

Socioeconomic status scales-modified Kuppuswamy and Udai Pareekh's scale updated for 2019

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ABSTRACT

Socioeconomic status (SES) is one of the prime factors influencing the health status of a nation. It is the measure of the social standing of the individual or a family and has a wide impact on an individual/family's health, educational attainment, diet, lifestyle, etc., The per capita income of citizens is a major factor that decides the SES of the population. The affordability and utilization of the health facilities depend on the socioeconomic profile of the population. The periodic changes in the consumer price of goods globally as well as nationally due to inflation warrants that it is mandatory to constantly update the income-based socioeconomic scales so as the assessment is made correctly in practice. We are making an attempt to provide an updated Kuppuswamy and Udai Pareekh's socioeconomic scales for 2019.

Keywords: Kuppuswamy, socioeconomic, Udai Pareekh, 2019

Introduction

The socioeconomic status (SES) is one of the important factors affecting the health condition of an individual or a family. The economic and social position relatively is being determined by various variables that are responsible for income, education, occupation, family effluence, physical assets, social position, social participation, caste, political influence, and muscle power and can be measured by SES. Several scales have been proposed and reported to evaluate the socioeconomic classes of families in specific circumstances, such as in urban or rural setting: Rahudkar scale 1960, Jalota scale 1970, Udai Pareekh scale 1964, Kuppuswamy scale 1976, Shrivastava scale 1978, Kulshrestha scale 1972, and Bharadwaj scale 2001. Economic status is also considered a determinant of SES and presents a source of security providing a measure of a household's capability to fight emergencies, absorb economic shocks, or provide the means to live comfortably. Wealth can be influenced by intergenerational transitions as

well as accumulation of income, savings, and immovable property.^[1]

The SES is an important factor influencing health, nutritional status, mortality, and morbidity of a population. SES also influences the acceptability, affordability, accessibility, and actual on ground utilization of various available health facilities.^[2] SES refers to an individual's position within a hierarchical social structure, which is one of the important factors influencing health status. In primary care settings, examinations of socioeconomic scales often reveal inequities in access to health care. It also reveals a pattern to the health problems existing in a specific population with respect to their socioeconomic class. The two key areas that the SES helps to address are: First, a disease pattern with low socioeconomic population presents more commonly with communicable diseases and nutritional deficiency while as the high SES shows more of obesity and noncommunicable diseases; second, the access to health care with high SES shows a better access. Thus, the SES helps in understanding the pattern of patients attending the primary care setting.

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Composite scales are generally used to measure the SES, which has a combination of social and economic variables. Currently, we do not have a tool to directly measure the social status of an individual; therefore, an attempt has been made time to time by many researchers and social scientists in the past to devise a composite index to measure it. However, swift social transformation and rapid-growing economy have rendered these scales ineffective in measuring the SES at present. Hence, considering the current boom in inflative factors, they have been revised.^[3] The socioeconomic scales which consider income as the basis for its calculation need to be updated with the changes in All India Consumer Price Index regularly.

Kuppuswamy's SES scale

The modified Kuppuswamy scale is commonly used to measure SES in urban and rural areas. This scale was devised by Kuppuswamy in 1976 and consists of a composite score which includes the education and occupation of the Family Head along with income per month of the family, which yields a score of 3–29. This scale classifies the study populations into five SES, as shown in Table 1. Often, occupation and education of head of the family are not changeable with time. However, the income categories in the scale lose their scoring following the change in the value of the Rupee. Therefore, there is a need to update the scale as per the changes in consumer price index (CPI), thus making the socioeconomic scale applicable to the study populations.

The changes in the income ranges are proportional to the change in the CPI numbers for industrial workers (IW)-CPI. The CPI values are interpreted with reference to a base year. The earlier base years were 1960, 1982, and 2001. The latest CPI available for February 2019 was calculated taking 2001 as the base year. To begin with the income scale was calculated for the years 1982 and 2001, which coincides with the change in the base year for calculation of CPI by applying the apt conversion factors on the original scale. The monthly income of a family (in rupees) for 1976 was estimated according to base year 1960 = 100 (using the CPI for 1976 as 296) and this increased to 490 in the year 1982.^[4-6]

The CPI-IW is an important economic indicator. It was initially introduced on with base 1960 = 100, which was calculated on the basis of the results of Family Living Survey conducted in 1958–1959 at 50 industrially important centers. This series was updated on base 1982 = 100, and again in 1999–2000, it has been further updated the base on 2001 = 100. The current series of CPI-IW with base year 2001 = 100 covers 78 industrially important centers spread across the country.

