Do women pay more?
Investigating the economic existence of gender-based price discrimination

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Abstract

'Pink tax' refers to the differentiated cost of products that women are liable to pay for the products supposedly designed and marketed specifically for them, which is mostly invisible in nature. The prevalence of such price discrimination is a debatable topic. Commonly subdued as a 'social concept', the existence of differential pricing is questioned time and again, countered by the statement that women's products have different requirements, hence, different production costs. Is this differential pricing justified? Does the high price result in a higher utility of the product? Or are women simply marketed goods in a way that increases the societal compulsion on them to buy those products?

All these questions often point to social pressures and consumer behaviours, however, when this problem is evaluated economically, negative impacts on women's purchasing power, economic freedom and standard of living are hard to ignore. How adversely are women affected by these marketing strategies that impel them to spend more on high-cost products in spite of having low-cost substitutes available?

For example, women are more likely to take taxi services than men under the pretext of safety . Such expenditures are often termed as a 'personal choice' in spite of it being a necessity for women. Service providers impose surcharges for 'luxurious' taxi services while no efforts are made to make public transports more inclusive of women's needs. Women are institutionally coerced into spending more for their "vital needs", which are often branded as a "luxury". Products/services are marketed to women in a way that they are socially wired to pay for them, at the same time, the premiums charged on them are often obscured or 'invisible' to track down. Critics argue that women are free to make their own economic decisions and the societal implications are non-existent. Women demand more product differentiation and have different needs, which results in the increased price.
The root question being, "Do women pay more?" Do women have to pay more to afford the same standard of living at the same income as compared to their male counterparts?

The objective of this research paper is to investigate the existence of aforementioned 'invisible' costing by analysing income and expenditure patterns of Indian consumers by using experimental survey research method. The research hypothesis is formulated to test the existence of an 'expenditure gap' that facilitates low elasticity of demand for women. The research aims to find a conclusive answer to the question ,"Do women indeed pay more?

Introduction-

Mamie Eisenhower, the First Lady of the US (1953-61) had a distinct fascination for pink. Newspapers and fashion designers were quick to adopt her colourful life-style. Her signature style of decor with prominent shades of pink and cream colours, made the the media refer to The White House as "The Pink Palace". During her time in the office, her affection for pink furniture, dress and products was highlighted in the media. The dress she wore for Ike's 1953 inauguration captured the public imagination and began to establish pink as a colour associated with a certain kind of femininity. This consequently influenced women to buy products that were pink in colour. The particular shade of pale pink known as 'Mamie pink' became an enormously popular colour for kitchens and bathrooms. Capitalists saw this as a marketing opportunity and flooded the market with Pink colour products as a 'signature' for women and girls and Blue coloured products for men and boys. With the change of time, the relative prices of these products also changed. With products that were being marketed for women started costing more. This Gender-based price discrimination rose from the affection for 'Pink' hence, has been socially named so, the "Pink-Tax".
The road ahead in the evaluation of this costing has got more complicated with time. The questions about its existence, relevance, effects have pondered the minds of economists for decades. This research contributes to this topic by evaluating different past researches and integrating the economic, social, psychological aspects of it.

Literature review-

Consumer Reports conducted an investigation in 2010 and found that products for women — by packaging design only — cost up to 50 percent more than the same products for men. [1]

A report published by the New York City Department of Consumer Affairs in 2015 compared the price disparities for 794 comparable products from 91 brands sold throughout the city. The study aim was "to estimate the price differences male and female shoppers face when buying the same types of items" [2] The report concluded that "women faced an average price difference of 13 percent for personal care products among the 122 products compared in the study. And the authors aptly noted that these items, such as shaving gel and deodorant, are the ones purchased most frequently compared with other categories — meaning that the costs add up over time. While this is unfair for all those shopping for these products, that 13 percent price increase hits women and girls who come from lower income households even harder".

These reports provide evidence for the existence of "Pink Tax" in the society. However, another report [3] stated, "that the pink gap [tax] is often negative; men's products command higher per-product prices in six of nine categories that we study and higher unit prices in three of nine categories." The study concluded, "Further, men's products are more expensive in four of six categories when we control for ingredients. Taken together, our findings do not support the existence of a systematic price premium for women's products", "As an example, if one store sets a 5% higher price for the men's version of a product and a neighbouring store sets a 5% higher price for the women's version, we would detect no gender price gap". Naturally, the debate about the existence of such a "pink tax" is a continuing one.

Research Question-

Hence, the question remains, "does gender-based price discrimination exists?" and if yes, then, "how would one evaluate it?" This research is based on the idea that there may exist an "invisible cost" that affects females more than it affects their gender-counterparts; A non-evident costing that threatens the economic freedom of females. This "invisible cost" impacts the economic well-being of females. Supported by the fact that there still exist various barriers against women for achieving equal employment, wage and economic opportunities as males. According to ILO, "The current global labour force participation rate for women is just under 47%. For men, it's 72%. That's a difference of 25 percentage points, with some regions facing a gap of more than 50 percentage points" [7].

The Research Gap-

These reports may have diverging conclusions, however, they all have followed a "Commodity Approach" methodology, where the relative price of same products marketed for different genders are compared in order to evaluate the existence of an underlying "pink tax".

However, as the world has been pacing forward, the economic variables have increased considerably. There are various factors that may influence the sale, consumption and cost of a commodity. Today, with the increased supply of differentiated goods, it is now entirely too nebulous to evaluate the total/appropriate cost of a product simply on the basis of its demand and supply. There are variables of availability of raw material, production technology, import/export costs, market forces, currency value, future perception and many more.

For example, from one perspective, most discussions of the pink tax are not about an actual tax, but in one instance they are: import tariffs. In the United States, clothing companies pay higher import tariffs on women's items—such as silk shirts, wool jackets, cotton suits, suit jackets, blazers, leather shoes, and golf shoes. On the men's apparel side, import tariffs are higher on cotton shirts, wool suits, synthetic fibre suits, and swimwear. Some goods have no gender-based tariff difference, while others have large differences. Overall, tariffs on women's items are higher. [4]

Also, with the rise of capitalism, it is implausable that the capitalists would focus only on one set of consumers (females) to extort profits. Afterall, the root cause of the origin of Pink Tax are the 'Marketing Strategies' adopted by capitalists in the 1950s.

Thus, the commodity approach for evaluating the existence gender-based price discrimination falls short in the contemporary world.

Research Approach-

In order to evaluate this costing, our methodology focuses on an "Income Expenditure" approach rather than the commodity approach. Since this costing is "invisible" in nature and it is difficult to precisely specify it's existence in commodities, the "income expenditure" approach gives a new perspective to this topic. For analysing the economic well-being of females, the “Standard of Living” index is used. “The statistical notion of living standard (or “equivalent income” or “income per consumption unit”) is intended to make comparable the economic well-being of households of different sizes and composition”, “The standard of living is a construction based on the disposable income (or consumption) of a one-person household taken as a measure of his or her economic well-being” [5]

- Income and Standard of living share a direct relationship. As income increases, the standard of living also improves. [5]
- Income and expenditure also share a direct relationship [6]. As the income rises, the disposable income also increases, thereby increasing expenditure. This can be expressed as follows-

I ~ expenditure
I~ Standard of living
Therefore, by transitive property of proportions-
Standard of living ~1/expenditure, must be true.

