

A Novel Model for Estimating Bottom of the Pyramid Market Size in IRAN based on Inflation Rate and Income Rate

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Abstract: Despite disagreements in Bottom of the Pyramid definition, there is a common idea declares that the Bottom of the Pyramid market with billions potential consumers is the most profitable market. The huge 2.5 to 4 billion low income population is the main goal of global marketing plans. The research done in the recent years shows that Bottom of the Pyramid marketing has remarkable benefits for companies and also social and cultural improvements for poor level of the society.

In this paper a case study has discussed BOP market size in Iran in subsequent years 2007 and 2008. The suggested model helps calculating the Bottom of the Pyramid population. In this model two variables are assumed: inflation rate and income rate. The reason is the annual increasing inflation rate in Iran which makes the purchasing power less gradually. However, most marketing experts have only considered \$2 daily income as BOP border. Calculating the approximate population of low income people in Bottom of the Pyramid in Iran helps to support them by predefined enrichment plans. The inflation rate, population growth rate, and average income applied in the case study are all extracted from formal reports of Central Bank of the Islamic Republic of Iran and Statistical Centre of Iran.

Keywords: BOP marketing, BOP population, household expenditure, inflation rate, purchasing power.

1. Introduction

Bottom Of the Pyramid or Base Of the Pyramid (BOP) is defined as a common vocabulary in economics and business. There are some disagreements in defining low income group amongst economics experts and professionals. Some researchers consider the classification based on annual salary less than \$1500 while the others define lower than \$700 or even \$400. However the most applicable and reliable definition of BOP group refers to Karnanithat emphasizes 2.5 billion people of the world population pass their lives hardly with less than \$2 a day [1]. Various papers discussed BOP and BOP marketing to gain benefits from this BOP trillion dollar potential market [2]. This trend is accelerating during last two years although the criticizing aspects of BOP are also increased. For example despite the initial attention to the BOP market plans, these plans did not make any eye catching improvement in poor people lifestyle. The BOP marketing plans are just focused to absorb a part of 13 to 15 trillion dollar of BOP consumer price index. However the related research by economics professionals declares that the BOP consumer price index estimation is not realistic and the real size of the BOP global market is just 360 billion dollar [3].

The outcomes of researches done in BOP area have applied in the current paper. The authors presented a novel model based on two important variables, respectively increasing inflation rate and income rate. The model calculates the BOP population. The latest available formal data announced by Central Bank of the Islamic Republic of Iran (CBI) and Statistical Centre of Iran (SCI) belong to 2008. These data applied in the model and the case study is completed by sketching the related diagrams and tables. In the next section a brief BOP literature review is discussed.

2. Brief Literature Review for BOP

Prahalad has discussed about BOP in various papers since ten years ago. He initiated the BOP idea by discussing about fortunes at the bottom of the pyramid. Other researchers continued his way and analyzed different aspects of BOP in some case studies. Table 1 depicts a brief literature review about BOP. The chronic arrangement of this table shows the gradual improvement in this important issue.

Name and Year	Title of Research	Brief Content
Prahalad, and Hart, 2002	Fortunes at the BOP [4]	Increasing BOP purchasing power
Kim and Mauborgne, 2005	Blue Ocean Strategy[5]	Creating extra value for lower level
Pitta, Guesalaga, and Marshall, 2008	The quest for the fortune at the BOP: potential and challenges[6]	NGOs should support extra costs of BOP especially in medical care
Bang and Joshi, 2008	Conceptualization of Market Expansion Strategies in Developing Economies[7]	Different cultures in BOP level is an obstacle for integrated strategy
Wood, and Franzak, 2008	Successful marketing by multinational firms to the BOP[8]	Empathy with BOP instead of marketing
Sridharan, and Viswanathan, 2008	Marketing in subsistence marketplaces: consumption and entrepreneurship in a South Indian context[9]	South India case study
Ireland, 2008	Lessons for successful BOP marketing from Caracas' slums[10]	Caracas case study
Rangnekar, 2009	Nano Strategy: Focusing on the Bottom of the Pyramid[11]	Presenting Nano services with reasonable quality and cost
Habib, and Zurawicki, 2010	The Bottom Of The Pyramid: Key Roles For Businesses[12]	Low income people in crowded families are profitable customers
London, Anupindi, and Sheth, 2010	Creating mutual value: Lessons learned from ventures serving BOP [13]	Evaluating 64 investing companies which support BOP
Santos, and Rufin, 2010	Global village vs. small town: Understanding networks at the BOP[14]	Comparing top of the pyramid and bottom of the pyramid features
Karnani, 2011	Microfinance needs regulations[15]	Improving microloan strategies

Table 1: BOP Literature Review Map.

