

Determinants of Middle Class in Pakistan: A 11-Year Trend Analysis.

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Introduction

- Middle class plays an important role in economic growth in both developed and developing countries. In developed countries, the growth of middle class is a main force for its development.
- For instance in Western Europe, middle class is used to be an important factor behind the socio-political and economic development ([Adelman & Morris, 1968](#); [Geithman, n.d.](#)).
- Economic growth in England in the 18th century and 19th century was attributable to the expansion of middle class ([Landes, 1998](#)).

Introduction

- As middle class contributes to the growth of a country, the economic expansion also plays an important role in expanding the global middle class. Countries like India and China are just an example of increasing the global middle class.
- [Bussolo, De Hoyos Navarro, Medvedev, and VanDer Mensbrugghe \(2007\)](#) argued that the economic expansion of India and China will help to reduce global inequality and increase global middle class. The statistics shows that in 2000 the people living in middle class were only 250 million which are expected to increase to one billion in 2030. The joint share of India and China was 13% in 2000 which will rise to 44% in 2030 .

Introduction

- Following the definition of middle class as expenditure of PPP \$2- \$10 per person per day. In Pakistan the middle class has increased from 11.9% in 1987 (Chun, Hasan, & Ulubasoglu, 2011) to 42.2% in 2007 (e Nayab, 2011).

Introduction

Table 1: Distribution of the middle class in the world

	2009		2020		2030	
	Population (Million)	%	Population (Million)	%	Population (Million)	%
North America	338	18%	333	10%	322	7%
Europe	664	36%	703	22%	680	14%
Central and South America	181	10%	251	8%	313	6%
Asia Pacific	525	28%	1740	54%	3228	66%
Sub-Saharan Africa	32	2%	57	2%	107	2%
Middle East and North Africa	105	6%	165	5%	234	5%
World	1845	100%	3249	100%	4884	100%

Source: Kharas (2010)

Literature Review

- [Eisenhauer \(2008\)](#) stated that middle class is an ambiguous concept because no consensus is available for lower and upper bounds that separate other classes from middle class. This study used the national poverty line as well as an equivalent distinction to separate middle class from the poor class and define middle class as those families that are not poor but in absence of employment they would be poor.

Literature Review

No	Author	Criteria	Definition
1	Thurow (1987), Birdsall, Graham, & Pettinato(2000)	Relative	75% to 125 % of the median income
2	Easterly(2001)	Relative	Between the second and fourth expenditure quantiles
3	Yuan et al(2012)	Absolute	Per capita income \$4 to \$20 / day
4	Birdsall (2010)	Absolute	PPP income of \$10 per capita
5	Acs (2005)	Absolute	Double of the poverty line PPP 2 dollars/day

Literature Review

- [Banerjee and Duflo \(2008\)](#) also summarizes different links between middle class and economic growth. Drawing upon Max Weber(1905), he gave three distinct arguments about middle class.
 1. First, new entrepreneurs emerge from middle class that are armed with tolerance and capacity that creates productivity growth and employment for rest of the society.
 2. Second, middle class is a source of primary input for entrepreneurial class. The middle class values and their emphasis on accumulation of saving and human capital makes them central to process of the capitalist accumulation.

Literature Review

3. Third, middle class consumers are willing to pay extra amount for quality. In this scenario the demand of middle class for expensive consumer goods will increase investment in marketing and production that as a result will increase income level of everyone.

Research Methodology

- In this study we will identify the distribution and determinants of middle class in Pakistan. We will use PSLM data for 11 years from 2004 to 2014 for years 2004-2005, 2006-2007, 2008-09, 2011-12, 2012-13 and 2014-15.
- To measure distribution of middle across Pakistan first we will apply an absolute definition of 4\$ to 20\$ per capita daily.
- Second definition includes the relative term of middle class for a lower bound of 75% of median and upper bound of 125% median income.
- Third method includes the ownership of durables in Pakistan. The durables are categorized into ordinary and luxury goods. A person will be in middle class if it owns two luxury durables. Similarly the criteria for other classes will be made.

