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## *Stylized Facts on the Middle Class and the Development Process*

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The traditional concern of economists working on development policy has been the poor. The analysis of broader social structures and social classes, such as the middle class and the rich, is more the staple of work of sociologists and political scientists. However, this is starting to change. Economists are looking at the middle class as a source of entrepreneurship, consumer power, and social stability. These propositions, of course, need empirical verification.

As income per capita increases, people leave poverty and enter the pool of what we call the middle class. In the last two decades or so, this process has been taking place in China, India, and some countries in Latin America. The middle class is typically identified with a large range of occupations and professions and includes people holding professional degrees, such as academics, lawyers, engineers, and doctors, as well as clergymen and lower-level occupations different from manual workers. The “lower-middle class” (people whose incomes are closer to the poverty line) can be a source of policy concern, since it is a segment closer to and more vulnerable to fall into poverty. At the same time, individuals in the upper ranges of the middle class can eventually become “rich,” propelled by higher education levels, ambition, effort, and social connections. The prototype view of the middle class is that of a rather conservative, risk-averse group

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that seeks stable jobs and predictable economic fortunes. For that reason, the middle-class worker is the typical employee of the state (ministries, state bureaucracies, public enterprises, decentralized agencies, and so on). Also small and medium-sized enterprises (SMEs) are often assumed to be a source of employment and income for the middle class. Thus the state and the market can originate a middle-class segment in society. In this chapter some of these intuitions are tested empirically.

The middle class has also some distinctive expenditure patterns and aspirations. They increasingly demand better quality education, health care, more sophisticated tourist services, and new housing. Although neoclassical economic theory assumes that an individual's welfare is chiefly dependent on his personal income (and consumption), there is increasing evidence that people care also about relative income and that social context is important in forming people's aspirations and perceptions of their quality of life. Such authors as Robert Frank, Richard Layard, and Carol Graham underscore this point.<sup>1</sup> These ideas are not entirely new, however. Older generation economists such as Thorstein Veblen and James Duesenburry made similar points long ago. Similarly, in the popular imagination, people in the middle class are often characterized as being concerned with other people's standard of living and relative welfare ("close to the Jones but far from the Smiths").<sup>2</sup>

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The recent interest in the middle class comes also from political economy considerations. Policymakers and international organizations are interested in mobilizing and sustaining political support for certain economic policies and projects. In the 1990s, the dominant model in developing countries and former socialist economies was market-oriented economic reforms. We still know little about how these programs affected the middle class. The retrenchment of the state may have reduced public employment and thereby harmed the middle class. In contrast, liberal professions, such as finance and economics, may have received a boost with economic reforms; pro-private sector policies also may have encouraged entrepreneurship. These different possibilities underscore the limits of referring to "the" middle class as a homogeneous group. We need to break down the middle class into various segments, because lower-middle class people may be more akin to the poor, while the upper-middle class resembles more the rich. This chapter considers a lower-middle class and an upper-middle class in the empirical analysis.

This new emphasis on the middle class arises from the observation that stable, higher-income democracies often have a strong middle class and relatively low levels of inequality. In contrast, countries with highly unequal patterns of

1. Frank (2007); Layard (2005); Graham (2007).

2. See Cashell (2007); Daly and Wilson (2006); Birdsall, Graham, and Pettinato (2000); Solimano (1998, 2005).

income distribution and stratified social structures often have a weak middle class that may be less influential in shaping political preferences. Polarized and unequal social structures often contribute to social conflict and populist politics.<sup>3</sup> Thus a stronger and more stable middle class is often considered as a stabilizing factor in politics and economics.<sup>4</sup> The empirical evidence is favorable to this hypothesis. In fact, William Easterly has shown, on the basis of cross-country and panel econometric regressions, that a higher share of income for the middle class (and lower ethnic polarization) are empirically associated with higher income, higher growth, more education, and other favorable development outcomes.<sup>5</sup> It is important to devise policies on education, health, housing, and social security that consider the demands and specificities of the middle class, such as its quest for upward mobility and its role as a stabilizing segment in society.

This chapter is organized into four sections. The second section that follows elaborates more on the reasons for a new interest in the middle class and takes up some issues of definition. The third section identifies the main economic and political economy variables that are correlated with the middle class, such as the level and inequality of per capita income and net wealth, the size of government, the size of small and medium-sized enterprises, and the degree of democracy in a country. The section then postulates the separate relation of each of these determinants with the size of the middle class. The fourth section assembles a database of these variables for a sample of 129 countries and studies the empirical correlations between the middle class and a set of determinants for a cross-section of countries grouped by income per capita levels and regions. The last section presents some conclusions from the analysis.

### Roles of the Middle Class and Definition Issues

We can distinguish at least three roles performed by the middle class that can be of interest for development economics.

*The middle class as a source of entrepreneurs.* Since the time of the industrial revolution in England, the middle class has been seen as a source of entrepre-

3. See Solimano (2006) for the Latin American experience. During the first decade of this century, policy reversal toward policies of nationalization is already taking place in some Latin American countries (for example, Venezuela and Bolivia), and it is a serious possibility that this and other related policy moves will take hold in other countries as well. Neoliberal policies are often accompanied by the persistence of inequality and a relative neglect of the middle class as a potential beneficiary of economic reforms. Issues of social equity and distributive justice in policy design are examined in Solimano, Aninat, and Birdsall (2000).

4. The traditional mechanism for growth to become unstable is through private investment, which is very sensitive to instability and political polarization that occur in situations with weak middle classes and high inequality of income and wealth.

5. Easterly (2001).

neurial capabilities. Middle-class people were deemed to be more devoted to saving, accumulating capital, and taking productive risks in comparison with a landed aristocracy that preferred leisure more than hard work and entrepreneurship.<sup>6</sup> Recent evidence from low- to middle-income countries provided by Abhijit Banerjee and Esther Duflo tends to reject this view and emphasizes that middle-class individuals tend to be “entrepreneurs by necessity,” for example, owners of small shops and firms that earn modest rates of return and provide an income for living.<sup>7</sup> In that sense they are more similar to the poor than to the successful Schumpeterian entrepreneur that makes big profits out of innovations. However, the generality of these findings may be at question, because the sample of the Banerjee and Duflo study consists mainly of poor countries rather than upper-middle-income and rich countries that have a more powerful middle class composed of a larger subcomponent with entrepreneurial inclinations.

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*The middle class as a source of consumer power.* As income per capita rises, the size of the middle class, in absolute terms, is bound to increase and so does their purchasing power. This can be an important source of aggregate demand and thus the expansion of the consumer market in such areas as new services and housing, among others. For a sample of mainly low-income countries, Banerjee and Duflo found that as the share of household income devoted to food falls as income increases, middle-class people spend relatively more on entertainment, education, and health care and domestic infrastructure than poor people.

*The middle class as a stabilizing segment in society.* Karl Marx saw the proletariat, that is, people whose only asset was its “labour-power,” as a revolutionary class in capitalist society. A main argument for identifying the working class as the main engine for social change was its lack of assets—mainly capital. Marx held this view, probably because he was writing in the middle of the nineteenth century when the working class in advanced capitalist countries had yet little capacity to accumulate assets.<sup>8</sup> In contrast he portrayed the “*petite bourgeoisie*”—our equivalent of the middle class—essentially as a class averse to social change because of their interest in protecting their assets and social position in society, in spite of the fact that they are not in the higher echelons of social hierarchy. In a sense this was an insightful perception. However, if the interest is to maintain social and political stability to promote economic growth and development, then having a large, stable, and powerful “*petite bourgeoisie*” may not be ultimately a bad thing. Of course this opens a complex debate as to what extent the quest for stability may also serve to preserve social inequalities and injustices. Still, the “stability for growth” argument would favor having a large and stable middle class to ensure political stability in society. As political

6. Doepke and Zilibotti (2007).

7. Banerjee and Duflo (2008).

8. Nowadays, in many countries the “working class” owns property (mainly housing), holds savings accounts, and has other financial assets. See Moser (2007); Solimano (2007).

stability is important for private investment and growth, the size and stability of the middle class has potentially important economic implications.<sup>9</sup>

### *Definitions of the Middle Class*

In the literature, various definitions of the middle class have been provided. Nancy Birdsall, Carol Graham, and Stefano Pettinato define the middle class as those who are between 75 and 125 percent of median per capita income.<sup>10</sup> Easterly uses the definition of per capita consumption that is between the 20th and 80th percentiles.<sup>11</sup> Banerjee and Duflo use households with per capita consumption that ranges between US\$2 to US\$4 and US\$6 to US\$9 in PPP (purchasing power parity) terms to define the groups as middle class for the sample of thirteen countries used in their empirical analysis.<sup>12</sup> In this chapter we use a relative-income definition that breakdowns the middle class in two subcomponents besides an aggregate that overlaps with other definitions used in the literature:

—A broad middle class composed of individuals belonging to deciles 3 to 9 of the income distribution

—A lower-middle class, corresponding to deciles 3 to 6

—An upper-middle class, corresponding to deciles 7 to 9

In general the lower-middle class follows similar patterns to the poor and the upper-middle class resembles more the behavior of the rich.

