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Stability and Vulnerability of the Latin American Middle Class

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Abstract

Using panel datasets from Mexico and Chile for the 2000s, we examine the determinants of middle-class intra-generational mobility. We define the middle class by means of a latent index of economic wellbeing that is less sensitive to short-term fluctuation and measurement error than standard measures of income. We find high rates of both upward and downward mobility in Mexico and Chile, indicating that the middle class has the opportunity to move to higher levels of wellbeing but it is also vulnerable to falling into poverty. In both countries, labour market resources (education and occupational status of the head, number of members in the labour market) are much stronger determinant of mobility than demographic factors, suggesting the importance of policies that foster human capital and that protect workers from shocks. Rural middle-class households are substantially more vulnerable to falling into poverty and have little chance of advancing to upper classes.

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1   Introduction

Described as the 'the backbone of both the market economy and of democracy in most advanced societies' (Birdsall et al. 2000), the middle class is seen as an important source of economic development and political stability worldwide, and particularly in the developing world. Several arguments are offered for the social benefits of a large middle class (Banerjee and Duflo 2008; Hertova et al. 2009). First, countries with a voluminous middle class are claimed to experience faster economic growth (Easterly 2001). Diverse avenues account for this beneficial effect. Second, a large middle class involves lower inequality, providing necessary stability to promote economic investment. Third, a perspective that dates back to Weber (2003 [1905]) suggests that the middle class is the source of a specific set of values that emphasize savings and the accumulation of human capital. In sharp contrast with the upper class, whose welfare relies on rental income, the wellbeing of the middle class depends on specialized skills, and its expansion fosters work values and long-term investments (Doepke and Zilibotti 2007). In particular, the middle class is claimed to produce entrepreneurs equipped with a capacity for delayed gratification, who, in turn, create jobs and productivity for the rest of society (e.g. Acemoglu and Zilibotti 1997). Fourth, the middle class contributes to economic development not only as a producer but also as a consumer. Middle classes play a crucial role in stimulating internal markets because it demands more and better consumption items than their lower-income counterparts (Murphy et al. 1989).

A large middle class is also seen as a source of political stability and social cohesion (Barro 1999). In a tradition epitomized by Lipset (1959: 78), the segment neither affected by deprivation nor benefiting from wealth 'plays a mitigating role in moderating conflict since it is able to reward moderate and democratic parties and penalize extremist groups'. From this perspective, the middle class tends to behave more rationally when choosing their political representatives, contributing to the formation of stable institutions and reducing political unrest. Political stability, in turn, promotes economic investment and furthers economic growth (Alesina and Perotti 1996). The potential benefits of a large middle class are particularly important in the developing world, where investment in human and physical capital is scarce, and political institutions are often weak.

While most of the literature focuses on the benefits of a *large* segment in the middle of the social hierarchy, economic and political development arguably depends not only on the *size* but also on the *stability* of the middle class. Most likely, a middle segment that lacks the assets to buffer unexpected shocks such as macroeconomic downturn or family restructuring, and which is highly vulnerable to poverty will not develop the long-term orientation, consumption capacity, and political preferences claimed to induce economic growth and political stability (Easterly 2001; Josten 2005; Murphy et al. 1989; Leatherman et al. 1999; Birdsall 2010). In contrast, a stable and secure middle class is more likely to invest in long-term wellbeing and to make political choices that support those investments. To date, however, empirical studies of the middle class leave the important question about its temporal security and stability largely unanswered. This is the task we undertake in this paper. We define vulnerability as the probability that a middle-class household falls into poverty; i.e. that it experiences downward

mobility into a situation of economic deprivation. Stability, in turn, is the probability that a middle-class household remains in the middle class over time. It is important to indicate that middle-class stability is not an uncontested advantage. Stability implies the absence not only of downward mobility into poverty, but also of upward mobility into economic advantage. In other words, middle-class stability identifies high persistence in socioeconomic standing over time. This raises a normative question about which type of society is more desirable—one in which there is substantial fluidity so that the opportunity to fall or climb in the socioeconomic ladder is evenly distributed and households 'take turns' in advantage and disadvantage (Hout 2004) or one in which there is constancy over time? The answer is unambiguous when the question concerns poverty—the consequences of chronic poverty are worse than those associated with transient poverty. The answer is less clear, however, when we consider the middle class as it partly depends on the specific sources of stability and fluidity. Protection against shocks beyond families' control is likely desirable, while ascriptive sources of stability such as those based on gender or race are more questionable (Hacker 2006; Jencks and Tach 2006). In order to properly consider this normative concern, however, the question of the level and determinants of stability and mobility of the middle class should be first addressed.

This article addresses this question for two Latin American countries—Chile and Mexico—in the 2000s. Chile and Mexico are interesting case studies because they epitomize the market transformation and privatization of the economic system currently being implemented or debated in many countries of the world, and because they are among the most unequal countries in the world (De Ferranti et al. 2004). As a consequence of economic liberalization, the middle class may be particularly vulnerable, and as result of high inequality, economic mobility has potentially substantial consequences for the economic wellbeing of families and for economic growth and political stability. Even if these countries share relatively similar levels of economic wellbeing, they differ in the strength of their social safety net, with Chile displaying a deeper, more universal system of social protection. We therefore examine the extent to which institutional protection translates into vulnerability to falling into poverty across countries.

We exploit comparable panel surveys in both countries to follow a representative sample of households over a period of three years (2002-05) in Mexico, and five years (2001-06) in Chile to examine the mobility of middle-class households over time. Our analysis is explicitly comparative. Drawing on similar variables and on a similar analytical protocol in both countries, we attempt to capture determinants of middle-class stability and mobility that transcend national idiosyncrasies and may be generalized to middle-income countries in Latin America and beyond. At the same time, we pay attention to the institutional characteristics—namely, social welfare and social protection policies—that may shape the chances of downward and upward mobility from the middle class in each country.

This paper proceeds as follows. We first address the question: Who is middle class? This involves two separate questions that we take up in turn. First, which socioeconomic measure should be used to rank households? Second, which locations in the socioeconomic ranking should be considered middle class? After a brief review of sociological and economic approaches, we propose a measure based on a latent index of socioeconomic wellbeing, and offer a three-class model that defines middle-class families as those that are *above an absolute poverty threshold, but that lack the economic assets to ensure complete protection against poverty.* Next,

we describe the Mexican and Chilean context, focusing on the early 2000s, the period in which middle-class stability and vulnerability are examined. We then explain the data and methods used; and present the analysis of patterns and determinants of middle-class stability and mobility in Mexico and Chile. Finally, we offer conclusions and implications for the potentially beneficial social influence of the middle class.

2.   Who is middle class? Theoretical and empirical perspectives on the middle class

Social class is a long-established concept in sociology, dating back to the Marxist and Weberian evaluation of newly forming industrial societies in the late nineteenth and early twentieth centuries. According to these classical perspectives, class is determined in capitalist societies by the type of assets that individuals bring to the market and the productive process (Weber 1978; Marx 1956, 1969). These classical formulations understand the market as a *system of power,* in which marketable attributes confer advantages to some individuals relative to others.

The Marxist approach reduces sources of advantage to private property ownership, establishing a dichotomous division between owners and non-owners as a source of exploitation. Neo-Marxist formulations offer a more flexible approach to marketable resources, which extends from property ownership to specialized skills and workplace authority. From a neo-Marxist perspective, the middle class consists of groups that do not own the means of production but control skills and knowledge or authority as a source of domination and privilege over other workers (Wright 1997). These developments move Marxist approaches closer to a Weberian perspective. This perspective understands a class situation as determined by 'different kinds of property usable for return … and kinds of service that can be offered in the market' (Weber 1978: 928), with an emphasis on educational qualifications among the propertyless.

Probably the most widely used version of a neo-Weberian class is the schema developed by Erikson, Goldthorpe and Portocarero and known as EGP (Erikson et al. 1979), widely used in international comparative research. The EGP schema focuses on resources valuable in labour markets and productive units. Its starting point is the division between employers, self-employed and employees, based on property ownership and the purchase of labour of others. Given developments of late capitalism, this distinction is relevant only for a small proportion of the population. Most work as employees, so this approach establishes a distinction between two types of employment relations: service relationship and labour contract. The service relationship describes professional and managerial occupations at the top of the socioeconomic hierarchy. It involves a long-term exchange, to which a comprehensive compensation package and career prospects are attached. The service relationship is a solution to the principal–agent problem. It addresses the need to align employees' objectives with those of the employer among employees with high levels of autonomy and authority. In the other extreme, a relationship based on the labour contract describes agricultural and unskilled manual workers, characterized by a short-term exchange for a determinate amount of product or time, without a compensation package or career development (Erikson and Goldthorpe 1992: 35-47; Breen 2005; Goldthorpe 2007: chapter 5). In the EGP classification, the middle class is formed by those occupational positions with varying combinations of service and labour contract components—manual supervisors, skilled manual workers, and clerical employees, as well as the self-employed.

