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macroeconomía del desarrollo

The middle class and the development process

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Abstract

Stable, higher income democracies often have both a strong middle class and relatively low levels of inequality. In contrast, lower and middle income countries with highly unequal patterns of income distribution and stratified social structures often have a weak middle class, more social conflict and a tendency to populist and/or authoritarian politics. This paper investigates, for a sample of more than 120 countries, some empirical correlations between the size of the middle class and the following set of variables: the level (mean) of per capita income and wealth, the degree of inequality (Gini coefficients) of per capita income and wealth, the level and composition of public expenditure, the share of small and medium size enterprises in employment and output and an indicator of democracy. Our results show that in high income economies the relative size of the middle class (using a broad definition of deciles 3 to 9) is near 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. However, the relationship between the share in income of the middle class and the level of per capita income is non-linear and shows more dispersion for low and middle income countries with per capita incomes below US$ 10,000 than for rich economies. We found weak correlations between the share of the middle class and the level of public spending and the relative size of the small and medium size enterprises (measured both as shares of total employment and total output). When we correlate an index of democracy and the middle class shares we find little or no correlation between both variables except for the group of high-income economies.

I.   Introduction

The traditional concern of development policy has been on the poor. The analysis of broader social structures, "social classes" such as the middle class and the rich are more the staple of work by sociologists and political scientists rather than economists. However, this is starting to change. It is apparent that as income per capita increases people will 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, 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 as it is a segment closer and more vulnerable to fall in poverty. At the same time, individuals in the upper ranges of the middle class can eventually become "rich" propelled by higher education levels, and probably helped also by good luck and social connections. A traditional employer of the middle class is the government (ministries, the bureaucracy of the state, public enterprises, decentralized agencies, etc). Also the sector of small and medium size enterprises is often assumed to be a source of employment and incomes for the middle class. Thus, both the state and the market can originate a middle class segment in society.

In this paper we test empirically these intuitions. The middle class has also some distinctive expenditure patterns and aspirations. They increasingly demand better quality education, health care, tourism and housing. Although neoclassical economic theory assumes that individual's

welfare is chiefly dependent on personal income levels (and consumption) there is evidence that people cares also about relative incomes.

The new theory of happiness (Layard, 2005; Graham, 2007; and others) underscores this point. Of course, older generation economists such as Thorstein Veblen and James Duesenburry noted this point long ago. In the popular imagination middle class people is often characterized as individuals concerned with other people's standard of living and relative welfare ("close to the Jones but far from the Smiths").[1]

The interest on the middle class comes also from political economy considerations. Policy-makers and international organizations care about the need of mobilizing and sustaining political support for certain economic policies. In the 1990s the dominant model was market-oriented economic reforms in developing countries and former socialist economies. More recently, concerns on social equity and distributive justice are becoming increasingly important (see Solimano, Aninat and Birdsall, 2000). This new emphasis on the middle class arises from the observation that stable, higher income democracies often have both a strong middle class and relatively low levels of inequality. In contrast, countries with highly unequal patterns of income distribution and stratified social structures often have a weak middle class. The political correlate of this system is often social conflict and volatile and populist politics (see Solimano, 2006 for the Latin American experience).[2] Thus, a stronger and more stable middle class is often considered as a stabilizing factor in politics and economics.[3] A feature typical of concentrated income distributions is that mean income is often greater than median income. As the middle class is more grouped towards the mean, (in contrast with the median affecting political preferences in the median voter theorem) part of the middle class will not be as influential in shaping political preferences as it would be the case in a more egalitarian society. The empirical evidence is favorable to this hypothesis. In fact, Easterly (2000) has shown, based on 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. It is important to device education, health, housing and social security policies 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 paper is organized in three sections besides this Introduction. Section 2 identifies the main economic and political economy variables that are bound to be correlated with the middle class. This refers to the level and inequality of per capita income and net wealth, the size of government and composition of public expenditure, the size of small and medium size enterprises and the degree of democracy in a country. Section 3 assembles a data base for these variables for a sample of 129 countries and studies the patterns of 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 paper closes in section 4 with conclusions from the analysis.

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[1]   See Cashell (2007), Daly and Wilson (2006) and Birdsall et.al. (2000), Solimano (1998 and 2005).

[2]   Policy reversal toward policies of nationalization is already taking place in some countries (i.e Venezuela and Bolivia in the Latin American context). It is a serious possibility that this and other anti-market policy moves take hold in other countries as well. This policy U-turn may be related to a relative neglect of the middle class both as a potential beneficiary of fiscal and social policies as well as a very relevant political actor in any democracy.

[3]   The traditional channel for instability to be transmitted to lower growth is through private investment a variable that is very sensitive to instability and political polarization associated with weak middle classes and high inequality of income and wealth.

II. Economic correlates of the middle class: empirical results

In this section we will investigate some empirical correlations between a set of variables, fundamentally of economic and political economy nature, which we postulate have a relationship with the middle class:

a) Level of per capita income and per capita wealth.[4]

b) Inequality of income and inequality of wealth

c) Level and composition of public expenditure.

d) Share of small and medium size enterprises in employment and output.

e) Democracy

Income per capita and wealth

We can expect that the relative size of the middle class has a positive correlation with the level of per capita income of the country. As mentioned before, in a growing economy income per capita increases and people will leave poverty and go into the ranks of the middle class. In addition, social mobility should increase in a dynamic economy with individuals moving up (or down) in the income and social status ladders. In addition, there is an important empirical regularity – confirmed in this paper – that middle and higher per capita

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[4] In what follows, "wealth", "net wealth" and "net worth" are used indistinctly. See Annex A.

income countries have, on average, a larger share of the middle class in real income than poor income countries. At this stage, we avoid postulating a causality running from the middle class to growth and income per capita and rather postulate a correlation.

Also the size of the middle class is correlated with the level of *net wealth* composed by physical and financial assets, housing, and debts.[5] Richer economies, say those with higher net wealth per capita, also have a larger middle class. In addition, richer economies have often deeper and more sophisticated capital markets and therefore more possibilities to acquire financial and other assets by the middle class.[6] Also the possibilities to diversify portfolios in richer economies are greater than in lower income economies.

Inequality

As mentioned before, we expect that countries with lower inequality of income and wealth (less concentrated income and wealth distributions) have larger middle classes, as income is distributed more evenly across the population than countries with higher inequality. In general inequality of income (and wealth) is characterized by a large share of income (wealth) accruing to the rich and a lower share to the middle class and/or the poor.[7] However, wealth and income concentration are not the same concept, and often wealth is more concentrated than primary incomes.[8] The important point is that we expect a negative relationship between the degree of concentration in income and wealth distribution and the relative size of the middle class in the economy.[9] 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 (or wealth). Again we will investigate empirically this hypothesis.

The size of government

In many countries a main employer of the middle class is government (ministries, state-agencies, public enterprises, etc). Then we could expect that the middle class is larger in countries with larger governments. In addition, the middle class will be affected by the incidence of the government expenditure and the level and composition of taxes.[10] In this paper we approximate the size of the state by the ratio of government expenditure over GDP but we will look at also the correlations between the composition of public spending – particularly social expenditure – and the middle class (broad definition and lower and upper middle class segments).

Small and medium size enterprises (SME)

The SME is 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 employee) of micro, small and medium size enterprises. In this sense we can expect a positive relationship between the relative size of the small and medium size enterprise sector in the economy (measured in terms of output and/or employment) and the

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[5]   See Annex A, for definition and sources of the "Net Worth (wealth) per capita" variable.

[6]   The middle class is often a main owner of *housing* among other assets (Solimano, 2007).

[7]   See Atkinson (2006).

[8]   See Davies et al. (2006).

[9]   Sometimes a high concentration of income and wealth at the top is sometimes referred as polarization, and we should expect an inverse relationship between polarization and the relative size of the middle class.

[10]   López y Torero (2007). Typically, public spending in tertiary education, pensions and 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.

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.[11]

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. Thereby, the level of economic development, democracy and larger middle classes are all variables that seem to move together. We shall test these patterns for a large sample in this paper, expecting a positive correlation between democracy (using the data set of the multi-country Polity IV project) and the relative size of the middle class.

Empirical results

In Table 1 we present the average values of the variables used in this study. We have data on levels of per capita income, net wealth per person and income distribution (income shares and Gini coefficients for income and wealth) for 129 countries. Data of the ratio of public expenditure over GDP is available for 93 countries, the democracy index for 126 economies, and the shares of SME's in total employment and output for 72 countries and 35 economies, respectively. The social structure of each country is decomposed in three social classes: the poor, the middle class and the rich. Our focus is, however, on the middle class. Empirically, the income shares within countries for each class are as follows:

(i)   The poor (bottom 1 and 2 deciles)

(ii)   The middle class. As this class encompasses a broad segment of the population we work with a "broad definition" (deciles 3 to 9) and with a decomposition of "lower middle class" (deciles 3 to 6) and "upper middle class" (deciles 7 to 9)

(iii)   The rich (approximated by the share of the 10th decile).[12]

Economies are grouped according to their level of per capita income using the definition of the World Bank (Low-Income, Lower-Middle Income, Upper-Middle Income and High-Income) and also by regional grouping (see Annex A for a description of country classification).

The average share of the middle class, (broad definition, MC) for the world economy (129 countries) is close to 62 percent (data circa 2000). This relative size increases with the level of per capita income: the MC share for low-income 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 with

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

[12]   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 the middle class may correspond to the poor in a high-income economy. Overlaps across countries will occur. Our focus for assessing the standard of living of the middle class is *within countries* distributions rather than on the world (or global) income distributions. The global income distribution intends to reflect the distribution of income among all citizens of the world. The World Bank (2007) defines the global middle class ranging from U$ 4,000 to U$ 17,000, which corresponds, roughly, to the per capita income of Brazil and Italy respectively. It is clear that 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 economy-wide growth, increases in education levels, shifts in income distribution and other factors. This is bound to have effects on international trade in goods and services as well as on domestic demand. The expenditure patterns of the middle class include demand for durable goods, housing, education and health care services, tourism and other (see Milanovic, 2006, and World Bank, 2007).

GDP per head above US$ 11, 000) is much higher: 66 percent. In turn, we find that the shares of the upper middle class have a narrower range of variation, across countries (varies from 36 in low income countries to 37.5 percent in high-income economies) than the shares of the lower middle class (the range varies from 24 percent for low-income countries compared to 29 percent for high income countries, see Table 1).

Interestingly the increase in the middle class share in higher income countries (HIC) comes along with a *decline* in the average share of the rich. The income share of the rich (top 10 percent) is smaller in high-income economies (on average 25.8 percent) than the corresponding share in low-income economies (33.5 percent). Thus it is apparent that high income economies have less concentrated income distributions and a larger middle class than middle income and low income economies, confirming our basic hypothesis discussed before that high-income economies have larger middle classes than poor and middle income countries. The same observation can be drawn using the GINI coefficients of income (calculated by the World Bank) and the GINI of wealth (computed by UNU-WIDER). In fact, the average (income) GINI for high-income economies is 0.33 compared to 0.42 for low income economies (and close to 0.43 for middle income countries), see Table 1.

