. Moreover, this upper limit is substantially above what most scholars regard as providing middle-class income levels and lifestyles. Nonetheless, D4 still reflects popular views of the middle class; and it may make more sense to use this definition for the less developed nations of the Americas. On D4, the upper class constitutes 10% to 20% of households in the majority of our six nations, and for Guatemala and Peru the upper class approaches 25% of all households. Finally, definition D3 is included as a midway point between the Pew suggestion and the range suggested by empirical surveys in the US.

The good news is that these definitional issues do not make much substantive difference. Pressman (2010) shows that the actual income range for defining 'middle class' matters very little for developed nations, and any decision about where to draw the line does not drive the empirical results obtained from adopting any one income range.

Of course, the estimated size of the middle class increases as we include larger and larger income ranges in our definition. However, the size of the middle class varies across nations in the same pattern for all income ranges. In the developed world, countries with a relatively large middle class on our main definition also have a relatively large middle class on all our alternative definitions. The Scandinavian nations always have the largest middle class; the Anglo-Saxon countries always do worst; and continental European nations (France, Germany, Italy and Luxembourg) fall in the middle.

For less developed American countries our results are similar. Under each of our definitions, Uruguay does best by a substantial amount, and Columbia always does the next best in terms of the size of the national middle class. At the other extreme, Brazil always does the worst of our six countries. And in each case, Guatemala, Mexico and Peru are always bunched together in the middle.

This shows that our main results do not seem to depend on definitional issues. For most reasonable income ranges, countries with a relatively large middle class on one definition also have a relatively large middle class on other definitions. Countries that do poorly on one definition also do poorly on other definitions.

The next three sections address some of the main factors that might lead to a relatively large middle class in some countries and a relatively small middle class in others. First we examine some possible socio-demographic determinants of the middle class. Then we look at government fiscal policy and how it affects the size of the middle class. Finally, we examine labor market factors that work to promote or hinder the middle class.

3. SOCIO-DEMOGRAPHICS AND THE MIDDLE CLASS

Table #2 presents estimates on the size of the middle class for our less developed American nations based on a number of socio-demographic characteristics of households. For a number of reasons, various socio-demographic factors might explain changing income distribution and changes in the size of the middle class.

It is well-known that income (on average) depends on age. Young, inexperienced workers, typically get paid less than other workers. Income rises with age and tends to peak at around age 50; shortly thereafter it tends to fall with age. Consequently, if the age distribution of the working population changes, this should lead to changes in income distribution and possibly to changes in the size of the middle class. If a large fraction of households are in their prime earning years, income equality should increase and there should be more middle-class households; on the other hand, if there are large fractions of households headed by someone who is young or old, income inequality should increase and there should be fewer middle-class households.

Living arrangements might also affect the size of the middle class. Since women earn less than men, a larger fraction of female-headed households should increase income inequality and reduce the size of the middle class. On the other hand, more married couples should increase the overall percentage of middle-class households. However, where child-rearing responsibilities limit employment possibilities, women may not be able to work as much as they can in households without children. This should make it more difficult to obtain middle-class status.

Finally, economic development is usually associated with a rising middle class. Historically, a good fraction of this stems from rural to urban migration. Households engaged in subsistence agriculture move to large cities where higher paying jobs are

available. As households start to move to urban areas, income inequality begins to increase due to rising incomes in urban areas.

To examine the impact of socio-demographic factors on the size of the middle class we look at several key sub-groups of the entire population. In order to make these comparisons easy to follow, we begin by repeating the main results from Table #1—the percentage of *all* households that are middle class.

Table #2 shows that, with just a few exceptions, socio-demographic factors do *not* seem to affect the size of the middle class. The percentage of middle-class elderly households (those whose head is greater than 64 years old), the percentage of middle-class prime-age households (whose head is between 35 and 50 years old), the percentage of middle-class female-headed households, the percentage of middle-class married couples, the percentage of middle-class households with children and the percentage of middle-class households living in urban areas are not very different from the aggregate figures presented in column 1. These results are consistent with the results for developed nations—socio-demographic factors seem to matter very little for the size of the middle class in most cases (Pressman 2007, 2010). In the developed world, there are very few countries where socio-demographic characteristics seem to be a factor in determining middle-class status, and few where demographic changes can explain a large portion of the changing size of the middle class.