These sociological approaches to class share a focus on labour market and occupational resources. They also share the belief that the *type*, and not just the *amount*, of labour market assets that individuals control account for long-term economic wellbeing. From a sociological perspective, occupational positions as diverse as police officers, skilled manual workers, and small shopkeepers may have the same level of income, but the type of assets they control is consequential for their life chances and those of their children (Hout et al. 1993). Because these occupational groups control different types of assets, they will be differently affected by economic and institutional factors, such as shifts in demand, technological innovation, and labour market and welfare policies (Breen and Whelan 1996). As a result, a sociological emphasis on specific occupational resources allows examination of the causes of poverty and inequality and not just their surface manifestations (Portes and Hoffman 2003). Drawing on this approach we will examine occupational resources controlled by individuals to account for middle-class mobility and stability.

In contrast, economic notions of class are purely statistical. The most common strategy is to rank households based on income, consumption, or another quasi-continuous measure, and to consider a varying portion in the middle of the distribution as middle class. The thresholds that distinguish the middle class from the lower and upper segments are diverse, and three variants of middle-class concepts can be distinguished (Lopez-Calva and Ortiz-Juarez 2011).

The first economic notion of the middle class comprises a symmetrical range around the median income of a particular country. For example, Davis and Huston include the range between 0.5 and 1.5 from the median, and Birdsall et al. (2000) consider the 0.75 to 1.25 range. The advantage of this measure is that it is sensitive to changes in the distribution of income across countries and over time. For instance, a reduction of economic inequality will result in more households collapsed around the median, and, consequently, a larger middle class. Not surprisingly, then, this measure is strongly correlated with the level of income inequality in the society. In terms of mobility analysis, the potential limitation of this approach is that it will describe a household as mobile even if neither its absolute nor its relative economic standing changes over time, insofar as distributional changes places it in a different class.

The second economic approach defines the middle class as a fixed percentage of the income distribution. Barro (1999) and Easterly (2001) consider the middle three quintiles as middle class, while Alesina and Perotti (2006) include the third and fourth quintiles, and Partridge (1997) reduces the middle class to the third quintile. This definition is insensitive to changes in both the absolute level and the distribution of income over time. The main advantage (and also limitation) for the analysis of mobility is precisely that it provides an analysis of 'net' flows assuming that the distribution of income is held constant; i.e. no mobility would occur if there is general economic improvement.

While the first two approaches are insensitive to changes in absolute income levels over time and across societies, the third approach uses an absolute measure of income or consumption as a threshold above which a household is considered middle class. Most commonly, researchers have used US$10 PPP per day as the threshold (Birdsall 2007; Banerjee and Duflo 2008). A variant of this approach proposes a 'global' middle class, in which national income distributions

are divided according to criteria based on the worldwide income distribution. For example, Milanovic and Yitzhaki (2002) identify those households with incomes between the mean national income in Brazil and Italy as middle class, while Barnerjee and Duflo (2008) propose those between US$2 and US$10 a day. Ravallion (2009), in turn, proposes a 'developing world middle class', which is not poor by developing world standards (US$2 a day, the median value of the poverty line in 70 developing countries) but would be considered poor by standards in the industrialized world (US$13 dollars a day, the poverty line in the USA).

The limitation of these 'absolute' notions of middle class is that, in contexts of economic growth eventually all households will surpass the specified threshold. Furthermore, the size of the middle class will substantially vary across countries depending on their level of economic development. More generally, the assessment of mobility using this method conflates changes in overall level of economic wellbeing with changes in the probability of remaining in a meaningful middle segment of the distribution over time.

Almost without exception, the economic approach to defining the middle class uses income as the indicator of choice to rank households and define the middle class. Income provides a fungible quasi-continuous scale, but is subject to two drawbacks. As highlighted in the sociological literature, an income-based measure is blind to the fact that the source, and not only the amount, of revenue, determines life-chances. The second limitation of an income-based approach is more technical but equally important. The validity of income as a measure of the latent concept of interest—economic wellbeing—is questionable. To the extent that income varies from month to month, and that a portion of household revenue is received in-kind rather than in-cash, a one-time measure of monetary income is a poor proxy for economic wellbeing. This problem is particularly acute in the developing world, specifically among occupations such as agricultural workers and the self-employed, where income fluctuation and in-kind revenue is prevalent. This limitation is compounded by the recall, refusal, reliability and rejection problems that plague income survey questions (Hauser and Warren 1997).

The economic development literature has long acknowledged this limitation. In order to address it, it has proposed an asset index based on the ownership of a set of durable goods, access to services, and household characteristics as an alternative to income (Filmer and Pritchett 1999; McKenzie 2005; Torche and Spilerman 2009). The construction of an asset index uses principal component analysis, or another data reduction technique, to produce the linear combination of items that accounts for the largest portion of total variance among them. Given that the data reduction technique retains the variance that is *shared* across all items, idiosyncratic determinants of economic wellbeing (for example, weather conditions as determinant of air conditioning ownership, household tastes as determinant of boat ownership) are excluded.

Such latent indexes have multiple advantages. They produce a continuous, one-dimensional measure of economic wellbeing that is less sensitive to short-term temporal fluctuations than current income or earnings. They include extra-occupational and in-kind resources that capture long-term economic wellbeing (Torche 2009). Furthermore, collecting information on durable goods, housing characteristics and access to services is much less onerous and susceptible to refusal and recall issues than measures of income or earnings.

Based on insights from the economic and sociological literatures, we define the middle class by means of a latent index of socioeconomic wellbeing that combines household income with a battery of housing quality characteristics and access to services (explained in detail in the methods section). By exploiting only the shared variance across items we reduce short-term oscillation, while at the same time providing a dynamic indicator insofar as indicators used vary over time. We then utilize a 'fixed' definition of the middle class—we divide the economic wellbeing index into quintiles and identify the middle three quintiles as middle class, while defining the bottom quintile as lower class and the top quintile as upper class. This classification is not purely statistical. In both countries analysed, the lower class identifies the families roughly below the poverty line, while the upper class identifies a group whose chances of falling into poverty are virtually nil. Under this definition, the middle class is the broad and heterogeneous segment located *above an absolute threshold of economic deprivation determined by the poverty line, but which lacks the economic assets to ensure complete protection against poverty,[1]* operationalized here by belonging to the top quintile of the socioeconomic wellbeing index (we will provide empirical evidence supporting this operationalization strategy).

Equipped with this definition, we evaluate the determinants of middle-class stability and mobility, with particular attention to downward mobility into poverty in Chile and Mexico. As explained, stability identifies households that remain in the middle class within the period considered. Mobility identifies any changes in the household's position from the middle three quintiles to the bottom quintile (downward mobility) or to the top quintile (upward mobility). Given the large literature on the detrimental effects of poverty and our interest in social policy we pay particular attention to the characteristics that increase the vulnerability to falling into poverty. Note that we use an economic definition of middle class. But drawing from the sociological emphasis on the type, not just the amount, of economic resources controlled by households we examine the factors that shape middle-class mobility, including demographic characteristics, occupational resources, and exposure to shocks, by means of a multivariate analysis.

3   The Chilean and Mexican contexts

Chile and Mexico are middle-income countries with a per capita GDP of US$12,027 and US$10,751, respectively, in 2005. This level is relatively high for Latin American standards, but substantially lower than the US$29,197 average among OECD nations (United Nations 2007). Chile has experienced substantial economic growth and improvements in the population's living conditions in the past decades. The golden decade for Chilean economic expansion was the 1990s, with an average GDP growth of 6 per cent a year. This trend was halted by the economic stagnation resulting from the Asian crisis in the late 1990s, but the country shortly recovered to experience moderate expansion of 3.4 per cent per year during the 2001-06 period considered in this analysis. Poverty decreased substantially from 45 per cent in 1989, to 20.2 per cent in 2000, and 13.7 per cent in 2006.