### **Economic Correlates of the Middle Class: Empirical Results**

In this section empirical correlations between a set of variables are investigated, which are fundamentally of economic and political economy nature and which are postulated as having a relationship with the middle class:

—Development levels and per capita income

—Inequality of income and wealth

—Size of the state

—Share of small and medium-sized enterprises in employment and output

—Democracy

### *Development Levels and Income Per Capita*

An empirical regularity of the development process is the expansion of the middle class. In that perspective, we can expect a positive correlation between the

9. Solimano (2007).

10. Birdsall, Graham, and Pettinato (2000).

11. Easterly (2001).

12. The countries are East Timor, Guatemala, India, Indonesia, Ivory Coast, Mexico, Nicaragua, Pakistan, Panama, Papua New Guinea, Peru, South Africa, and Tanzania; see Banerjee and Duflo (2008).

*level of per capita income* of a country and the relative size of its middle class. As mentioned before, economic growth that increases income per capita enables people to leave poverty and go into the middle class, with the ensuing roles discussed before (new entrepreneurship, consumer power, and political stabilization). This leads also to social mobility, with individuals moving up (or down) in the income and social status ladders, which is a healthy symptom of a dynamic economy. In addition, it is an empirical regularity—confirmed in this chapter—that middle and higher per capita income countries have, on average, a larger share of the middle class in real income than poor countries do. At this stage, it is best to avoid postulating a causality running from the middle class to growth and income per capita and rather propose a correlation.

### *Inequality*

As previously discussed, it is to be expected that countries with lower *inequality* of income and wealth (that is, countries with less concentrated income and wealth distributions) have larger middle classes, as income is distributed more evenly across the population than it is in those countries with higher inequality. In general, inequality of income (and wealth) is characterized by a large share of income (and wealth) accruing to the rich and a lower share to the middle class and to the poor.<sup>13</sup> However, wealth and income concentrations are not the same concept, and often wealth is *more concentrated* than primary incomes (see figure 2-1 that compares Lorenz curves of income and wealth for a sample of 129 countries).<sup>14</sup> The important point is that a *negative* relationship is expected between the degree of concentration in income and wealth distribution and the relative size of the middle class in the economy.<sup>15</sup> Empirically, we will expect that countries with higher (lower) values of the income (and wealth) Gini coefficient have a lower (higher) share of the middle class in the personal distribution of income (and wealth). Again this hypothesis will be investigated empirically.

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Fig. 1

### *The Size of the State*

In many countries a main employer of the middle class is the government (ministries, state agencies, public enterprises, among others). Thus one could expect that the middle class is larger in countries with larger governments. In addition,

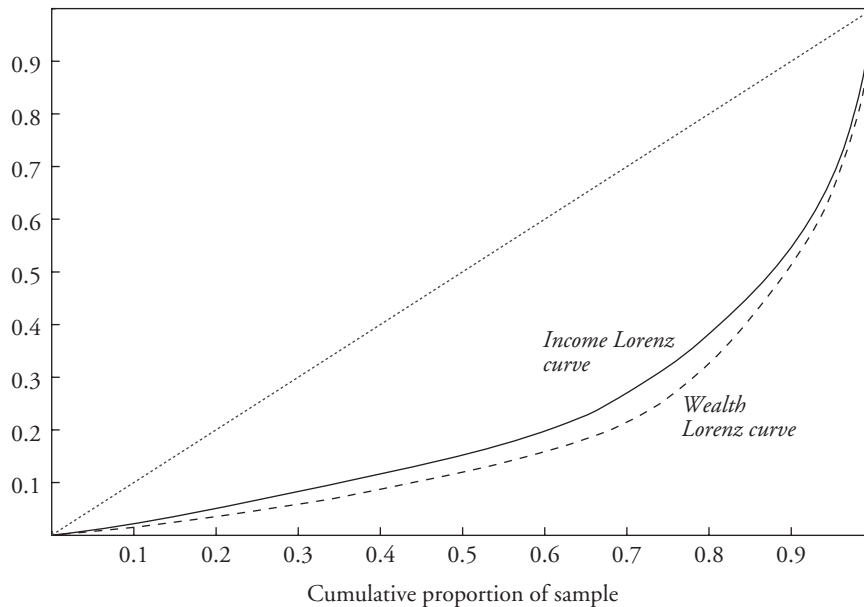
13. See Atkinson (2006).

14. This analysis uses the dataset of James Davies (2008) consisting of the *net worth* (or *net wealth*) variable composed by the sum of physical (housing and shares of capital) and financial assets less debts.

15. Sometimes a high concentration of income and wealth at the top is referred to as *polarization*, and an inverse relationship between polarization and the relative size of the middle class is to be expected.

Figure 2-1. *Lorenz Curves for Income and Wealth Distributions*<sup>a</sup>

Cumulative proportion of GDP  
per capita and net worth per capita



Source: Author's calculations.

a. Data are from a sample of 129 countries in 2000, the closest year available with information.

the middle class will be affected by the incidence of the government expenditure and the level and composition of taxes.<sup>16</sup> In this chapter the ratio of government expenditure to gross domestic product (GDP) is used as a proxy for the size of the government, but the correlations between the composition of public spending—particularly social expenditure—and the middle class (using the broad definition as well as the lower- and upper-middle-class segments) will also be analyzed.

#### *Small and Medium-Sized Enterprises*

SMEs are also a source of income and jobs for different groups of the population including the middle class. This class besides being identified as a typical employee of the government is also, in many countries, an owner (as well as

16. López and Torero (2007). Typically, public spending in tertiary education, pensions, public education, and health tends to benefit the (upper) middle class. Also the level of taxes affects the disposable income of different groups in the population.

employee) of micro, small, and medium-sized enterprises. In this sense we can expect a positive relationship between the relative size of the small and medium-sized sector in the economy (measured in terms of output, employment, or both) and the relative importance of the middle class. Recent empirical evidence shows that, in relative terms, the SME sector is larger in higher-income countries than in middle- and lower-income countries.<sup>17</sup>

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### *Democracy*

Political scientists have always emphasized that stable and well-consolidated democracies have also larger middle classes. In addition, most stable democracies are located in high-income countries. Thus the level of economic development, democracy, and larger middle classes are all variables that seem to move together. The analysis in this chapter will focus on these patterns for a large sample, and a positive correlation is expected between democracy (using the dataset of the multicountry Polity IV project that orders countries by degrees of democracy) and the relative size of the middle class.