However, two differences between developed Western nations and Latin American nations are worth noting. First, in contrast to the developed Western nations, where households with children are *more likely* to be middle class (see Pressman 2010), in less developed American nations, households with children are *just as likely* to be

middle class as all households. One possible explanation for this, which we will explore later, is that government policy helps families with children more in developed nations. Second, Table #2 shows that elderly Latin American households are more likely to be middle class in Brazil and Uruguay, but are less likely to be middle class in Mexico and Peru. This, too, may be due to government policy—a generous public pension system in some nations but not in others.

Another socio-demographic factor that might affect the size of the middle class concerns marriage propensities; in particular, whether a household is middle class may depend on wife earnings and their income level relative to the income of their husband. The argument here is rather simple and straightforward. If high-income men become more likely to marry high-income women, the result will be increased inequality and fewer middle-class households since the marriage of two people who each earn a good salary is likely to push them into the upper class. This has become a rather contentious issue among scholars looking at the impact of wife earnings on income inequality in the US (Burtless 1999; Cancian & Reed 1998, 2001; Esping-Andersen 2007). Several studies have found an increasing correlation between husband and wife earnings over time in the US (Shorrocks 1983; Lerman & Yitzhaki 1985; Karoly & Burtless 1995). This means that high-wage men are more likely to marry high-earning women, which increases overall inequality. On the other hand, Gottschalk & Danziger (2005) show that changes in female hours of work and female earnings inequality over time have made income distribution more equal in the US, while Cancian & Schoeni (1999) found that wives earnings tend to mitigate inequality among married-couple families in most developed countries. In perhaps the best summary of this diverse literature, Cancian & Reed (1998)

argue that whether wives' earnings have either increased or decreased equality in the US or had no impact on income inequality-- depending on how we do the measuring.

Table #3 takes a first stab at examining this issue for less developed nations. It looks at how the size of the middle class is affected by wife earnings in some less developed nations. To analyze this we start by calculating the percentage of non-elderly, husband-wife families that are middle class. Then we subtract wives' earnings from household income and recalculate the percentage of middle-class, married-couple families that are middle class.

Based on this exercise, wives' earnings appear to have little impact on the size of the middle class in our sample of less developed American nations. In several nations (Columbia, Guatemala and Peru) wives' earnings actually lower the size of the middle class. In these cases, wives' earnings are more likely to push incomes up and push households into the upper income category than they bring low-income households into the middle class. For comparative purposes, at the bottom of Table #3, we add data for the two developed American nations—Canada and the US. The US is unique here in that wives' earnings seem to matter a great deal for middle class status. In fact, without these earnings, the US would look a lot like our less developed American nations in terms of the size of middle-class married couples. Despite having a much larger middle class than the other countries in Table #3, Canada looks more like Latin American nations in one respect—wives earnings do little to bring household income to middle-class levels. A good part of the reason for this may be the availability of government benefits in Canada that support married couples. We now turn to this issue.

4. GOVERNMENT POLICY AND THE MIDDLE CLASS

Pressman (2007) argued that government fiscal policy is an important determinant of the size of the middle class in all developed nations; Pressman (2010) showed that two specific policies (family allowances and family leave policies) significantly increase the size of the middle class in these nations and that this is especially true of households with children. Family allowances are annual payments to households for their children and are meant help households support their children. Virtually every country in the world has some sort of child or family allowance policy (Macinol 1980; Vadakin 1958, 1968). Family leave policies include payments to prospective mothers while on leave from their regular job, birth payments, and payments to parents of newborns so they can stay home and care for their child. Most developed nations have some sort of family leave policy; these policies are less prevalent in less developed nations and also less generous.

These are just two of the many fiscal policies employed throughout the developed world to aid families and so that they can enjoy the benefits of a middle-class lifestyle. Unemployment benefits and disability insurance make sure that short-run economic problems or long-run health problem do not result in abject poverty for the household. Government pension programs were developed to keep elderly households out of poverty by forcing them to save during their working years and providing them with a fixed income during retirement years. These payments allow older households to continue living a middle-class existence after retirement. Finally, a progressive tax system, especially one where low-income households pay negative taxes, also helps to support middle-class incomes and lifestyles during difficult times. This section examines these government policies in the context of less developed American countries.

To do this, we follow the procedure employed when examining the impact of wives' earnings on the size of the middle class. First, we look first at the size of the middle class for a selected sub-group of the population. Then we subtract government income sources from household income and recalculate the percentage of households that are middle class.