Econometric Model:

- Based on the existing literature, the middle class is hypothesized to depend on a set of factors. These factors include gender, age , age squared, education ,employment status, province, regions of Pakistan. The econometric specification of this relationship is as follows:

$$Y_{i,t} = \beta_0 + \beta_1 Age_{i,t} + \beta_2 Agesq_{i,t} + \beta_3 Employment + \beta_4 Gender_{i,t} + \beta_5 Education_{i,t} + \beta_6 Province_{i,t} + \beta_7 Region_{i,t} + \beta_8 Wave_{i,t} + \epsilon_{i,t} \quad (1)$$

Description of variables

VARIABLES	DEFINITION OF VARIABLES
AGE	Age in years
EDUCATION	0= Primary
	1= Middle
	2= Matric
	3=Intermediate
	4=Higher Education
	5=Others
EMPLOYMENT STATUS	1 =Paid employee
	2 =Self employed non-agriculture
	3 =Owner cultivator
	4 =Contract cultivator
	5=Share cropper
	6 =Unpaid family helper
	7 =Employer
	8 =Livestock only
GENDER	0=male
	1=female
REGION	0=urban
	1=rural

Description of variables

VARIABLES

DEFINITION OF VARIABLES

PROVINCE

1=Punjab

2=Sindh

3=Khyber Pakhtunkhwa

4=Balochistan

WAVE

1=2004-05

2=2006-07

3=2008-09

4=2010-11

5=2012-13

6=2014-15

Source: PSLM

Results

4.1 Measuring income classes

Table 2: Cutoff points to measure income classes

Daily per capita income	Income class
Less than \$1.25	Poor class
\$1.25-\$4	Low class
\$4-\$20	Middle class
\$20 and more	Rich class

Table 3: Distribution of classes (%)

	2004-05	2006-07	2008-09	2010-11	2012-13	2014-15
Poor class	53.51	49.71	20.69	14.42	10.55	10.43
Low class	41.08	43.16	63.56	61.67	54.6	56.71
Middle class	5.11	6.79	15.11	22.92	33.37	31.79
Rich class	0.29	0.34	0.64	0.98	1.48	1.07

Table 4: Urban and Rural Distribution (%)

		2004-05	2006-07	2008-09	2010-11	2012-13	2014-15
Urban	Poor class	41.71	31.52	15.6	10.5	7.95	11.04
	Low class	49	54.37	60.66	56.33	47.34	60.15
	Middle class	8.89	13.41	22.62	31.36	41.97	28.09
	Rich class	0.4	0.71	1.11	1.81	2.74	0.72
Rural	Poor class	63.38	61.73	25.01	17.75	12.72	8.59
	Low class	34.47	35.75	66.01	66.2	60.65	46.32
	Middle class	1.95	2.42	8.73	15.77	26.21	42.97
	Rich class	0.2	0.1	0.24	0.28	0.42	2.12