TABLE 1
THE MIDDLE CLASS AND CORRELATES

(Selected indicators for 129 countries, year 2000 closest available information)

| Country Group	Income shares					Income and Wealth				Other Indicators			
	Poor (Deciles 1 and 2, % of GDP)	Middle Class (Broad definition, Deciles 3 to 9, % of GDP)	Lower Middle Class (Deciles 3 to 6, % of GDP)	Upper Middle Class (Deciles 7 to 9, % of GDP)	Rich (Top Decile, % of GDP)	GDP per capita (PPP adjusted, US$ year 2000)	Income GINI Index	Net Worth per capita (PPP adjusted, US$ year 2000)	Net Worth GINI Index	Government Expenses (% of GDP)	Democracy Index (Polity IV)	SME's Employment (% of Total Employment)	SME's Output (% of GDP)
World Bank's Income-based Criterion													
Low-Income Economies	6.04	60.41	24.29	36.12	33.55	1 349.10	0.422	3 960.17	0.709	20.00	0.97	36.19	24.00
Lower-Middle-Income Economies	5.54	59.94	23.62	36.32	34.51	3 982.84	0.438	11 162.62	0.709	21.63	0.65	38.76	29.41
Upper-Middle-Income Economies	5.69	61.21	24.59	36.62	33.10	7 999.65	0.423	20 232.75	0.705	27.22	7.83	51.14	40.79
High-Income Economies	7.47	66.67	29.08	37.59	25.85	23 769.67	0.330	89 192.45	0.665	33.49	9.46	63.93	48.77
World Bank's Regional Criterion													
East Asia & Pacific	6.53	62.75	25.77	36.98	30.72	10 006.21	0.391	45 237.73	0.676	21.25	5.87	67.45	35.97
Europe, Central Asia & North America	7.72	66.67	29.31	37.35	25.61	15 177.41	0.325	48 801.64	0.668	30.70	5.91	49.98	42.91
By OECD Membership													
OECD countries	7.67	67.05	29.57	37.47	25.28	27 461.19	0.320	96 685.34	0.676	36.02	9.94	67.40	53.63
Non-OECD countries	7.75	66.43	29.15	37.28	25.81	6 988.23	0.328	19 080.73	0.664	26.72	3.55	35.06	31.21
By European Union Membership													
EU Members	7.91	67.34	29.98	37.36	24.75	19 773.78	0.313	65 127.29	0.657	36.23	9.46	59.22	48.69
Others	7.50	65.91	28.55	37.35	26.59	9 431.95	0.338	30 249.77	0.682	23.34	2.05	35.21	26.52
Latin America & The Caribbean	3.64	56.81	20.52	36.29	39.54	5 627.84	0.510	16 457.70	0.743	20.72	3.45	55.94	45.34
Middle East & North Africa	6.62	63.64	26.26	37.39	29.71	6 441.90	0.379	19 250.69	0.676	29.49	2.38	--	--
South Asia	7.70	60.21	25.67	34.54	32.12	2 239.84	0.381	7 275.13	0.682	16.76	4.60	--	--
Sub-Saharan Africa	5.10	57.60	21.96	35.63	37.31	1 882.42	0.470	4 615.79	0.729	24.01	0.93	32.66	--
All Countries	6.17	61.88	25.27	36.61	31.95	8 596.30	0.405	28 874.90	0.698	26.26	4.02	51.08	42.14
(Number of Countries included)	(129)	(129)	(129)	(129)	(129)	(127)	(129)	(129)	(129)	(93)	(126)	(72)	(35)

Source: Own elaboration based on World Bank's WDI (2007), Davies et al. (2006) (WIDER-UNU Project on World Wealth Distribution), Marshall and Jaggers (2005)(Policy IV Project), and Ayyagari et al. (2005) (SME's Database). See Annex A for details.
Note: Numbers in parenthesis indicate the number of observations available for each variable.

It is important to note that the degree of concentration of wealth is often higher than for income. In fact, the average GINI coefficients for wealth (net worth) are 0.66 for high-income economies and 0.71 for low income economies. Figure 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, suggesting that inequality of incomes is less than inequality for wealth using cross country data.

When we consider regional groupings of countries we find some interesting contrasts: Latin American 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 & Pacific.

FIGURE 1
LORENZ CURVES FOR INCOME AND WEALTH DISTRIBUTIONS
(129 countries, closest year 2000 available data)
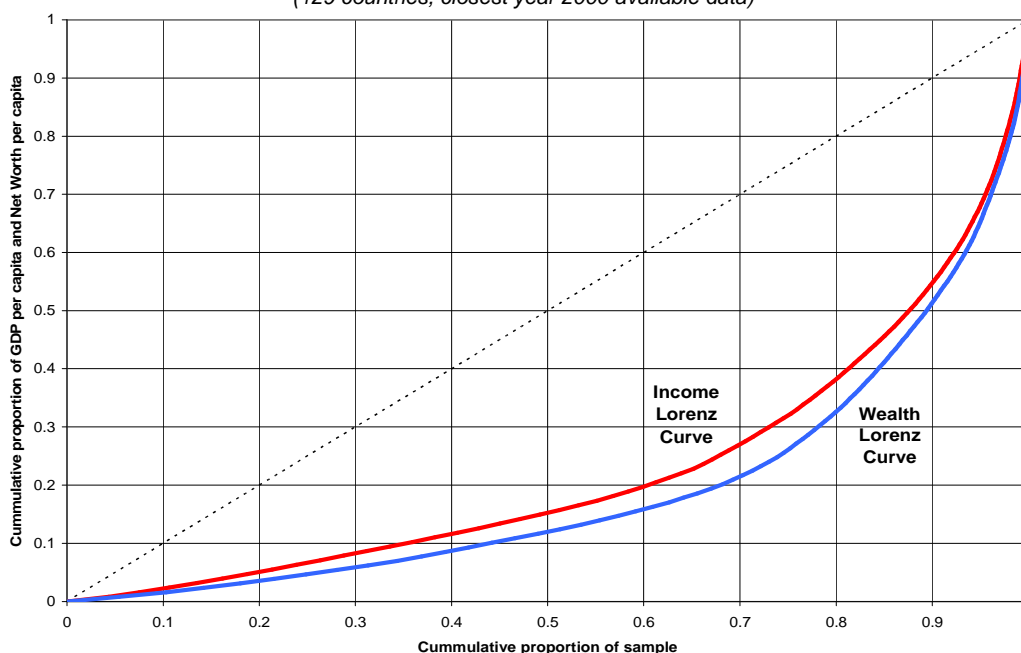
Source: Own elaboration based on World Bank's WDI (2007) and Davies et al. (2006) [WIDER-UNU Project on World Wealth Distribution]. See Annex A for details

Regarding other variables we find that the size of government expenditure goes up with the level of per capita income. Low income and lower middle income countries have a ratio of public spending to GDP in the range of 20-21.5 percent whereas the same ratio fluctuates between 27 percent and 33 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 to around 36 percent for low income countries. Upper middle income countries have a corresponding share of SME in employment of 51 percent and lower middle income near 39 percent. The differences are smaller for the shares of SMEs in output but still the positive correlation with income per capita levels holds.

III. Analysis of correlations

Levels of per capita income and per capita wealth

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). In turn, the correlation of the share of the (broad) middle with per capita net worth is somewhat lower (0.346). As shown in Figure 2 the scatter diagram of the shares of the middle class (broad definition) shows a greater variability across low income and middle income countries than in 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 above US$ 10,000 or so (high-income economies). In the case of per capita net wealth that relation becomes more stable at a threshold of around US$ 50,000, see Figure 3. Again the dispersion of MC shares is higher for lower and middle income economies.

TABLE 2
MATRIX OF CORRELATIONS FOR 129 COUNTRIES
(Selected indicators for 129 countries, year 2000 closest available information)

Cross Correlations		Income Shares					Income and Wealth				Other Indicators			
		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)	Income GINI Index	Net Worth per capita (PPP adjusted)	Net Worth GINI Index	Govern_ment Expenses (% of GDP)	Demo_cracy Index (Polity IV)	SME's Employ_ment (% of total employ_ment)	SME's Output (% of GDP)
Income Groups	Poor (Deciles 1 and 2)	1.000 (129)												
	Middle Class (Broad definition, Deciles 3 to 9)	0 807 (129)	1 000 (129)											
	Lower Middle Class (Deciles 3 to 6)	0 927 (129)	0 956 (129)	1 000 (129)										
	Upper Middle Class (Deciles 7 to 9)	0 217 (129)	0 723 (129)	0 489 (129)	1 000 (129)									
	Rich (Top Decile)	-0 891 (129)	-0 987 (129)	-0 986 (129)	-0 615 (129)	1 000 (129)								
Income and Wealth	GDP per capita (PPP adjusted)	0 328 (127)	0 411 (127)	0 421 (127)	0 231 (127)	-0 405 (127)	1 000 (127)							
	Income GINI Index	-0 954 (129)	-0 940 (129)	-0 992 (129)	-0 460 (129)	0 981 (129)	-0 402 (127)	1 000 (129)						
	Net Worth per capita (PPP adjusted)	0 236 (129)	0 346 (129)	0 333 (129)	0 243 (129)	-0 330 (129)	0 912 (127)	-0 316 (129)	1 000 (129)					
	Net Worth GINI Index	-0 655 (129)	-0 676 (129)	-0 697 (129)	-0 368 (129)	0 697 (129)	-0 265 (127)	0 688 (129)	-0 196 (129)	1 000 (129)				
Other Indicators	Government Expenses (% of GDP)	0 295 (93)	0 359 (93)	0 355 (93)	0 217 (93)	-0 354 (93)	0 505 (92)	-0 351 (93)	0 405 (93)	-0 272 (93)	1 000 (93)			
	Democracy Index (Polity IV)	0 054 (126)	0 025 (126)	0 043 (126)	-0 025 (126)	-0 034 (126)	0 253 (124)	-0 045 (126)	0 212 (126)	-0 020 (126)	0 211 (92)	1 000 (126)		
	SME's Employment (% of total employment)	-0 006 (72)	-0 019 (72)	-0 017 (72)	-0 018 (72)	0 016 (72)	0 479 (72)	0 007 (72)	0 420 (72)	-0 029 (72)	0 222 (60)	0 160 (70)	1 000 (72)	
	SME's Output (% of GDP)	-0 031 (35)	0 073 (35)	0 033 (35)	0 187 (35)	-0 043 (35)	0 565 (35)	-0 028 (35)	0 546 (35)	-0 004 (35)	0 188 (31)	-0 076 (34)	0 698 (35)	1 000 (35)

Source: Own elaboration based on World Bank's WDI (2007), Davies et al. (2006) [WIDER-UNU Project on World Wealth Distribution], Marshall and Jaggers (2005) [Polity IV Project], and Ayyagari et al. (2005) [SME's Database]. See Annex A for details.
Note: Numbers in parenthesis indicate the number of observations available for estimating each correlation.

FIGURE 2
THE MIDDLE CLASS (BROAD DEFINITION) AND GDP PER CAPITA
(127 selected countries, closest year 2000 available data)
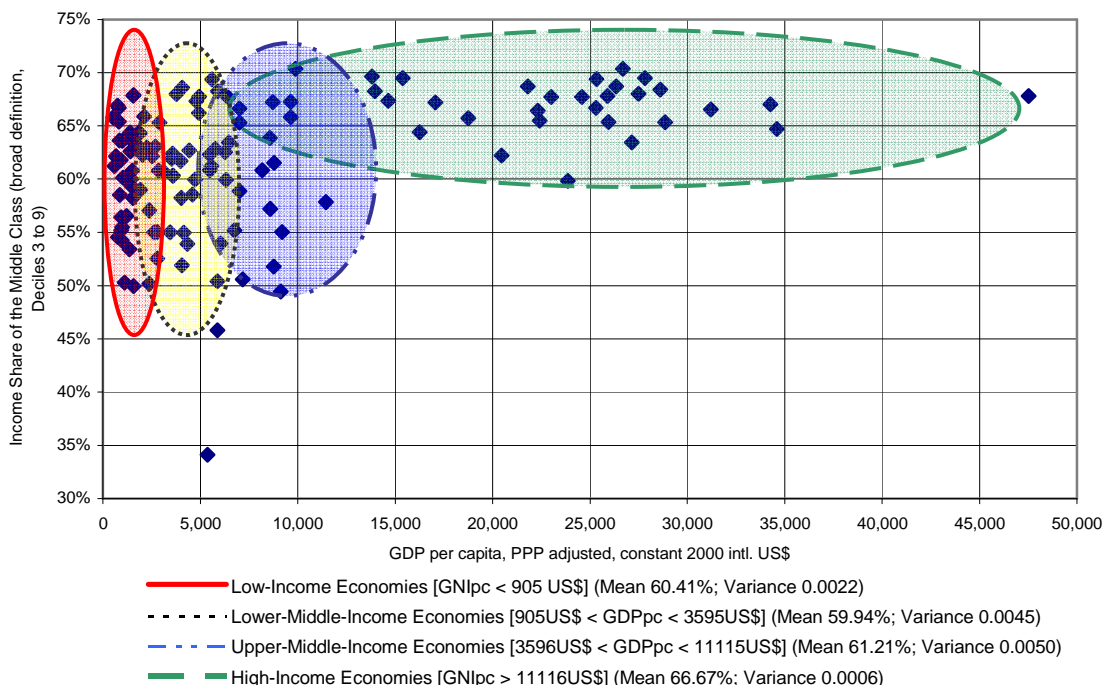
Source: own elaboration based on World Bank's WDI (2007). See Annex A for details.