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[1] As indicated, a definition of the middle class as a fixed share of the economic wellbeing distribution cannot capture distributional change over time. We accept this limitation given that distributional changes in both countries were minimal over the period considered.

In spite of economic progress, inequality has remained extremely high, a feature that is characteristic of most Latin America countries. The Gini coefficient reached 0.54 in 2006, which is slightly lower than it was in the early 2000s but still one of the highest in the world (De Ferranti et al. 2004). The slight decline in inequality was likely accounted for by the reduction of the college premium, a trend that may increase in the future given the substantial expansion of post-secondary education (Eberhard and Engel 2009). Not only the level, but also the pattern of Chilean inequality is noteworthy. Chilean inequality emerges from a very high concentration in the upper end of the distribution. Even though inequality is by definition related to concentration, the Chilean figure is extreme. The top 20 per cent of the income distribution concentrates about 55 per cent pre-tax pre-transfer income, with much less differentiation among the lower and middle classes (IADB 1998). High economic concentration expresses itself in the pattern of intergenerational mobility—substantial elite closure coexists with fluidity in the rest of the distribution (Torche 2005). Such patterns suggest that the Chilean middle class is economically distant from the economic elite, and that it may have limited chances of upward mobility.

In addition to economic growth, the expansion of the social welfare system has contributed to the wellbeing of the Chilean population. An authoritarian regime privatized the social welfare system in the 1980s introducing private pensions, a universal voucher system at the primary and secondary educational levels, and private health insurance. These changes induced severe stratification between the upper class served by high-quality private institutions and the rest of the population served by an underfunded public sector (Raczynski and Romaguera 1995; Cox and Lemaitre 1999; Larranaga 1999; Martinez and Diaz 1999). Since the reestablishment of democracy in 1990, consecutive governments have increased social spending in the areas of education, health, housing and targeted transfers (World Bank 2001; Hojman 1996; Mesa-Lago 2008).

Health insurance is virtually universal through free access of poor families to the public system. Only about 5 per cent individuals are uninsured, of which just 0.5 per cent of them are genuinely poor (Mesa-Lago 2008). The Universal Access to Health Care system (AUGE in Spanish) implemented in 2004-05 ensures coverage against an increasing number of high-mortality and handicapping pathologies, regardless of ability to pay. In 2002, mandatory universal unemployment insurance was introduced to protect workers from an increasingly volatile labour market (Acevedo et al. 2006). Programs targeted to the poorest households have been substantially expanded over the 2000s. The most ambitious of them, called 'Solidary Chile' provides comprehensive support to low-income households by means of guaranteed and conditional cash transfers, psychosocial assistance, and skill development programs (Palma and Urzua 2005).

In spite of improvements over the past decade, there is the perception of unfairness and insecurity, particularly among the middle class. While the 'old' Chilean middle class grew under the support of the state since the mid-twentieth[h] century, and based their wellbeing on secure public service jobs (Martinez and Diaz 1999; Velasco 1994), the 'new' middle class emerging with the market transformation of the 1970s and 1980s benefitted from opportunities accompanying market expansion but was also subject to substantial insecurity and instability. Their concern originates from several factors, including the volatility of the incomes of those

immediately above the poverty line (Contreras et al. 2005; Neilson et al. 2008), the reduction of long-term employment contracts and their replacement by short-term task-based labour arrangements, and in the highly segmented access to education, health-care and pension systems. These transformations are seen to affect mostly the middle class, which lacks the substantial assets and access to high-quality services of the upper class but is not eligible for targeted government assistance.

The Mexican economy has also experienced substantial change over the last two decades. The country was of the most aggressive reformers during the 1990s, transforming from an economic system with strong state intervention into a market-based economy fully open to international trade (Aspe 1993; Lustig 1998). Trade liberalization, one of the emblematic features of Mexico's reform, started in 1985, when Mexico entered the General Agreement on Tariffs and Trade (GATT, now WTO). Yet, the consolidation of the new outward orientation took place in 1993 with the North American Free Trade Agreement (NAFTA), signed by Canada, the USA, and Mexico, and followed by a cascade of free trade agreements. This extensive transformation in the Mexican political economy was possible because the weak fiscal conditions emerging from the debt crisis of the 1980s strengthened the alliances supporting transformation of the economic model (Esquivel and Tornell 1995). Also during the 1990s, Mexico privatized more than three hundred state-owned enterprises, including those in non-tradable key sectors, such as telecommunications, banking, and roads (Rogozinski 1998). This reform process had two intended objectives: enhancing economic growth and opening up new fiscal space to tackle the historic 'social debt' through more aggressive redistribution policies.

The massive market reforms directly affected an important portion of the middle class that had grown under the support of the one-party system led by the Institutional Revolution Party (PRI) since 1917, when the Mexican revolution ended. Some analysts argue that such reforms are at the core of the democratic change that took place in Mexico in 2000, when the PAN (National Action Party, of center-right orientation) won the presidential election (Magaloni 2006). For example, the privatization and closure of state-owned firms and the reduction of subsidies to public services worsened the employment conditions of urban middle classes, who were linked to a previously large public sector, and served as a reliable support base for the PRI party.

Social policy change has resulted in a betterment of the population living standards. Two reforms are particularly important. First, the establishment of clear rules for redistribution of federal funds to the states and municipalities strengthened the capacities of local governments and allowed for a more transparent allocation of resources and less political control (Estevez et al. forthcoming). Second, the introduction of targeted programs, the most important being the conditional cash-transfer scheme called 'Progresa', later renamed 'Oportunidades', benefitted more than 5 million families—around 25.2 per cent of the population—by the end of 2006. The resources for the new interventions were drawn from the elimination of subsidies benefitting the urban middle class, such as the tortilla subsidy (Levy 2007). Furthermore, educational expenditures were reallocated favoring primary and secondary school over post-secondary education, which may have affected access to higher education among the middle class (Levy 2008).

The balance of the two decades after the reforms started is mixed. On the one hand, Mexico did strengthen its export capabilities and increased trade, with exports multiplying tenfold during the first decade of NAFTA. Yet, economic growth has been meager compared to the rest of Latin America (Scott 2009). In terms of the population wellbeing, extreme poverty fell from 21.2 per cent 1994 to 13.8 per cent in 2006, which implies around 6 million people left extreme deprivation over the period considered. Inequality measured by the Gini also fell between from 0.552 in 2000 to 0.516 in 2006 but, as in Chile, still remains one of the highest in the world. The reallocation of resources from the urban middle class to the poorest rural households through Progresa/Oportunidades and educational expenditures was positive in terms of poverty reduction and redistribution, but it may have increased the urban middle-class vulnerability as an unintended consequence. Vulnerability is particularly acute given the growing informality of the urban labour markets, and the limited social security coverage. Only 40 per cent of the labour force has health insurance and old-age pensions (compared with approximately 64 per cent in Chile) and there is no unemployment insurance in the country (Levy 2008; Scott 2009).

The 2008/09 global economic crisis had a strong impact on Mexico. It led to a 7 per cent decline in GDP, placing Mexico among the five economies most affected by the shock in the world. The crisis undid virtually all advancements in poverty reduction, particularly among urban households. This event highlighted the high level of vulnerability of the emerging middle class, and showed the fiscal weakness of public social protection mechanisms.

Our analysis focuses on middle-class mobility and vulnerability during the second half of the 2000s. This is a period of relative macroeconomic stability but modest growth. While it is still too early to study middle-class mobility resulting from the 2008/09 financial crisis, our analysis provides a baseline assessment and a lower bound for the extent and determinants of downward mobility in the context of economic decline. In spite of relatively similar levels of economic development, we expect differences in middle-class stability and vulnerability between Chile and Mexico. Given the strength and comprehensiveness of the social protection system in Chile vis-à-vis Mexico, we expect that the Chilean middle class is less vulnerable to downward mobility. However, given the substantial barrier separating the Chilean economic elite from the rest of society, we expect it to be difficult for the Chilean middle class to reach an advantaged economic position. In the following analysis, we examine the amount and determinants of mobility and stability in both countries.

4 Data, methods, and descriptive analysis

For Chile, we use the Socioeconomic Characterization Panel Survey (Encuesta de Caracterizacion Socioeconomica CASEN), collected by the Chilean planning ministry. The first wave of the CASEN panel was undertaken in 1996 by means of a sub-sample of 5,210 households from the larger cross-sectional CASEN survey of the same year. The cross-sectional CASEN survey collects information on income, educational characteristics, access to housing, health services and social programs, as well as the labour force status for all household members. It has been conducted every two or three years since 1987. In the 1996 panel sub-sample, households from four regions of the country, representing approximately 60 per cent of the total

national population, were randomly selected. The original members of these households were re-interviewed in 2001 and in 2006.