### *Empirical Results*

In table 2-1, we present the average values of the variables used in this study. Our dataset covers 129 countries in which data on the following variables were collected: levels of per capita income, net wealth per person, and income distribution (income shares and Gini coefficients for income and wealth). Data on the ratio of public expenditure to GDP are available for 93 countries, the democracy index for 126 countries, and the shares of small and medium-sized enterprises of total employment (72 countries) and output (35 countries). Three social classes are identified in the data: the poor, the middle class, and the rich. The focus of the study is, however, on the middle class. Empirically, the income shares within countries for each class are as follows:

Tab. 1

—The poor: bottom 1 and 2 deciles

—The middle class: deciles 3 to 9, following the definition of the broad middle class; the lower-middle class, deciles 3 to 6; and the upper-middle class, deciles 7 to 9

—The rich: approximated by the share of the 10th decile

It is apparent that the standard of living of a person classified as middle class depends on the average level of income of the country. So, in a low-income country a person considered to be middle class may correspond to the poor in a high-income economy. Overlaps across countries will occur. The focus of this

17. See Ayyagari, Beck, and Demirgüç-Kunt (2005). In turn, the SME sector has also lower productivity levels than medium-sized and large companies because the capital stock per worker is smaller for SMEs than for large firms. Accordingly, the real wages paid to the employees in SMEs tend to be lower than wages in larger firms, thereby affecting incomes of the poor and lower-middle-class individuals.

Table 2-1. *The Middle Class and Correlates*<sup>a</sup>

Country group	Income groups				
	Poor <sup>b</sup> (percentage of GDP)	Middle class <sup>c</sup> (percentage of GDP)	Lower-middle class <sup>d</sup> (percentage of GDP)	Upper-middle class <sup>e</sup> (percentage of GDP)	Rich <sup>f</sup> (percentage of GDP)
<i>World Bank's income-based criterion</i>					
Low-income economies	6.04	60.41	24.29	36.12	33.55
Lower-middle-income economies	5.54	59.94	23.62	36.32	34.51
Upper-middle-income economies	5.69	61.21	24.59	36.62	33.10
High-income economies	7.47	66.67	29.08	37.59	25.85
<i>World Bank's regional criterion</i>					
East Asia and Pacific	6.53	62.75	25.77	36.98	30.72
Europe, Central Asia, and North America	7.72	66.67	29.31	37.35	25.61
<i>By OECD membership</i>					
OECD countries	7.67	67.05	29.57	37.47	25.28
Non-OECD countries	7.75	66.43	29.15	37.28	25.81
<i>By European Union membership</i>					
EU members	7.91	67.34	29.98	37.36	24.75
Others	7.50	65.91	28.55	37.35	26.59
Latin America and the Caribbean	3.64	56.81	20.52	36.29	39.54
Middle East and North Africa	6.62	63.64	26.26	37.39	29.71
South Asia	7.70	60.21	25.67	34.54	32.12
Sub-Saharan Africa	5.10	57.60	21.96	35.63	37.31
All countries	6.17	61.88	25.27	36.61	31.95
No. of observations	129	129	129	129	129

Source: Author's calculations based on World Bank's *World Development Indicators* (2007), Davies and others (2006) for data from the WIDER-UNU project on world wealth distribution, Marshall and Jagers (2005) on the Polity IV Project, and Ayyagari and others (2005) for data from the SME database. See the appendix for details.

OECD = Organization for Economic Cooperation and Development; SME = small and medium-sized enterprises.

a. Selected indicators for 129 countries in 2000, the closest year available with information.

b. Poor = deciles 1–2.

c. Middle class = broad definition: deciles 3–9.

d. Lower-middle class = deciles 3–6.

e. Upper-middle class = deciles 7–9.

f. Rich = top decile.

g. PPP (purchasing power parity) adjusted 2000 international US dollars.

## THE MIDDLE CLASS AND THE DEVELOPMENT PROCESS

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<i>Income and wealth</i>				<i>Other indicators</i>			
<i>GDP per capital (dollars)<sup>g</sup></i>	<i>Income GINI index</i>	<i>Net worth per capita (dollars)<sup>g</sup></i>	<i>Net worth GINI index</i>	<i>Government expenses (percentage of GDP)</i>	<i>Democracy index<sup>h</sup></i>	<i>SME's employment (percentage of total employment)</i>	<i>SME's output (percentage of GDP)</i>
1,349.10	0.422	3,960.17	0.709	20.00	0.97	36.19	24.00
3,982.84	0.438	11,162.62	0.709	21.63	0.65	38.76	29.41
7,999.65	0.423	20,232.75	0.705	27.22	7.83	51.14	40.79
23,769.67	0.330	89,192.45	0.665	33.49	9.46	63.93	48.77
10,006.21	0.391	45,237.73	0.676	21.25	5.87	67.45	35.97
15,177.41	0.325	48,801.64	0.668	30.70	5.91	49.98	42.91
27,461.19	0.320	96,685.34	0.676	36.02	9.94	67.40	53.63
6,988.23	0.328	19,080.73	0.664	26.72	3.55	35.06	31.21
19,773.78	0.313	65,127.29	0.657	36.23	9.46	59.22	48.69
9,431.95	0.338	30,249.77	0.682	23.34	2.05	35.21	26.52
5,627.84	0.510	16,457.70	0.743	20.72	3.45	55.94	45.34
6,441.90	0.379	19,250.69	0.676	29.49	2.38	..	..
2,239.84	0.381	7,275.13	0.682	16.76	4.60	..	..
1,882.42	0.470	4,615.79	0.729	24.01	0.93	32.66	..
8,596.30	0.405	28,874.90	0.698	26.26	4.02	51.08	42.14
127	129	129	129	93	126	72	35

chapter is on the middle class *within countries* rather than on the *world* (or *global*) middle class.<sup>18</sup>

fnt. 18

Economies are grouped according to their level of per capita income using the definitions of the World Bank (low-income, lower-middle-income, upper-middle-income, and high-income) and also by regional groupings of the World Bank.

The average income share of the middle class (broad definition, hereafter referred to as MC) in the world economy (129 countries) is close to 62 percent (data circa 2000). This relative size of the middle class increases with the level of per capita income: the MC share for low-income countries (say, countries with a per capita income of less than US\$905 in PPP) is 60.4 percent, while the share of the middle class in high-income countries (those countries with GDP per capita above US\$11,000) is much higher, at 66.6 percent. In turn, we find that the shares of the upper-middle class have a narrower range of variation across countries, ranging from 36.1 in low-income countries to 37.5 percent in high-income economies, than the shares of the lower-middle class, which varies from 24.2 percent in low-income countries to 29.1 percent for high-income countries, see table 2-1.

An interesting empirical finding is that the increase in the income share of the middle class in higher-income countries is accompanied by a *decline* in the average share of the rich. So it is a progressive or redistributive shift away from higher-income people (defined as the top 10 percent). In fact, the income share of the rich is smaller in high-income economies (on average 25.8 percent) than the corresponding share in low-income economies (33.5 percent). This confirms the basic hypothesis that high-income countries have a smaller share of income going to the rich (top 10 percent) and a larger share of income going to the middle classes (deciles 3 to 9) than is the case in poor and middle-income countries. A similar conclusion can be drawn using the GINI coefficients of income (calculated by the World Bank) and the GINI coefficient of wealth

18. The global income distribution intends to reflect the distribution of income among all citizens of the world. The World Bank's *Global Development Prospect* (2007a) defines the global middle class as having per capita income ranging from US\$4,000 to US\$17,000, which corresponds roughly to the per capita income of Brazil and Italy, respectively, according to the World Bank. It is clear for many countries, particularly low-income and middle-income countries, that the average income of a person belonging to the national middle class is well below the average income of the citizen of the global middle class. In fact, upper-income people in lower-income economies are bound to be only middle-income people according to the global middle class definition. It is estimated that growth of the global middle class in coming years will be concentrated mainly in developing countries and is associated with global economy-wide growth, increases in education levels, shifts in income distribution, and other factors. This is expected to have effects on international trade in goods and services as well as on domestic demand. See Milanovic (2006); World Bank (2007a).

(computed by UNU-WIDER).<sup>19</sup> In fact, the average (income) GINI for high-income economies is 0.33 compared with that of 0.42 for low-income economies (and close to 0.44 for lower-middle-income economies) (table 2-1). A higher GINI, of course, means higher inequality. fnt. 19

We verify also that the degree of concentration of wealth is often higher than that for income. In fact, the average GINI coefficient for wealth (net worth) is 0.66 for high-income economies and 0.71 for low-income economies. Figure 2-1 displays Lorenz curves for income and for wealth and the former lies closer to the 45 degree (line of full equality) than the Lorenz curve for wealth, showing that inequality of incomes is less than inequality for wealth using cross-country data.