There is, of course, some question here as to whether additional income from the government affects individual behavior. For example, child allowances may encourage households to have more children. Since larger households are less likely to be middle class, by ignoring behavioral changes we have overestimated the size of the middle class. For developed countries, several studies have found very small and insignificant behavioral changes from this policy (Ermisch 1988a, 1988b; Gauthier & Hatzius 1997). In addition, there may be macroeconomic effects of government policies that counteract any behavioral changes. If child allowances increase the size of the middle class and thereby household expenditures, it should expand the economy, which will further increase the size of the middle class. For this reason, the computations below assume no behavioral changes. To the extent that government policies *do* lead to behavioral changes, and to the extent that these changes exceed the income effects of these policies, our estimates of the impact these government policies have on the middle class will be biased upward.

What is true of child allowances is also true of government pensions and unemployment insurance. These benefits may encourage people to collect benefits rather than work. Again, we ignore these possible effects, assuming them to be close to zero. Such an assumption is quite reasonable for less developed nations since benefit levels are

generally smaller and the conditions for receiving benefits are more restrictive. And, as with child allowances, unemployment insurance and government pensions should increase aggregate expenditures, economic growth, and thus the size of the middle class. This macroeconomic effect or income effect should counter any microeconomic substitution effects of these government policies.

Table #4 shows that in most Latin American countries government policies are rather ineffective in developing a national middle class among its targeted beneficiaries. Child allowances and family leave policies increase the percentage of households with children that are middle class by just a fraction of a percentage point in Brazil and Uruguay, the only two countries for which we have such data in the LIS. In contrast, Pressman (2010) finds that, in developed nations child allowances increase the fraction of households with children that are middle class in developed nations by close to 5 percentage points in those countries with such a policy. But in the Americas, these policies provide little support and are relatively ineffective in helping families achieve middle-class status. In Canada they increase the size of the middle class by 2.1 percentage points; in the US, the increase is zero since the US has no family allowance program. The bottom of Table #4 takes into account family leave policies as well as child allowances in Canada and the US. This addition does little to change the results from family allowances alone. From the first columns of Table #4, and from similar data for developed countries, we can conclude that one reason Latin America has a smaller middle class than developed countries is their meager child allowance programs.

Unemployment insurance and disability insurance do no better than family allowances and family leave policies in the three nations for which we have LIS data. In

general, unemployment and disability payments are small in Latin American nations and many households (especially those working in the informal sector) are ineligible for such payments (ECLAC 2005; Lindert et al. 2006). As a result, the increase in the fraction of middle-class households due to these policies is just a small fraction of a percentage point.

The bottom rows of Table #4 compare our Latin American nations to the developed American nations. Unemployment and disability insurance in Canada (a relatively stingy country when it comes to government benefits) increases the size of the middle class by 2 percentage points. The US, the stingiest of all major developed nations when it comes to these issues, does only a bit better than the three Latin American nations we have data for. Thus, it seems that a second reason for a small middle class in Latin America is their meager unemployment and disability programs.

Only in the case of pensions does government policy in Latin America help somewhat. Pensions increase the size of the elderly middle class in several countries, and in some cases (Brazil and Uruguay) significantly so. However, it should be noted that in a few cases (Columbia and Guatemala), pensions actually reduce the size of the middle class. In addition, the differences from country to country are quite large. A good part of these cross-national differences probably stem from national differences in the percentage of the labor force employed in informal sectors that are not covered by old-age pensions. Overall these results are consistent with a large literature that finds that the bulk of social expenditures in Latin America, especially pensions, are ineffective in protecting the poor and favor those households in the two upper income quintiles (ECLAC 2005; Lindert et al. 2006). For example, according to this literature, most social security expenditures go

to the top two quintiles—80 percent in Columbia, and 50 percent in Brazil and Uruguay (ECLAC 2005: 144-6).

Again, the contrast with developed nations is large and significant. For the two other American nations in the LIS database (Canada and the US), pensions are significantly more effective in increasing the fraction of middle-class elderly households. In contrast, to an average increase of 6.2 percentage points in our less developed American countries, pensions increase the fraction of the elderly middle class by almost 16 percentage points in the US and by nearly 26 percentage points in Canada. And it should be remembered that government policy in Canada and the US does relatively worse in promoting and sustaining a middle class compared to other Western developed nations (see Pressman 2010).