FIGURE 3
THE MIDDLE CLASS (BROAD DEFINITION) AND NET WORTH PER CAPITA
(129 selected countries, closest year 2000 available data)
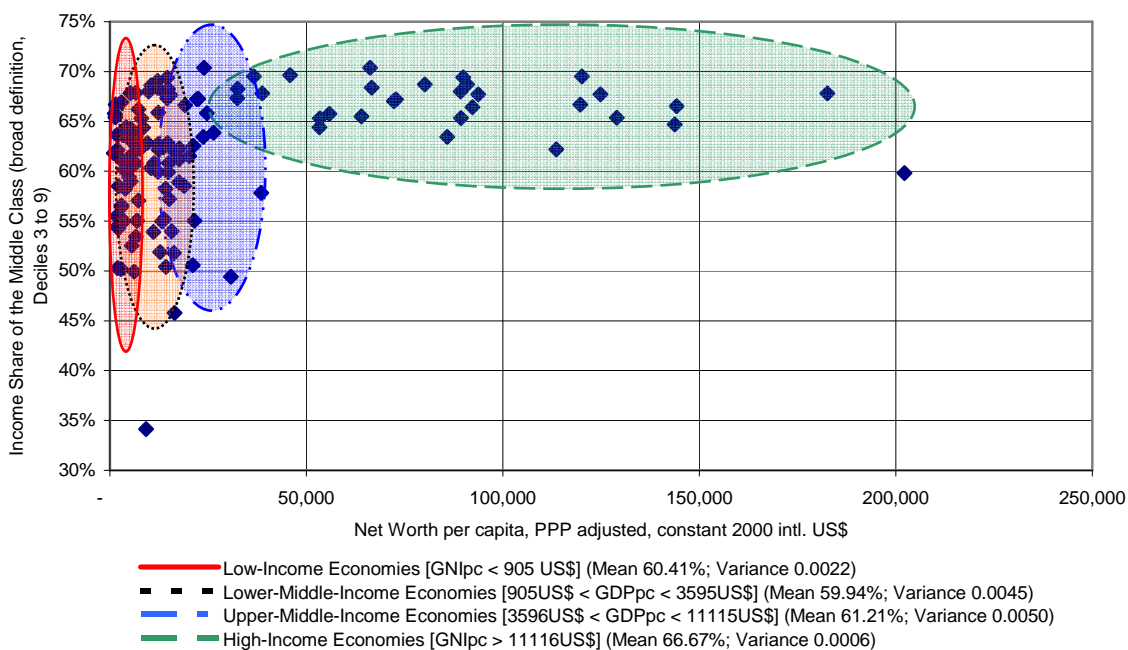
Source: Own elaboration based on World Bank's WDI (2007) and Davies et al. (2006) (WIDER UNU Project on World Wealth Distribution). See Annex A for details.

When the middle class (full country sample) is broken-down in 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). This suggests that economic growth should benefit more people whose incomes are closer to poverty than those whose incomes closer to the rich. Growth is, in a sense, pro-lower middle class.[13] From a political economy perspective we may think in a broader coalition between the poor and the lower middle class as their interests are relatively aligned among them.

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 net wealth are negative for the whole sample and for all income groups (see Table 2). Furthermore, this negative correlation is higher for the income GINI (a coefficient of minus 0.94) than for the net wealth GINI (a coefficient of minus 0.67), suggesting a closer inverse relationship between shares of the middle class and the degree of inequality of income than for inequality of net wealth.[14] In turn, the latter has a larger dispersion (see Figure 4 compared to Figure 5). It is also interesting to note that the negative correlation with the GINIs is stronger for the lower middle class than for the upper middle class (see Table 2).

FIGURE 4
THE MIDDLE CLASS (BROAD DEFINITION) AND INCOME GINI INDEX
(129 selected countries, closest year 2000 available data)

Source: own elaboration based on World Bank's WDI (2007). See Annex A for details.

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[13]   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.

[14]   It is also worth mentioning that 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.

FIGURE 5
THE MIDDLE CLASS (BROAD DEFINITION) AND NET WORTH GINI INDEX
(129 selected countries, closest year 2000 available data)
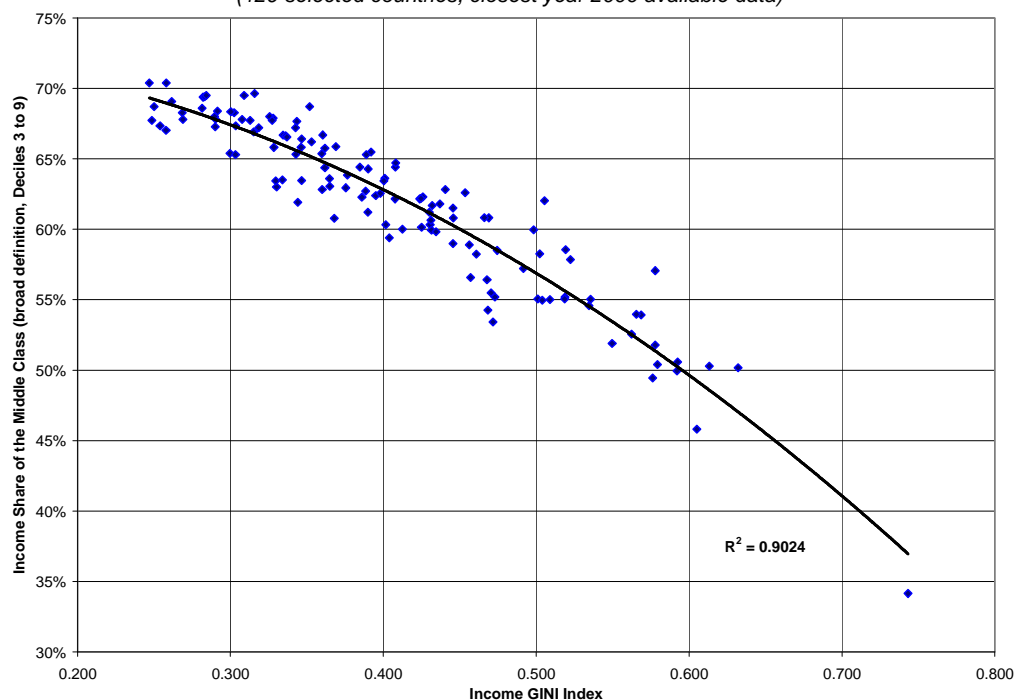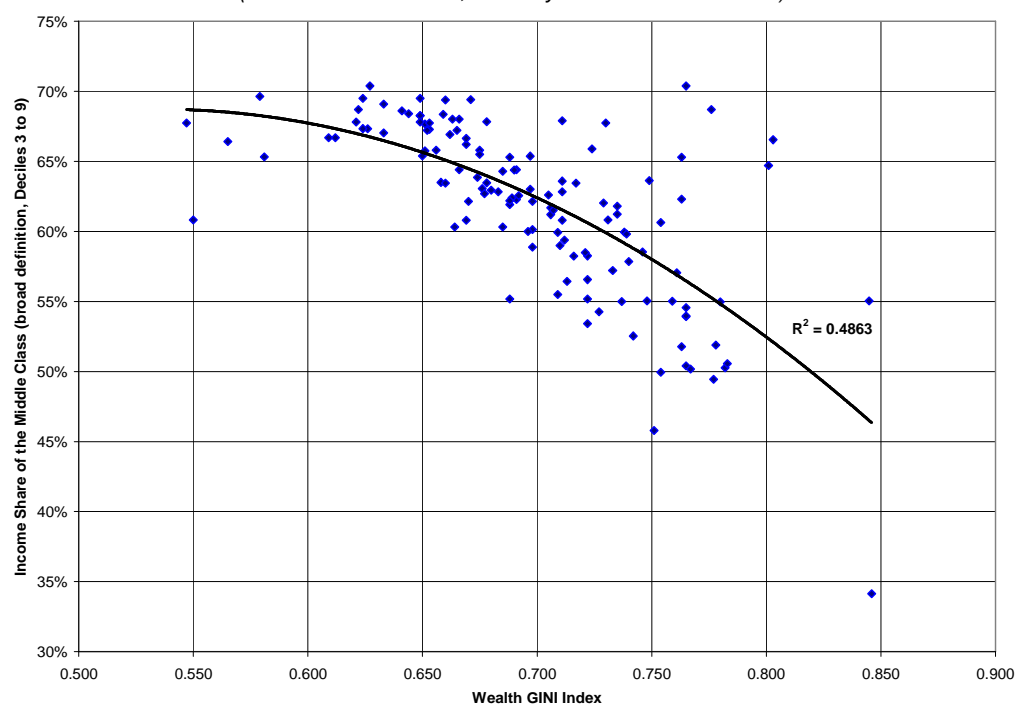

Source: own elaboration based on World Bank's WDI (2007) and Davies et al. (2006) [WIDER-UNU Project on World Wealth Distribution]. See Annex A for details.

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).[15]

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 (see Table B.4 in Annex B).

The middle class and the level and composition of government expenditure

For a sample of 93 countries (see Table 2) we find a correlation of 0.36 between the share of the middle class (broad definition) and the ratio of the level of total public spending over GDP, as our proxy to 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 and/or simply that both variables are not strongly correlated. Further test of the relationship could be made using data on public employment (as share of total employment) and the share of the middle class. When we disaggregate the middle class in lower and upper middle we find a stronger correlation with the public spending to GDP ratio for the lower middle class than for the upper middle class (see Table 2 and Figure 6).

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[15]   These countries happen to be those with higher per capita income levels.

FIGURE 6
THE MIDDLE CLASS (BROAD DEFINITION) AND GOVERNMENT EXPENSES
(93 selected countries, closest year 2000 available data)
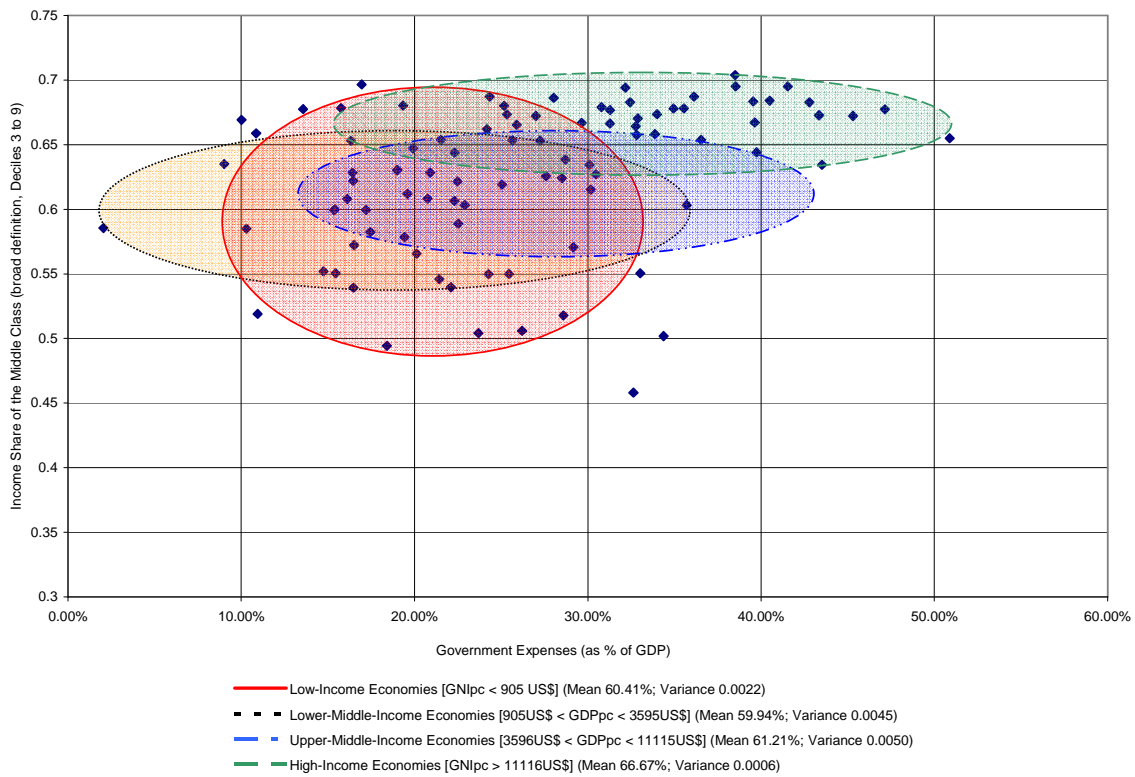
Source: own elaboration based on World Bank's WDI (2007). See Annex A for details.