When we consider the regional country groupings, we find some interesting contrasts: the region of Latin America and the Caribbean has the lowest average share of the middle class in income (and the highest share of the top 10 percent), followed by Africa. Also Latin America has the highest inequality indicators measured by both GINI of income and GINI of wealth. This confirms for regions that inequality and the relative importance of the middle class are inversely correlated. The regions with higher shares of the middle class are Europe, Central Asia, and North America, followed by the Middle East and North Africa and East Asia and Pacific.

Regarding other variables, the analysis shows that the size of government expenditure increases with the level of per capita income. Low-income and lower-middle-income countries have a ratio of public spending to GDP ranging between 20 to 21.6 percent, respectively, whereas the same ratio fluctuates between 27.2 and 33.4 percent in upper-middle-income and high income economies, respectively. Again the higher ratio of public expenditure is associated with larger middle classes in high-income economies. Also we find a substantially higher share of SME in employment in high-income economies (close to 64 percent) compared with the share of SME of around 36 percent for low-income countries. Upper-middle-income countries have a corresponding share of SME in employment of 51 percent, and for lower-middle-income countries, it is nearly 39 percent. The differences are smaller for the shares of SMEs in output, but still the positive correlation with income per capita levels holds.

### Analysis of Correlations

In this section we present the results of the correlation analysis for the different determinants of the relative size of the middle class.

19. UNU-WIDER, World Institute for Development Economics Research of the United Nations University.

### *Levels of Per Capita Income and Per Capita Wealth*

Tab. 2 The coefficient of correlation between the share of the middle class (broad definition) and the levels of per capita income in PPP for a sample of 127 countries is 0.411 (see table 2-2). In turn, the correlation of the share of the (broad) middle class with per capita net worth is lower (a coefficient of 0.346). Figure 2-2 presents a scatter diagram of the income shares of the middle class (broad definition) at different levels of per capita income. It is apparent that there is a lower average share of the middle class and a greater variability for low-income and middle-income economies than there is for high-income economies. The relationship between the relative size of the middle class and per capita income levels really “stabilizes” for countries with per capita income levels above US\$10,000 (which are high-income economies as defined by the World Bank).

Fig. 2 If per capita net worth is used, the shares of the middle class become more stable at a threshold of around US\$50,000, see figure 2-3. Again the dispersion of MC shares is greater for lower- and middle-income economies.

Fig. 3 When the middle class (in the full country sample) is broken down into lower-middle and upper-middle classes, the corresponding relation with per capita income is stronger (higher coefficients of correlation) for the lower-middle class (a correlation of 0.42) than for the upper-middle class (a correlation of 0.23, see table 2-2). This suggests that economic growth should benefit more people whose incomes are closer to poverty than those whose incomes are closer to the rich. Growth is, in a sense, pro-lower-middle class.<sup>20</sup> From a political economy perspective, one may think of a broader coalition between the poor and the lower-middle class (covering a group that ranges from percentiles 1 to 60) since their interests are relatively aligned. In terms of number of votes, this coalition between the poor and the lower-middle class is likely to be a majority of the population; however, in terms of economic power (say income per person) each individual is less empowered because most income distributions are asymmetric and tend to be concentrated toward high-income levels.

### *Inequality*

Let us turn now to the relationship between the middle class and inequality of income and wealth. The coefficients of correlation between the share of the middle class and the GINI coefficients for income and the GINI of net wealth are negative for the whole sample and for all income groups (see tables 2-1 and 2-2 for descriptive statistics of the middle class and correlation coefficients). Furthermore, this negative correlation is higher for the income GINI (a coefficient of  $-0.94$ ) than for the net wealth GINI (a coefficient of  $-0.67$ ), suggesting

20. The coefficient of correlation between the broad definition of the middle class and the lower-middle class is higher than the corresponding correlation with the upper-middle class, see table 2-2.

a tighter inverse relationship between shares of the middle class and the degree of inequality of income than between the share of the middle class and the degree of net wealth inequality.<sup>21</sup> In turn, the latter relationship (between the share of the middle class and wealth inequality) has a larger dispersion than does the relationship between the share of the middle class and income inequality (compare the dispersion of both dot clouds in figure 2-4). It is also interesting to note that the negative correlation with both GINIs is stronger for the lower-middle class than for the upper-middle class (see table 2-2).

These results confirm our presumption that more unequal societies (those with higher GINI for income and net wealth) have smaller middle classes (relatively speaking) than more equal economies (those economies with lower GINIs) have.<sup>22</sup>

Unlike the relation between the share of middle class and the level of per capita income, the relation between the MC share and the GINI holds robust across all per capita income groups, although the correlation between the MC shares and the income and wealth GINIs decline for the high-income group.<sup>23</sup>

#### *The Middle Class and Government Expenditure*

For a sample of 93 countries, table 2-2 shows a correlation of 0.36 between the share of the middle class (broad definition) and the ratio of the level of total public spending (government expenses) to GDP, as a proxy for the size of the state. This suggests a not-too-strong correlation between both variables. Moreover, this correlation is weaker and more unstable for various country groups, even for high-income countries. This may reflect our imperfect measure of size of government or simply that both variables are not strongly correlated or a combination of both factors. Further testing of the relationship could be made using data on public employment (as a share of total employment) and the share of the middle class. When the middle class is disaggregated into lower-middle and upper-middle, there is a stronger correlation with the public spending to GDP ratio for the lower-middle class than for the upper-middle class (see table 2-2 and figure 2-5).

The analysis explores the effects of the *composition* of public expenditure using data compiled by the IMF for its *Government Finance Statistics Yearbook*. The results reveal that for the whole sample, in general, social expenditure is not very progressive (table 2-3). In fact, government spending in education, for example, has a positive correlation only with the top decile. This is probably influenced by the expenditure in tertiary education that is known not to reach

21. There is also a negative correlation between the income share of the rich (top 10 percent) and the level of per capita income of the country for the overall sample (-0.40).

22. These countries happen to be those with higher per capita income levels.

23. Tables are available on request from the author.

Table 2-2. *Matrix of Correlations of Income Groups, Income and Wealth, and Selected Indicators<sup>a</sup>*

<i>Cross correlations</i>		<i>Income groups</i>				
		<i>Poor<sup>b</sup></i>	<i>Middle class<sup>c</sup></i>	<i>Lower middle class<sup>d</sup></i>	<i>Upper middle class<sup>e</sup></i>	<i>Rich<sup>f</sup></i>
<i>Income groups</i>	<i>Poor<sup>b</sup></i>	1.000 (129)				
	<i>Middle class<sup>c</sup></i>	0.807 (129)	1.000 (129)			
	<i>Lower middle class<sup>d</sup></i>	0.927 (129)	0.956 (129)	1.000 (129)		
	<i>Upper middle class<sup>e</sup></i>	0.217 (129)	0.723 (129)	0.489 (129)	1.000 (129)	
	<i>Rich<sup>f</sup></i>	-0.891 (129)	-0.987 (129)	0.986 (129)	-0.615 (129)	1.000 (129)
<i>Income and wealth</i>	<i>GDP per capita<sup>g</sup></i>	0.328 (127)	0.411 (127)	0.421 (127)	0.231 (127)	-0.405 (127)
	<i>Income GINI index</i>	-0.954 (129)	-0.940 (129)	-0.992 (129)	-0.460 (129)	0.981 (129)
	<i>Net worth per capita<sup>g</sup></i>	0.236 (129)	0.346 (129)	0.333 (129)	0.243 (129)	-0.330 (129)
	<i>Net worth GINI index</i>	-0.655 (129)	-0.676 (129)	-0.697 (129)	-0.368 (129)	0.697 (129)
<i>Other indicators</i>	<i>Government expenses<sup>h</sup></i>	0.295 (93)	0.359 (93)	0.355 (93)	0.217 (93)	-0.354 (93)
	<i>Democracy index<sup>i</sup></i>	0.054 (126)	0.025 (126)	0.043 (126)	-0.025 (126)	-0.034 (126)
	<i>SME's employment<sup>j</sup></i>	-0.006 (72)	-0.019 (72)	-0.017 (72)	-0.018 (72)	0.016 (72)
	<i>SME's output<sup>h</sup></i>	-0.031 (35)	0.073 (35)	0.033 (35)	0.187 (35)	-0.043 (35)

Source: Author's calculations based on World Bank's *World Development Indicators* (2007), Davies and others (2006) for data from the WIDER-UNU project on world wealth distribution, Marshall and Jagers (2005) for data from the Polity IV project, and Ayyagari and others (2005) for data from the SME database]. See the appendix for details.