Finally, we look at the role of tax policy on the middle class. Again, there are important limitations to performing such an analysis. Half the LIS datasets for our less developed American nations are in net terms (with taxes already taken out), and so we have no information about the taxes paid by different households. Table #5 provides information on the impact of taxes on the size of the middle class for all datasets with information on tax payments by households along with comparable estimates for Canada and the US.

As this table shows, tax policy in Brazil, Columbia and Guatemala does little to change the size of the middle class in these nations. The change in the size of the middle class is just a tenth or so of a percentage point, essentially zero. The contrast with Canada and the US here is large. In the US, tax policy increases the size of the middle class by more than 5 percentage points. In Canada, the increase is more than 8 percentage points.

For a larger sample of mainly developed nations, Pressman (2010) found that tax policy (income and mandatory social insurance taxes) increased the size of the middle class by 7.5 percentage points. Mainly, tax policy worked by reducing the income of wealthy households and bringing them into the middle class. But, it also needs to be remembered that the money obtained through a progressive tax system was used to raise the income of other households and provide middle-class incomes to many households. So the overall impact of taxes on the size of the middle class for developed nations is much greater than what is reported in Table #5.

5. LABOR MARKET FACTORS AND THE SIZE OF THE MIDDLE CLASS

Just as socio-demographic factors and government policy might affect the size of the middle class, so too can labor market forces impact the size of the middle class. This section examines how a few labor market variables affect the size of the middle class.

Several studies carried out with US data have shown the size of the middle class to vary with the business cycle (e.g., Horrigan & Haugen 1988). If unemployment is a key determinant of the size of the middle class, we would expect that rising unemployment in one nation would lead to a fall in the size of the middle class as many households lose employment and lose income. Pressman (2007: 190-91) examined this question at the macroeconomic level and found that changes in the national unemployment rate had little correlation with changes in the size of the national middle class. One possible reason for this result is that unemployment benefits make up for income lost due to unemployment and keep households in the middle class. Another possible reason is that broad macroeconomic variables, such as the national unemployment rate, cannot capture what is going on at the microeconomic level.

Pressman (2010) examined this issue at a more microeconomic level. Using LIS microdata on the number of earners, he employed shift-share analysis to ask how much the middle class changes as a result of changes in the number of earners per household between Wave #5 and Wave #6. The number of earners per household should change with macroeconomic conditions, as more adults find employment and older children are able to find part-time jobs; both changes will augment household income. This analysis found a very small increase in the size of the middle class in Luxembourg and a small decline in the middle class in Taiwan due to increases in the number of earners over time, but little change overall due to the number of earners per household in each country.

Since the new LIS datasets from Latin Americas provide us with only one data point, we lack the time-series data necessary to repeat such an analysis. Nonetheless, we can examine how the size of the middle class changes according to changes in the number of earners in the household within one country at one point in time. Again, macroeconomic conditions should be one reason that the number of earners varies from country to country, and more earners should increase the size of the middle class, especially since (as we saw earlier) government tax and spending policy has little impact on the size of the middle class.

Table #6 calculates the size of the middle class in less developed American nations broken down by the number of earners in the household. In developed nations, such variation is small. Some of our six Latin American countries follow this pattern. For example, there is little trend for Uruguay or Guatemala (until we reach a point where households have more than three earners, which is possibly due to the small sample size). On the other hand, in Brazil and Mexico it is pretty clear that an increase in the number

of earners in the household brings with it a greater probability of middle-class incomes, and so it appears that increased labor force participation by the household is important to generate middle-class status there. The results for Peru also indicate that the number of earners is likely a factor affecting the size of the middle class there.

These results are more remarkable because of the relationship between household size and middle-class status. Larger households are *less likely* to be middle class than smaller households because of the additional income needs of more household members. To control for this, Table #7 looks at two fixed household types and examines how the probability of being middle class changes with changes in the number of earners. It shows how the fraction of middle-class households changes with the number of earners for non-elderly, married couples with two children and with three children. Data for households with no earners are not included because the small number of such households in this category.