In order to explore the effects of the *composition* of public expenditure using the data from the Government Financial Statistics compiled by the IMF we find for the whole sample (see Table 3) that in general social expenditure is not very progressive. For example government spending in education 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 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 some more significant correlation with the non-rich is the category of social protection.

TABLE 3
COMPOSITION OF PUBLIC EXPENDITURE AND THE MIDDLE CLASS
(Matrix of correlations for selected indicators, 129 countries, year 2000 closest available information)

Cross Correlations		Income Groups				
		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)
Income shares	Poor (Deciles 1 and 2)	1 000 (129)				
	Middle Class (Broad Definition, Deciles 3 to 9)	0 807 (129)	1 000 (129)			
	Lower Middle Class (Deciles 3 to 6)	0 927 (129)	0 956 (129)	1 000 (129)		
	Upper Middle Class (Deciles 7 to 9)	0 217 (129)	0 723 (129)	0 489 (129)	1 000 (129)	
	Rich (Top Decile)	-0 891 (129)	-0 987 (129)	-0 986 (129)	-0 615 (129)	1 000 (129)
Total Government Outlays		0 137 (84)	0 028 (84)	0 087 (84)	-0 117 (84)	-0 059 (84)
Social Expenditure	Housing and Community Amenities	-0 069 (70)	-0 266 (70)	-0 181 (70)	-0 352 (70)	0 220 (70)
	Health	-0 143 (70)	-0 064 (70)	-0 102 (70)	0 064 (70)	0 090 (70)
	Education	-0 114 (70)	-0 093 (70)	-0 101 (70)	-0 026 (70)	0 102 (70)
	Social Protection	0 364 (70)	0 425 (70)	0 424 (70)	0 222 (70)	-0 424 (70)
Non-Social Expenditure	Public Order and Safety	0 150 (42)	0 058 (42)	0 121 (42)	-0 150 (42)	-0 088 (42)
	Economic Affairs	0 127 (70)	0 000 (70)	0 074 (70)	-0 187 (70)	-0 038 (70)
	Environmental Protection	0 151 (6)	0.051 (6)	0.035 (6)	0 086 (6)	-0 073 (6)
	Recreation, Culture, and Religion	0 290 (69)	0 204 (69)	0 260 (69)	-0 036 (69)	-0 238 (69)
Other Expenditure	General Public Services	0 115 (70)	0 061 (70)	0 087 (70)	-0 037 (70)	-0 079 (70)
	Defense	0 080 (70)	0 057 (70)	0 083 (70)	-0 036 (70)	-0 066 (70)

Source: Own elaboration based on World Bank's WDI (2007) and IMF's GFS 2003. See Annex A for details.
Note: Numbers in parenthesis indicate the number of observations available for estimating each correlation.

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 neither to the poor nor to the lower middle class (see Tables C for country correlations by income group, and Tables D for country correlations by region, in Annexes C and D, respectively).

The small and medium size enterprises and the middle class

Our results show a weak correlation and of the unexpected sign between the shares of SME (Small and Medium-Size Enterprises) in employment and output and the share of the MC using both the broad definition of the middle class and the upper and lower middle class classifications. This may reflect also our more limited country sample for which SME data is available or other factors that would require additional research.

FIGURE 7
THE MIDDLE CLASS (BROAD DEFINITION) AND SME'S EMPLOYMENT
(72 selected countries, closest year 2000 available data)
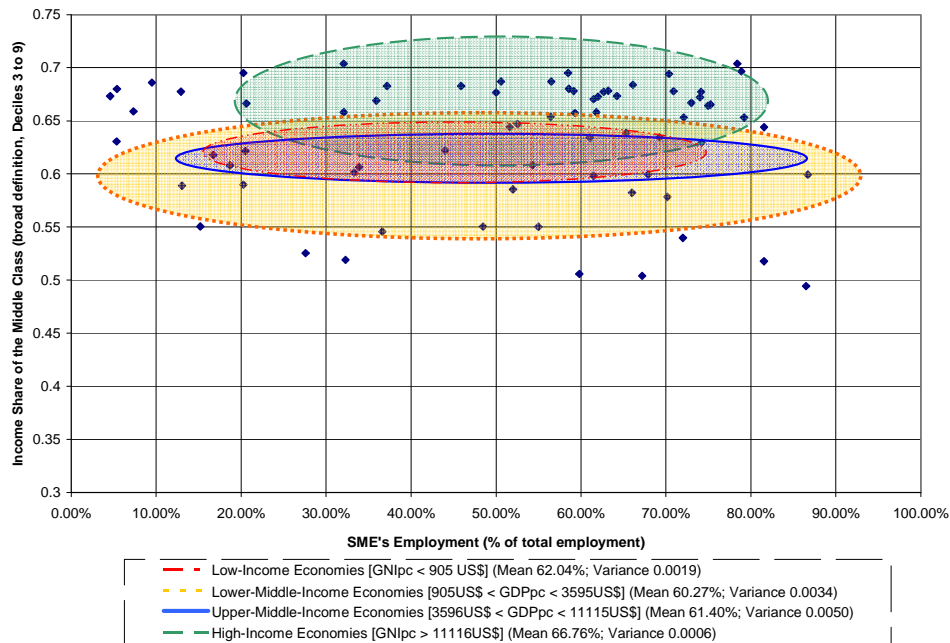
Source: own elaboration based on World Bank's WDI (2007) and Ayyagari et al. (2005)
[SME Database] See Annex A for details.

FIGURE 8
THE MIDDLE CLASS (BROAD DEFINITION) AND SME'S OUTPUT
(35 selected countries, closest year 2000 available data)
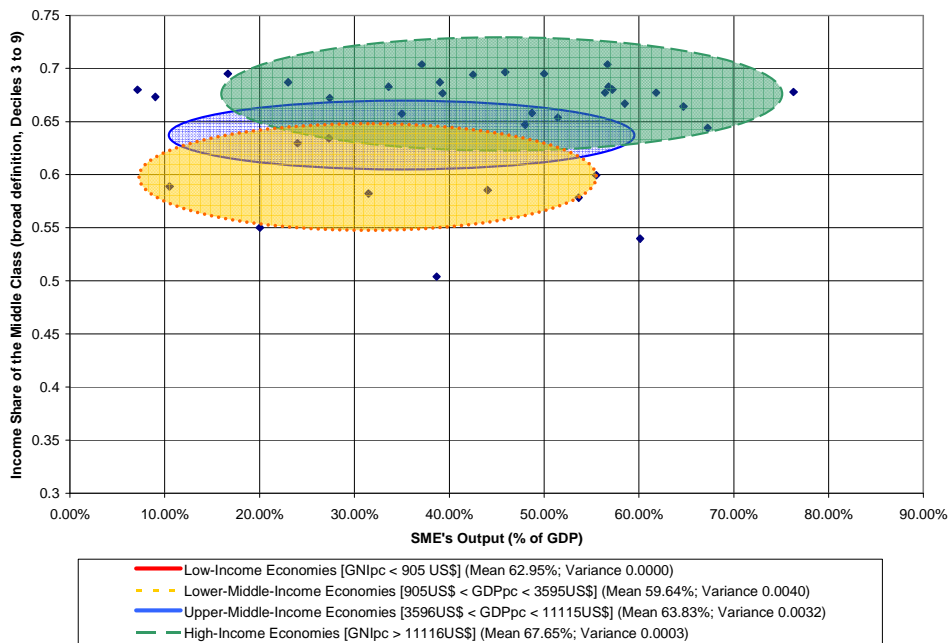
Source: own elaboration based on World Bank's WDI (2007) and Ayyagari et al. (2005)
[SME Database]. See Annex A for details.

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 (Marshall and Jaggers, 2005). This index--running from 0 to 10 (the higher the index the more democratic is society)-- comprises three dimensions: (a) competitiveness of political participation, (b) the openness and competitiveness of executive recruitment and (c) 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, say, between democracy versus autocracy. As shown in Table 1, the average score of the index is low for low-income and lower-middle income countries (a value below 1), and much higher for upper middle income countries (a value of 7.8) and for higher-income countries (a value of 9.5). For the overall sample the correlation with the share of the middle class (broad definition) is almost non-existent (0.025, see Table 2). Only for the group of high-income countries there is a positive and relatively high correlation between the share of the MC and the democracy index (see Figure 9 and Table B.4 in Annex B).

FIGURE 9
THE MIDDLE CLASS (BROAD DEFINITION) AND DEMOCRACY
(123 selected countries, closest year 2000 available data)
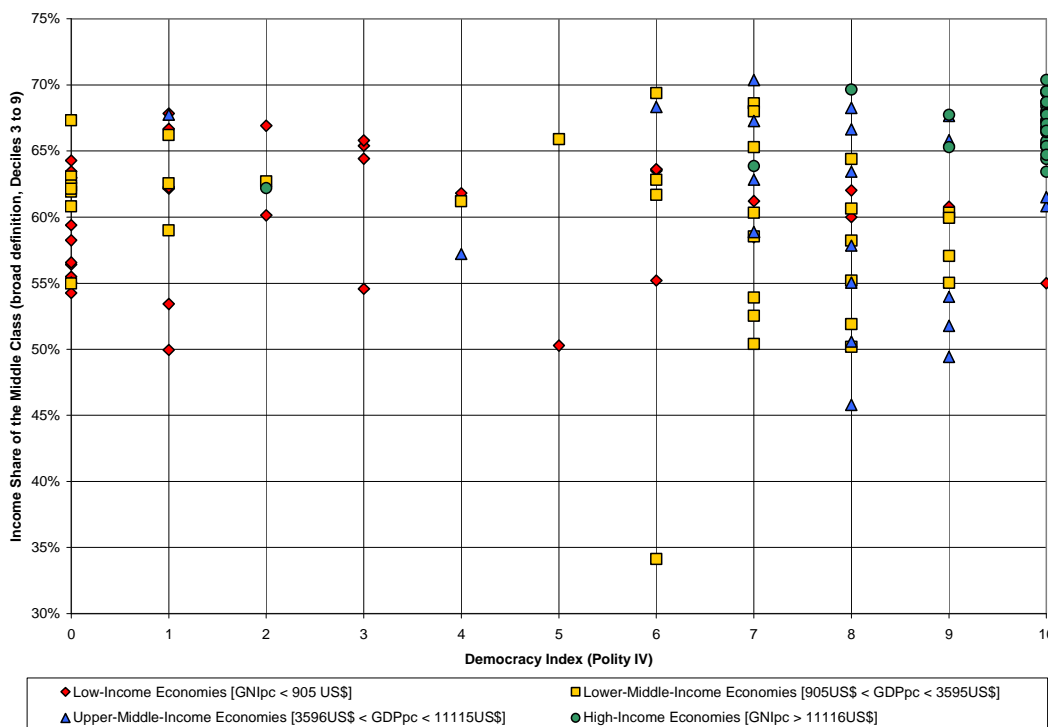
Source: own elaboration based on World Bank's WDI (2007) and Marshall and Jaggers (2005) [Polity IV Project]. See Annex A for details.

IV. Concluding remarks

This paper has investigated some of the main empirical regularities of behavior of the middle class across developing and high-income countries. Our paper suggests that as income per capita levels increase and the level of development rises countries tend to have a larger middle class and lower inequality, a large sector of small and medium size enterprises, stable democracies and in several (but not all) cases a larger government. The paper examines a set of variables that are correlated with the evolution of the income shares of the middle class using information for a large sample of countries. Our results show that in high income economies the relative size of the middle class (using a broad definition of deciles 3 to 9) is near 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. However, the relationship between the share in income of the middle class and the level of per capita income is non-linear and shows more dispersion for low and middle income countries with per capita incomes below US$ 10,000 than for rich economies. The relationship between the share of the middle class and net wealth is also positive but displays more dispersion than the relationship between the middle class shares and income per head.