*It should be noted here that all values are arbitrary numerical values.

Thus, as Expenditure rises, the standard of living falls. Therefore, by analysing a person’s expenditure, we can gain insight into their standard of living.
For the research, income and expenditure variables are studied gender-wise for the purpose of evaluating the differences in the affordability of the same standard of living for different genders; under the premise that same income level groups have the same standards of living.
This study aims to explore the answer to the question, "Do women indeed pay more than men, in order to afford the same standard of living?"

Therefore, it can be concluded that
- Higher income yields a better standard of living.
- Higher expenditures result in decreased standard of living.
- Same income levels results in the same std of living.

Objective-

The objective of this research is to confirm the existence/non-existence of invisible costing on women by an 'Income-expenditure' approach. The study aims to evaluate whether "Women have to pay more in order to afford the same quality of life?" thereby finding conclusive answers to the existence of gender-based price discrimination.

Research design-

The research was designed in the following manner-
1. Construction of Survey questionnaire
2. Conduction of survey.
3. Segregation, tabulation of data gathered.
4. Statistical computing
5. Drawing of inferences
6. Conclusion
7. Future implications

Methodology-

- Qualitative Data was recorded via Experimental Survey Research Method. A survey was conducted inquiring people about their expenditure habits, preference and income levels.

- The Survey Questionnaire was constructed to measure four components-
  - General composition, trends in the population.
  - Expenditure Patterns (Economic evaluation)
  - General Preferences for expenditure (Social evaluation)
  - Public perception of Gender-based Price Discrimination. (Psychological evaluation).
- Based on the data gathered, the three components are computed and analysed separately.

1. <u>General composition, percentage/probability analysis of the population-</u>

   - Collected data was sorted and segregated into groups according to different variables:-

Employment	FEMALE	MALE
Employed	83	76
Unemployed	100	21
Self-Employed	31	44
Employment Distribution (Table 1.2)		
Income Level	FEMALE	MALE
High Income	5	11
High Middle Income	73	65
Low Middle Income	99	56
Low Income	37	8
Income Distribution (Table 1.3)		

   - By using simple probability formulae ,the probabilities of belonging to specific groups were computed. For eg., The probabilities of a male having monthly expenditure above 30,000/- at different income levels are calculated as follows-

Above 30,000/-	MALE	
	Frequency	Probability
High Income	11	0.08
High Middle Income	47	0.33
Low Middle Income	17	0.12
Low Income	1	0.01
Total	76	0.54

Table 1.4

   - These probabilities are used to evaluate and compare male and female trends in the population.

2. Expenditure Patterns Scoring & Weighted Averages -

- Scoring was done according to the preferences and level of expenditure. A higher score would imply a higher level of expenditure. For Eg, the scoring for "Total Average monthly Expenditure " was done as follows-

Average total monthly expenditure	Score
below 1000/-	1
1,000-5,000/-	2
5,000-10,000/-	3
10,000-20,000/-	4
20,000-30,000/-	5
Above 30,000/-	6

Table 1.5
Scoring for "Average Total Monthly Expenditure"

- Aggregate Scores of every individual were calculated out of a total score of 20.
- Data was sorted into groups based on Gender, Income Level, Employment and such.
- Aggregate scores of these groups were calculated as shown below-

Income Level	Male	Female
Low -Income	**49**	**179**
Low-Middle Income	**500**	**699**
High-Middle Income	**710**	**744**
High Income	**146**	**74**
Total	**1405**	**1696**

Employment Status	Female	Male
Employed	**777**	**787**
Self-Employed	**248**	**439**
Unemployed	**671**	**179**
Total	**1696**	**1405**

Table 1.6
Aggregate scores according to Income level and Employment

- Weighted Averages were calculated by dividing aggregate scores by 20, and multiplying it with the ratio of number of people in the group to the total number (weights). As shown in the example below-

Group (1)	Aggregate expenditure Score (2)	Expenditure Ratio [(2)/20] (3)	Number of Females (4)	Ratio [3/N(f)] (5)	Weighted Expenditure Averages [(5)*(3)] (6)
Lower-Middle Income	699	34.95	99	0.46	16.08

Unemployed	671	33.55	100	0.47	15.77
N(f)- Number of Females, 214					
Group (1)	Aggregate expenditure Score (2)	Expenditure Ratio [(2)/20] (3)	Number of Males (4)	Ratio [(3)/N(m)] (5)	Weighted Expenditure Averages [(5)*(3)] (6)
Lower-Middle Income	500	25	56	0.397	9.93
Unemployed	179	8.95	20	0.142	1.27
N(m)- Number of Males, 141					

Table 1.7

- Thus, the Weighted Expenditure Averages are calculated as follows-

Weighted Expenditure Aggregates		
Income Level	**Female**	**Male**
Lower-Middle	**16.17**	**9.93**
Low	**1.55**	**0.14**
High-Middle	**12.69**	**16.37**
High	**0.09**	**0.57**
Total	**30.5**	**27.01**

Weighted Expenditure Aggregates		
Employment Status	**Female**	**Male**
Employed	**15.07**	**13.97**
Self-Employed	**1.8**	**4.51**
Unemployed	**15.68**	**0.84**
Total	**32.55**	**19.32**
Weighted aggregates table (1.8)		

- These computations are used for analysing and comparing expenditure patterns of the population.

3. Preferential Analysis- In the survey, a question is asked, “With surplus savings, on which of the following would you prefer to spend on? 1= low preference, 5-very high preference” in order to gather information about the population’s expenditure preferences.

- The preference scores are then mapped according to income level and grouped gender–vise.
- These scores are then represented and interpreted using Pie Charts.

4. PsychologicalPerception-The last (5) questions of the survey are simple "Yes" or "No" answer types. The questions are simple and straightforward in nature in order to minimise ambiguity.

- These questions reflect the psychological perception of people about their "quality of life", satisfaction, and outlook on the economic problems of gender disparity.
- The answers of the respondents are sorted according to the groups in order to understand the general viewpoint of the population and its constituent groups.

Data Analysis-

1. General composition, percentage/probability analysis of the population-

- As explained in methodology(1), the trends in the population are analysed based on the calculated probabilities/percentages, which are tabulated below-

Variables	FEMALE		MALE	
	Frequency	Probability	Frequency	Probability
Total	214	-	141	-
Sample Composition (Table 2.1)				
Employment	FEMALE		MALE	
	Frequency	Probability	Frequency	Probability
Employed	83	0.39	76	0.54
Unemployed	100	0.47	21	0.15
Self-Employed	31	0.14	44	0.31
Employment Distribution (Table 2.2)				
Income Level	FEMALE		MALE	
	Frequency	Probability	Frequency	Probability
High Income	5	0.02	11	0.08
High Middle Income	73	0.34	65	0.46
Low Middle Income	99	0.46	56	0.4
Low Income	37	0.17	8	0.06
Income Distribution (Table 2.3)				
Age Group	FEMALE		MALE	
	Frequency	Probability	Frequency	Probability
below 18	5	0.02	2	0.01
18-25	103	0.48	30	0.21
26-30	17	0.08	5	0.04
31-40	25	0.12	28	0.2
41-50	44	0.21	30	0.21
51-60	16	0.07	34	0.24
60 Above	4	0.02	12	0.09
Age-Group Distribution (Table 2.4)				