Again, our results are somewhat mixed, but they are somewhat different from the result of Table #6. For Uruguay now, as the number of earners increases from 1 to 3 household members, the probability of being middle class increases sharply. For Guatemala there is little change; if anything, there is a small decrease in the probability of being middle class as the number of earners increases. Peru also seems to follow this pattern. Finally, for Brazil and Mexico, more earners still increase the probability of being middle class. Thus, for these two countries it appears that labor market variables (such as labor force participation rates and employment) do matter for attaining middle-class status. For the other Latin American countries, the relationship is ambiguous at best.

We can also examine this question by looking at some labor force variables in LIS datasets—for example, the number of hours worked by household heads and by spouses, the number of weeks worked full-time and part-time by household heads and spouses, or the number of weeks that the head and spouse were unemployed during the year. During times of unemployment, we would expect to see declines in the number of hours worked and the number of weeks worked full-time during the year. As a result, the middle class should shrink. Alas, the available labor force data is limited for developed nations; data is even more limited for developing ones.

Nonetheless it is possible to begin such an analysis. Table #8 examines the size of the middle class by the employment status of the household head and spouse. For obvious reasons we look only at households headed by someone under 60 years old and restrict the analysis to married couples. We calculate and report the probability of a household being middle class when the head is employed, when the spouse is employed, when either is employed and when both are employed.

Table #8 indicates that employment seems to make little difference for the less developed nations of the Americas. The probability of being middle class does not seem to depend on which spouse is employed. It is pretty much the same if either one works. In addition, the probability of being middle class does not change very much when the spouse works in addition to the household head. Going from column 1 (where only the household head is employed) to column 4 (where both spouses are employed), we see that the size of the middle class *falls* in Columbia, Guatemala and Peru, and increases just a bit in Uruguay. Only in Brazil and Mexico does the addition of an employed spouse

increase the size of the national middle class. This supports our earlier result about the importance of employment for middle-class status in Brazil and Mexico.

Finally, we add comparable figures for the two developed American nations at the bottom of Table #8. Following the patterns of Latin American nations other than Brazil and Mexico, the employment situation of the spouse of the household head does not matter very much in terms of providing middle-class incomes in Canada and the US.

6. SUMMARY AND CONCLUSION

This study has used the LIS to examine the size of the middle class across several less developed American nations. One main finding is that in the mid 2000s the size of the middle class in our sample of Latin American countries does not seem to depend on demographic factors. A second finding is that, in contrast to most developed nations, government tax and spending policies do little to increase the size of the middle class in less developed America. Finally, as with the developed world, labor market factors do not have much impact the size of the middle class. The main exceptions here seem to be Brazil and Mexico, where employment appears to increase the size of the middle class.

These findings support my previous work (Pressman 2007, 2010) on the determinants of the size of the middle class, mainly in developed nations. There it was found that neither socio-demographic nor labor market variables were important in determining the relative size of the middle class across nations. Rather, the thing that is important for a large middle class is government policy—a progressive tax system and a set of generous government spending programs that benefit low-income and middle-income households. Lacking such policies is a good part of the reason Latin American nations do not have a large middle class compared to developed nations. If the middle

class is going to expand in Latin America, it will be necessary for the state to develop and expand policies that support a large middle class—child allowances and family leave, unemployment and disability insurance, and a more inclusive and more generous retirement system.

The conclusion of this paper also supports the results of numerous studies on income inequality throughout the world. One main finding of this extensive literature is that generous public safety nets and social services result in greater income equality (Bradly *et al.* 2003; Moller *et al.* 2003; Western & Healy 1993). Although this work has mainly focused on developed nations, it seems as though the same conclusions hold for less developed countries.

REFERENCES

- Adelman, Irma & Morris, Cynthia, *Society, Politics, and Economic Development: A Quantitative Approach*, Baltimore, Johns Hopkins University Press, 1967.
- Aristotle, *Politics*, trans. H. Rackham, Cambridge, MA, Harvard University Press, 1932.
- Barro, Robert, “Determinants of democracy,” *Journal of Political Economy*, vol. 107, December 1999, pp. S158-S183.
- Birdsall, Nancy, Graham, Carol & Pettinato, Stefano, “Stuck in the tunnel: is globalization muddling the middle class?,” Brookings Institution, Center on Social and Economic Dynamics, Working Paper #14, 2000.
- Bradley, David, Huber, Evelyne, Moller, Stephanie, Nielsen, François & Stephens, John, “Distribution and redistribution in postindustrial democracies,” *World Politics*,” vol. 55, January 2003, pp. 193-228.
- Burtless, Gary, “Effect of growing wage disparities and family composition shifts on the distribution of U.S. income,” *European Economic Review*, vol. 43, April 1999, pp. 853-865.
- Cancian, Maria & Reed, Deborah, “Assessing the effect of wives’ earnings on family income inequality,” *Review of Economics and Statistics*, vol. 80, February 1998, pp. 73-79.