3. A model for Estimating the BOP Market Size in Iran Case Study

The BOP markets in the current literature basically have considered annual income for lower level of the society as a border line. In this paper Iran BOP market is targeted. Iran is located in Middle East in strategic location with reported 72 million populations in 2008 [16]. This is a developing country with %53.3 youth level. The increasing rate of inflation affects the economic growth, although it is more controlled in the past two years. Figure 1 shows the inflation rate since 2007 in Iran economy.

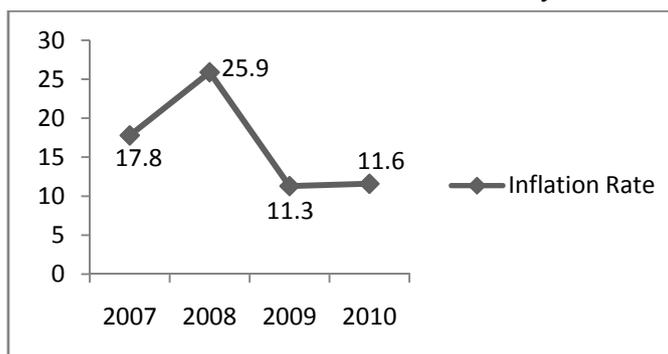


Fig 1: Inflation rate in subsequent years (extracted from CBI) [17].

The suggested model estimated the BOP population of Iran in subsequent years 2007 and 2008 based on income rate alongside the inflation rate. By calculating purchasing power (PP) which is directly dependent on consumer price index (CPI) reported by CBI, the inflation rate is interfered in the model:

$$\text{Purchasing Power (PP)} = \text{Income} * (1 - \text{Inflation})$$

It makes the model and results more dynamic and realistic. As it is clear in Figure 1, the inflation rate of 2007 is %17.8. Also the income rate of tenth ranking (deciles) are in 2007 are announced by Statistical Centre of Iran [18]. The center had used sampling method and around 900 samples in urban and 900

samples in rural areas are chosen. Table 2 shows the average expenditure/income ratio separately for 2007 and 2008. This ratio is decreased in 2008. Also as it is reported by CBI the general consumer price index is increased % in 2008 comparing 2007. In this research the initial year is considered 2007. Based on the formal announcement of the Central Bank of the Islamic Republic of Iran (CBI) the inflation rate had increased approximately %18 in average since 2007. Also Statistical Centre of Iran (SCI) reported almost %9.8 average growth in incomes from 2007. Therefore, purchasing power decreased approximately %8 each year.

	2007	2008
Income	88219386	93602834
Expenditure	94214107	99191330
Expenditure/Income	% 1.068	% 1.059

Table 2: The average expenditure / income ratio in 2007 and 2008 for every family in Iran.

In Table 3, the results of final calculations of purchasing power in 2007 and 2008 are inserted. Based on the BOP border, \$2 daily income, it is clear that in 2007 the first three tenth are located in BOP level. However in 2008, the first four tenth are placed in BOP. Purchasing power of 2008 is calculated by both variables of the proposed model, inflation rate of 2007 which is %17.8 and the income rate for every tenth ranking (deciles).

	2007		2008		
	Income \$	Expenditure \$	Income \$	Expenditure \$	Purchase Power \$
1st Tenth	393	420	431	456	354
2nd Tenth	548	585	602	638	495
3rd Tenth	696	743	764	809	628
4th Tenth	821	Non-BOP	901	954	741
5th Tenth	948	Non-BOP	1040	Non-BOP	Non-BOP
6th Tenth	1180	Non-BOP	1295	Non-BOP	Non-BOP
7th Tenth	1400	Non-BOP	1538	Non-BOP	Non-BOP
8th Tenth	1760	Non-BOP	1932	Non-BOP	Non-BOP
9th Tenth	2400	Non-BOP	2635	Non-BOP	Non-BOP
Last Tenth	5000	Non-BOP	5490	Non-BOP	Non-BOP

Table 3: Iran BOP based on inflation rate and income.