SME = small and medium-sized enterprises.

a. Selected indicators for 129 countries in 2000, the closest year available with information. Numbers in parenthesis indicate the number of observations available for estimating each correlation.

b. Poor: deciles 1–2.

c. Middle class: broad definition, deciles 3–9.

<i>Income and wealth</i>				<i>Other indicators</i>			
<i>GDP per capital<sup>g</sup></i>	<i>Income GINI index</i>	<i>Net worth per capita<sup>g</sup></i>	<i>Net worth GINI index</i>	<i>Government expenses<sup>h</sup></i>	<i>Democracy index<sup>i</sup></i>	<i>SME's employment<sup>j</sup></i>	<i>SME's output<sup>h</sup></i>
1.000							
(127)							
-0.402	1.000						
(127)	(129)						
0.912	-0.316	1.000					
(127)	(129)	(129)					
-0.265	0.688	-0.196	1.000				
(127)	(129)	(129)	(129)				
0.505	-0.351	0.405	-0.272	1.000			
(93)	(93)	(93)	(93)	(93)			
0.253	-0.045	0.212	-0.020	0.211	1.000		
(124)	(126)	(126)	(126)	(92)	(126)		
0.479	0.007	0.420	-0.029	0.222	0.160	1.000	
(72)	(72)	(72)	(72)	(60)	(70)	(72)	
0.565	-0.028	0.546	-0.004	0.188	-0.076	0.698	1.000
(35)	(35)	(35)	(35)	(31)	(34)	(35)	(35)

d. Lower middle class: deciles 3–6.

e. Upper middle class: deciles 7–9.

f. Rich: top decile.

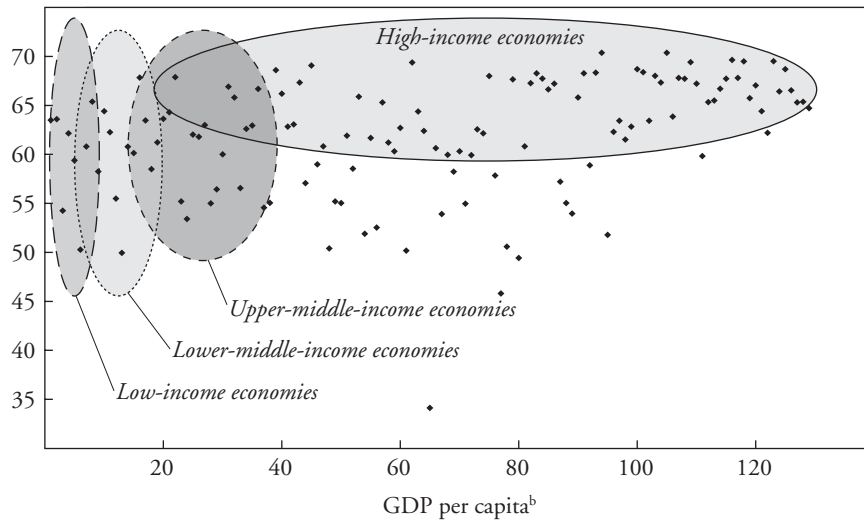
g. PPP (purchasing power parity) adjusted 2000 international US dollars.

h. Percentage of GDP.

i. The democracy index is from the Polity IV Project and is based on a Polity Score that captures this regime authority spectrum on a twenty-one-point scale ranging from -10 (hereditary monarchy) to +10 (consolidated democracy).

j. Percentage of total employment.

Figure 2-2. *The Middle Class and GDP Per Capita*<sup>a</sup>  
Income share of the middle class



Source: Author's calculations.

Low-income economies: GNIpc  $\leq$  US\$905; mean, 60.41 percent; variance, 0.0022.

Lower-middle-income economies: US\$906  $\leq$  GNIpc  $\leq$  US\$3,595; mean, 59.94 percent; variance, 0.0045.

Upper-middle-income economies: US\$3,596  $\leq$  GNIpc  $\leq$  US\$11,115; mean, 61.21 percent; variance, 0.0050.

High-income economies: GNIpc  $\geq$  US\$11,116; mean, 66.67 percent; variance 0.0006.

GNIpc: gross national income per capita.

a. Data are from a sample of 127 selected countries in 2000, the closest year available with information. The broad definition (deciles 3–9) of “middle class” is used.

b. GDP per capita is measured by purchasing power parity (PPP) adjusted 2000 international US dollars.

middle- and lower-income groups in a significant way. Also public expenditure in health has some correlation with the upper-middle class and the rich (defined as the top decile). The only item that has more significant correlation with the non-rich is the category of social protection.

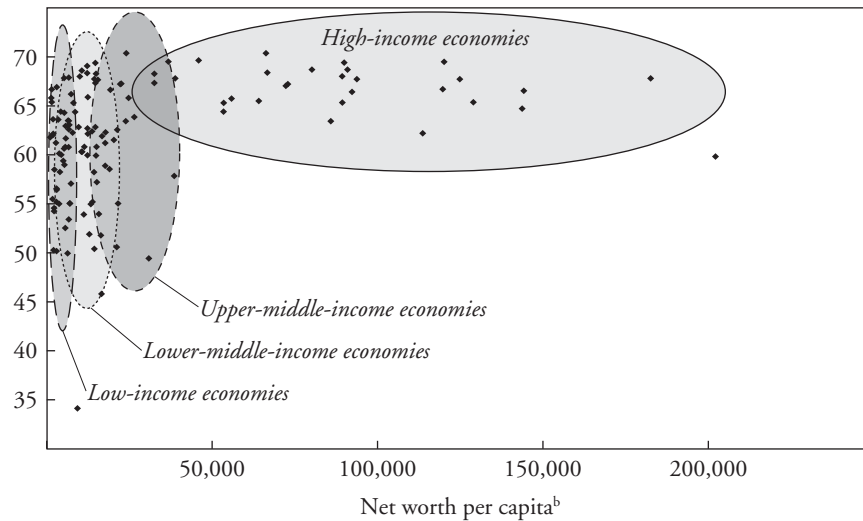
When the same calculations are done for country groupings according to income levels and regional groupings, the incidence does not change in a significant way. On the whole the incidence of social expenditure in education, health, and housing is not redistributive either to the poor or to the lower-middle class.

### *The Small and Medium-Sized Enterprises and the Middle Class*

The results show a weak correlation and an unexpected sign between the shares of small and medium-sized enterprises in employment and output and the

Figure 2-3. *The Middle Class and Net Worth Per Capita*<sup>a</sup>

Income share of the middle class



Source: Author's calculations.

Low-income economies: GNIpc  $\leq$  US\$905; mean, 60.41 percent; variance, 0.0022.Lower-middle-income economies: US\$906  $\leq$  GNIpc  $\leq$  US\$3,595; mean, 59.94 percent; variance, 0.0045.Upper-middle-income economies: US\$3,596  $\leq$  GNIpc  $\leq$  US\$11,115; mean, 61.21 percent; variance, 0.0050.High-income economies: GNIpc  $\geq$  US\$11,116; mean, 66.67 percent; variance 0.0006.

GNIpc: gross national income per capita.

a. Data are from a sample of 129 selected countries in 2000, the closest year available with information. The broad definition (deciles 3–9) of "middle class" is used.

b. Net worth per capita is measured by purchasing power parity (PPP) adjusted 2000 international US dollars.

share of the middle class using the broad and upper- and lower-middle-class classifications. This may reflect also our smaller country sample for which SME data are available and other factors at work that would require additional research (figures 2-6a, 2-6b).