Interestingly, 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 we may think in a broader coalition between the poor and the lower middle class as their economic interests are relatively aligned among them. That coalition would range for individuals from the deciles 1 to 6.

Our results 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 size of the middle class. The correlation between the share of the middle class and income GINIs is negative and close to 95 percent and the correlation with wealth GINIs is around 67 percent (full sample of 129 countries). The relation between this share and the GINI holds high across all per capita income groups although it is lower for high income economies with per capita incomes above US$ 11,000 reflecting the fact that rich countries are also less unequal than lower income nations.

The paper 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 of composition of public expenditure reveals that categories of social expenditure such as education, health and perhaps housing are in general not very redistributive reaching in small proportions the lower middle class and the poor. The component whose incidence is more progressive is social protection. Likewise we do not detect any significant correlation between the relative size of the small and medium size enterprises measured both as shares of total employment and total output and the shares of the middle class in real income. Finally, when we correlate an index of democracy and the middle class shares we find little or no correlation between both variables except for the group of high-income economies groups.

Our analysis is cast in terms of correlation rather than causality as it is apparent a 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 and the SME sector, and degree of democracy on the other. To what extent is the middle class that *leads* the process of economic development or rather it *follows* (or evolve jointly) with it is still an open question for further research.

Bibliography

Atkinson, A. B. (2006). "Concentration among the Rich", UNU-WIDER, Research Paper 2006/151.

Ayyagari, Meghana, Thorsten Beck and Asli Demirgüç-Kunt (2005). "Small and Medium Enterprises across the Globe", draft, March.

Birdsall, N., C. Graham and S. Pettinato (2000), "Stuck in the Tunnel: Is Globalization Muddling the Middle Class?", Center for Social and Economic Dynamics, Working Paper # 14, August.

Cashell, B. (2007). "Who are the 'Middle Class'?", CRS Report for Congress, Washington DC.

Daly, M. and D. Wilson (2006). "Keeping Up with Joneses and Staying Ahead of the Smiths: Evidence from Suicide Data", Federal Reserve Bank of San Francisco, Working Paper 2006-12, April.

Davies, James, Susanna Sandstrom, Anthony Shorrocks, and Edward N. Wolff (2006). "The World Distribution of Household Wealth", World Institute for Development Economics Research of the United Nations University (UNU-WIDER) Project on World Wealth Distribution.

Easterly, W. (2000). "The Middle Class Consensus and Economic Development", The World Bank, Policy Research Working Paper # 2346.

GFS, Government Finance Statistics (2003). International Monetary Fund, Yearbook and CD-ROM.

Graham, Carol (2007). "What Happiness Research can (and cannot) contribute to Policy Reforms: Lessons from Research on Latin America and Beyond", The Brookings Institution and University of Maryland, draft presented at World Bank Workshop "Fiscal Incidence and the Middle Class: Implications for Policy", June 5, 2007.

Layard, R. (2005). Happiness: Lessons from a New Science. New York: Penguin Press.

López, Ramón and Máximo Torero (2007). "Economic Growth, the Fiscal Sector and Income Distribution", University of Maryland and IFPRI, draft presented at World Bank Workshop "Fiscal Incidence and the Middle Class: Implications for Policy", June 5, 2007.

Marshall, Monty G. and Keith Jaggers (2005). "POLITY IV Project: Political Regime Characteristics and Transitions, 1800-2004", *Polity IV Project, Center for Global Policy, School of Public Policy, George Mason University*. Data User's Manual and Database.

Milanovic, Branko (2006). "Global income inequality: what it is and why it matters" *The World Bank,* Policy Research Working Paper Series # 3865.

Solimano, A. (editor, 1998). *Social Inequality,* University of Michigan Press.

Solimano, A., Eduardo Aninat and Nancy Birdsall (editors, 2000). *Distributive Justice and Economic Development: The Case of Chile and Developing Countries*. Ann Arbor: University of Michigan.

___(2005). "Towards New Social Policies in Latin America: Growth, the Middle Class and Social Rights", *ECLAC Review* # 87, December.

___(editor, 2006). *Vanishing Growth in Latin America. The Late Twentieth Century Experience*, Edward Elgar Publishers, UK and USA.

___(2007). "Asset Accumulation by the Middle Class and the Poor in Latin America" in C. Moser editor, *Reducing Global Poverty. The Asset Approach*. Brookings Institution. .

World Bank, The (2007). *World Development Indicators*, selected series, countries and years.

World Bank, The (2007). *Global Development Prospects*.

Annex

Annex A
Description of variables and country classification

Note: Gathered data on income distribution is the closest to year 2000 available information. Details on the corresponding date for each country is available on request from the author.

A.1. Description of variables

Poor (Deciles 1 and 2): Data on deciles comes from the World Bank's World Development Indicators (WDI), version 2007, for selected years.

Middle Class (Broad Definition, Deciles 3 to 9): Data on deciles comes from the World Bank's World Development Indicators (WDI), version 2007, for selected years. See the database in Annex C.

Lower-Middle Class (Deciles 3 to 6): Data on deciles comes from the World Bank's World Development Indicators (WDI), version 2007, for selected years.

Upper-Middle Class (Deciles 7 to 9): Data on deciles comes from the World Bank's World Development Indicators (WDI), version 2007, for selected years.

Rich (Top Decile): Data on deciles comes from the World Bank's World Development Indicators (WDI), version 2007, for selected years.

GDP per capita (PPP adjusted): is the Gross Domestic Product per capita adjusted by the Purchasing Power Parity (PPP) for international US$ of year 2000. Data comes from the World Bank's World Development Indicators (WDI), version 2007, for selected years.

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 comes from the World Bank's World Development Indicators (WDI), version 2007, for selected years.

Net Worth per capita (PPP adjusted): is the Wealth per capita adjusted by the Purchasing Power Parity (PPP) for international US$ of year 2000. Here wealth is defined as Net Worth, v.g. the value of physical and financial assets less liabilities. Data comes from the World Institute for Development Economics Research of the United Nations University (UNU-WIDER) study "The World Distribution of Household Wealth" (Davies et al., 2006).

Net Worth GINI Index: is 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 comes from the World Institute for Development Economics Research of the United Nations University (UNU-WIDER) study "The World Distribution of Household Wealth" (Davies et al., 2006).

Government Expenses (% of GDP): are cash payments for operating activities of the government in providing goods and services. They include compensation of employees (such as wages and salaries), interest and subsidies, grants, social benefits, and other expenses such as rent and dividends. Data on deciles comes from the World Bank's World Development Indicators (WDI), version 2007, for selected years.

Democracy Index (Polity IV): corresponds to the Institutionalized Democracy Indicator form Polity IV Project. The indicator of democracy is an additive eleven-point scale (0-10), derived from the codes of the competitiveness of political participation, the openness and

competitiveness of executive recruitment, and constraints on the chief executive. Data comes from Polity IV Project (Center for Global Policy, George Mason University) study "Political Regime Characteristics and Transitions, 1800-2004" (Marshall and Jaggers, 2005).

SME's Employment (% of total employment): is the Small and Medium Enterprises (SME) sector's share of formal employment using the official country definition of SME. Values are 1990-1999 averages for each country. Data comes from the study "Small and Medium Enterprises across the Globe" (Ayyagari et al., 2005).

SME's Output (% of GDP): is the SME sector's contribution to GDP using the official country definition of SME. Values are 1990-1999 averages for each country. Data comes from the study "Small and Medium Enterprises across the Globe" (Ayyagari et al., 2005).

Total Outlays (% of GDP): represent government expenses plus the net acquisition of nonfinancial assets (acquisitions minus disposals) by the public sector. Data reported in cash-based budgetary central government, in current local currency unit comes from the IMF's GFS (2003), Code 7, for selected years. We express it as % of GDP based on own calculations.

Housing and Community Amenities (% of GDP): are the cash payments for operating activities of the budgetary central government related to housing development; community development; water supply; street lighting; research and development in housing and community amenities; and other housing and community amenities payments not elsewhere classified. Data in current local currency unit comes from the IMF's GFS (2003), Code 706, for selected years. We express it as % of GDP based on own calculations.

Health (% of GDP): are the cash payments for operating activities of the budgetary central government related to medical products, appliances, and equipment; outpatient services; hospital services; public health services; research and development in health; and other health payments not elsewhere classified. Data in current local currency unit comes from the IMF's GFS (2003), Code 707, for selected years. We express it as % of GDP based on own calculations.

Education (% of GDP): are the cash payments for operating activities of the budgetary central government related to pre-primary and primary education; secondary education; postsecondary nontertiary education; tertiary education; education not definable by level; subsidiary services to education; research and development in education; and other education payments not elsewhere classified. Data in current local currency unit comes from the IMF's GFS (2003), Code 709, for selected years. We express it as % of GDP based on own calculations.

Social Protection (% of GDP): are the cash payments for operating activities of the budgetary central government related to sickness and disability; old age; survivors; family and children; unemployment; housing; social exclusion not elsewhere classified; research and development in social protection; and other social protection payments not elsewhere classified. Data in current local currency unit comes from the IMF's GFS (2003), Code 710, for selected years. We express it as % of GDP based on own calculations.

Public Order and Safety (% of GDP): are the cash payments for operating activities of the budgetary central government related to police services; fire protection services; law courts; prisons; research and development in public order and safety; and other public order and safety payments not elsewhere classified. Data in current local currency unit

comes from the IMF's GFS (2003), Code 703, for selected years. We express it as % of GDP based on own calculations.

Economic Affairs (% of GDP): are the cash payments for operating activities of the budgetary central government related to general economic, commercial, and labor affairs; agriculture, forestry, fishing, and hunting; fuel and energy; mining, manufacturing, and construction; transport; communication; other industries; research and development in economic affairs; and other economic affairs payments not elsewhere classified. Data in current local currency unit comes from the IMF's GFS (2003), Code 704, for selected years. We express it as % of GDP based on own calculations.

Environmental Protection (% of GDP): are the cash payments for operating activities of the budgetary central government related to waste management; waste water management; pollution abatement; protection of biodiversity and landscape; research and development in environmental protection; and other environmental protection payments not elsewhere classified. Data in current local currency unit comes from the IMF's GFS (2003), Code 705, for selected years. We express it as % of GDP based on own calculations.

Recreation, Culture, and Religion (% of GDP): are the cash payments for operating activities of the budgetary central government related to recreational and sporting services; cultural services; broadcasting and publishing services; religious and other community services; research and development in recreation, culture, and religion; and other recreation, culture, and religion payments not elsewhere classified. Data in current local currency unit comes from the IMF's GFS (2003), Code 708, for selected years. We express it as % of GDP based on own calculations.

General Public Services (% of GDP): are the cash payments for operating activities of the budgetary central government related to executive and legislative organs, financial and fiscal affairs, external affairs; foreign economic aid; general services; basic research; research and development general public services; public debt transactions; transfers of a general character between different levels of government; and other general public services not elsewhere classified. Data in current local currency unit comes from the IMF's GFS (2003), Code 701, for selected years. We express it as % of GDP bases on own calculations.

Defense (% of GDP): are the cash payments for operating activities of the budgetary central government related to military defense; civil defense; foreign military aid; research and development in defense; and other defense payments not elsewhere classified. Data in current local currency unit comes from the IMF's GFS (2003), Code 702, for selected years. We express it as % of GDP bases on own calculations.

Social Expenditure (% of GDP): are the cash payments for operating activities of the budgetary central government related to housing and community amenities, health, education, and social protection. Data in current local currency unit comes from the IMF's GFS (2003), as a sum of Codes 706, 707, 709, and 710, for selected years. We express it as % of GDP bases on own calculations.

Non-Social Expenditure (% of GDP): are the cash payments for operating activities of the budgetary central government related to public order and safety, economic affairs, environmental protection, and recreation, culture, and religion. Data in current local currency unit comes from the IMF's GFS (2003), as a sum of Codes 703, 704, 705, and 708, for selected years. We express it as % of GDP bases on own calculations.