This analysis uses the second (2001) and third (2006) waves of the survey. The total number of individuals surveyed in 2001 was 15,038. Of these, 12,100 were also interviewed in 2006, with the additional 2,468 individuals belonging to new households that had been formed when a member of the original households surveyed in 2001 branched out and started their own household. In order to alleviate potential attrition bias, longitudinal weights adjusting for observed determinants of attrition and rendering the sample representative of the population under study were used (Bendezu et al. 2007). Since our objective is to analyse household-level mobility we exclude all 'new households' that branched out from the 2001 original ones.

For Mexico, the data used is from the first (2002) and second (2005) waves of the 'Mexican Family Life Survey (MxFLS, or ENNViH in Spanish). The design of the ENNViH-1 uses probabilistic, stratified, multistage, and cluster sampling, where the unit of selection is the dwelling, and the unit of observation is the household. The survey is representative at the national, regional, urban and rural level. This first wave of the survey includes approximately 8,440 households was distributed in 150 localities in the country. The second wave includes 7,572 of the original households (for an attrition rate of 10 per cent), and adds 866 new households that branched out of the original ones. This analysis includes only the households interviewed in both 2002 and 2005.

The dataset collects information on a wide range of social, economic, demographic and health characteristics for all household members, including spending patterns, decisions regarding savings, asset ownership, and resource transference mechanisms among non-resident family members, incidence of social programs, decisions on school attendance, and educational achievement. Of particular relevance for our analysis, the dataset also includes information on labour force participation and occupation for all household members, including retrospective information on occupational trajectories.

4.1   Dependent variable

Our definition of the middle class is based on a latent index of economic wellbeing (IEW). The index includes family income, adjusted by the square root of the number of household members (Atkinson et al. 1995). This adjustment accounts for the fact that there are economies of scale associated with living together, and that household expenditures rise at a decreasing rate with household size. The index includes also the following indicators of economic wellbeing: Availability of drinking water, electricity, sewage disposal, dwelling tenure (1=owns or rents, 0=loan from family, lack formal title for the dwelling), housing crowding (number of household members per room), building material for walls, building material for roof, building material for floor, quality of walls, quality of roof, and quality of floor. These indicators were combined by means of a principal component analysis for categorical variables, retaining the first component –the linear combination of items that accounts for the largest amount of total variance across all items—as the basis of the index. This data reduction technique produces a continuous, one-dimensional measure of economic wellbeing less sensitive to short-term temporal fluctuations and more comprehensive than a measure based on current income. Furthermore, instead of

arbitrarily assigning equal (or another type) of weights to each indicator, it empirically produces optimal weights for each indicator from the pattern of association among them.

Based on the IEW, three classes are distinguished. The lower class comprises the bottom 20 per cent of the distribution, the middle class is the middle 60 per cent, and the upper class is composed of the top 20 per cent. In both countries, this definition identifies the households that are above the threshold of absolute economic deprivation, as defined by the poverty line, but below the threshold that ensures virtually no risk of falling into poverty as middle class. In other words, the middle class is the segment not currently experiencing poverty but vulnerable to falling into a deprived economic situation that prevents the satisfaction of basic needs.

Our dependent variable captures transitions experienced by the middle class between the starting point and end point (2001-06 in Chile, 2002-05 in Mexico). Three transitions are distinguished: The household remains being middle class (stability), the household moves from the middle class to the bottom quintile (downward mobility into poverty), or the household moves from the middle class into the top quintile (upward mobility into affluence).

4.2   Independent variables

In order to evaluate the determinants of middle-class stability and mobility, we consider demographic characteristics, labour market resources, and shocks affecting the household. The demographic characteristics are as follows: a quadratic formulation of household head's age, sex, and marital status. This last variable distinguishes between three family structures: married, cohabiting, and single (which includes never married, widowed, separated or otherwise not living with a partner).

Household head's age captures changes in the household's life cycle. We expect the probability of upward mobility to increase, and the probability of downward mobility to decrease, at a rate decreasing with age. Female-headed households without a male partner present are expected to be more likely to experience downward mobility and less likely to experience upward mobility due to the reliance on a single income and the difficulty of combining household and labour market work. An indicator for rural residence is intended to capture geographical isolation and differential access to institutions and economic opportunity associated with living in rural areas.

We include diverse household labour market resources. Firstly, we consider the head of household's education level as a proxy for human capital. In Chile, we use an ordinal variable with seven categories: no formal education, some primary, primary graduate, some secondary, secondary graduate, some college, college graduate or more. In Mexico, we distinguish between five categories: no formal education, primary, secondary, vocational higher education, and college. Secondly, we consider the occupational class of the head of household at the initial time point using a collapsed six-class version of the EGP class classification. The groups include professionals and managers (Classes I+II), clerical workers (III), self-employed (IVab), skilled manual workers (V+VI), unskilled manual workers (VIIa), and agricultural workers (IVc+VIIb). In the case of Mexico, two categories are added: workers engaged in commerce and sales (including agents, distributors, and sales people), and army and police officers. As highlighted by the sociological perspective, to the extent that these occupational groups control different labour market assets, they may have different probabilities of experiencing downward and upward

mobility from the middle class. We retain household heads not working in the first or second time point considered in our analysis by means of an indicator variable coded 1 for non-working heads.

For household heads who were working in both time points (63 per cent of all the households in both countries) we evaluate their change in occupational status over the period considered. For Chile, we use the international socioeconomic index ISEI, a hierarchical ranking of occupations (Ganzeboom et al. 1992). In Mexico, we use an ordinal scale comprised by the eight aforementioned occupational classes ranked according to their mean income and education level. In both countries, occupational change is obtained by subtracting occupational status in the early time point from status in the late time point. Given the centrality of labour market resources for economic wellbeing, change in occupational status should be a major immediate determinant of mobility in Mexico and Chile.

In addition, we account for changes in household occupational resources by measuring the change in the number of household members that are engaged in paid employment within the period considered. We include also a measure of change in the total number of household members. The effect of an increase in the number of household members working net of household size should increase the chances of upward mobility and reduce the chances of downward mobility, while the net influence of changes in household size should be the opposite.

Finally, an indicator for economic shocks affecting households during the period considered is included. In Chile, we consider health shocks that 'demand substantial care and expenses' affecting any member of the household between 2001 and 2006. In Mexico, shocks reported by respondents include death, illness or accident of any household member, the commercial failure of a household member, loss of housing or business due to climate-related events, and the loss of crop.[2] Appendix 1 presents descriptive statistics, including means/proportions, standard deviations, and range of all variables included in the analysis.

Lacking theoretical priors about the determinants of upward and downward mobility, our null hypothesis is that the association between these factors and mobility is symmetrical, i.e. factors that induce upward mobility also reduce downward mobility. Labour market variables are expected to have a strong direct impact on mobility chances of the middle class, and they are expected to mediate the influence of demographic factors, human capital stock, and shocks affecting the household. To the extent that this is not the case, demographic and human capital variables will be interpreted as capturing extra-labour market processes—for example access to social or financial capital—and unobserved attributes of household members.

4.3   Methods

We proceed in three steps. First, we present a descriptive analysis of the demographic and socioeconomic characteristics of lower, middle, and upper classes in Mexico and Chile. This description gauges the extent to which social classes substantially differ in terms of the resources

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[2] Given that some predictors are correlated with each other we checked—and ruled out—multicolliniarity in all models by means of the VIF test.

they control. In the second step, we present a mobility table analysis—a cross-classification of class position in the initial time point in the rows, and class position in the final time point in the columns. The proportional distributions across rows provide an assessment of the mobility flows and the extent of middle-class stability. In the third step, we move to a multivariate model in order to examine the determinants of both downward mobility to poverty and upward mobility into economic affluence from the middle class. The dependent variable distinguishes between three categories: downward mobility, immobility, and upward mobility. Because little is known about the specific determinants of these processes, we do not constrain the mobility variable to be ordinal. Instead, we treat it as polytomous and use a multinomial logit model to study the determinants of mobility.[3]

5   Analysis: middle-class mobility in Chile and Mexico

5.1   Descriptive analysis of differences across classes

Table 1 provides a demographic and socioeconomic description of the upper, middle, and lower social classes in Chile and Mexico. As expected, a pronounced gradient across social classes emerges in terms of human capital and labour market resources—higher social class is associated with high education, a larger proportion of heads with tertiary education, and higher occupational status. The same occurs with the proportion of households that are poor, as based on the official poverty line in both countries. While 41 per cent of lower-class households are poor in Chile and 78 per cent in Mexico, this percent drops to virtually zero among the upper classes in both countries. This analysis provides the empirical foundation to define the middle class as a segment largely protected from acute economic deprivation, as identified by the poverty line.