2. <u>Expenditure Patterns Scoring & Weighted Averages -</u>

- The aggregate expenditure scores by different groups are tabulated below-

Weighted Expenditure Aggregates		
Income Level	**Female**	**Male**
Lower-Middle	**16.17**	**9.93**
Low	**1.55**	**0.14**
High-Middle	**12.69**	**16.37**
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Total	**30.5**	**27.01**

Weighted Expenditure Aggregates		
Employment Status	**Female**	**Male**
Employed	**15.07**	**13.97**
Self-Employed	**1.8**	**4.51**
Unemployed	**15.68**	**0.84**
Total	**32.55**	**19.32**

Weighted Expenditure tables (W1, W2) (Table (2.2.5)

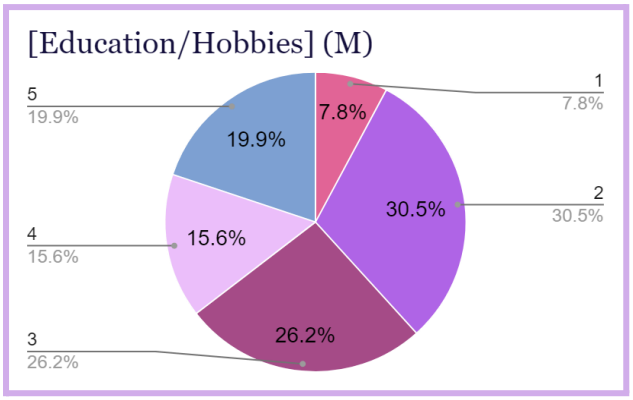
3. Preferential Analysis-

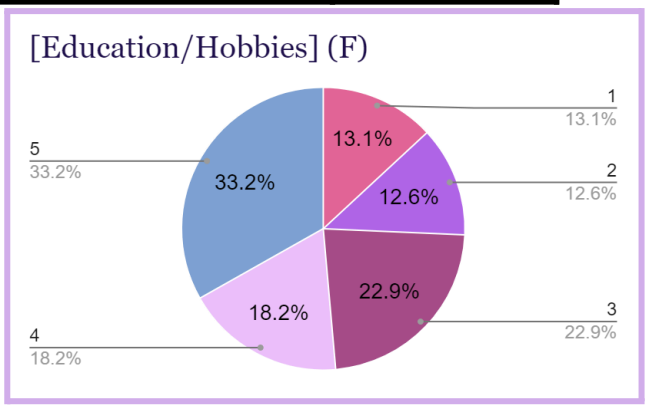
The preferences of male and females for surplus savings are tabulated below along with their respective Pie charts. Here, each score corresponds to level of preference, higher score means higher preference.

- Education/Hobbies: (Table 2.3.1, 2.3.2) (Chart 2.1,2.2)

[Education/Hobbies] (F)	Score
28	1
27	2
49	3
39	4
71	5

[Education/Hobbies] (M)	Score
11	1
43	2
37	3
22	4
28	5

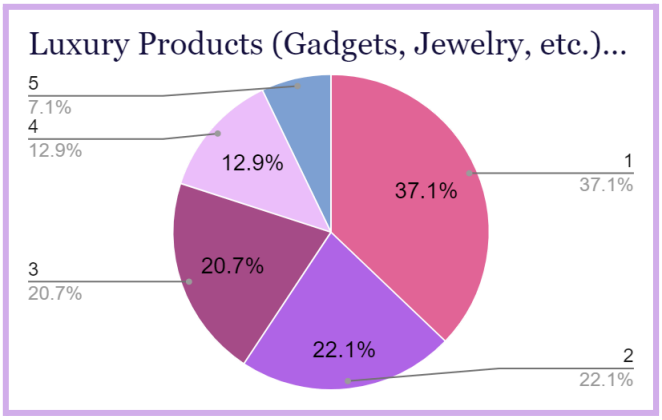


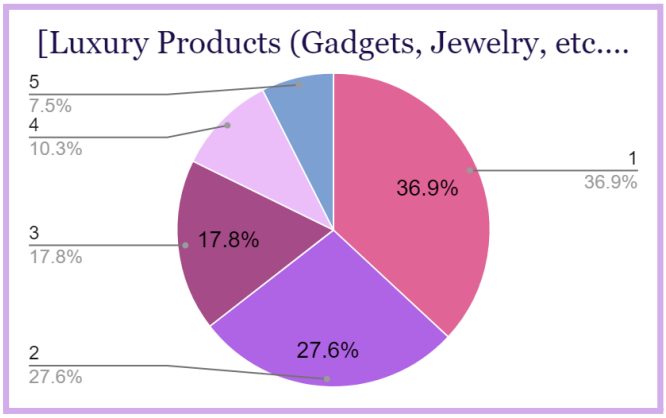


- Luxury Products (Gadgets, Jewellery, etc.) (Table 2.3.3, 2.3.4) (Chart 2.3, 2.4)

Score	[Luxury Products (Gadgets, Jewellery, etc.)] (F)
1	79
2	59
3	38
4	22
5	16

Score	[Luxury Products (Gadgets, Jewellery, etc.)] (M)
1	52
2	31
3	29
4	18
5	10

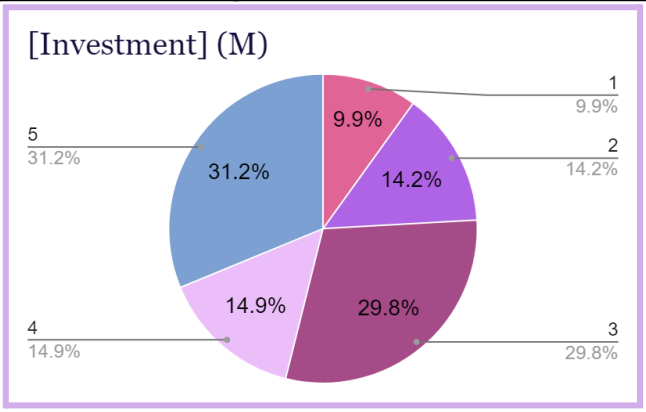


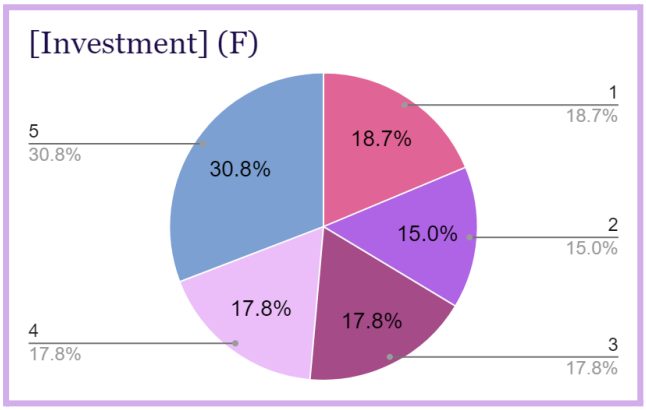


- Investment (Table 2.3.5, 2.3.6) (Chart 2.5, 2.6)