Other Expenditure (% of GDP): are the cash payments for operating activities of the budgetary central government related to general public services and defense. Data in current local currency unit comes from the IMF's GFS (2003), as a sum of Codes 701 and 702, for selected years. We express it as % of GDP bases on own calculations.

A.2. Country Classification

Income Grouping: countries are grouped according to their Gross National Income per capita (GNIpc) using the World Bank's criterion:

Low-Income Economies: GNIpc ≤ 905 US$

Included countries: 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: 906 US$ ≤ GNIpc ≤ 3,595 US$

Included countries: 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: 3,596 US$ ≤ GNIpc ≤ 11,115 US$

Included countries: 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 ≥ 11,116 US$

Included countries: 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. We re-group Europe and Central Asia together with North America due to the similarities in organization and economies. We also disaggregate this new region (called Europe, Central Asia and North America) by two different criterions: based on OECD Membership, and based on 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.

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.

Annex B
Middle class and correlates, by country income groups

TABLE B.1
MATRIX OF CORRELATIONS FOR LOW INCOME ECONOMIES
(selected indicators for 38 countries, year 2000 closest available information,
GNI per capita less than 905 US$)

Cross Correlations		Income Groups		
		Poor (Deciles 1 and 2)	Middle Class (Deciles 3 to 9)	Rich (Top Decile)
Mean Income Holdings (% of GDP)	Poor (Deciles 1 and 2)	1 000 (38)		
	Middle Class (Deciles 3 to 9)	0 696 (38)	1 000 (38)	
	Rich (Top Decile)	-0 832 (38)	-0 977 (38)	1 000 (38)
Income and Wealth	GDP per capita (PPP adjusted)	0 105 (38)	-0 082 (38)	0 033 (38)
	Income GINI Index	-0 942 (38)	-0 888 (38)	0 963 (38)
	Net Worth per capita (PPP adjusted)	0 229 (38)	0 050 (38)	-0 106 (38)
	Net Worth GINI Index	-0 675 (38)	-0 655 (38)	0 705 (38)
Other Indicators	Government Expenses (% of GDP)	-0 310 (15)	-0 136 (15)	0 192 (15)
	Democracy Index (Polity IV)	0 067 (38)	0 006 (38)	-0 025 (38)
	SME's Employment (% of total employment)	0 584 (11)	0 455 (11)	-0 504 (11)
	SME's Output (% of GDP)	. ( )	. ( )	. ( )

Source: own elaboration based on World Bank's WDI (2007), Davies et al. (2006) [WIDER-UNU Project on World Wealth Distribution], Marshall and Jaggers (2005) [Polity IV Project], and Ayyagari et al. (2005) [SME's Database]. See Annex A for details

Note: Numbers in parenthesis indicates the number of observations available for estimating the particular correlation.

TABLE B.2
MATRIX OF CORRELATIONS FOR LOWER MIDDLE INCOME ECONOMIES
(selected indicators for 37 countries, year 2000 closest available information, GNI per capita between 906 US$ and 3, 595 US$)

Cross Correlations		Income Groups		
		Poor (Deciles 1 and 2)	Middle Class (Deciles 3 to 9)	Rich (Top Decile)
Mean Income Holdings (% of GDP)	Poor (Deciles 1 and 2)	1 000 (37)		
	Middle Class (Deciles 3 to 9)	0 822 (37)	1 000 (37)	
	Rich (Top Decile)	-0 900 (37)	-0 988 (37)	1 000 (37)
Income and Wealth	GDP per capita (PPP adjusted)	-0 125 (36)	-0 139 (36)	0 141 (36)
	Income GINI Index	-0 959 (37)	-0 947 (37)	0 984 (37)
	Net Worth per capita (PPP adjusted)	0 150 (37)	0 158 (37)	-0 162 (37)
	Net Worth GINI Index	-0 649 (37)	-0 744 (37)	0 746 (37)
Other Indicators	Government Expenses (% of GDP)	0 135 (28)	0 085 (28)	-0 105 (28)
	Democracy Index (Polity IV)	-0 080 (37)	-0 184 (37)	0 162 (37)
	SME's Employment (% of total employment)	-0 398 (16)	-0 443 (16)	0 441 (16)
	SME's Output (% of GDP)	-0 834 (7)	-0 575 (7)	0 672 (7)

Source: own elaboration based on World Bank's WDI (2007), Davies et al. (2006) [WIDER-UNU Project on World Wealth Distribution], Marshall and Jaggers (2005) [Polity IV Project], and Ayyagari et al. (2005) [SME's Database]. See Annex A for details

Note: Numbers in parenthesis indicates the number of observations available for estimating the particular correlation

TABLE B.3
MATRIX OF CORRELATIONS FOR UPPER MIDDLE INCOME ECONOMIES
(Selected indicators for 24 countries, year 2000 closest available information, GNI per capita
between 3,596 US$ and 11,115 US$)

Cross Correlations		Income Groups		
		Poor (Deciles 1 and 2)	Middle Class (Deciles 3 to 9)	Rich (Top Decile)
Mean Income Holdings (% of GDP)	Poor (Deciles 1 and 2)	1 000 (24)		
	Middle Class (Deciles 3 to 9)	0 900 (24)	1 000 (24)	
	Rich (Top Decile)	-0 942 (24)	-0 994 (24)	1 000 (24)
Income and Wealth	GDP per capita (PPP adjusted)	0 226 (23)	0 111 (23)	-0 141 (23)
	Income GINI Index	-0 975 (24)	-0 971 (24)	0 990 (24)
	Net Worth per capita (PPP adjusted)	0 017 (24)	-0 053 (24)	0 037 (24)
	Net Worth GINI Index	-0 934 (24)	-0 898 (24)	0 924 (24)
Other Indicators	Government Expenses (% of GDP)	0 587 (22)	0 416 (22)	-0 467 (22)
	Democracy Index (Polity IV)	-0 172 (23)	-0 153 (23)	0 160 (23)
	SME's Employment (% of total employment)	-0 541 (17)	-0 598 (17)	0 591 (17)
	SME's Output (% of GDP)	-0 087 (9)	-0 121 (9)	0 112 (9)

Source: own elaboration based on World Bank's WDI (2007), Davies et al. (2006) [WIDER-UNU Project on World Wealth Distribution], Marshall and Jaggers (2005) [Polity IV Project], and Ayyagari et al. (2005) [SME's Database]. See Annex A for details.

Note: Numbers in parenthesis indicates the number of observations available for estimating the particular correlation.

TABLE B.4
MATRIX OF CORRELATIONS FOR HIGH INCOME ECONOMIES

(selected indicators for 30 high income countries, year 2000 closest available information, GNI per capita greater than 11,115 US$)

Cross Correlations		Income Groups		
		Poor (Deciles 1 and 2)	Middle Class (Deciles 3 to 9)	Rich (Top Decile)
Mean Income Holdings (% of GDP)	Poor (Deciles 1 and 2)	1 000 (30)		
	Middle Class (Deciles 3 to 9)	0 584 (30)	1 000 (30)	
	Rich (Top Decile)	-0 834 (30)	-0 935 (30)	1 000 (30)
Income and Wealth	GDP per capita (PPP adjusted)	0 201 (30)	0 129 (30)	-0 176 (30)
	Income GINI Index	-0 939 (30)	-0 775 (30)	0 937 (30)
	Net Worth per capita (PPP adjusted)	-0 275 (30)	-0 322 (30)	0 339 (30)
	Net Worth GINI Index	-0 320 (30)	-0 208 (30)	0 281 (30)
Other Indicators	Government Expenses (% of GDP)	0 204 (28)	0 146 (28)	-0 191 (28)
	Democracy Index (Polity IV)	0 346 (28)	0 458 (28)	-0 467 (28)
	SME's Employment (% of total employment)	0 065 (28)	0 017 (28)	-0 039 (28)
	SME's Output (% of GDP)	-0 021 (18)	-0 285 (18)	0 187 (18)

Source: own elaboration based on World Bank's WDI (2007), Davies et al. (2006) [WIDER-UNU Project on World Wealth Distribution], Marshall and Jaggers (2005) [Polity IV Project], and Ayyagari et al. (2005) [SME's Database]. See Annex A for details.

Note: Numbers in parenthesis indicates the number of observations available for estimating the particular correlation.

Annex C
Composition of public expenditure and middle class, by country income groups

TABLE C.1
COMPOSITION OF PUBLIC EXPENDITURE AND MIDDLE CLASS IN LOW-INCOME ECONOMIES FOR LOW INCOME ECONOMIES
(matrix of correlations for selected indicators, 38 countries, year 2000 closest available information, GNI per capita less than 905 US$)

Cross Correlations		Income Groups				
		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)
Mean Income per Income Group	Poor (Deciles 1 and 2)	1 000 (38)				
	Middle Class (Broad Definition, Deciles 3 to 9)	0 696 (38)	1 000 (38)			
	Lower Middle Class (Deciles 3 to 6)	0 906 (38)	0 910 (38)	1 000 (38)		
	Upper Middle Class (Deciles 7 to 9)	-0 004 (38)	0 684 (38)	0 320 (38)	1 000 (38)	
	Rich (Top Decile)	-0 832 (38)	-0 977 (38)	-0 970 (38)	-0 528 (38)	1 000 (38)
Total Government Outlays		-0 222 (20)	0 002 (20)	-0 103 (20)	0 198 (20)	0 061 (20)
Social Expenditure	Housing and Community Amenities	0 186 (13)	-0 102 (13)	-0 019 (13)	-0 221 (13)	0 027 (13)
	Health	-0 514 (13)	-0 226 (13)	-0 401 (13)	0 193 (13)	0 320 (13)
	Education	-0 435 (13)	-0 054 (13)	-0 245 (13)	0 333 (13)	0 162 (13)
	Social Protection	0 234 (13)	0 304 (13)	0 201 (13)	0 395 (13)	-0 302 (13)
Non-Social Expenditure	Public Order and Safety	0 326 (11)	0 068 (11)	0 153 (11)	-0 178 (11)	-0 153 (11)
	Economic Affairs	0 026 (13)	0 113 (13)	0 067 (13)	0 158 (13)	-0 098 (13)
	Environmental Protection	. ( )	. ( )	. ( )	. ( )	. ( )
	Recreation, Culture, and Religion	0 255 (12)	0 494 (12)	0 404 (12)	0 491 (12)	-0 456 (12)
Other Expenditure	General Public Services	-0 322 (13)	-0 258 (13)	-0 324 (13)	-0 034 (13)	0 294 (13)
	Defense	0 323 (13)	0 303 (13)	0 416 (13)	-0 028 (13)	-0 327 (13)

Source: Own elaboration based on World Bank's WDI (2007) and IMF's GFS 2003. Countries grouped following World Bank's criterion. See Annex A for details.

Note: Numbers in parenthesis indicate the number of observations available for estimating each correlation.