A similar class gradient does not appear, however, in terms of demographic characteristics. The proportion of female-headed and married-headed households varies surprisingly little across classes. This pattern sharply contrasts, for example, with the USA, where there is pronounced stratification in marriage rates and female-headed households (Ellwood and Jencks 2004; McLanahan and Percheski 2008). Lower-class households have somewhat younger heads in Chile and older heads in Mexico but age varies little across class in both countries. A similar finding emerges for household size, where upper-class households are somewhat smaller in both countries but there is virtually no difference between the middle class and the poor, a pattern likely related to the advanced demographic transition in these middle-income countries. In sum, this introductory analysis shows substantial economic stratification coexists with limited demographic differences across classes in Chile and Mexico.

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[3] A multinomial probit model is also estimated to account for the potential violation of the independence of irrelevant alternatives assumption. Results are insensitive to the specification used.

Table 1: Demographic and socioeconomic characteristics of the middle class: Chile (2001) and Mexico (2002)

	HH's schooling[1]	HH's post-sec.[2]	HH Female[3]	HH's age[4]	HH married[5]	Household size[6]	% Households poor[7]	ISEI[8]
CHILE								
Lower	6.38	0.6	17.5	47.5	62.3	4.54	44.1	26.2
Middle	9.11	8.3	18.7	50.2	69.7	4.88	14.0	35.1
Upper	11.8	33.1	22.1	52.9	68.8	3.71	0.02	45.3
Total	**9.14**	**11.8**	**20.0**	**50.2**	**68.1**	**4.5**	**20.0**	**35.3**
MEXICO								
Lower	3.9	2.0	21.5	48.5	64.9	4.7	78.5	NA
Middle	5.7	6.1	15.9	44.9	68.8	4.6	1.3	NA
Upper	7.5	28.7	15.4	45.5	71.8	4.1	0.0	NA
Total	**5.6**	**9.4**	**17.0**	**45.8**	**68.5**	**4.5**	**17.3**	**NA**

Notes: HH=household head. (1) Mean years of schooling, head of household. (2) Percentage of heads of household with post-secondary education. (3) Percentage of heads of household that are female. (4) Average years. (5) Percentage of heads of household that are married. (6) Household size (number of members). (7) Percentage of households with total per capita incomes below the poverty line (Chile) and the extreme poverty line (Mexico). (8) Mean socioeconomic status ISEI (Ganzeboom et al. 1992) of head's occupation.

Source: authors' calculations based on longitudinal data from CASEN and MxFLS.

5.2   intra-generational middle-class mobility

We exploit the panel structure of the data to examine the stability of the middle class over time. Table 2A displays the class mobility matrix for 2001-06 in Chile, and Table 2B depicts mobility for 2002-05 in Mexico.

Table 2: Intra-generational class mobility: row % distribution

2A: Chile 2001-06

2001	2006			
	Lower	Middle	Upper	Total
Lower class	47.2	51.4	1.4	100.0
Middle class	17.2	67.3	14.9	100.0
Upper class	1.9	41.4	56.7	100.0
Total	**20.3**	**58.9**	**20.9**	**100.0**

2B: Mexico 2002-05

2002	2005			
	Lower	Middle	Upper	Total
Lower class	40.4	54.4	5.2	100.0
Middle class	16.0	68.9	15.2	100.0
Upper class	7.3	39.5	53.2	100.0
Total	**19.0**	**60.5**	**20.5**	100.0

Note: class classification derived from an economic wellbeing index (EWI) based on adjusted family income and a battery of living standards indicators. Lower class comprises the bottom 20 per cent of the EWI index, middle class comprises the middle 60 per cent and upper class identifies the top 20 per cent. Analysis excludes households that 'branched out' from original 2001 households in Chile and of the original 2002 household in Mexico.

Source: authors' calculations based on longitudinal data from CASEN and MxFLS.

Two findings emerge from the mobility table analysis. First, the mobility patterns are impressively similar in Mexico and Chile. Secondly, there is substantial mobility out of the middle class in both countries. About one-sixth of the middle class drops into poverty and a similar proportion rises into the top quintile during the period considered in both countries. These figures are substantial, close to the 20 per cent that would be expected under a 'perfect mobility' regime[4]. Interestingly, Chile displays a similar amount of downward mobility as Mexico, in spite of its stronger social protection system. In both countries there is a marked asymmetry in mobility flows so that the reproduction of wealth is more pronounced than the reproduction of poverty. In Chile, 57 per cent of the upper class in 2001 remains so in 2006 while 47 per cent of lower class households remain poor in 2006. Comparable figures in Mexico are 53 per cent for the upper class and 40 per cent for the lower class. Furthermore, only 1.4 per

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[4] Given that the lower and upper quintiles comprise, by definition, 20 per cent of the population each, 'perfect mobility' is a situation in which the probability of mobility to the lower and upper quintiles is 20 per cent for each class of origin. This situation indicates that the chances of reaching the top or the bottom of the income distribution the same for everyone, independent of their class of origin.

cent of lower class households climb to the upper class in Chile, while this percentage rises to 5.2 per cent in Mexico. Overall, these findings are consistent with the high level of elite reproduction in Latin America, particularly in Chile. They indicate also that the Latin American upper class has a negligible probability of falling into poverty—2 per cent in Chile and 7 per cent in Mexico—sustaining the claim that middle-class upward mobility provides an almost certain insurance against economic deprivation.

5.3   Determinants of middle-class stability and mobility

The third component of our analysis examines the determinants of middle-class downward mobility into poverty (bottom quintile) and upward mobility into economic security (top quintile) vis-à-vis stability (remaining in the three middle quintiles over the period considered). We implement a multivariate logit formulation and consider demographic factors, labour market resources, and unexpected shocks as determinants of stability. Variable formulation is as similar across countries as allowed by the different national instruments, in order to ensure the comparability of findings.

The model presented in Table 3 estimates the odds of downward and upward mobility from the middle class, using immobility as the reference category. We start by considering the stock of occupational resources and human capital controlled by households. The first six variables (eight in the case of Mexico) identify the occupational class of the head of household, using 'farmer and agricultural worker' as baseline for comparison. Compared to the agricultural class, all other classes have a lower chance of downward mobility in both countries, but the differences are significant only in the case of Mexico. Occupational resources are also relevant for upward mobility, with better chances of upgrading for non-manual classes—clerical and professional/managers in the case of Chile, and commerce and services in the case of Mexico—than agricultural workers, but there are no other significant differences.

Two findings are particularly noticeable. First, occupational resources shape the vulnerability to downward mobility in Mexico, but they are much less relevant in Chile. Secondly, in both Mexico and Chile, self-employed workers have limited chances of upward mobility and substantial chances of downward mobility, compared to agricultural workers. This finding questions the notion of the middle-class self-employed as successful entrepreneurs, and describes them as particularly precarious and vulnerable to falling into poverty. In contrast to the industrialized world, where independent work is usually related to capital ownership, Latin American self-employment involves diverse activities, and some self-employed have limited assets as described in the 'informal sector' literature (Portes et al. 1989; Tokman 1992). Even if the self-employed escape poverty, they are at a higher risk of falling back into poverty than other middle-class groups.