A committee by the name of Index Review Committee (IRC) chaired by Prof. G.K. Chadha recommended for constituting a Standing Tripartite Committee (STC) of all the stakeholders. Accordingly, Ministry of Labour and Employment formed a Standing Tripartite Committee (STC) vide order No. Y-12011/5/2010-ESA (LB), dated 12 January 2011, for setting

Table 1: Modified Kuppuswamy scale (update for February 2019)

Education of head of family		Score	
Professional degree		7	
Graduate or postgraduate		6	
Intermediate or post high school diploma		5	
High school certificate		4	
Middle school certificate		3	
Primary school certificate		2	
Illiterate		1	
Occupation of head of family		Score	
Professional (white collar)		10	
Semi-professional		6	
Clerical, shop-owner/farm		5	
Skilled worker		4	
Semi-skilled worker		3	
Unskilled worker		2	
Unemployed		1	
Monthly income of family			
In 2001 (Base year)	In 2017 (January 2017 CPI)	In 2019 (February 2019 CPI)	Score
≥15,197	≥41,430	≥52,734	12
7,595-15,196	20,715-41,429	26,355-52,733	10
5,694-7,594	15,536-20,714	19,759-26,354	6
3,793-5,693	10,357-15,535	13,161-19,758	4
2,273-3,792	6,214-10,356	7,887-13,160	3
761-2,272	2,092-6,213	2,641-7,886	2
≤760	≤2,091	≤2,640	1
Socioeconomic class			Total score
I	Upper		26-29
II	Upper middle		16-25
III	Lower middle		11-15
IV	Upper lower		5-10
V	Lower		01-04

2015 as the base year in order to reduce the variation arising out of time lag. The labor bureau of India has planned to re-evaluate the base year as 2015 for the calculation, but the ground work has not been completed as of yet. The Terms of Reference for the STC formed are as follows:

The Standing Tripartite Committee will: {i} examine the various aspects of the base year revision of Consumer Price Index Number Series for Industrial Workers {CPI-IW} including the selection of centers, sample size, sampling design, methodology for deriving the weighting diagram, and linking factor; {ii} examine the method of price collection procedures and machinery of price collection; {iii} examine the center specific weighting diagrams for all the centers, selection of base year, compilation of base year prices, trial indices; and {iv} consider any other relevant issue {s}/matter as may be necessary.

Need for base updation

The pattern of consumption of the working class population undergoes a gradual change with time, and thus, it becomes necessary that the consumption basket is updated from time

to time to account for these changes and to maintain the representative character of the index. The need for frequent revision of base on account of rapidly changing pattern of consumption of the target group has been recommended by International Labour Organisation, National Commission on Labour, National Statistical Commission, and also Technical Advisory Committee on Statistics of Cost of Living and Prices. Also, this recommendation was strongly reiterated by the Index Review Committee headed by Prof. Chadha, which inter-alia stated that the interval between the two series should not exceed 10 years. Therefore, the Labour Bureau proposed to revise the base year of the existing CPI-IW series 2001 = 100 to a more recent base year preferably, 2015 = 100. The CPI purports to measure the change in prices of goods and services consumed by index population over time in comparison to a base year.

Due to above important considerations, there is a need to change this base year to a more recent one. The basic frame work behind CPI for Industrial Workers in India is “theory of fixity.” As it is needed to know the actual change in price level owing to updation in macroeconomic environment, the obvious consequence is that every parameter affecting price of the commodity like center, market, shop, specification, etc., has to be fixed for the entire life of a series. So that only changes observed are in the current price level. Such fixation may not be justifiable over a period of time due to metamorphosis that is bound to occur at different levels in these fixed parameters. The change at any level can be shown only while updating the base year where we can update any parameter of a commodity; it can be a shop, market, or specification that may influence its price change. The general law of demand infers that, other things being equal, consumers have a tendency to shift their