Score	[Investment] (F)
1	40
2	32
3	38
4	38
5	66

Score	[Investment] (M)
1	14
2	20
3	42
4	21
5	44

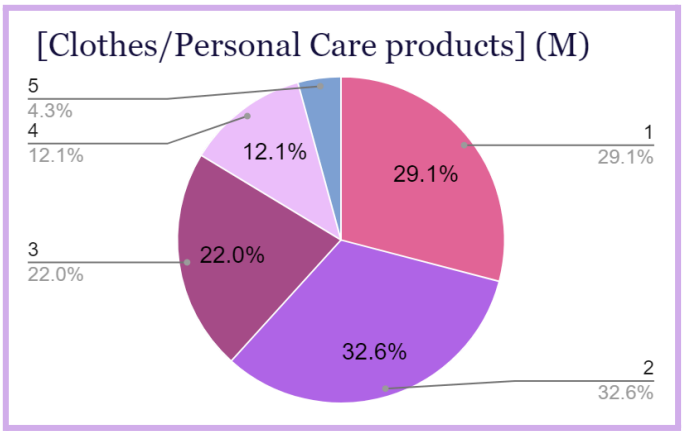


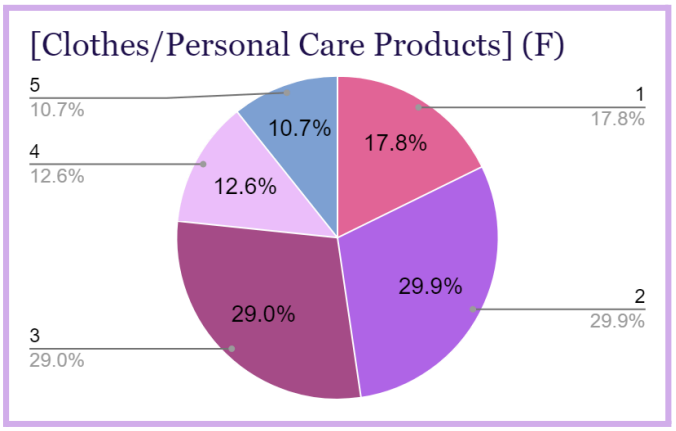


- Clothes/Personal Care products (Table 2.3.7, 2.3.8) (Chart 2.7, 2.8)

Score	[Clothes/Personal Care products] (F)
1	38
2	64
3	62
4	27
5	23

Score	[Clothes/Personal Care products] (M)
1	41
2	46
3	31
4	17
5	6

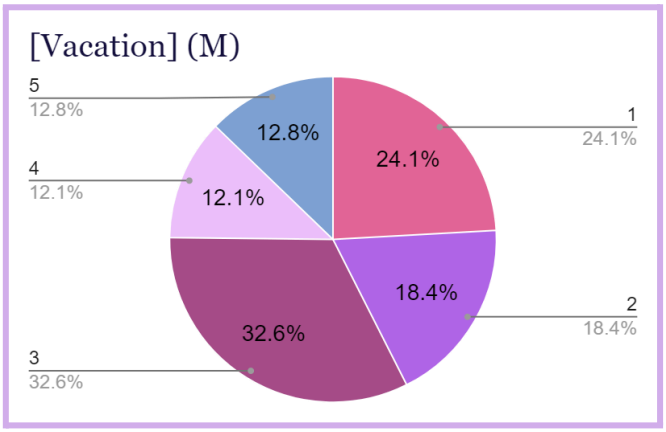


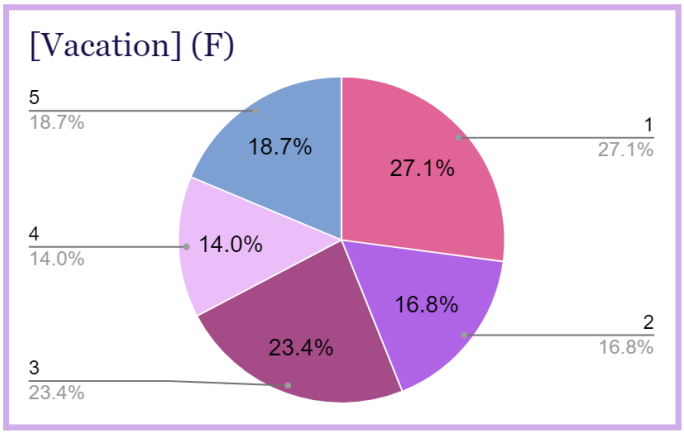


- Vacation (Table 2.3.9, 2.3.10) (Chart 2.9, 2.10)

Score	[Vacation] (F)
1	58
2	36
3	50
4	30
5	40

Score	[Vacation] (M)
1	34
2	26
3	46
4	17
5	18





4. Psychological Evaluation- The responses reflecting outlook of different groups are tabulated along with their respective below-
    - Do you think your gender counterparts have better economic opportunities?

Females- (Table 2.4.1, 2.4.2, 2.4.3, 2.4.4)

Income Level (f)	no
H	4
L	13
HM	22
LM	31
Total	70

Income (f)	yes
H	1
L	24
HM	51
LM	68
Total	144

Males-

Income (m)	no
HM	37

income (m)	yes
HM	30

LM	31	LM	25
L	6	L	2
H	5	H	5
Total	79	Total	62

- Do you think women earn less for the same job/service?

Females- (Table 2.4.5, 2.4.6, 2.4.7, 2.8)

Income Level	no	Income Level	yes
H	2	H	3
L	19	L	14
HM	26	HM	42
LM	43	LM	46
Total	90	Total	105

Males-

Income Level	no	Income Level	yes
HM	38	HM	24
LM	30	LM	17
L	8	L	0
H	4	H	4
Total	80	Total	45

- Do you think women pay more for the same products/services than men?

Females- (Table 2.4.9, 2.4.10, 2.4.11, 2.4.12)

Income Level	no	Income Level	yes
H	5	H	0
L	24	L	9
HM	35	HM	33
LM	60	LM	29
Total	124	Total	71

Males-

Income Level	no	Income Level	yes
HM	45	HM	17
LM	33	LM	14
L	7	L	1
H	4	H	4
Total	89	Total	36

Reliability of computions-

Internal Consistency Reliability correlation score was calculated to be 0.9. Implying high reliability of data collected and computed.

Inferences-

The following inferences were drawn from or research-

1. General composition, trends in the population

- Out of the total number of females sampled, only 39% of them are employed and 14% of them are Self-Employed. Whereas, 54% of males are employed and 31% are Self-employed.
- The probability that a female is unemployed is 0.47, whereas for males, it is 0.15.
- Only 5% of the female population lies in the High-Income Level category, whereas 8% of males belong to this category.
- 34% females and 46% of males are from high-middle income level.
- The share of low-middle income level females and males is nearly equal (~40%), but the gap further deepens again where 17% females are in Low-Income level, while only 6% of males fall in this category.
- The probability that a male is unemployed at a low-income level is 0.009, whereas for females it is 0.08, meaning that 9 out of 1000 males and 8 out of every 100 females would be unemployed at low income.
- Also, the probability that a male is employed and falls in the High-Income level, is 0.043, while for females, it is 0.007, meaning that 43 males, 7 females out of 1000 would be employed at a high-income level.
- Therefore we can conclude that the opportunity to earn more/ improve standard of living tips in the favour of males. i.e, males have better chances of improving their income level and employment status than women.