Figure 2 sketches the results of Table 3. The dashed BOP border line in the figure brightly proves that in 2007, third tenth is in BOP threshold, while in 2008 one more tenths joined to BOP and fourth tenth is also placed in BOP threshold.

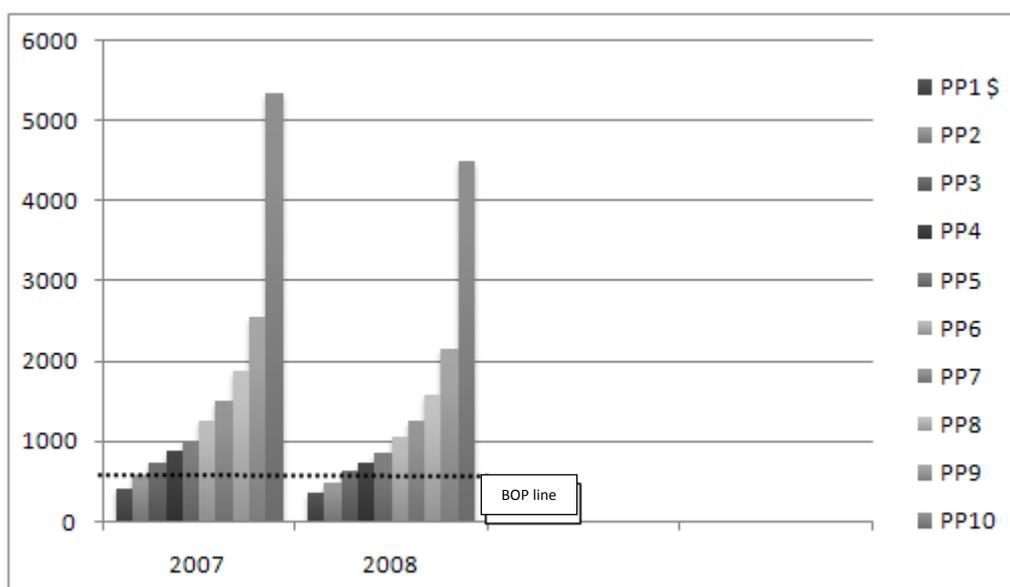


Fig 2: BOP markets based on purchasing power (PP) in 2007 and 2008.

The final and the most important step is to find the population of BOP in 2007 and 2008. The BOP populations for the first three tenth in 2007 and first four tenth in 2008 are calculated based on the average number of the samples in each tenth ranking. The average number of samples in 2007 and 2008 are almost between 2.77 persons and 4.77 persons [18]. Table 4 presents the population of BOP in the aforementioned years.

Tenth Ranking	2007	2008
1st	5000000	5040000
2nd	6430000	6480000
3rd	7143000	7200000
4th	Non applicable	7200000
Total	18573000	25920000

Table4: Iran BOP population in 2007 and 2008.

The results show that the BOP population in Iran has increased in 2008. The low income population of 2007 is 18573000 persons, while in 2008 it converted to 25920000 persons. This result which is based on consumer price index and inflation rate will help to support BOP. On the other hand, obtaining the exact amount will lead to monitor and mitigate the potential factors.

4. Conclusion

Entering a trillion dollar potential market such BOP market has both opportunities and threats. The huge size of the market makes it more risky. Therefore, accurate contingency plans are needed to handle any upcoming issue. On the other hand, the ethical issues are the main concerns of the BOP market researchers. Investing companies should consider the cultural and social lifestyle of poor people and create mutual value and benefits for both sides.

In this paper the population of BOP market of Iran is calculated for 2007 and 2008. However most of the marketing experts considered \$730 annual income as a border of BOP, purchasing power (PP) and inflation rate could be appropriate compliments for income which are recommended. By considering the reported Iran inflation rate of year 2007, the population of BOP has converted from 18573000 persons to 25920000 persons. Also the difference between top of the pyramid and bottom of the pyramid is increasing gradually. Obtaining BOP population for each year will help to plan accurately for low income level of the society and will make the BOP monitoring and mitigation process possible in the near future.

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