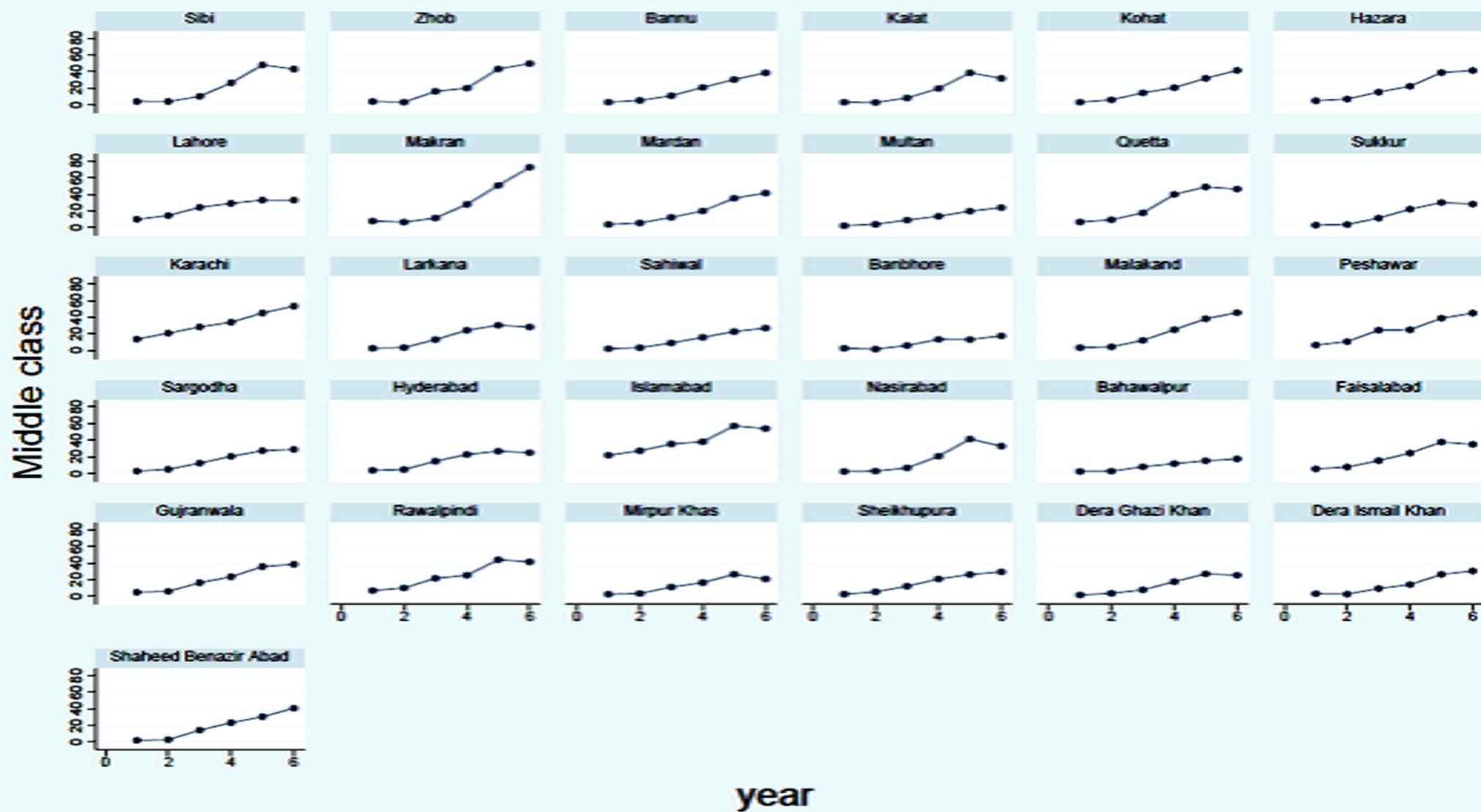
Table 5: Povincial distribution

Provinces	Classes	2004-05	2006-07	2008-09	2010-11	2012-13	2014-15
		%					
Punjab	Poor class	57.72	51.84	24.94	18.07	13.75	12.36
	Low class	37.24	41.05	59.59	59.68	54.7	57.34
	Middle class	4.84	6.8	14.84	21.31	30.08	29.07
	Rich class	0.2	0.3	0.63	0.93	1.47	1.22
Sindh	Poor class	48.15	50.41	19.66	12.77	10.1	11.84
	Low class	44.81	40.65	62.09	61.29	56.08	60.76
	Middle class	6.54	8.28	17.26	24.43	31.59	26.54
	Rich class	0.51	0.66	0.99	1.5	2.23	0.86
KPK	Poor class	56.19	47.55	16.56	12.51	7.68	4.79
	Low class	39.44	46.29	67.95	64.65	55.5	52.77
	Middle class	4.11	6.02	15.06	22.26	35.68	41.31
	Rich class	0.26	0.14	0.43	0.57	1.14	1.13
Balochistan	Poor class	43.2	43.32	14.14	7.56	4.4	7.1
	Low class	51.83	51.66	73.17	65.77	50.65	51.44
	Middle class	4.71	4.89	12.36	26.1	44.44	40.65
	Rich class	0.26	0.13	0.33	0.56	0.51	0.81