Cancian, Maria & Reed, Deborah, "Changes in family structure: implications for poverty and related policy," in Danziger, Sheldon & Haveman, Robert (Eds) *Understanding Poverty*, New York, Russell Sage, 2001, pp. 69-96.

Cancian, Maria & Schoeni, Robert, "Wives' earnings and the level and distribution of married couples' earnings in developed countries," *Journal of Income Distribution*, vol. 8, Summer 1998, pp. 45-61.

Cashell, Brian, "Who are the 'Middle Class'?" Congressional Research Service Report #RS22627, October 22, 2008.

Easterlin, Richard, "Income and happiness: towards a unified theory," *Economic Journal*, vol. 111, July 2001, pp. 465-484.

Easterly, William, "The middle class consensus and economic development," *Journal of Economic Growth*, vol. 6, December 2001, pp. 317-335.

ECLAC (Economic Commission for Latin America and the Caribbean), *Social Panorama of Latin America, 2005*, Santiago, United Nations, 2005.

Ermisch, John, "Econometric analysis of birth rate dynamics in Britain," *Journal of Human Resources*, vol. 23, Fall 1988a, pp. 53-76.

Ermisch, John, "Economic influences on birth rate," *National Institute Economic Review*, November 1988b, pp. 71-81.

Estache, Antonio & Leipziger, Danny, (Eds) *Stuck in the Middle*, Washington, DC, Brookings Institution, 2009.

Esping-Andersen, Gøsta, "Sociological explanations of changing income distributions," *American Behavioral Scientist*, vol. 50, January 2007, pp. 639-658.

Frank, Robert, *Falling Behind: How Rising Inequality Harms the Middle Class*, Berkeley, CA, University of California Press, 2007.

Fuchs, Victor, "Redefining poverty and redistributing income," *The Public Interest*, #8, Summer 1967, pp. 88-94.

Galbraith, James, "A perfect crime: global inequality," *Daedalus*, vol. 131, Winter 2002, pp. 11-25.

Gauthier, Anne-Helene & Hatzius, Jan, "Family benefits and fertility: an econometric analysis," *Population Studies*, vol. 51, November 1997, pp. 295-306.

Goldstein, Markus & Estache, Antonio, "The scope and limits of subsidies," in Estache, Antonio & Leipziger, Danny (Eds), *Stuck in the Middle*, Washington, DC, Brookings Institution, 2009, pp. 75-96.

Gottschalk, Peter & Danziger, Sheldon, "Inequality of wage rates, earnings and family income in the United States, 1975-2002," *Review of Income and Wealth*, vol. 51, June 2005, pp. 231-254.

Horrigan, Michael & Haugen, Steven, "The declining middle class thesis: a sensitivity analysis," *Monthly Labor Review*, vol. 111, #5, May 1988, pp. 3-13.

Karoly, Lynn & Burtless, Gary, "The effects of rising earning inequality on the distribution of US income," *Demography*, vol. 32, August 1995, pp. 379-405.

Korzeniewicz, Roberto & Smith, William, "Poverty, inequality and growth in Latin America: searching for the high road to globalization," *Latin America Research Review*, vol. 35, October 2000, pp. 7-54.

Landes, David, *The Wealth and Poverty of Nations*, New York, W.W. Norton, 1998.

Layard, Richard, *Happiness: Lessons from a New Science*, New York, Penguin Press, 2005.

Lerman, Robert & Yitzhaki, Shlomo, "Income inequality effects by income sources: a new approach and applications to the United States", *Review of Economics and Statistics*, vol. 67, February 1985, pp. 151-156.

Lindert, Kathy, Skoufias, Emmanuel & Shapiro, Joseph, *Redistributing Income to the Poor and the Rich: Public Transfers in Latin America and the Caribbean*, Washington, DC, World Bank, 2006.

Luttmer, Erzo, "Neighbors as negatives: relative earnings and well-being," *Quarterly Journal of Economics*, vol. 120, August 2005, pp. 963-1002.