Table 3: Determinants of immobility, downward and upward mobility from the middle class: Chilean households 2001-06 and Mexican households 2002-05

	CHILE				MEXICO			
	Downward Mobility		Upward Mobility		Downward Mobility		Upward Mobility	
	Coefficient	Std. error	Coefficient	Std. error	Coefficient	Std. error	Coefficient	Std. error
HH agriculture (omitted category)	.	.	.	.	.	.	.	.
HH unskilled manual	-0.306	(0.257)	0.314	(0.367)	-0.464*	(0.215)	0.260	(0.268)
HH skilled manual	-0.377	(0.230)	0.566	(0.355)	-0.776***	(0.175)	0.240	(0.231)
HH independent	-0.270	(0.242)	0.133	(0.360)	-0.563	(0.347)	-0.030	(0.363)
HH clerical	-0.041	(0.317)	1.282***	(0.386)	-1.232**	(0.396)	0.564	(0.321)
HH professional/manager	-0.140	(0.445)	0.822*	(0.402)	-1.054**	(0.394)	0.398	(0.328)
HH commerce/services					-0.702**	(0.254)	0.734**	(0.277)
HH army, police, other					-1.047**	(0.348)	0.414	(0.357)
HH education	-0.145	(0.080)	0.286***	(0.060)	-0.027	(0.051)	0.232***	(0.038)
Rural	0.234	(0.163)	-1.335***	(0.303)	0.348*	(0.145)	-0.402**	(0.144)
HH change occ. Status	-0.048***	(0.010)	0.031***	(0.008)	-0.094*	(0.038)	0.129***	(0.036)
HH not working 2001/02[a]	-0.042	(0.234)	-0.058	(0.352)	0.465	(0.401)[a]	0.108	(0.636)
HH not working 2006/05[b]	0.309	(0.164)	0.020	(0.234)	0.104	(0.224)[b]	0.496*	(0.249)
Change # members working	-0.036	(0.059)	0.527***	(0.083)	-0.136*	(0.066)	0.372***	(0.075)
Change household size	0.178***	(0.039)	-0.313***	(0.064)	0.003	(0.063)	-0.089	(0.073)
Household shock [c]	0.109	(0.227)	-0.748***	(0.227)	0.342*	(0.134)	-0.199	(0.151)
HH age [d]	-0.011	(0.028)	0.048	(0.039)	0.003	(0.031)	0.114**	(0.038)
HH age squared	0.0001	(0.000)	0.000	(0.000)	0.000	(0.000)	-0.001*	(0.000)
HH male	0.966*	(0.410)	0.722*	(0.341)	0.277	(0.321)	-0.328	(0.352)
HH cohabiting (omitted category)	.	.	.	.	.	.	.	.
HH married	0.035	(0.169)	0.363	(0.306)	-0.191	(0.170)	0.156	(0.198)
HH no partner	0.693	(0.412)	1.052**	(0.391)	0.122	(0.299)	0.112	(0.367)
Constant	-1.888***	(0.437)	-4.005***	(0.591)	-1.650*	(0.823)	-5.544***	(0.992)
N		1,843				2,206		
Pseudo R-square		0.08				0.08		

Note: multinomial logit model. Dependent variable is the probability that middle-class households experience downward and upward mobility vis-à-vis immobility between 2001 and 2006 in the case of Chile and between 2002 and 2005 in the case of Mexico. [a]2001 in Chile, 2002 in Mexico, 2006 in Chile, [b]2005 in Mexico, [c]Health shocks in Chile; death, illness or accident of any household member, the commercial failure of a household member, loss of housing or business due to climate-related events, and the loss of crops in Mexico. [d]Variable centered at the mean in the case of Chile robust standard errors in parentheses, *p<0.05, **p<0.01, ***p<0.001.

Source: authors' calculations based on longitudinal data from CASEN and MxFLS.

The household head's level of education does not reduce the chances of falling into poverty, but it substantially contributes to chances of advancement into the wealthiest quintile in Chile and Mexico. Given that our model accounts for labour market resources, it is surprising that education retains a positive association with upward mobility net of these mediating factors. This beneficial influence may capture household's social capital, access to markets and financial resources, and unobserved attributes of higher education families that reduce vulnerability.

Rural residence displays a substantial association with vulnerability among the Chilean and Mexican middle classes. In both countries the chances of downward mobility are higher and the chances of upward mobility are lower among those living in rural areas. This is especially remarkable in Mexico, where rurality is more extensive that in Chile; about 25 per cent of Mexico's population is rural, while in Chile the figure is around 13 per cent. Rural residence seems to work as a strong deterrent of upward mobility in Chile—the odds of upward mobility decreased by 74 per cent (1-exp[-1.335]) among rural households compared with urban households—while it is a stronger determinant of downward mobility in Mexico, with an increase of 42 per cent in the odds of falling into poverty among rural middle-class households. Note that this association is net of occupational resources. It therefore suggests that the geographical and institutional isolation associated with rural residence disadvantages rural households, which adds to the precarious labour market involvement of agricultural workers (for a related finding see Banerjee and Duflo 2008: 12-13).

We now move to variables capturing change in labour market circumstances and exposure to shocks over the period considered. Given the centrality of the labour market, we expect these variables to be strong immediate determinants of economic mobility. First, we consider change in occupational status of the head of the household, including dummies for heads not working in either year to retain these households in the sample. Occupational change has a strong association with mobility—in both countries occupational advancement increases the chances of upward mobility and reduces the vulnerability to downward mobility. Occupational change is therefore an important avenue for mobility given that about 22 per cent respondents experience a change in occupational status of at least one standard deviation, of which 9.4 per cent is downward and 12.6 is upward. In ancillary analysis we test whether the change in occupational status mediates the influence of occupational position on mobility (results not shown, available from the authors upon request). The answer is negative—occupational resources contribute little to mobility even without controls for change in occupational status.

Incidentally, the dummies for no work in 2001 and 2006 capture those households where head was not working in either year. The parameter estimates associated with these terms are insignificant, except for the dummy identifying heads not working in Mexico in 2005. Not much should be read into these coefficients, given that the 'not working' status comprises diverse situations, including unemployed, retired, engaged in household chores, disability, and studying, so they are only used as controls.

In addition to the occupational resources controlled by the household head, labour market involvement of other household members is a crucial determinant of wellbeing. In order to measure the contribution by other members we include a variable capturing the change in the

number of household members engaged in paid employment between the starting and ending points of the period considered. A companion variable measures the change in the total number of household members during the period considered. Including an additional household member does not prevent downward mobility but it substantially increases the chances of upward mobility in Mexico and Chile. An additional household member engaged in paid employment results in a 69 per cent increase in the probability of upward mobility in Chile and a 45 per cent increase in Mexico. Note that these associations are net of change in total household members, so it portraits a hypothetical situation in which household size remains constant. This finding is different from literature on responses to crisis in Latin America, which suggests that incorporation of additional family members to the labour market is mostly a strategy to face dire economic need, and suggests that among the middle class, its main outcome is to promote advancement into an advantaged economic position. In fact, we find that the 5.2 per cent of households that moved from the middle class to the upper quintile in Mexico are more educated and substantially more likely add a household member to the labour force over the period considered.

Incorporating additional household members into the labour market is not an unambiguously positive development, however. To the extent that educational careers are truncated by early transition to work, temporary upward mobility can have long-term effects on welfare affecting school achievement. Our analysis shows that the most frequently added members to the labour force are children of the head (65 per cent), followed by partners (19 per cent), and heads (21 per cent). Furthermore, approximately one-fifth of children who transition to the labour force have less than a high school qualification. Although it is not possible to ascertain the counterfactual attainment of these youth had they not entered the labour force, it is plausible that for a portion of them, employment truncates their educational careers.

An important caveat about evaluating change in number of household members engaged in paid employment contemporaneously with mobility is the potential simultaneity resulting in endogeneity bias. We assume that the change in labour market participation affects mobility, but it is plausible that mobility affects the household decisions about how many members are engaged in paid employment. For the causal arrow to flow from mobility to household labour participation decisions, however, households should *withdraw* household members from the labour force as a response to economic downturn, exacerbating its economic decline; and they should add workers as a response to improved living conditions, treating work as a superior good. Both assumptions are highly implausible.

Experiencing an unexpected shock has distinct effects in Chile and Mexico. In Chile, a shock reduces the chances of moving into the upper class, but it does not increase vulnerability to falling into poverty. The opposite pattern is found in Mexico: Shocks increase the chance of downward mobility but does not affect upward mobility. These findings suggest that the Chilean middle class is protected against the potentially devastating economic consequences of an economic shock. This is not surprising if we consider that, at most, 7 per cent of the Chilean middle class did not have health insurance. Still, a shock is an important deterrent to economic advancement into the upper class. Given that this effect is net of the change in household members engaged in paid employment, its effect is in addition to any influence through reducing labour force participation, and it probably refers to decline in hours of work, and to reallocation

of time of other members of the household. In Mexico, experiencing a shock results in a 41 per cent increase in the chances of falling into poverty. This substantial vulnerability may be explained by the limited coverage of social protection systems and consequently high exposure to an adverse event (Knaul and Frenk 2005).[5]

Given that the multinomial logit model used in this analysis is non-linear, the association between predictors and the probability of mobility depends on the levels of all variables included in the model. In order to provide an assessment of such associations for crucial variables, figures 1-4 plot the predicted probabilities of changes in pairs of independent variables holding all other predictors at their mean values, for a household headed by a married man engaged in an unskilled manual occupation.