Fig. 6

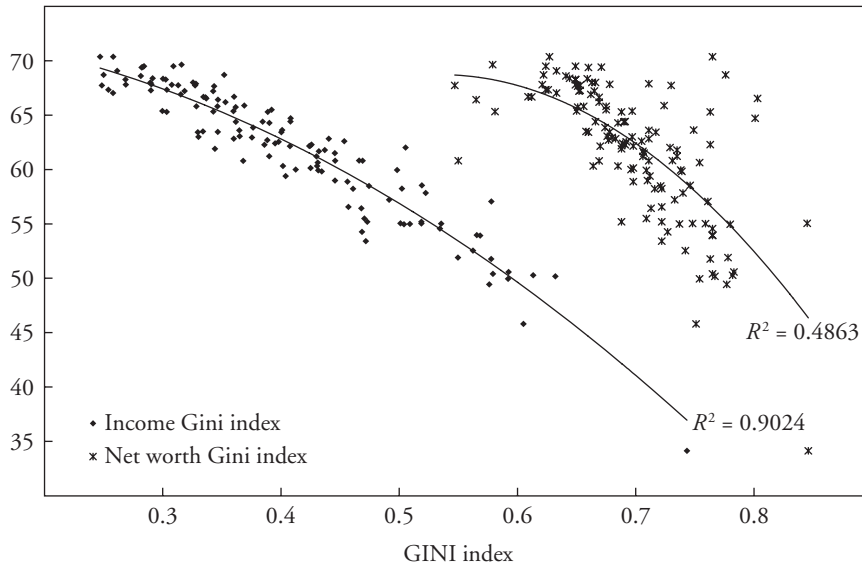
### *Democracy*

To test the relationship between democracy and the share of the middle class, we use a democracy index produced by the Polity IV project.<sup>24</sup> This index, which is based on a spectrum that ranges from 0 to 10 (the higher the index the more democratic is society, comprises three dimensions: competitiveness of political participation, the openness and competitiveness of executive recruit-

fnt. 24

24. See Marshall and Jaggers (2005).

Figure 2-4. *The Middle Class and Income and Net Worth Gini Indexes*<sup>a</sup>  
Income share of the middle class



Source: Author's calculations.

a. Data are from a sample of 129 selected countries in 2000, the closest year available with information. The broad definition (deciles 3–9) of “middle class” is used.

Fig. 7

ment, and constraints on the chief executive and guarantees on civil liberties for all citizens. Here, democracy is considered as a variable that encompasses several degrees of democratic (or undemocratic rule) rather than as a simple dichotomy of democracy versus autocracy. The average score of the democracy index is low for low-income and lower-middle-income countries (an average value that is less than 1) and much higher for upper-middle-income countries (an average value of 7.8) and higher-income countries (an average of 9.5). For the overall sample, the correlation with the share of the middle class (broad definition) is almost nonexistent (0.025, see table 2-2). However, for the group of high-income countries, there is a positive and relatively high correlation between the share of the middle class and the democracy index. Figure 2-7 displays the relation between the share of the middle class and the country grouping according to democratic rule. In general, for low- to middle-income countries, there is a wide dispersion in the degree of democratic rule for similar shares of the middle class (the low correlation between the two variables mentioned before); it is only for high-income countries that a positive and more stable relation is observed between high shares of the middle class in income and high degrees of democratic rule.

Figure 2-5. *The Middle Class and Government Expenses*<sup>a</sup>

Income share of the middle class



Source: Author's calculations.

Low-income economies: GNIpc  $\leq$  US\$905; mean, 60.41 percent; variance, 0.0022.Lower-middle-income economies: US\$906  $\leq$  GNIpc  $\leq$  US\$3,595; mean, 59.94 percent; variance, 0.0045.Upper-middle-income economies: US\$3,596  $\leq$  GNIpc  $\leq$  US\$11,115; mean, 61.21 percent; variance, 0.0050.High-income economies: GNIpc  $\geq$  US\$11,116; mean, 66.67 percent; variance 0.0006.

GNIpc: gross national income per capita.

a. Data are from a sample of 93 selected countries in 2000, the closest year available with information. The broad definition (deciles 3–9) of “middle class” is used.

b. Government expenses are measured as a percentage of GDP.

## Concluding Remarks

The middle class is a topic of growing interest in the field of development economics. The alleged positive effects of a stable and solid middle class on the rate of economic growth and development are linked to the middle class as a source of entrepreneurship, consumer power, and social and political stability. This chapter has investigated some of the main empirical regularities of behavior of the middle class across countries. The potential for entrepreneurship and productivity of the middle class is mixed, and almost no correlation is found, in this chapter, between the relative size of the middle class and the relative importance of the small and medium-sized sector in output and employment using cross-sectional data. Other studies based on household surveys also find limited entrepreneurial power (in a Schumpeterian sense) of the middle class in low-income nations. Middle-class members that run small firms in these countries seem to

Table 2-3. *Matrix of Correlations of Mean Income per Income Groups and Public Expenditures<sup>a</sup>*

<i>Cross correlations</i>	<i>Mean income per income group</i>				
	<i>Poor<sup>b</sup></i>	<i>Middle class<sup>c</sup></i>	<i>Lower-middle class<sup>d</sup></i>	<i>Upper-middle class<sup>e</sup></i>	<i>Rich<sup>f</sup></i>
<i>Poor<sup>b</sup></i>	1.000 (129)				
<i>Middle class<sup>c</sup></i>	0.807 (129)	1.000 (129)			
<i>Lower-middle class<sup>d</sup></i>	0.927 (129)	0.956 (129)	1.000 (129)		
<i>Upper-middle class<sup>e</sup></i>	0.217 (129)	0.723 (129)	0.489 (129)	1.000 (129)	
<i>Rich<sup>f</sup></i>	-0.891 (129)	-0.987 (129)	-0.986 (129)	-0.615 (129)	1.000 (129)
<i>Total government outlays</i>	0.137 (84)	0.028 (84)	0.087 (84)	-0.117 (84)	-0.059 (84)
<i>Social expenditure</i>					
<i>Housing and community</i>	-0.069 (70)	-0.266 (70)	-0.181 (70)	-0.352 (70)	0.22 (70)
<i>Health</i>	-0.143 (70)	-0.064 (70)	-0.102 (70)	0.064 (70)	0.09 (70)
<i>Education</i>	-0.114 (70)	-0.093 (70)	-0.101 (70)	-0.026 (70)	0.102 (70)
<i>Social protection</i>	0.364 (70)	0.425 (70)	0.424 (70)	0.222 (70)	-0.424 (70)
<i>Nonsocial expenditure</i>					
<i>Public order and safety</i>	0.15 (42)	0.058 (42)	0.121 (42)	-0.150 (42)	-0.088 (42)
<i>Economic affairs</i>	0.127 (70)	0 (70)	0.074 (70)	-0.187 (70)	-0.038 (70)
<i>Environmental protection</i>	0.151 (6)	0.051 (6)	0.035 (6)	0.086 (6)	-0.073 (6)
<i>Recreation, culture, and religion</i>	0.29 (69)	0.204 (69)	0.26 (69)	-0.036 (69)	-0.238 (69)
<i>Other expenditure</i>					
<i>General public services</i>	0.115 (70)	0.061 (70)	0.087 (70)	-0.037 (70)	-0.079 (70)
<i>Defense</i>	0.08 (70)	0.057 (70)	0.083 (70)	-0.036 (70)	-0.066 (70)

Source: Author's calculations based on World Bank's *World Development Indicators* (2007) and IMF's *Government Finance Statistics* (2003). See the appendix for details.

a. Selected indicators for 129 countries in 2000, the closest year available with information. Numbers in parenthesis indicate the number of observations available for estimating each correlation.

b. Poor: deciles 1–2.