Table 6: Middle class size in Divisions of Pakistan

Divisions	2004-05	2006-07	2008-09	2010-11	2012-13	2014-15
	%					
Bahawalpur	2.27	2.68	7.87	11.72	15.05	17.37
Dera Ghazi Khan	1.63	3.59	7.76	17.59	26.96	25.41
Faisalabad	5.38	7.57	15.28	24.39	37.61	34.89
Gujranwala	4.91	5.92	16.38	23.51	35.75	38.45
Lahore	9.84	14.3	24.27	28.97	32.99	32.88
Multan	2.17	3.85	8.84	13.51	19.62	23.94
Rawalpindi	6.93	10	21.68	25.29	44.05	41.46
Sahiwal	2.05	3.29	8.93	15.68	22.7	26.89
Sargodha	2.66	4.86	12.28	20.42	27.25	28.92
Banbhore	2.62	1.56	5.88	13.31	13.13	17.46
Hyderabad	3.61	4.61	14.6	22.73	26.63	24.89
Karachi	13.51	20.8	28.28	33.92	45.05	53.3
Larkana	2.61	3.39	12.97	24.25	30.29	28.14
Mirpur Khas	2.48	3.34	11.14	16.41	26.48	20.87
Sukkur	2.84	3.6	11.23	21.99	29.98	28.16
Shaheed Benazir Abad	2.1	2.96	14.43	23.39	30.56	40.85
Bannu	2.8	4.94	10.59	20.64	30.06	38.18
Dera Ismail Khan	3.17	2.64	9.34	14.1	26.39	30.52
Hazara	4.55	6.57	14.95	22	38.45	40.88
Kohat	2.82	5.62	14.02	20.23	31.51	41.07
Malakand	3.34	4.36	12.07	24.95	38.08	45.4
Mardan	3.69	5.37	12.17	19.83	35.14	41.44
Peshawar	6.45	10.62	24.44	24.86	38.75	44.89
Kalat	2.78	2.42	7.89	19.24	38.17	31.51
Makran	7.72	6.42	11.35	27.74	50.57	72.43
Nasirabad	2.24	2.73	6.52	20.57	41.31	32.74
Quetta	6.57	9.27	17.53	39.81	48.77	46.19
Sibi	3.64	3.61	9.79	26.05	47.65	42.69
Zhob	3.66	2.8	15.81	19.73	42.84	49.31
Sheikhupura	2.52	5.39	12.1	20.88	26.17	29.41
Islamabad	21.85	27.15	35.34	38.03	57.09	53.86