TABLE C.2
COMPOSITION OF PUBLIC EXPENDITURE AND MIDDLE CLASS IN
LOWER-MIDDLE-INCOME ECONOMIES

(matrix of correlations for selected indicators, 37 countries, year 2000 closest available information,
GNI per capita between 906 US$ and 3,595 US$)

Cross Correlations		Income Groups				
		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)
Mean Income per Income Group	Poor (Deciles 1 and 2)	1 000 (37)				
	Middle Class (Broad Definition, Deciles 3 to 9)	0 822 (37)	1 000 (37)			
	Lower Middle Class (Deciles 3 to 6)	0 937 (37)	0 958 (37)	1 000 (37)		
	Upper Middle Class (Deciles 7 to 9)	0 284 (37)	0 759 (37)	0 541 (37)	1 000 (37)	
	Rich (Top Decile)	-0 900 (37)	-0 988 (37)	-0 987 (37)	-0 658 (37)	1 000 (37)
Total Government Outlays		0 062 (26)	-0 229 (26)	-0 127 (26)	-0 362 (26)	0 163 (26)
Social Expenditure	Housing and Community Amenities	0 141 (22)	-0 143 (22)	0 009 (22)	-0 437 (22)	0 059 (22)
	Health	-0 047 (22)	-0 146 (22)	-0 094 (22)	-0 186 (22)	0 120 (22)
	Education	-0 128 (22)	-0 146 (22)	-0 163 (22)	-0 012 (22)	0 144 (22)
	Social Protection	-0 107 (22)	0 172 (22)	0 020 (22)	0 447 (22)	-0 088 (22)
Non-Social Expenditure	Public Order and Safety	-0 043 (8)	-0 173 (8)	-0 071 (8)	-0 391 (8)	0 129 (8)
	Economic Affairs	-0 074 (22)	-0 259 (22)	-0 180 (22)	-0 296 (22)	0 210 (22)
	Environmental Protection	0 998 (3)	0 966 (3)	0 989 (3)	0 881 (3)	-0 977 (3)
	Recreation, Culture, and Religion	0 361 (22)	0 225 (22)	0 312 (22)	-0 132 (22)	-0 278 (22)
Other Expenditure	General Public Services	0 349 (22)	0 219 (22)	0 278 (22)	-0 063 (22)	-0 272 (22)
	Defense	0 077 (22)	0 086 (22)	0 061 (22)	0 096 (22)	-0 090 (22)

Source: Own elaboration based on World Bank's WDI (2007) and IMF's GFS 2003. Countries grouped following World Bank's criterion. See Annex A for details.

Note: Numbers in parenthesis indicate the number of observations available for estimating each correlation.

TABLE C.3
COMPOSITION OF PUBLIC EXPENDITURE AND MIDDLE CLASS
IN UPPER-MIDDLE-INCOME ECONOMIES

(matrix of correlations for selected indicators, 24 countries, year 2000 closest available information,
GNI per capita between 3, 596 US$ and 11,115 US$)

Cross Correlations		Income Groups				
		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)
Mean Income per Income Group	Poor (Deciles 1 and 2)	1 000 (24)				
	Middle Class (Broad Definition, Deciles 3 to 9)	0 900 (24)	1 000 (24)			
	Lower Middle Class (Deciles 3 to 6)	0 960 (24)	0 974 (24)	1 000 (24)		
	Upper Middle Class (Deciles 7 to 9)	0 493 (24)	0 797 (24)	0 639 (24)	1 000 (24)	
	Rich (Top Decile)	-0 942 (24)	-0 994 (24)	-0 989 (24)	-0 737 (24)	1 000 (24)
Total Government Outlays		0 206 (20)	-0 028 (20)	0 091 (20)	-0 354 (20)	-0 031 (20)
Social Expenditure	Housing and Community Amenities	-0 291 (18)	-0 554 (18)	-0 412 (18)	-0 748 (18)	0 498 (18)
	Health	0 149 (18)	0 089 (18)	0 159 (18)	-0 125 (18)	-0 107 (18)
	Education	-0 096 (18)	-0 285 (18)	-0 166 (18)	-0 506 (18)	0 242 (18)
	Social Protection	0 560 (18)	0 459 (18)	0 468 (18)	0 285 (18)	-0 496 (18)
Non-Social Expenditure	Public Order and Safety	0 132 (15)	0 049 (15)	0 105 (15)	-0 106 (15)	-0 070 (15)
	Economic Affairs	0 321 (18)	0 040 (18)	0 231 (18)	-0 479 (18)	-0 114 (18)
	Environmental Protection	. ( )	. ( )	. ( )	. ( )	. ( )
	Recreation, Culture, and Religion	0 605 (18)	0 342 (18)	0 510 (18)	-0 213 (18)	-0 418 (18)
Other Expenditure	General Public Services	0 035 (18)	0 032 (18)	0 051 (18)	-0 029 (18)	-0 033 (18)
	Defense	0 113 (18)	-0 137 (18)	0 021 (18)	-0 511 (18)	0 075 (18)

Source: Own elaboration based on World Bank's WDI (2007) and IMF's GFS 2003. Countries grouped following World Bank's criterion. See Annex A for details.

Note: Numbers in parenthesis indicate the number of observations available for estimating each correlation.

TABLE C.4
COMPOSITION OF PUBLIC EXPENDITURE AND MIDDLE CLASS IN HIGH INCOME ECONOMIES

(matrix of correlations for selected indicators, 30 high income countries, year 2000 closest available information, GNI per capita greater than 11,115 US$)

Cross Correlations		Income Groups				
		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)
Mean Income per Income Group	Poor (Deciles 1 and 2)	1 000 (30)				
	Middle Class (Broad Definition, Deciles 3 to 9)	0 584 (30)	1 000 (30)			
	Lower Middle Class (Deciles 3 to 6)	0 870 (30)	0 880 (30)	1 000 (30)		
	Upper Middle Class (Deciles 7 to 9)	-0 650 (30)	0 157 (30)	-0 330 (30)	1 000 (30)	
	Rich (Top Decile)	-0 834 (30)	-0 935 (30)	-0 979 (30)	0 177 (30)	1 000 (30)
Total Government Outlays		0 087 (18)	0 314 (18)	0 190 (18)	0 175 (18)	-0 240 (18)
Social Expenditure	Housing and Community Amenities	-0 079 (17)	-0 182 (17)	-0 216 (17)	0 151 (17)	0 152 (17)
	Health	-0 492 (17)	-0 479 (17)	-0 536 (17)	0 324 (17)	0 533 (17)
	Education	-0 054 (17)	0 240 (17)	0 070 (17)	0 300 (17)	-0 127 (17)
	Social Protection	0 402 (17)	0 431 (17)	0 459 (17)	-0 237 (17)	-0 460 (17)
Non-Social Expenditure	Public Order and Safety	-0 028 (8)	0 257 (8)	0 210 (8)	0 032 (8)	-0 156 (8)
	Economic Affairs	0 055 (17)	0 212 (17)	0 150 (17)	0 061 (17)	-0 160 (17)
	Environmental Protection	. ( )	. ( )	. ( )	. ( )	. ( )
	Recreation, Culture, and Religion	0 046 (17)	0 023 (17)	0 056 (17)	-0 087 (17)	-0 036 (17)
Other Expenditure	General Public Services	0 209 (17)	0 472 (17)	0 335 (17)	0 128 (17)	-0 395 (17)
	Defense	-0 426 (17)	-0 251 (17)	-0 375 (17)	0 389 (17)	0 357 (17)

Source: Own elaboration based on World Bank's WDI (2007) and IMF's GFS 2003. Countries grouped following World Bank's criterion. See Annex A for details.

Note: Numbers in parenthesis indicate the number of observations available for estimating each correlation.

Annex D
Composition of public expenditure and middle class, by region

TABLE D.1

COMPOSITION OF PUBLIC EXPENDITURE AND MIDDLE CLASS IN EAST ASIA AND PACIFIC

(Matrix of correlations for selected indicators, 16 countries, year 2000 closest available information)

Cross Correlations		Income Groups				
		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)
Mean Income per Income Group	Poor (Deciles 1 and 2)	1 000 (16)				
	Middle Class (Broad Definition, Deciles 3 to 9)	0 673 (16)	1 000 (16)			
	Lower Middle Class (Deciles 3 to 6)	0 860 (16)	0 942 (16)	1 000 (16)		
	Upper Middle Class (Deciles 7 to 9)	-0 175 (16)	0 566 (16)	0 258 (16)	1 000 (16)	
	Rich (Top Decile)	-0 825 (16)	-0 973 (16)	-0 987 (16)	-0 378 (16)	1 000 (16)
Total Government Outlays		0 013 (12)	0 034 (12)	0 030 (12)	0 027 (12)	-0 029 (12)
Social Expenditure	Housing and Community Amenities	0 646 (10)	0 279 (10)	0 442 (10)	-0 424 (10)	-0 413 (10)
	Health	-0 145 (10)	0 058 (10)	-0 036 (10)	0 310 (10)	0 004 (10)
	Education	-0 215 (10)	-0 188 (10)	-0 186 (10)	-0 063 (10)	0 207 (10)
	Social Protection	0 140 (11)	0 319 (11)	0 254 (11)	0 302 (11)	-0 279 (11)
Non-Social Expenditure	Public Order and Safety	-0 085 (7)	-0 224 (7)	-0 098 (7)	-0 511 (7)	0 195 (7)
	Economic Affairs	-0 290 (10)	-0 119 (10)	-0 186 (10)	0 173 (10)	0 180 (10)
	Environmental Protection	. ( )	. ( )	. ( )	. ( )	. ( )
	Recreation, Culture, and Religion	0 120 (10)	0 224 (10)	0 179 (10)	0 213 (10)	-0 203 (10)
Other Expenditure	General Public Services	0 051 (10)	-0 217 (10)	-0 120 (10)	-0 374 (10)	0 143 (10)
	Defense	-0.264 (10)	0 078 (10)	-0 044 (10)	0 405 (10)	0 027 (10)

Source: Own elaboration based on World Bank's WDI (2007) and IMF's GFS 2003. Countries grouped following World Bank's Regional criterion plus OECD classification. See Annex A for details.

Note: Numbers in parenthesis indicate the number of observations available for estimating each correlation.

TABLE D.2
COMPOSITION OF PUBLIC EXPENDITURE AND MIDDLE CLASS IN EUROPE,
CENTRAL ASIA & NORTH AMERICA: OECD MEMBERS

(Matrix of correlations for selected indicators, 18 countries, year 2000 closest available information)

Cross Correlations		Income Groups				
		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)
Mean Income per Income Group	Poor (Deciles 1 and 2)	1 000 (18)				
	Middle Class (Broad Definition, Deciles 3 to 9)	0 504 (18)	1 000 (18)			
	Lower Middle Class (Deciles 3 to 6)	0 867 (18)	0 816 (18)	1 000 (18)		
	Upper Middle Class (Deciles 7 to 9)	-0 569 (18)	0 342 (18)	-0 263 (18)	1 000 (18)	
	Rich (Top Decile)	-0 804 (18)	-0 919 (18)	-0 958 (18)	0 024 (18)	1 000 (18)
Total Government Outlays		0 463 (8)	0 698 (8)	0 645 (8)	0 071 (8)	-0 682 (8)
Social Expenditure	Housing and Community Amenities	-0 136 (7)	0 523 (7)	0 198 (7)	0 624 (7)	-0 302 (7)
	Health	-0 225 (7)	-0 633 (7)	-0 412 (7)	-0 394 (7)	0 535 (7)
	Education	0 218 (7)	0 658 (7)	0 488 (7)	0 284 (7)	-0 549 (7)
	Social Protection	0 877 (7)	0 746 (7)	0 930 (7)	-0 465 (7)	-0 899 (7)
Non-Social Expenditure	Public Order and Safety	-1 000 (2)	-1 000 (2)	-1 000 (2)	-1 000 (2)	1 000 (2)
	Economic Affairs	0 459 (7)	0 475 (7)	0 462 (7)	-0 026 (7)	-0 528 (7)
	Environmental Protection	. ( )	. ( )	. ( )	. ( )	. ( )
	Recreation, Culture, and Religion	0 524 (7)	0 823 (7)	0 875 (7)	-0 198 (7)	-0 798 (7)
Other Expenditure	General Public Services	0 271 (7)	0 714 (7)	0 516 (7)	0 338 (7)	-0 611 (7)
	Defense	-0 214 (7)	0 237 (7)	-0 042 (7)	0 560 (7)	-0 070 (7)

Source: Own elaboration based on World Bank's WDI (2007) and IMF's GFS 2003. Countries grouped following World Bank's Regional criterion and OECD membership. See Annex A for details.

Note: Numbers in parenthesis indicate the number of observations available for estimating each correlation. We group Europe & Central Asia together with North America due to small sample of North America (2 countries), and then we regroup them among OECD and Non-OECD countries.