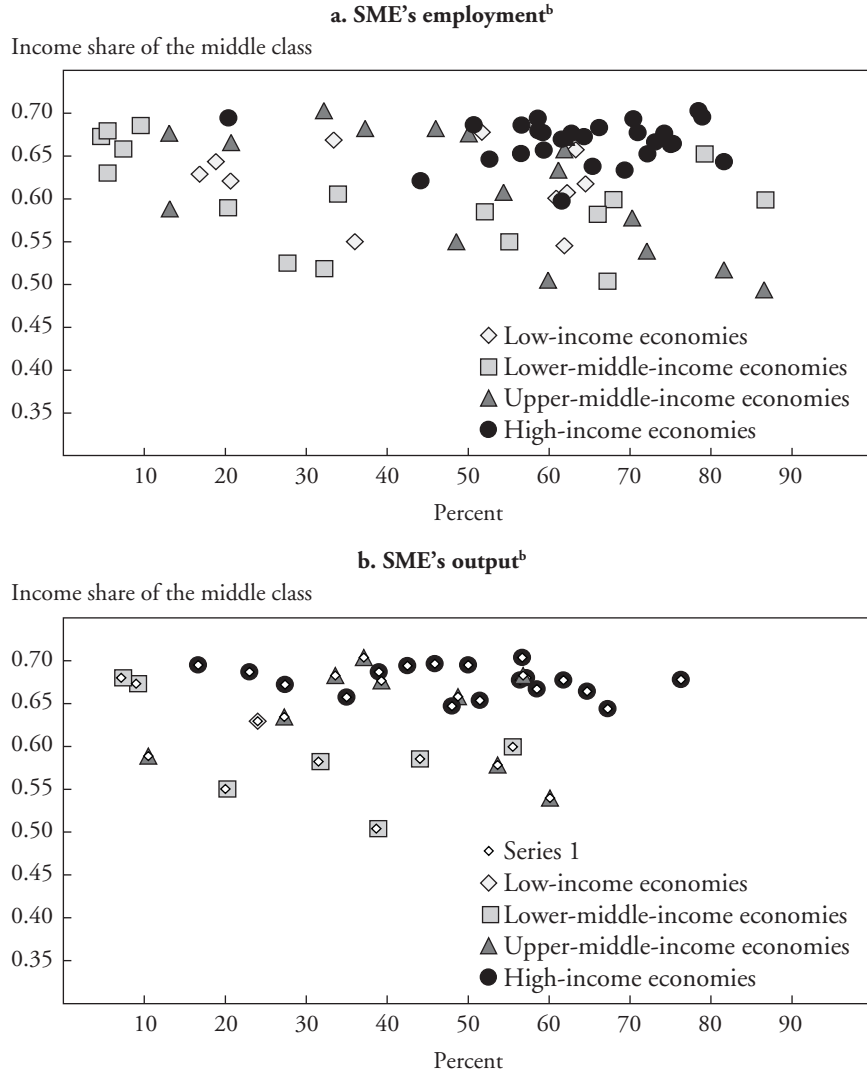
c. Middle class: broad definition, deciles 3–9.

d. Lower-middle class: deciles 3–6.

e. Upper-middle class: deciles 7–9.

f. Rich: top decile.

Figure 2-6. *Small and Medium-Sized Enterprises and the Middle Class*<sup>a</sup>



Source: Author's calculations.

Low-income economies: GNIpc  $\leq$  US\$905; mean, 60.41 percent; variance, 0.0022.

Lower-middle-income economies: US\$906  $\leq$  GNIpc  $\leq$  US\$3,595; mean, 59.94 percent; variance, 0.0045.

Upper-middle-income economies: US\$3,596  $\leq$  GNIpc  $\leq$  US\$11,115; mean, 61.21 percent; variance, 0.0050.

High-income economies: GNIpc  $\geq$  US\$11,116; mean, 66.67 percent; variance, 0.0006.

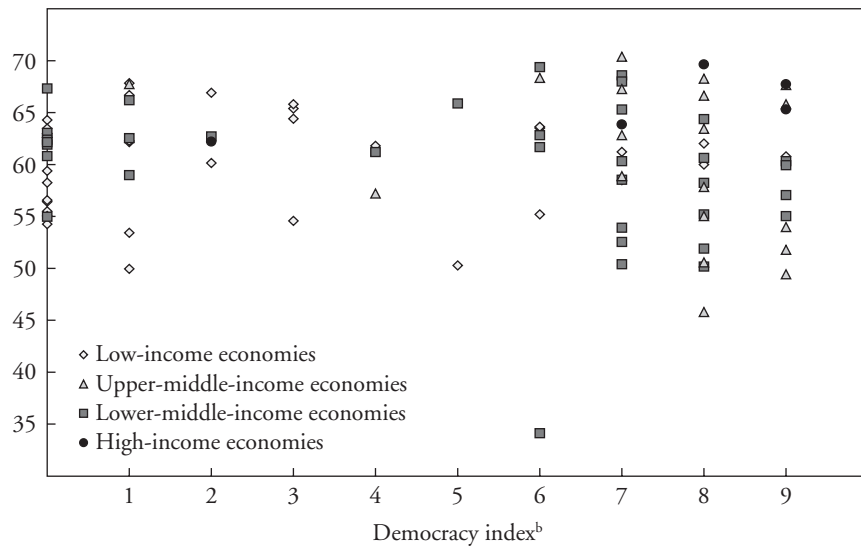
GNIpc: gross national income per capita.

a. Data are from a sample of 72 selected countries in 2000, the closest year available with information. The broad definition (deciles 3–9) of "middle class" is used.

b. SME's employment is measured as a percentage of total employment.

c. SME's output is measured as a percentage of GDP.

Figure 2-7. *The Middle Class and Democracy*<sup>a</sup>  
Income share of the middle class



Source: Author's calculations.

Low-income economies: GNIpc  $\leq$  US\$905.

Lower-middle-income economies: US\$906  $\leq$  GNIpc  $\leq$  US\$3,595.

Upper-middle-income economies: US\$3,596  $\leq$  GNIpc  $\leq$  US\$11,115.

High-income economies: GNIpc  $\geq$  US\$11,116.

a. Data are from a sample of 123 selected countries in 2000, the closest year available with information. The broad definition (deciles 3–9) of “middle class” is used.

b. The democracy index corresponds to the Institutionalized Democracy Indicator from the Polity IV Project. See appendix for details.

be more “entrepreneurs by necessity.” This chapter suggests that as income per capita levels increase and countries enter into a higher level of development, they tend to have also a larger middle class, measured as a proportion of national income. In turn, the consumer power of the middle class expands as income per capita increases, leading to a larger internal market. On the socio-political stabilization role of the middle class, the evidence is indirect in the sense that high-income countries with stable democracies and mature economies have also relatively larger middle classes than middle- and lower-income countries do. In fact, these results show that in high-income economies the relative share of the middle class (using a broad definition of deciles 3 to 9) is close to *6 percentage points higher* than the share of the middle class in low-income countries, suggesting a *positive* relationship between the level of economic development measured by per capita income levels and the share of the middle class.

In turn, the relationship between the share in income of the middle class and the level of per capita income is nonlinear and shows more dispersion for low-

and middle-income countries with per capita incomes below US\$10,000 than it does for rich countries. The relationship between the share of the middle class and per capita net wealth is also positive but displays more dispersion than the relationship between the share of the middle class and income per capita.

It is interesting that the income–middle class relation with per capita income is stronger (higher coefficients of correlation) for the lower-middle class than for the upper-middle class. From a political economy perspective, one may think in terms of a broader coalition between the poor and the lower-middle class as their economic interests are relatively aligned between them. That coalition could include a sizeable part of the population, including individuals with incomes shares from the percentiles 1 to 60.

The results in this chapter also show that countries with more unequal income and wealth distribution have smaller middle classes in relative terms, suggesting a *negative* relationship between the degree of inequality of income and wealth and the (relative) size of the middle class. In fact, the correlation between the share of the middle class and the coefficient of income GINI is negative and close to 95 percent, and the correlation of the relative size of the middle class with the coefficient of wealth GINI is around 67 percent (in the full sample of 129 countries). The relation between the share of the middle class and the GINIs holds strong across all per capita income groups, although this relation is lower for high-income economies with per capita incomes above US\$11,000, reflecting the fact that rich countries have lower levels of income inequality than lower-income nations.