Luxembourg Income Study (LIS) Database, <http://www.lisproject.org/techdoc.htm> (multiple countries; accessed 28 August 2009 through 28 August 2010).

Macinol, John, *The Movement for Family Allowances, 1918-45: A Study in Social Policy Development*, London, Heinemann, 1980.

Malthus, Thomas Robert, *An Essay on the Principles of Population*, 2nd ed., London, 1803.

Moller, Stephanie, Huber, Evelyne, Stephens, John & Bradley, David & Nielsen, François, "Determinants of relative poverty in advanced capitalist democracies," *American Sociological Review*, vol. 68, February 2003, pp. 22-51.

OECD, *The OECD List of Social Indicators*, Paris, OECD, 1982.

Orshansky, Mollie, "Consumption, Work and Poverty," in Seligman, B.B. (Ed.) *Poverty as a Public Issue*, New York, Free Press, 1965, pp. 52-84.

Orshansky, Mollie, "How Poverty is Measured," *Monthly Labor Review*, vol. 92, #2, February 1969, pp. 26-41.

Pew Research Center, *Inside the Middle Class: Bad Times Hit the Good Life*, Washington, DC, Pew Research Center, 2008.

Pressman, Steven, "The decline of the middle class: an international perspective," *Journal of Economic Issues*, vol. 41, March 2007, pp. 181-200.

Pressman, Steven, "Public policy and the middle class in the mid 2000s," *Journal of Economic Issues*, vol. 44, March 2010, pp. 243-262.

Sen, Amartya, *Development as Freedom*, New York, Random House, 1999.

Shorrocks, Anthony, "The impact of income components on the distribution of family Income," *Quarterly Journal of Economics*, vol. 98, May 1983, pp. 311-326.

Smeeding, Timothy, Buhmann, Brigitte & Rainwater, Lee, "Equivalence Scales, Well-Being, Inequality and Poverty: International Comparisons Across Ten Countries Using the Luxembourg Income Study (LIS) Database," LIS-CEPS Working Paper # 17, 1988.

Smeeding, Timothy, Rainwater, Lee, Buhmann, B. & Schmaus, Gunther, "Luxembourg Income Study (LIS) Information Guide," LIS-CEPS Working Paper #8, 1988.

Smeeding, Timothy, Schmaus, Gunther & Allegra, Serge, "An Introduction to LIS," LIS-CEPS Working Paper #1, 1985.

Thurow, Lester, "The Disappearance of the Middle Class," *New York Times*, Feb. 5, 1985, p. F3.

Vadakin, James, *Family Allowances*, Miami, University of Miami Press, 1958.

Vadakin, James, *Children, Poverty, and Family Allowances*, New York, Basic Books, 1968.

Western, Bruce & Healy, Kieran, "Explaining the OECD wage slowdown: recession or labor decline?," *European Sociological Review*, vol. 15, #3, September 1999, pp. 233-249.

TABLE 1a

CHILD POVERTY RATES ACROSS NATIONS AND OVER TIME

COUNTRY	WAVE # 1	WAVE # 2	WAVE # 3	WAVE # 4	WAVE # 5	WAVE # 6
<i>Australia</i>	17,8%	17,4%	17,5%	12,8%	13,9%	14,7%
<i>Belgium</i>	N.A.	5,7%	6,1%	9,1%	7,9%	N.A.
<i>Canada</i>	18,0%	17,7%	17,0%	16,6%	18,3%	19,5%
<i>Denmark</i>	N.A.	5,4%	5,0%	3,5%	3,9%	5,1%
<i>Finland</i>	N.A.	3,9%	3,1%	2,3%	4,8%	5,5%
<i>France</i>	11,8%	13,2%	12,3%	12,4%	14,0%	N.A.
<i>Germany</i>	5,9%	10,0%	7,6%	12,6%	11,1%	12,9%
<i>Italy</i>	N.A.	14,1%	7,3%	22,2%	21,0%	24,5%
<i>Luxembourg</i>	N.A.	7,5%	5,9%	8,9%	17,7%	17,1%
<i>Netherlands</i>	N.A.	4,8%	8,8%	9,1%	9,2%	N.A.
<i>Norway</i>	4,9%	4,7%	5,2%	4,8%	4,2%	6,3%
<i>Sweden</i>	6,3%	4,5%	3,9%	10,6%	6,3%	6,7%
<i>UK</i>	10,0%	15,2%	20,9%	22,8%	21,1%	16,9%
<i>US</i>	24,8%	29,9%	31,0%	30,2%	27,0%	26,3%
<i>Averages (unweighted)</i>	12,4%	11,0%	10,8%	12,7%	12,9%	14,1%