Figure 1: Middle class trend in divisions of Pakistan

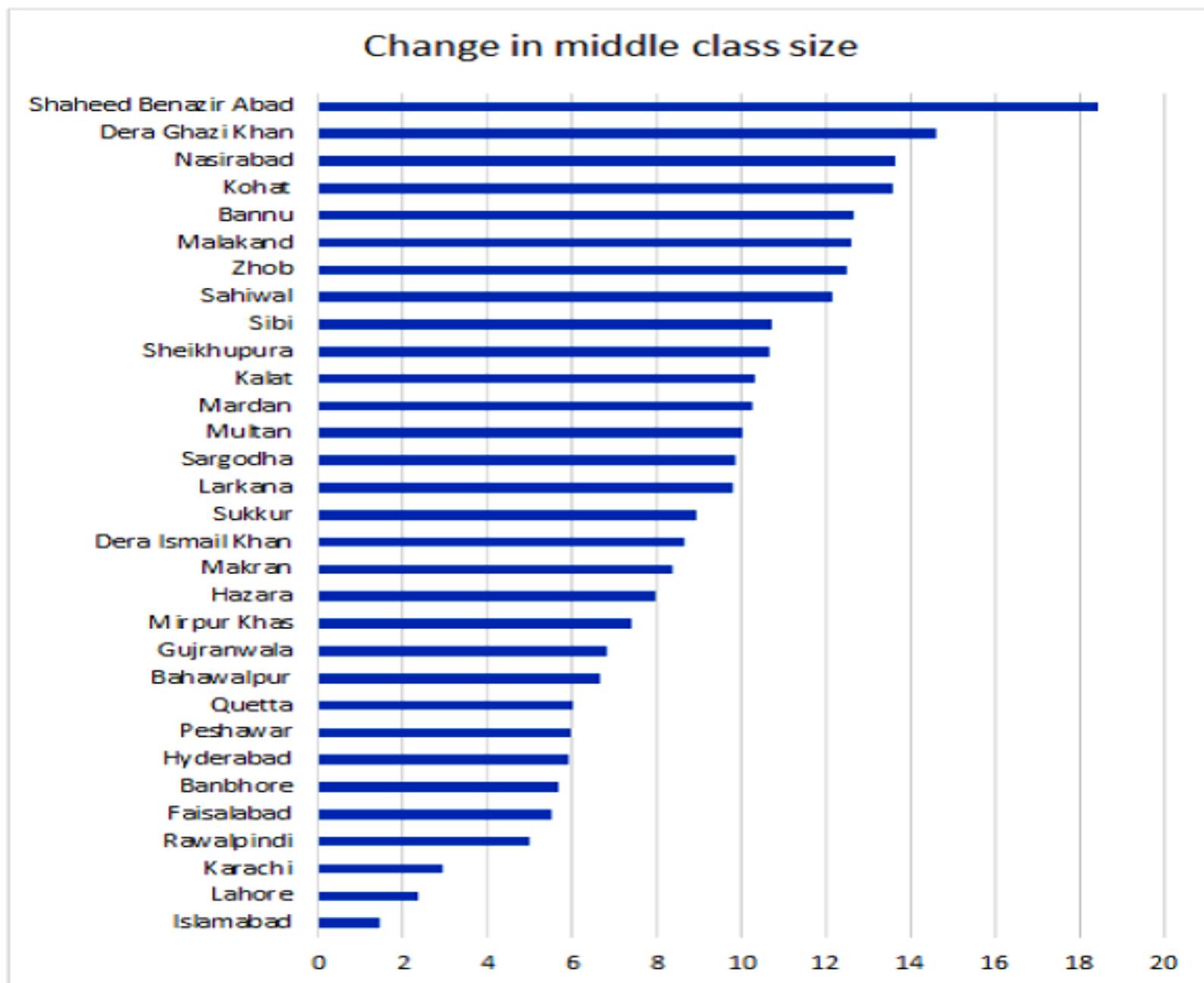


Graphs by division

Table 7: Middle class growth in divisions of Pakistan

Division	Change in middle class size
Islamabad	1.46
Lahore	2.34
Karachi	2.95
Rawalpindi	4.98
Faisalabad	5.49
Banbhore	5.66
Hyderabad	5.89
Peshawar	5.96
Quetta	6.03
Bahawalpur	6.65
Gujranwala	6.83
Mirpur Khas	7.42
Hazara	7.98
Makran	8.38
Dera Ismail Khan	8.63
Sukkur	8.92
Larkana	9.78
Sargodha	9.87
Multan	10.03
Mardan	10.23
Kalat	10.33
Sheikhupura	10.67
Sibi	10.73
Sahiwal	12.12
Zhob	12.47
Malakand	12.59
Bannu	12.64
Kohat	13.56
Nasirabad	13.62
Dera Ghazi Khan	14.59
Shaheed Benazir Abad	18.45