The chapter also shows that the correlation between the share of the middle class and the overall size of government, in general, is not very strong and varies across countries ordered by income per capita levels. Moreover, the data on the composition of public expenditures reveal that categories of social expenditure such as education, health, and perhaps housing are generally not very redistributive, reaching just relatively small proportions of the lower-middle class and the poor. The component whose incidence is more progressive is social protection. Likewise, no significant correlation was detected between the relative size of the small and medium-sized enterprises, measured both as shares of total employment and total output, and the shares of the middle class in real income. Finally, when an index of democracy was correlated with the middle class shares, little or no correlation was found between both variables except for the group of high-income economies.

Our analysis is cast in terms of correlation rather than causality because of the apparent two-way interaction between social structures and income distribution on the one hand and economic and political economy variables, such as income and wealth per capita levels, inequality, size of government, the SME sector, and degree of democracy, on the other. To what extent does the middle class *lead* the process of economic development or rather *follow* (or

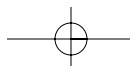
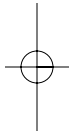
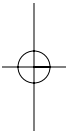
they evolve jointly) with economic development is still an open question for further research in this emerging field of the determinants of middle-class behavior.

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## APPENDIX

**Description of Variables and Country Classifications**

Data on income distribution are collected from 2000, the closest year available with information.

*Description of Variables*

Data for the first seven variables come from the World Bank's *World Development Indicators* (WDI), version 2007:

- Poor: deciles 1 and 2
- Middle class (broad definition): deciles 3 to 9
- Lower-middle class: deciles 3 to 6
- Upper-middle class: deciles 7 to 9
- Rich: top decile
- GDP per capita (PPP adjusted): gross domestic product per capita adjusted by the purchasing power parity (PPP) for international 2000 US dollars
- Income GINI index: the numerator is the area between the Lorenz curve of the distribution and the uniform distribution line; the denominator is the area under the uniform distribution line.

Data for the next two variables come from the World Institute for Development Economics Research of the United Nations University (UNU-WIDER) study "The World Distribution of Household Wealth" (see Davies and others 2006):

- Net worth per capita (PPP adjusted): wealth per capita adjusted by the purchasing power parity (PPP) for international 2000 US dollars; here wealth is defined as net worth, that is, the value of physical and financial assets less liabilities.
- Net worth GINI index: a measure of wealth inequality. It is defined as a ratio with values between 0 and 1: the numerator is the area between the Lorenz curve of the net worth distribution and the uniform distribution line; the denominator is the area under the uniform distribution line.

Data for government expenses come from the World Bank's *World Development Indicators* (WDI), version 2007, for selected years:

- Government expenses (percentage of GDP): cash payments to provide the government's goods and services. These expenditures include compensation of employees (such as wages and salaries), interest and subsidies, grants, social benefits, and other expenses, such as rent and dividends.

Data for the democracy index come from the Polity IV Project of the Center for Systemic Peace (see Marshall and Jaggers 2005):

- Democracy index: corresponds to the Institutionalized Democracy Indicator from the Polity IV Project. The indicator of democracy is an additive eleven-point scale (0–10), derived from coding the competitiveness of political participation, the openness and competitiveness of executive recruitment, and constraints on the chief executive.

Data for the following two variables come from the study by Ayyagari, Beck, and Demirgüç-Kunt (2005):

—SME's employment (percentage of total employment): small and medium-sized enterprise sector's share of formal employment using the official country definition of SME. Values are averages for each country during the period 1990–99.

—SME's output (percentage of GDP): SME sector's contribution to GDP using the official country definition of SME. Values are averages for each country during the period 1990–99.

#### *Country Classification*

***Income grouping of countries:*** countries are grouped according to their gross national income per capita (GNIpc) using the World Bank's criterion.

#### *Low-Income Economies: GNIpc ≤ US\$905*

Bangladesh, Benin, Burkina Faso, Burundi, Cambodia, Central African Republic, Cote d'Ivoire, Ethiopia, The Gambia, Ghana, Guinea, Guinea-Bissau, Haiti, India, Kenya, Kyrgyz Republic, Lao PDR, Madagascar, Malawi, Mali, Mauritania, Mongolia, Mozambique, Nepal, Niger, Nigeria, Pakistan, Papua New Guinea, Rwanda, Senegal, Tajikistan, Tanzania, Uganda, Uzbekistan, Vietnam, Republic of Yemen, Zambia, Zimbabwe.

#### *Lower-Middle-Income Economies: US\$906 ≤ GNIpc ≤ US\$3,595*

Albania, Algeria, Armenia, Azerbaijan, Belarus, Bolivia, Bosnia and Herzegovina, Cameroon, China, Colombia, Dominican Republic, Ecuador, Arab Republic of Egypt, El Salvador, Georgia, Guatemala, Guyana, Honduras, Indonesia, Islamic Republic of Iran, Jamaica, Jordan, Lesotho, Macedonia (FYR), Moldova, Morocco, Namibia, Nicaragua, Paraguay, Peru, Philippines, Sri Lanka, Swaziland, Thailand, Tunisia, Turkmenistan, Ukraine.

#### *Upper-Middle-Income Economies: US\$3,596 ≤ GNIpc ≤ US\$11,115*

Argentina, Botswana, Brazil, Bulgaria, Chile, Costa Rica, Croatia, Hungary, Kazakhstan, Latvia, Lithuania, Malaysia, Mexico, Panama, Poland, Romania, Russian Federation, Serbia and Montenegro, Slovak Republic, South Africa, St. Lucia, Turkey, Uruguay, Venezuela (RB).

#### *High-Income Economies: GNIpc ≥ US\$11,116*

Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hong Kong (China), Ireland, Israel, Italy, Japan, Republic of Korea, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Singapore, Slovenia, Spain, Sweden, Switzerland, Trinidad and Tobago, United Kingdom, United States.

**Regional grouping:** countries are grouped according to the World Bank's criterion. Europe and Central Asia are regrouped together with North America because of the similarities in organization and economies. This new region (called Europe, Central Asia, and North America) is disaggregated further by two different criteria: on the basis of OECD (Organization for Economic Cooperation and Development) membership and European Union membership. The countries included in each region are the following.

*East Asia and Pacific*

Australia, Cambodia, China, Hong Kong, China, Indonesia, Japan, Republic of Korea, Lao PDR, Malaysia, Mongolia, New Zealand, Papua New Guinea, Philippines, Singapore, Thailand, Vietnam.

*Europe, Central Asia, and North America: by OECD Membership*

**OECD countries:** Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, United States.

**Non-OECD countries:** Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Bulgaria, Canada, Croatia, Czech Republic, Estonia, Georgia, Hungary, Kazakhstan, Kyrgyz Republic, Latvia, Lithuania, Macedonia (FYR), Moldova, Poland, Romania, Russian Federation, Serbia and Montenegro, Slovak Republic, Slovenia, Tajikistan, Turkey, Turkmenistan, Ukraine, Uzbekistan.

*Europe, Central Asia, and North America: by European Union Membership*

**EU Members:** Austria, Belgium, Bulgaria, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Poland, Portugal, Romania, Slovak Republic, Slovenia, Spain, Sweden, United Kingdom.

**Others:** Albania, Armenia, Azerbaijan, Belarus, Bosnia and Herzegovina, Canada, Croatia, Georgia, Kazakhstan, Kyrgyz Republic, Macedonia (FYR), Moldova, Norway, Russian Federation, Serbia and Montenegro, Switzerland, Tajikistan, Turkey, Turkmenistan, Ukraine, United States, Uzbekistan.

*Latin America and the Caribbean*

Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, St. Lucia, Trinidad and Tobago, Uruguay, Venezuela (RB).

*Middle East and North Africa*

Algeria, Arab Republic of Egypt, Islamic Republic of Iran, Israel, Jordan, Morocco, Tunisia, Republic of Yemen.

*South Asia*

Bangladesh, India, Nepal, Pakistan, Sri Lanka.

*Sub-Saharan Africa*

Benin, Botswana, Burkina Faso, Burundi, Cameroon, Central African Republic, Cote d'Ivoire, Ethiopia, The Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Madagascar, Malawi, Mali, Mauritania, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, South Africa, Swaziland, Tanzania, Uganda, Zambia, Zimbabwe.