Source: Author's calculations from the Luxembourg Income Study datasets

Note: See text for definition of poverty

TABLE 1b
CHILD POVERTY RATES ACROSS NATIONS AND OVER TIME,
LESS CHILD ALLOWANCES

COUNTRY	WAVE # 1	WAVE # 2	WAVE # 3	WAVE # 4	WAVE # 5	WAVE # 6
<i>Australia</i>	20,6%	20,0%	19,8%	25,1%	26,0%	27,1%
<i>Belgium</i>	N.A.	18,9%	17,5%	18,6%	15,3%	N.A.
<i>Canada</i>	19,9%	19,8%	18,6%	21,3%	23,9%	25,1%
<i>Denmark</i>	N.A.	7,7%	8,8%	7,4%	8,3%	9,3%
<i>Finland</i>	N.A.	8,3%	10,1%	14,1%	15,0%	13,3%
<i>France</i>	18,4%	24,9%	24,4%	22,2%	21,9%	N.A.
<i>Germany</i>	11,7%	15,9%	13,7%	17,6%	18,7%	22,6%
<i>Italy</i>	N.A.	14,1%	16,5%	22,2%	21,0%	28,2%
<i>Luxembourg</i>	N.A.	15,2%	17,8%	19,7%	29,2%	28,5%
<i>Netherlands</i>	N.A.	13,0%	13,9%	15,5%	14,5%	N.A.
<i>Norway</i>	7,8%	7,1%	10,4%	11,3%	7,9%	11,3%
<i>Sweden</i>	8,5%	7,7%	8,5%	13,5%	10,9%	11,0%
<i>UK</i>	15,7%	23,2%	26,0%	29,7%	28,5%	23,4%
<i>US</i>	24,8%	29,9%	31,0%	30,2%	27,0%	26,4%
<i>Averages (Unweighted)</i>	15,9%	16,1%	16,9%	19,2%	19,2%	20,6%

Source: Author's calculations from the Luxembourg Income Study datasets

Note: See text for definition of poverty

TABLE 1c
THE IMPACT OF CHILD ALLOWANCS ON CHILD POVERTY RATES

COUNTRY	WAVE # 1	WAVE # 2	WAVE # 3	WAVE # 4	WAVE # 5	WAVE # 6
<i>Australia</i>	-2,8%	-2,6%	-2,3%	-12,3%	-12,1%	-12,4%
<i>Belgium</i>	N.A.	-13,2%	-11,4%	-9,5%	-7,4%	N.A.
<i>Canada</i>	-1,9%	-2,1%	-1,6%	-4,7%	-5,6%	-5,6%
<i>Denmark</i>	N.A.	-2,3%	-3,8%	-3,9%	-4,4%	-4,2%
<i>Finland</i>	N.A.	-4,4%	-7,0%	-11,8%	-10,2%	-7,8%
<i>France</i>	-6,4%	-11,7%	-12,1%	-9,8%	-7,9%	N.A.
<i>Germany</i>	-5,8%	-5,9%	-6,1%	-5,0%	-7,6%	-9,7%
<i>Italy</i>	N.A.	N.A,	-9,4%	N.A.	N.A.	-3,7%
<i>Luxembourg</i>	N.A.	-7,7%	-11,9%	-10,8%	-11,5%	-11,4%
<i>Netherlands</i>	N.A.	-8,2%	-5,1%	-6,4%	-5,3%	N.A.
<i>Norway</i>	-2,9%	-2,4%	-5,2%	-6,5%	-3,7%	-5,0%
<i>Sweden</i>	-2,2%	-3,2%	-4,7%	-2,9%	-4,6%	-4,3%
<i>UK</i>	-5,7%	-8,0%	-5,1%	-6,9%	-7,4%	-6,5%
<i>US</i>	0,0%	0,0%	0,0%	0,0%	0,0%	-0,1%
<i>Averages (unweighted)</i>	-3,5%	-5,5%	-6,1%	-7,0%	-6,7%	-6,4%

Source: Author's calculations from the Luxembourg Income Study datasets

Note: See text for definition of poverty