Figure 2: Change in Middle class size



4.2 Alternative measures of middle class

As we have absolute measure of middle class there is another measure which is called relative measure which is based on median income of households. For this purpose [Birdsall, Graham, and Pettinato \(2000\)](#) used 75 percent as lower and 125 percent of median income as upper bound of middle class. Less than 75 percent would be considered poor and greater than 125 percent will be in rich class.

Table 8: Relative definition(%)

	2004-05	2006-07	2008-09	2010-11	2012-13	2014-15
Less than 75% median(Poor Class)	65.36	60.01	31.61	22.53	15.38	14.78
Between 75%-125%(Middle class)	20.72	20.29	29.48	28.85	21.86	20.76
More than 125% median(Rich Class)	13.92	19.7	38.91	48.62	62.75	64.46

4.3 Size of middle class by ownership of assets

Table 9: Definition of middle class by ownership of assets

Luxury durables	Ordinary durables	Classes
0	0 or 1	Low class
1	More than 2	Poor class
2		Middle class
3 or more		Rich class

Source: Yuan et al. (2011)

Table 10: The size of middle class by ownership of assets (%)

	2004-05	2006-07	2008-09	2010-11	2012-13	2014-15
Poor class	36.12	25.07	16.41	17.85	16.57	26.15
Low class	38.11	43.11	46.24	45.31	43.52	39.4
Middle class	19.68	24.55	29.18	29.96	32.7	29.3
Rich class	6.09	7.27	8.17	6.89	7.21	5.15

4.4 Determinants of the middle class

	Middle class	t-values	Poor class	t-values
Age	0.128***	(69.42)	-0.142***	(-88.27)
Agesq	-0.00120***	(-53.23)	0.00153***	-73.55
Employment				
Self employed non agriculture	0.376***	(42.35)	-0.231***	(-23.03)
Owner cultivator	-0.327***	(-11.68)	1.391***	(76.67)
Contract cultivator	-0.346***	(-4.17)	1.171***	(22.7)
Share cropper	-0.276***	(-5.16)	1.127***	(32.73)
Unpaid family helper	0.0486*	(2.36)	0.196***	(9.82)
Employer	0.554***	(15.91)	-0.122*	(2.12)
Livestock only	-0.0941*	(-2.28)	0.625***	(8.71)
Gender				
Female	-0.448***	(-28.37)	1.219***	(87.38)
Education				
Middle	0.212***	(16.44)	-0.192***	(17.29)
Matric	0.528***	(45.62)	-0.449***	(41.94)
Intermediate	0.949***	(65.59)	-0.721***	(43.21)
Higher education	1.496***	(115.5)	-1.179***	(74.15)
Others	1.025***	(23.78)	-0.300***	(6.06)
Province				
Sindh	-0.111***	(-11.01)	0.0423***	(4.12)
Kpk	-0.0142	(-1.21)	0.00629	(0.52)
Balochistan	0.211***	(16.07)	-0.332***	(-22.2)
Region				
Rural	-0.210***	(25.12)	0.213***	(24.65)
Wave				
Wave 2	0.245***	(12.54)	-0.154***	(-11.58)
Wave 3	0.782***	(36.13)	-1.039***	(-57.97)
Wave 4	1.131***	(53.25)	-1.184***	(-66.41)
Wave 5	1.562***	(73.96)	-1.611***	(-76.24)
Wave 6	1.604***	(83.2)	-1.492***	(-92.32)
_Cons	-5.126***	(-123.79)	2.737***	(87.43)