Table 2: Udai Pareek revised scale

Components	Score	Components	Score
Caste		Social participation	
Schedule caste	1	None	0
Lower caste	2	Member of one organization	1
Artisan caste	3	Member of more than one organization	2
Agriculture caste	4	Office holder in such an organization	3
Prestige caste	5	Wide public leader	4
Dominant caste	6	House	
Occupation		No house	0
None	0	Hut	1
Labourer	1	Kutch house	2
Caste occupation	2	Mixed house	3
Business	3	Pucca house	4
Independent profession	4	Mansion	5
Cultivation	5	Farm power	
Service	6	No draught animals	1
Education		1-2 draught animals	2
Illiterate	0	3-4 draught animals	4
Can read only	1	5-6 draught animals	6
Can read and write	2	Material possessions	
Primary	3	Bullock cart	0
Middle	4	Cycle	1
High school	5	Radio	2
Graduate	6	Chairs	3
And above	7	Mobile phone	4
Land		Television	5
No land	0	Refrigerators	6
<1 acre	1	Family member	
1-5 acre	2	Up to 5	2
5-10 acre	3	>5	1
10-15 acre	4		
15-20 acre	5		
≥20	6		
Grade	Category	Score on scale	
I	Upper class	>43	
II	Upper middle class	33-42	
III	Middle class	24-32	
IV	Lower middle class	13-23	
V	Lower class	<13	

consumption pattern as per changing trends and lifestyle. This change can only be introduced in the index by conducting a fresh income as well as expenditure survey during this base updation procedure and subsequently fresh weights to be used for compiling the index for the next series.

It is a well-renowned fact that use of Laspeyres type formula for this Index Compilation tends to overestimate the index as the deviation from the base year increases. Thus, the base updation at regular intervals is crucial to control this upward bias. Any desirable change as per the technical level to absorb best international practices can be integrated only at the time of updation of base.^[7]

Calculations

Price index for 1976 by 1982 base = $(100/490) \times 296 = 60.408$, Conversion factor for 1982 = $296/60.408 = 4.90$. Mishra revised the Kuppuswamy scale in 1998 as per the price index year 1998 (using the price index for 1998 as 405) using base year 1982 = 100, which was again later revised by Kumar *et al.* by keeping 2001 (price index 458) as the base year according to the 1982 base.^[5,8] The CPI for 1998 by 2001 base = $(100/458) \times 405 = 88.428$, price index for 2017 (by 2001 base)^[9] = 274, and conversion factor for January 2017 = $274/88.428 = 3.09$.

Since the CPI for February 2019 is 307,^[10] conversion factor for February 2019 = $307/88.428 = 3.47$. Multiplying the income scale of 2001 by 3.47 updates the scale for February 2019 [Table 1]. The Kuppuswamy scale has its own limitations as there is more emphasis on income rather than educational and occupational factors. Education and occupational factors also need to be updated by using suitable survey methods.

Udai Pareekh's revised scale

Udai Pareekh socio-economic status scale

It attempts to assess the socioeconomic status for rural population. This scale has nine factors which assess the socioeconomic status of the individual as shown in Table 2. After filling in the information, and scoring the individual item list, the total score is summed and the result is interpreted in terms of the class as per the Table 2. Since income is a sensitive issue for individuals and families, usually they are not comfortable in discussing it with the interviewer. Udai Pareekh scale does not collect information on income, so the data collected with this scale may be more valid.^[11]

Conclusion

As All India Consumer Price Index value will be updated at frequent intervals, it requires that the socioeconomic classifications which consider income as a parameter be updated simultaneously especially refixing the base value at year 2015 so as to increase the validity and reduce deviation of the estimate of income levels.

The present research is a step toward providing updated information on the commonly used socioeconomic scales. The updated socioeconomic scales should be used by researchers to determine the SES of the subjects precisely. Since Kuppuswamy scale includes directly asking about the income, its validation becomes questionable. Again, it only assesses the monthly income and does not include any catastrophic expenditure which can change the SES of the family. Further, it assesses the liquid income only and not immovable assets. Therefore, a validation of the scale and better options need to be explored or devised for efficient assessment of SES.

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Conflicts of interest

There are no conflicts of interest.

List of abbreviations: CPI, Consumer Price Index; SES, Socioeconomic scale

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