TABLE D.3
COMPOSITION OF PUBLIC EXPENDITURE AND MIDDLE CLASS
IN EUROPE, CENTRAL ASIA & NORTH AMERICA: NON-OECD COUNTRIES
(Matrix of correlations for selected indicators, 29 countries, year 2000 closest available information)

Cross Correlations		Income Groups				
		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)
Mean Income per Income Group	Poor (Deciles 1 and 2)	1 000 (29)				
	Middle Class (Broad Definition, Deciles 3 to 9)	0 768 (29)	1 000 (29)			
	Lower Middle Class (Deciles 3 to 6)	0 890 (29)	0 952 (29)	1 000 (29)		
	Upper Middle Class (Deciles 7 to 9)	-0 220 (29)	0 346 (29)	0 041 (29)	1 000 (29)	
	Rich (Top Decile)	-0 896 (29)	-0 973 (29)	-0 983 (29)	-0 160 (29)	1 000 (29)
Total Government Outlays		0 242 (21)	0 148 (21)	0 199 (21)	-0 121 (21)	-0 191 (21)
Social Expenditure	Housing and Community Amenities	0 279 (21)	0 300 (21)	0 284 (21)	0 097 (21)	-0 310 (21)
	Health	0 017 (21)	0 120 (21)	0 096 (21)	0 090 (21)	-0 089 (21)
	Education	0 487 (21)	0 331 (21)	0 447 (21)	-0 282 (21)	-0 407 (21)
	Social Protection	0 451 (21)	0 270 (21)	0 332 (21)	-0 131 (21)	-0 352 (21)
Non-Social Expenditure	Public Order and Safety	-0 066 (15)	-0 007 (15)	-0 065 (15)	0 175 (15)	0 027 (15)
	Economic Affairs	0 532 (21)	0 419 (21)	0 553 (21)	-0 316 (21)	-0 484 (21)
	Environmental Protection	-1 000 (2)	1 000 (2)	1 000 (2)	1 000 (2)	-1 000 (2)
	Recreation, Culture, and Religion	0 144 (21)	0 119 (21)	0 137 (21)	-0 032 (21)	-0 135 (21)
Other Expenditure	General Public Services	-0 211 (21)	-0 144 (21)	-0 196 (21)	0 126 (21)	0177 (21)
	Defense	-0 271 (21)	-0 345 (21)	-0 249 (21)	-0 338 (21)	0 338 (21)

Source: Own elaboration based on World Bank's WDI (2007) and IMF's GFS 2003. Countries grouped following World Bank's Regional criterion and OECD membership. See Annex A for details.

Note: Numbers in parenthesis indicate the number of observations available for estimating each correlation. We group Europe & Central Asia together with North America due to small sample of North America (2 countries), and then we regroup them among OECD and Non-OECD countries.

TABLE D.4
COMPOSITION OF PUBLIC EXPENDITURE AND MIDDLE CLASS IN LATIN AMERICA
AND THE CARIBBEAN
(matrix of correlations for selected indicators, 23 countries, year 2000 closest available information)

Cross Correlations		Income Groups				
		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)
Mean Income per Income Group	Poor (Deciles 1 and 2)	1.000 (23)				
	Middle Class (Broad Definition, Deciles 3 to 9)	0 700 (23)	1.000 (23)			
	Lower Middle Class (Deciles 3 to 6)	0 880 (23)	0 938 (23)	1 000 (23)		
	Upper Middle Class (Deciles 7 to 9)	0 281 (23)	0 864 (23)	0 634 (23)	1 000 (23)	
	Rich (Top Decile)	-0 804 (23)	-0 988 (23)	-0 975 (23)	-0 782 (23)	1 000 (23)
Total Government Outlays		0 597 (15)	0 553 (15)	0 600 (15)	0 288 (15)	-0 599 (15)
Social Expenditure	Housing and Community Amenities	0 539 (12)	0 339 (12)	0 507 (12)	-0 025 (12)	-0 408 (12)
	Health	0 475 (12)	0 453 (12)	0 525 (12)	0 195 (12)	-0 485 (12)
	Education	0 173 (12)	0 483 (12)	0 436 (12)	0 394 (12)	-0 435 (12)
	Social Protection	-0 043 (12)	0 536 (12)	0 268 (12)	0 762 (12)	-0 425 (12)
Non-Social Expenditure	Public Order and Safety	0 378 (7)	0 179 (7)	0 327 (7)	-0 217 (7)	-0 281 (7)
	Economic Affairs	0 548 (12)	0 236 (12)	0 429 (12)	-0 133 (12)	-0 327 (12)
	Environmental Protection	1 000 (2)	1 000 (2)	1 000 (2)	1 000 (2)	-1 000 (2)
	Recreation, Culture, and Religion	0 460 (12)	0 502 (12)	0 557 (12)	0 253 (12)	-0 521 (12)
Other Expenditure	General Public Services	0 575 (12)	0 355 (12)	0 441 (12	0 108 (12)	-0 430 (12)
	Defense	-0 266 (12)	0 033 (12)	-0 136 (12)	0 275 (12)	0 039 (12)

Source: Own elaboration based on World Bank's WDI (2007) and IMF's GFS 2003. Countries grouped following World Bank's Regional criterion and OECD membership. See Annex A for details.

Note: Numbers in parenthesis indicate the number of observations available for estimating each correlation.

TABLE D.5
COMPOSITION OF PUBLIC EXPENDITURE AND MIDDLE CLASS IN MIDDLE EAST
AND NORTH AFRICA
(Matrix of correlations for selected indicators, 8 countries, year 2000 closest available information)

Cross Correlations		Income Groups				
		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)
Mean Income per Income Group	Poor (Deciles 1 and 2)	1 000 (8)				
	Middle Class (Broad Definition, Deciles 3 to 9)	0 171 (8)	1 000 (8)			
	Lower Middle Class (Deciles 3 to 6)	0 768 (8)	0 756 (8)	1 000 (8)		
	Upper Middle Class (Deciles 7 to 9)	-0 683 (8)	0 595 (8)	-0 075 (8)	1 000 (8)	
	Rich (Top Decile)	-0 567 (8)	-0 908 (8)	-0 957 (8)	-0 209 (8)	1 000 (8)
Total Government Outlays		0 121 (8)	0 810 (8)	0 606 (8)	0 490 (8)	-0 734 (8)
Social Expenditure	Housing and Community Amenities	-0 290 (8)	-0 360 (8)	-0 389 (8)	-0 071 (8)	0 443 (8)
	Health	-0 297 (8)	0 307 (8)	-0 002 (8)	0 471 (8)	-0 125 (8)
	Education	0 132 (8)	0 785 (8)	0 548 (8)	0 523 (8)	-0 715 (8)
	Social Protection	-0 567 (8)	0 229 (8)	-0 225 (8)	0 626 (8)	0 054 (8)
Non-Social Expenditure	Public Order and Safety	-0 996 (3)	-0 984 (3)	-0 999 (3)	-0 338 (3)	0 988 (3)
	Economic Affairs	-0 251 (8)	-0 061 (8)	-0 129 (8)	0 066 (8)	0 162 (8)
	Environmental Protection	. ( )	. ( )	. ( )	. ( )	. ( )
	Recreation, Culture, and Religion	0 726 (8)	-0 232 (8)	0 339 (8)	-0 771 (8)	-0 101 (8)
Other Expenditure	General Public Services	0 298 (8)	-0 167 (8)	0 116 (8)	-0 397 (8)	-0 002 (8)
	Defense	-0 034 (8)	0 594 (8)	0 364 (8)	0 459 (8)	-0 485 (8)

Source: Own elaboration based on World Bank's WDI (2007) and IMF's GFS 2003. Countries grouped following World Bank's Regional criterion and OECD membership. See Annex A for details.

Note: Numbers in parenthesis indicate the number of observations available for estimating each correlation.

TABLE D.6
COMPOSITION OF PUBLIC EXPENDITURE AND MIDDLE CLASS IN SOUTH ASIA
(Matrix of correlations for selected indicators, 5 countries, year 2000 closest available information)

Cross Correlations		Income Groups				
		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)
Mean Income per Income Group	Poor (Deciles 1 and 2)	1 000 (5)				
	Middle Class (Broad Definition, Deciles 3 to 9)	0 930 (5)	1 000 (5)			
	Lower Middle Class (Deciles 3 to 6)	0 989 (5)	0 966 (5)	1 000 (5)		
	Upper Middle Class (Deciles 7 to 9)	0 653 (5)	0 880 (5)	0 729 (5)	1 000 (5)	
	Rich (Top Decile)	-0 957 (5)	-0 997 (5)	-0 982 (5)	-0 842 (5)	1 000 (5)
Total Government Outlays		0 186 (4)	0 521 (4)	0 341 (4)	0 747 (4)	-0 452 (4)
Social Expenditure	Housing and Community Amenities	-0 807 (4)	-0 642 (4)	-0 800 (4)	-0 195 (4)	0 685 (4)
	Health	-0 703 (4)	-0 355 (4)	-0 585 (4)	0 163 (4)	0 438 (4)
	Education	-0 967 (4)	-0 813 (4)	-0 916 (4)	-0 433 (4)	0 861 (4)
	Social Protection	-0 406 (3)	0 004 (3)	-0 282 (3)	0 538 (3)	0 083 (3)
Non-Social Expenditure	Public Order and Safety	. ( )	. ( )	. ( )	. ( )	. ( )
	Economic Affairs	-0 814 (4)	-0 549 (4)	-0 757 (4)	-0 028 (4)	0 614 (4)
	Environmental Protection	. ( )	. ( )	. ( )	. ( )	. ( )
	Recreation, Culture, and Religion	0 939 (3)	0 716 (3)	0 886 (3)	0 232 (3)	-0 774 (3)
Other Expenditure	General Public Services	0 970 (4)	0 929 (4)	0 988 (4)	0 607 (4)	-0 951 (4)
	Defense	0 785 (4)	0 848 (4)	0 858 (4)	0 637 (4)	-0 844 (4)

Source: Own elaboration based on World Bank's WDI (2007) and IMF's GFS 2003. Countries grouped following World Bank's Regional criterion and OECD membership. See Annex A for details.

Note: Numbers in parenthesis indicate the number of observations available for estimating each correlation.

TABLE D.7
COMPOSITION OF PUBLIC EXPENDITURE AND MIDDLE CLASS IN SUB-SAHARAN AFRICA
(Matrix of correlations for selected indicators, 30 countries, year 2000 closest available information)

Cross Correlations		Income Groups				
		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)
Mean Income per Income Group	Poor (Deciles 1 and 2)	1 000 (30)				
	Middle Class (Broad Definition, Deciles 3 to 9)	0 759 (30)	1 000 (30)			
	Lower Middle Class (Deciles 3 to 6)	0 924 (30)	0 931 (30)	1 000 (30)		
	Upper Middle Class (Deciles 7 to 9)	0 278 (30)	0 819 (30)	0 554 (30)	1 000 (30)	
	Rich (Top Decile)	-0 844 (30)	-0 990 (30)	-0 970 (30)	-0 734 (30)	1 000 (30)
Total Government Outlays		-0 665 (16)	-0 802 (16)	-0 750 (16)	-0 776 (16)	0 795 (16)
Social Expenditure	Housing and Community Amenities	-0 485 (8)	-0 830 (8	-0 718 (8)	-0 838 (8)	0 781 (8)
	Health	-0 579 (8)	-0 555 (8)	-0 610 (8)	-0 347 (8)	0 582 (8)
	Education	-0 580 (8)	-0 732 (8)	-0 699 (8)	-0 632 (8)	0 725 (8)
	Social Protection	-0 215 (8)	-0 266 (8)	-0 310 (8)	-0 139 (8)	0 265 (8)
Non-Social Expenditure	Public Order and Safety	0 364 (7)	-0 187 (7)	0 104 (7)	-0 657 (7)	0 070 (7)
	Economic Affairs	0 077 (8)	-0 331 (8)	-0 175 (8)	-0 518 (8)	0 248 (8)
	Environmental Protection	. ( )	. ( )	. ( )	. ( )	. ( )
	Recreation, Culture, and Religion	-0 411 (8)	-0 836 (8)	-0 668 (8)	-0 936 (8)	0 769 (8)
Other Expenditure	General Public Services	-0 896 (8)	-0 652 (8)	-0 766 (8)	-0 325 (8)	0 735 (8)
	Defense	0 424 (8)	0 107 (8)	0 352 (8)	-0 319 (8)	-0 186 (8)

Source: Own elaboration based on World Bank's WDI (2007) and IMF's GFS 2003. Countries grouped following World Bank's Regional criterion and OECD membership. See Annex A for details.

Note: Numbers in parenthesis indicate the number of observations available for estimating each correlation.

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