2. Expenditure Patterns (Economic evaluation)

- As explained in the above sections, the Weighted Expenditure Aggregates indicate the aggregate expenditure of groups. i.e. higher the aggregate, higher is the expenditure.
- For Low-Income level females, the aggregate score is 1.55, whereas for males, it is 0.14.
- For Low-Middle Income level females, the aggregate score is 16.17, whereas for males, it is 9.93.
- Thus average expenditure for females is higher than that of males, in spite of belonging to the same Income-Level Groups, i.e. in order to afford the same standard of living, females need to spend more than men.
- For High-Middle Income level females, the aggregate score is 12.69, whereas for males, it is 16.37.
- For High-Income level females, the aggregate score is 0.09, whereas for males, it is 0.57.
- There is a reversal of trends in the higher spectrum of the Income level, indicating that as the income-level increases, the difference in expenditure decreases.
- However, the aggregate expenditure score for females is 30.5, while for males, it is 27.01. This implies that on average, women have more expenditures than males.
- On the basis of employment, the expenditure aggregate of Employed females is 15.07, whereas for males, it is 13.97.
- The expenditure aggregate of Self-employed females is 1.8, whereas for males, it is 4.51.
- The expenditure aggregate of Unemployed females is 15.68, whereas for males, it is 0.84.
- It is notable here that on average, (~50%) of Self-employed females belong to higher income spectrum (37) , thus, have lower differences in expenditures than men.
- Therefore, we can conclude that the difference in expenditure falls with rise in income.
- Aggregate expenditure score of females is 32.55, while for males, it is 19.32. Implying that women do indeed expend more than men, even after working under the same conditions.

3. General Preferences for expenditure (Social evaluation)- According to general preferences pie-charts, the following inferences were drawn-

- Females gave higher preference to Education/Hobbies (Highest Preference (5)- 33.2%) (High Preference (4)- 18.2%) as compared to males, (Highest Preference (5)- 19.9%) (Low Preference (2)- 30.5%)

- Both the groups had similar preferences for Luxury Products (Gadgets, Jewellery, etc.) , with the majority of the population giving it least preference(1) (Males- 37.1%), (Females- 36.9%). Highest preference (5) being 7.1% for males and 7.5% for females.
- Unanimous preference was evident in Investment. With 30.8% females and 31.2% males giving it highest preference (5) and 17.8% females and 14.9% males giving it High Preference (4).
- For Clothes & Personal Care, the majority of females (29.9%) and males (32.6%) gave it low preference (2). 29% of females gave it neutral preference (3) and 29.1% males gave it lowest preference (1).
- The preferences for Vacation were similar for males and females. With 24.1% males 27.1% females giving it lowest preference (1) along with 12.8% males and 18.7% females giving it highest preference (5).
- Therefore, we can conclude that the preferences of expenditure for males and females are similar, except the statistically significant difference in preference for Education/Hobbies, where females gave it a higher preference as compared to males.

4. PsychologicalPerception- Based on the answers of the respondents, the following interpretations were made-

- 32.7% of females voted that they do not feel that their gender-counterparts have better economic opportunities. While 67.3% voted otherwise. I.e. more than 50% females feel they are not given equal economic opportunities when compared to males.
- Whereas, 56% of males voted that they do not think females have better economic opportunities than them, while 43% voted otherwise.
- It is worth noticing that in the case of females, as income level rises, the likelihood of people to answer "No" increases; as 35% of the low-income group, 31% of low-middle, 30% of high-middle and 80% of high income group answered "no". I.e as the income level rises, females feel more equal to men in terms of economic opportunities.
- Contrary to the female trend, as the income level increased, the likelihood of answering "No" reduces; as 75% of Low-Income, 55% of Low-middle, 57% of high-middle, 45% of high-income groups answered "No". This implies that as the income level rises for males, they feel less equal to females.
- 54% females feel women earn less than men in general, whereas only 64% men disagree, and do not feel that women earn less for the same job/service.
- 71% males and 63% of females voted "no" if they think that women pay more for the same products/services than men.

Key-Findings- Based on the inferences gathered, following key findings are highlighted-

- Females, on average, are less likely to get employed than males.
- Even though in the sample size, the number of females was more,, females were not leading the percentage of population earning higher income.
- The probability of a female earning higher incomes was lower than that of males'.
- Even though it was proven that females earned lower than males, they had higher expenditure scores.
- However, at higher income levels, the disparity in expenditure was diminished, yet significant.
- In the question asking for preferred mode of transportations, it was noted that females were more likely to pick "personal" in spite of a lower income. There were males belonging to high income levels who preferred public transports or other modes of transportations than personal, whereas females were not likely to choose them despite low income. This implies that the demand of automobiles for females is more elastic than that of males. I.e, The percentage change in demand of automobiles by females is more than the percentage change in their disposable income in a given period of time. However, in case of males, the demand is less elastic in comparison.
- In Spite of the general perception that "Women have luxurious needs, therefore spend more", the preferences of male and females for expenditure of surplus funds were identical in nature.
- Except Education/hobbies, where more females gave high preference to it than males.
- Males and females have conflicting opinions on whether females have to face lower economic opportunities and freedom.
- However, both genders mostly agree that they pay equally for the same services/products.

Conclusion- This research concludes with the following-

- Women have lower economic opportunities- Apart from what opinions people may hold, women do have lower access to employment opportunities. As 47% of females are unemployed. It is undeniable that most women are low-earning as compared to males (6%) as 17% females were in the low-middle income earning category. Furthermore, the difference in probabilities of employment increases as the income level increases.
- In spite of their low income, females have higher expenditures. It should be remembered here that the expenditure scores in this research were calculated on necessities of rent, food, clothes, etc. Therefore, it is clear that females have to spend more than males in order to simply meet their basic necessities.
- Relating to the above mentioned findings, we can also conclude that the standard of living for females is considerably lower to that of males from the same income groups. Thus, ceasing the debate "Do women pay more than men to afford the same standard of living?". Patently, the answer is "Yes". Yes, women do have to expend more than men to achieve the same standard of living at the same level of income. Since their expenditures are not proportional to that of males'.
- Despite the data proving otherwise, both males and females voted "No" to if they feel that females have to pay more than men for the same product/services, reinforcing this research's idea that there exists an 'invisible' costing that threatens the economic freedom of females.

The way forward-

This gender-biased treatment is a problem of macroeconomic nature, not just for females. Underdevelopment of one component of an economy pulls back the entire economy. And in this case, this single component encompasses almost half of the entire population. Now, one is left wondering "What after this?", "How to improve this?". A report by ILO stated, "The data is clear: women want to be in paid employment, but a persistent set of socio-economic barriers keep them out of the workforce. Identifying and quantifying these barriers allows us to develop smarter policy responses for eliminating them" [7]. But noticeably, women themselves have provided the answer in this survey, which is- Education & Skill Development. Contrasting with males' preferences, females have chosen to work on themselves, their education and developing their skills. Since the customary jobs and services have not harboured their potential well, females have taken to professionalism. It is undeniable that females have high potential in the field of skill development. Education, creative expertise, designing etc., can be the revolutionary tools that can turnover the economic condition of women. Not surprisingly, the Government of India has been emphasising on the skill development of India with special focus on women. Tapping into the unrealised potentials of the female workforce can reap economic and social benefits of immense growth.