Figures 1A and 1B display the probability of downward mobility by urban/rural status and change in the number of household members working in Chile and Mexico, respectively. Figures 2A and 2B repeat this exercise, now for upward mobility. The findings are clear: the Mexican rural middle class is much more vulnerable to falling into poverty than its urban counterpart. The gap is much more pronounced than in Chile. In contrast, the labour force participation of additional household members is a much more important source of upward mobility in Chile than in Mexico. Figures 3A and 3B depict the probability of upward mobility by the head's level of education and experience of a household shock in Chile and Mexico, while figures 4A and 4B reproduce these calculations for the probability of downward mobility. While shocks have a slightly higher influence on upward mobility in Chile, there is a striking difference in the impact of shocks on downward mobility across countries. The Mexican middle class is more vulnerable to shocks, which increase its chances of falling into poverty.

Finally, we move to demographic factors affecting middle-class stability. After controlling for occupational resources and change in labour market standing, there is no association between the age of the head and mobility opportunity. Ancillary analysis shows that there is an inverted-U pattern at the bivariate level, with chances of upward mobility increasing through the retirement age and then slightly decreasing. However, these life-cycle trends are entirely accounted for by the labour market patterns. This holds for both countries. Interestingly, female-headed households are not at a greater economic disadvantage in either Chile or Mexico. In Mexico, there are no significant differences by head's gender once educational and occupational resources are accounted for. In Chile, male-led households are more likely to experience both downward and upward mobility. This finding is interesting given the well-known higher levels of poverty of female-led families (e.g. Mideplan 2006) and shows that the female-household disadvantage is entire driven by human capital and labour market participation among middle-class females. In Mexico, there is indeed a slightly higher incidence of poverty among female-headed households, depending on how it is measured, but the literature has warned that in the absence of extensive programs of social protection for women who are heads of their household, many women who face situations of separation or partner death choose to go back to their

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[5] Note that the operationalization of the variable 'household shocks' is not the same across countries. In Chile it refers to health shocks while in Mexico it includes business failure and weather-related emergencies too. An alternative formulation in which only health-related shocks are considered in Mexico yields the same pattern of effects (stronger effect on downward than on upward mobility) but now the effect on downward mobility is significant only at the $p=0.10$ level.

original families (Pereznieto and Campos 2010). The families are thus playing the role of safety nets, especially, though not exclusively, in the rural sector. Indeed, women who declare to be household heads are those who 'can afford' to stay as such because they have better means of subsistence. Finally, marital status is only loosely related to the mobility chances of the middle class, with no significant differences between married and cohabiting couples. As with female-headed households, the 'marriage advantage' is entirely driven by the higher level of human capital and occupational resources of married couples in Chile and Mexico.

Figure 1A: Probability downward mobility by change in number of household members working and rurality: Chile 2001-06
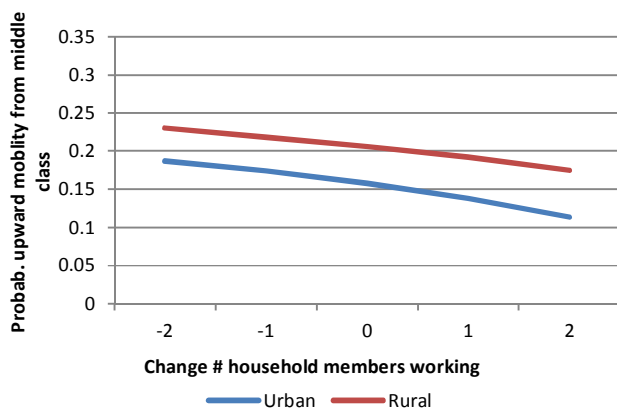
Figure 1B: Probability downward mobility by change in number of household members working and rurality: Mexico 2002-05
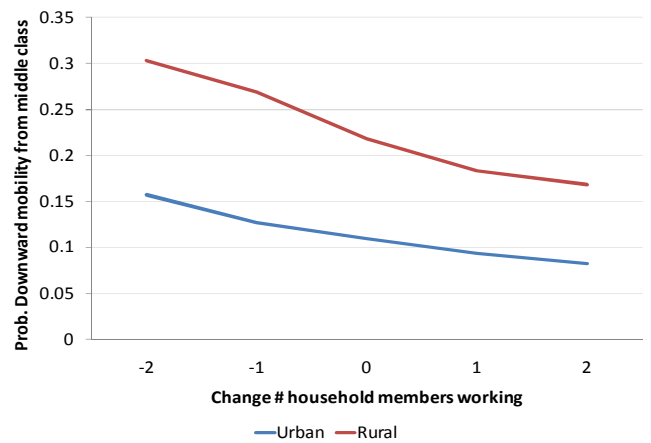

Figure 2A: Probability upward mobility by change in household members working and rurality: Chile 2001-06
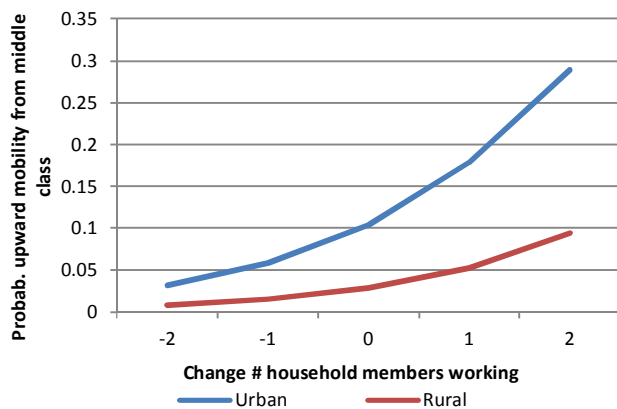
Figure 2B: Probability upward mobility by change in household members working and rurality: Mexico 2002-05
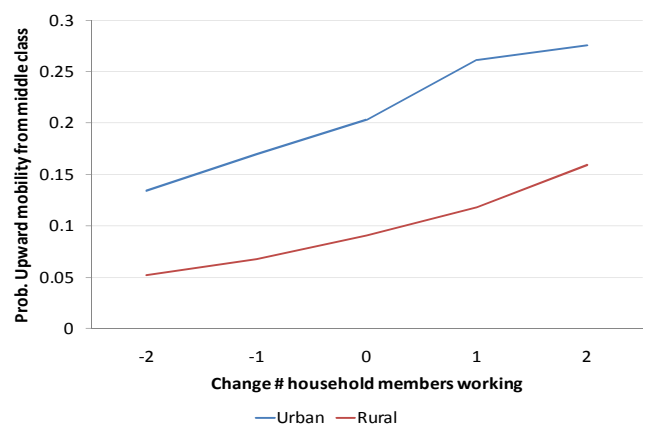
Figure 3A: Probability of upward mobility by head's education and household shock: Chile 2001-06
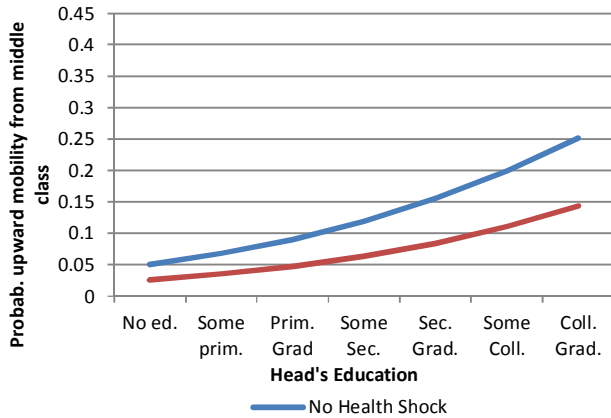
Figure 3B: Probability of upward mobility by head's education and household shock: Mexico 2002-05
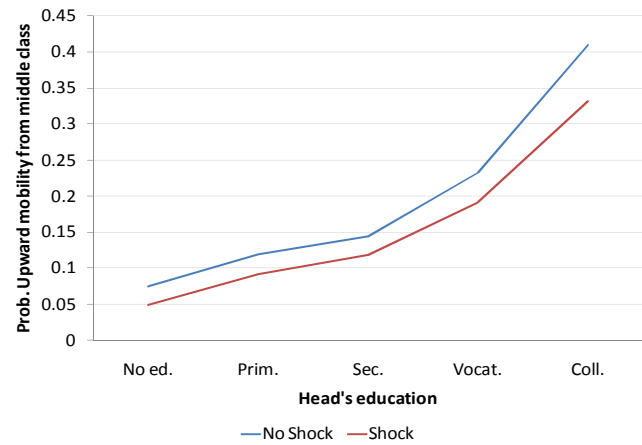