Wald test of rho=0 , chi2(1)=55.3063 Prob > chi² = 0.0000

N=174580

t statistics in parentheses

* p < 0.05, ** p < 0.01, *** p < 0.001

Table 12: Consumption Models for Middle Class

	Log(Consumption)	OLS		Tobit	
		Ordinary	Luxury	Ordinary	Luxury
Middle class	0.324*** (43.57)	1.056*** (39.7)	0.742*** (62.65)	1.080*** (39.11)	1.257*** (50.66)
Age	0.00254*** (7.41)	0.00966*** (8.03)	0.00259*** (4.84)	0.00946*** (7.56)	0.00492*** (3.98)
Female_ratio	0.00963** (3.14)	0.0428*** (3.95)	-0.000977 (-0.20)	0.0447*** (3.96)	-0.000633 (-0.06)
Education	0.208*** (65.51)	0.740*** (66.1)	0.354*** (71.05)	0.758*** (65.17)	0.728*** (65.17)
Non Agri_ratio	0.00921*** (5.51)	0.0289*** (4.87)	0.0235*** (8.89)	0.0311*** (5.04)	0.0638*** (10.69)
Region					
Rural	-0.192*** (-23.02)	-0.812*** (-27.08)	-0.267*** (-20.00)	-0.829*** (-26.64)	-0.519*** (-17.94)
Province					
Sindh	-0.328*** (-53.54)	-1.290*** (-60.32)	-0.310*** (-32.63)	-1.348*** (-60.52)	-0.727*** (-32.08)
KPK	-0.101*** (-15.07)	-0.311*** (-12.93)	-0.332*** (-31.02)	-0.304*** (-12.20)	-0.707*** (-27.99)
Balochistan	-0.266*** (-35.17)	-1.210*** (-45.33)	-0.106*** (-8.93)	-1.245*** (-44.82)	-0.0361 (-1.37)
Wave					
Wave 2	0.0980*** (13.16)	0.362*** (13.82)	0.189*** (16.22)	0.374*** (13.72)	0.501*** (17.39)
Wave 3	0.199*** (24.42)	0.810*** (28.1)	0.219*** (17.06)	0.843*** (28.14)	0.665*** (21.56)
Wave 4	0.104*** (11.01)	0.322*** (9.56)	0.240*** (16.07)	0.345*** (9.88)	0.715*** (20.35)
Wave 5	0.0326*** (3.83)	-0.0043 (-0.14)	0.168*** (12.57)	0.00946 (0.3)	0.623*** (19.61)
Wave 6	-0.198*** (-17.76)	-1.142*** (-28.81)	0.0949*** (5.38)	-1.162*** (-28.21)	0.521*** (13.15)
_cons	1.492*** (110.95)	4.682*** (98.08)	0.431*** (20.28)	4.649*** (93.72)	-1.041*** (-20.99)
sigma					
_cons				2.097*** (332.33)	1.760*** (194.08)
<i>N</i>	56837	59013	59013	59013	59013

Conclusion

- This study tries to explain the geographical distribution, trend and determinants of middle class in Pakistan. By applying income based definition the trend shows that in Pakistan, over time the poverty has reduced and middle class has increase. Second definition is based on relative measure of middle class while third definition of middle class is based on the ownership of goods.
- The result of each definition gives us different result. And the important observation by absolute definition is that middle class is not increasing as much as it was increased by applying other measures, this shrinking of middle class and expansion of other classes possibly shows the polarization in Pakistan.

Conclusion

- The increase in disparity of rural and urban areas have become a hurdle for expansion of urban areas because the residents of rural areas cannot afford the housing and other services and in factor market they are discriminated due their income status. On other hand as education and health are linked with level of income. The local government cannot provide public option, so the group and area with low income will show a reduction in human capital formation, which as a result will further lead to increase in income inequality (Mundial, 2009).

Conclusion

- The inequality itself can lead to increase in socio economic consequences. So to avoid these socio economic problems like public insecurity ,health problems and political instability it is necessary to address the issue of income distribution.