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The new World Employment and Social Outlook: Trends for Women 2017 , ILO

Abbreviations used-
LM- Low-middle Income
L- Low Income
HM- High-middle Income
H-High Income

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APPENDIX

Survey Questionnaire

Survey for Consumer Patterns

Instructions- Please answer the following questions in all sincerity and honesty to the best of your knowledge.

Declaration- All responses would be kept anonymous, maintaining strict confidentiality.
All information gathered would be used for research and academic purposes only.
No personal data including email address would be collected to ensure anonymity.

Research topic- Following is the abstract of the study conducted
https://docs.google.com/document/d/1zlBOxJVNAzthU50PNISazZ9BzBfh0zs79dF3zlcBRAI/edit?usp=sharing

Please Specify Gender *

- ◯ Male
- ◯ Female

Age *

- ◯ below 18
- ◯ 18-25
- ◯ 26-30
- ◯ 31-40
- ◯ 41-50
- ◯ 51-60
- ◯ 60 above

Employment Status *

- ◯ Unemployed
- ◯ Self-employed
- ◯ Employed

Income Level *

- ◯ Low-income group
- ◯ Low-middle income group
- ◯ High-middle income group
- ◯ High-income group

Average total monthly expenditure *

- ◯ below 1000/- 1
- ◯ 1,000-5,000/- 2
- ◯ 5,000-10,000/- 3
- ◯ 10,000-20,000/- 4
- ◯ 20,000-30,000/- 5
- ◯ Above 30,000/- 6

Monthly expenditure on rent *

- ◯ Not applicable 0
- ◯ Below 15,000 1
- ◯ 15,000-20,000/- 2
- ◯ 20,000-25,000/- 3
- ◯ Above 25,000/- 4

Average Expenditure on food (Grains, Rice, pulses, etc.) *

- ◯ Below 10,000/- 1
- ◯ 10,000-15,000/- 2
- ◯ 15,000-25,000/- 3
- ◯ 25,000-35,000/- 4
- ◯ above 35,000/- 5

Average monthly expenditure on clothes *

- ◯ 1,000-1,500/- 1
- ◯ 1,500-3,000/- 2
- ◯ 3,000-5,000/- 3
- ◯ 5,000-10,000/- 4
- ◯ above 10,000/- 5

Mode of daily transportation *

- ◯ Personal
- ◯ Public Transport (Bus, Rickshaw, auto)
- ◯ Metro
- ◯ Taxi Services (Ola/Uber)

With surplus savings, on which of the following would you prefer to spend on? 1= low preference, 5-very high preference. *

	1	2	3	4	5
Vacation	◯	◯	◯	◯	◯
Education/Hobbies	◯	◯	◯	◯	◯
Clothes/Personal Care products	◯	◯	◯	◯	◯
Luxury Products (Gadgets, Jewelry, etc.)	◯	◯	◯	◯	◯
Investment	◯	◯	◯	◯	◯

Are you satisfied with your current living standard? *

- ◯ Yes, absolutely
- ◯ No harm in striving for more.

Do you think your gender counterparts have better economic opportunities? *

- ◯ Yes
- ◯ No

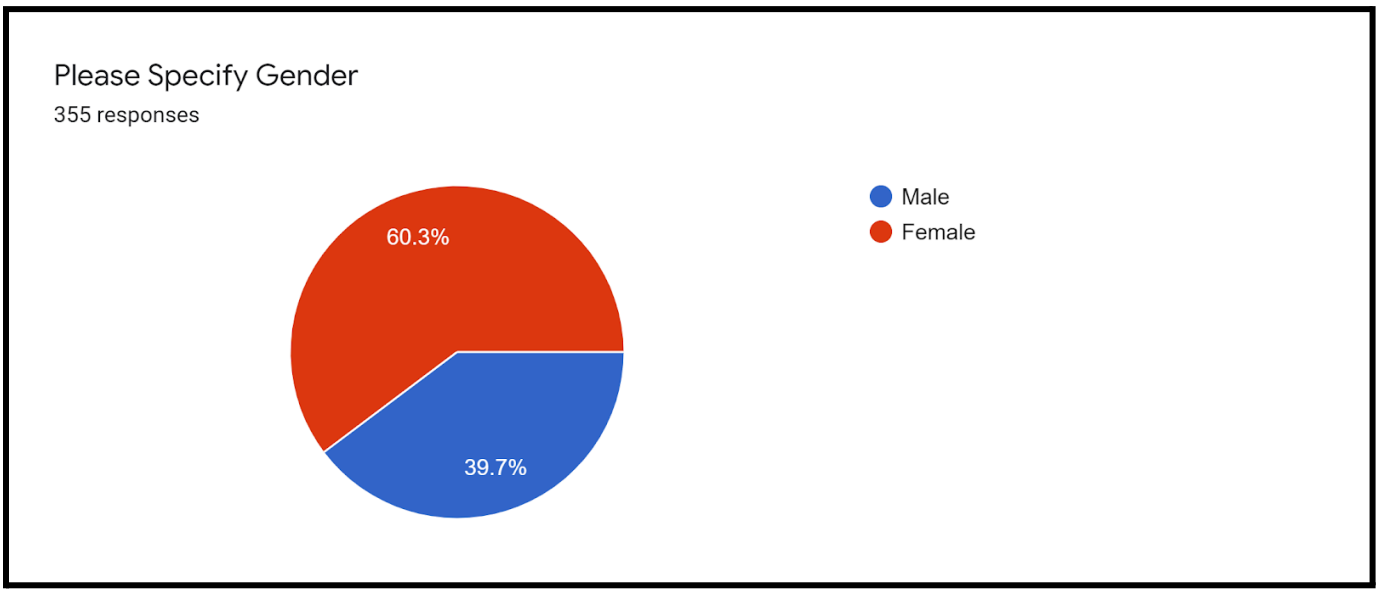
Do you think women earn less for the same job/service? *