Figure 4A: Probability of downward mobility by head's education and household shock: Chile 2001-06
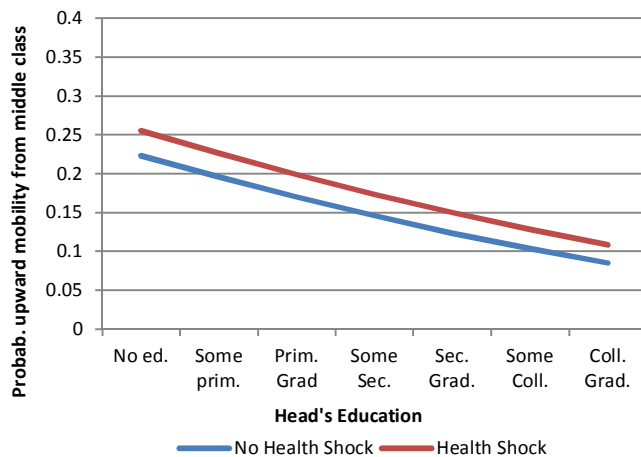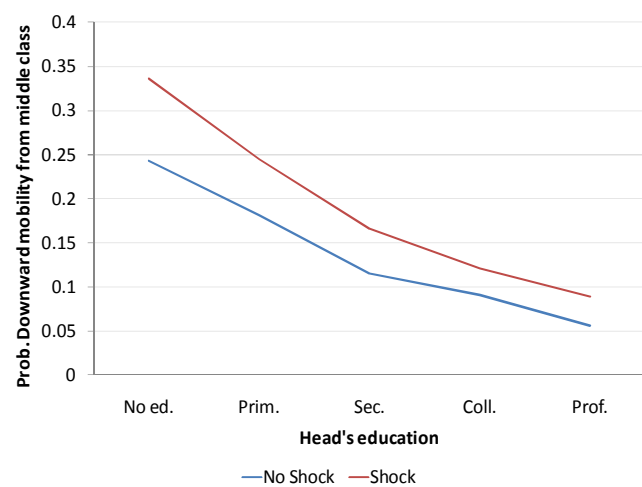
Figure 4B: Probability of downward mobility by head's education and household shock: Mexico 2002-05

Source: authors' calculations based on longitudinal data from CASEN and MxFLS.

6   Conclusions

We now return to the questions posed in the introduction. Is middle-class status stable over time in Mexico and Chile? Which factors affect middle-class stability, its vulnerability to falling into poverty, and its chances of advancement into the upper class? In order to define middle class we use a comprehensive definition of economic wellbeing, which considers not only income but also a set of wellbeing indicators less affected by short-term variability and more likely to capture different dimensions of wellbeing and its change over time.

We found substantial downward and upward mobility from the middle class during 2001-06 in Chile, and during 2002-05 in Mexico. In both countries, about 16 per cent of the middle class falls into poverty and another 16 per cent rises to the top quintile. These rates suggest more mobility, both upward and downward, in Mexico than in Chile given that the time interval considered is only three years, compared to five years in the Chilean case. Furthermore, while the chances of upward and downward mobility are similar in Mexico, the Chilean middle class faces a somewhat stronger barrier to upward mobility, which is consistent with the high level of elite closure in this country. These findings suggest that the middle class is not a stable group over time, and a substantial portion of its members are subject to vulnerability, which may threaten the putative economic and political benefits of a strong middle class. Interestingly, the probability of downward mobility in Chile is the same as Mexico, in spite of a stronger social protection system in the former country.

Our second question is about the factors shaping the vulnerability to falling into poverty, and the likelihood of rising to an advantaged socioeconomic position. Overall, we found that labour market resources and dynamics are more important than demographic factors in determining mobility from the middle class. Net of these resources, head of household age, gender, and marital status have a weak association with mobility, indicating that their association with economic wellbeing is largely mediated by labour market resources and human capital. These results depart from findings in other developing contexts such as South Africa, where demographic factors are more consequential (Woolard and Klasen 2005).

While demographic characteristics are of little relevance for mobility net of labour market attainment, one demographic factor stands out as a source of middle-class vulnerability in Chile and Mexico. Middle-class households in rural areas have only a weak chance of advancing to the upper class in Chile, and it is substantially more vulnerable to falling into poverty in Mexico. This finding is striking because it remains after controlling for agricultural occupation, education level of the head, and household's labour market resources. It suggests that the institutional or geographical isolation of rural households is crucial in inducing vulnerability (in the case of Mexico) and blocking opportunity for upward mobility (in the case of Chile).

Labour market resources have a similar role in both countries. Education, occupational assets measured by the EGP class schema, change in the head's occupational status and in the number of household members engaged in paid employment are the main immediate determinants of mobility in both countries. There are, however, two interesting differences between Chile and Mexico. First, shocks increase the chances of falling into poverty for the Mexican middle class, while they prevent upward mobility without increasing vulnerability in Chile. This finding highlights the weaker social protection system in Mexico. Substantial expansion of the social programs targeted for the poorest population has not been accompanied by an increase in the coverage of social security, health and unemployment insurance for those above the poverty line. Recent developments in Mexican social policy, in particular the 'Popular Insurance' launched in 2006, attempt to tackle middle-class vulnerability. Second, the Mexican rural middle class is substantially more vulnerable to falling into poverty, and the occupational assets controlled by the head of household—as measured by the EGP class schema—appear to be more consequential for the downward mobility in Mexico than in Chile. These results highlight the segmented and

partial access to social protection across different occupations in Mexico. Even if the belief that the middle class has shrunk due to structural reforms in not supported by our evidence, the analysis does show that the Mexican middle class, especially those living in rural areas, engaged in agricultural work and self-employment, and exposed to unexpected shocks, may be more vulnerable to falling into poverty.

What are the implications for the potential of the Latin American middle class? Chile and Mexico epitomize a process of deep and comprehensive market reform followed, in the case of Chile, by the expansion of a government-based social protection network. The outcome of these processes for the wellbeing of the population is mixed. Poverty decreased substantially between the 1990s and the mid-2000s in both countries, driven by economic growth and targeted social policies. In both countries, however, a substantial portion of the middle class is vulnerable to falling into poverty. While targeted assistance to the poor is undoubtedly important, our analysis suggests that reducing the vulnerability of the middle class is also a necessary task. Our finding suggest that this would involve reducing the geographical and institutional isolation of rural households, implementing insurance against health-related and other shocks, particularly in Mexico, promoting human capital formation at advanced levels, and facilitating labour market participation among secondary earners, in particular adult women via good quality childcare services. The very low rates of female labour force participation in Mexico and Chile—among the lowest in Latin America (Abramo and Valenzuela 2005)—suggest that there is substantial room for expansion. Are these results generalizable to other Latin American countries? On the one hand, most Latin American countries have undergone similar patterns of inequality reduction since 2000 (Lopez-Calva and Lustig 2010); and the factors associated to mobility into the middle class are very consistent across countries (Ferreira et al. 2012: chater 5). On the other hand, Mexico and Chile feature higher living standards and more developed mechanisms of social protection than most countries in the region. This suggests that the probability of middle-class downward mobility might be even more pronounced in other Latin American nations and that the two countries studies probably provide a lower bound of middle-class vulnerability. Only more research will shed further light on these hypotheses.

Another important theme for further research relates to understanding the decision-making process that leads to the incorporation of household members into the labour market, and its implications for the wellbeing of households in the long run. Our research suggests that at least some middle-class households may be precociously incorporating young members to the labour market in order to improve their living standards. Aspects such as coverage of tertiary education, heterogeneity in the quality of schooling and exposure to shocks may play an important role in such decisions, which, in turn, may have important implications for both the capacity of the households to generate resources and their potential mobility patterns.

The evidence shown here supports the view that more active and universal social policies, like the ones implemented in Chile, are needed to move beyond the reduction of poverty and achieve lower levels of vulnerability for the emerging middle classes. Yet, both Mexico and Chile remain countries with high inequality and, in the case Chile, with significant barriers to accessing the upper class. The design of a political agenda that aims at tackling these issues requires a better understanding of the processes through which the middle class becomes less vulnerable.

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