- ◯ Yes
- ◯ No

Do you think women pay more for the same products/services than men? *

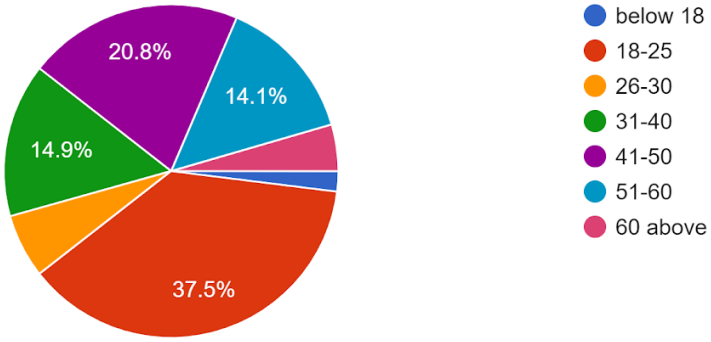
- ◯ Yes
- ◯ No

Data Collected



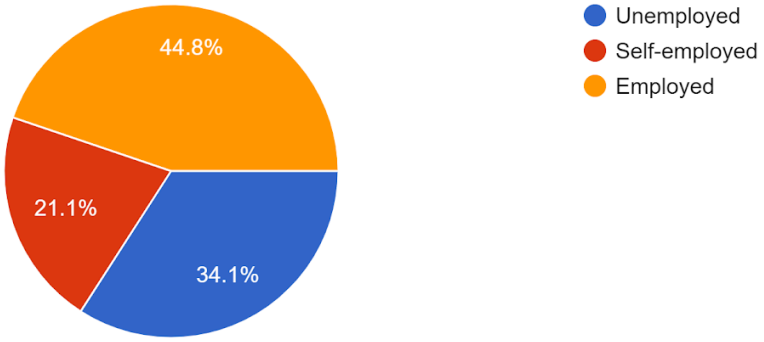
Age

355 responses



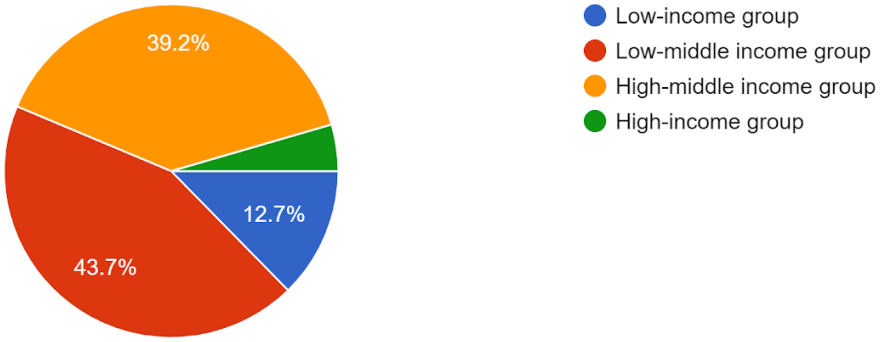
Employment Status

355 responses



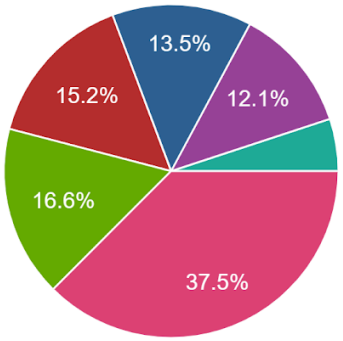
Income Level

355 responses



Average total monthly expenditure

355 responses

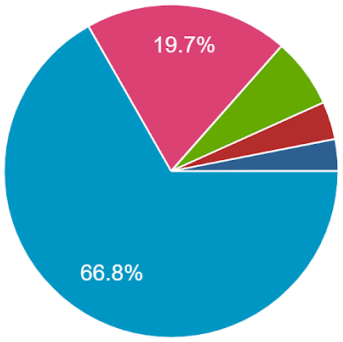


- below 1000/- 1
- 1,000-5,000/- 2
- 5,000-10,000/- 3
- 10,000-20,000/- 4
- 20,000-30,000/- 5
- Above 30,000/- 6
- Above 30,000/-
- 1,000-5,000/-

1/2

Monthly expenditure on rent

355 responses

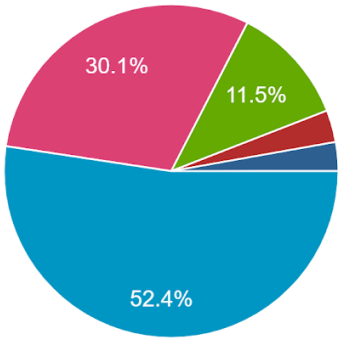


- Not applicable 0
- Below 15,000 1
- 15,000-20,000/- 2
- 20,000-25,000/- 3
- Above 25,000/- 4
- Not applicable
- Below 15,000
- Above 25,000/-

1/2

Average Expenditure on food (Grains, Rice, pulses, etc.)

355 responses

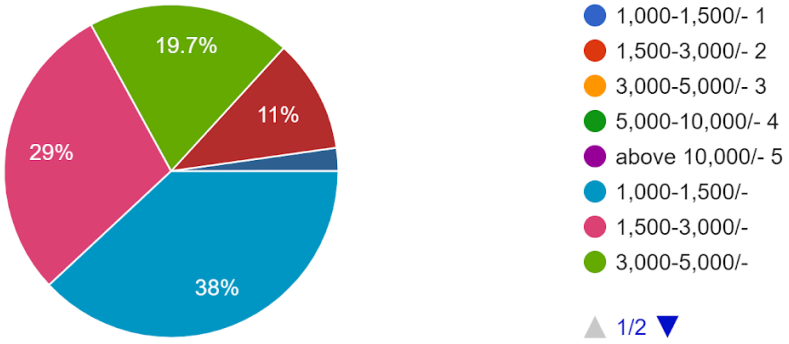


- Below 10,000/- 1
- 10,000-15,000/- 2
- 15,000-25,000/- 3
- 25,000-35,000/- 4
- above 35,000/- 5
- Below 10,000/-
- 10,000-15,000/-
- 15,000-25,000/-

1/2

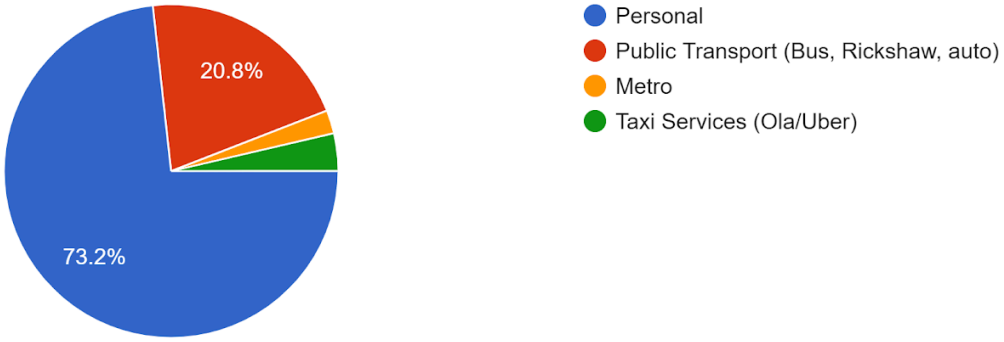
Average monthly expenditure on clothes

355 responses

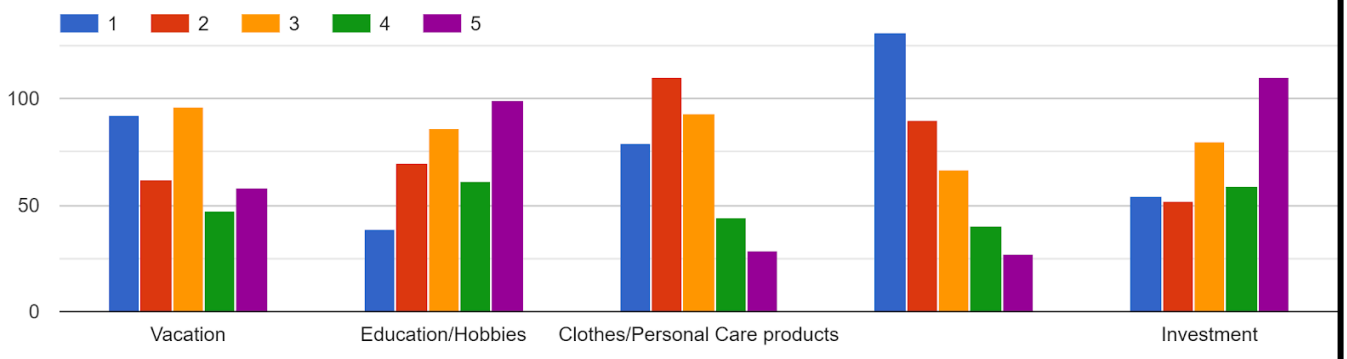


Mode of daily transportation

355 responses

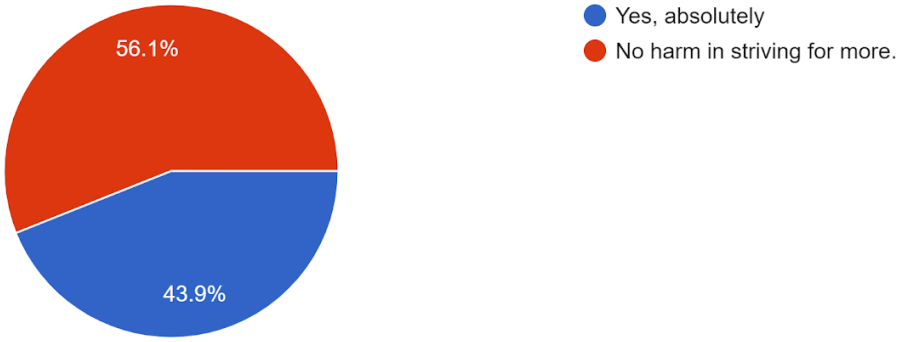


With surplus savings, on which of the following would you prefer to spend on? 1= low preference, 5-very high preference.



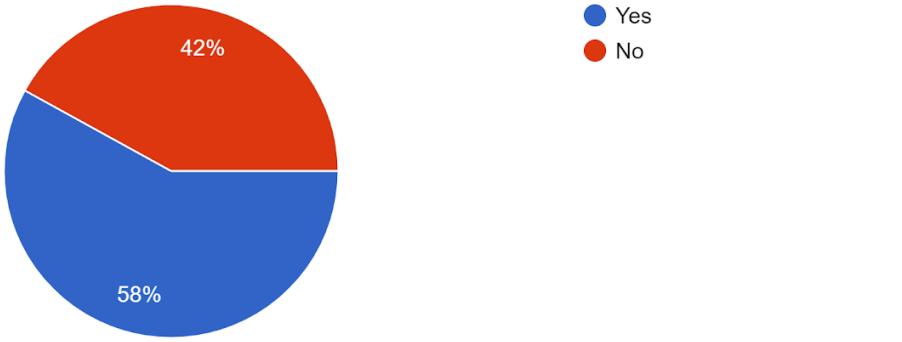
Are you satisfied with your current living standard?

355 responses



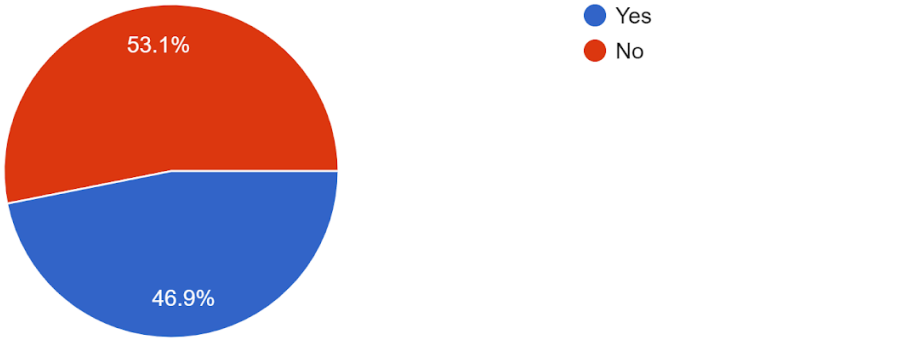
Do you think your gender counterparts have better economic opportunities?

355 responses



Do you think women earn less for the same job/service?

320 responses



Tables

Variables	FEMALE		MALE	
	Frequency	Probability	Frequency	Probability
Total	214	-	141	-

Sample Composition (Table 1.1)

Employment	FEMALE		MALE	
	Frequency	Probability	Frequency	Probability
Employed	83	0.39	76	0.54
Unemployed	100	0.47	21	0.15
Self-Employed	31	0.14	44	0.31

Employment Distribution (Table 1.2)

Income Level	FEMALE		MALE	
	Frequency	Probability	Frequency	Probability
High Income	5	0.02	11	0.08
High Middle Income	73	0.34	65	0.46
Low Middle Income	99	0.46	56	0.4
Low Income	37	0.17	8	0.06

Income Distribution table (1.3)

Age Group	FEMALE		MALE	
	Frequency	Probability	Frequency	Probability
below 18	5	0.02	2	0.01
18-25	103	0.48	30	0.21
26-30	17	0.08	5	0.04
31-40	25	0.12	28	0.2
41-50	44	0.21	30	0.21
51-60	16	0.07	34	0.24
60 Above	4	0.02	12	0.09

Age-Group Distribution (Table 1.4)

Total Monthly Expenditure				
Below 1000	FEMALE		MALE	
	Frequency	Probability	Frequency	Probability
High Income	0	0	0	0
High Middle Income	0	0	0	0
Low Middle Income	6	0.03	0	0
Low Income	11	0.05	1	0.01
Total	17	0.08	1	0.01

Table 2.1

1000-5000/-	FEMALE		MALE	
	Frequency	Probability	Frequency	Probability
High Income	0	0	0	0
High Middle Income	6	0.03	3	0.02
Low Middle Income	23	0.11	6	0.04
Low Income	19	0.09	2	0.01
Total	48	0.23	11	0.07

Table 2.2

5000-10,000/-	FEMALE		MALE	
	Frequency	Probability	Frequency	Probability
High Income	0	0	0	0
High Middle Income	9	0.04	3	0.02
Low Middle Income	24	0.11	6	0.04
Low Income	4	0.02	2	0.01
Total	37	0.17	11	0.07

Table 2.3

10,000-20,000/-	FEMALE		MALE	
	Frequency	Probability	Frequency	Probability
High Income	0	0	0	0
High Middle Income	10	0.05	6	0.04
Low Middle Income	24	0.11	12	0.09
Low Income	1	0	1	0.01
Total	35	0.16	19	0.14

Table 2.4

20,000-30,000/-	FEMALE		MALE	
	Frequency	Probability	Frequency	Probability
High Income	0	0	0	0
High Middle Income	8	0.04	7	0.05
Low Middle Income	10	0.05	15	0.11
Low Income	2	0.01	1	0.01
Total	20	0.1	23	0.17

Table 2.5

Above 30,000/-	FEMALE		MALE	
	Frequency	Probability	Frequency	Probability
High Income	5	0.02	11	0.08
High Middle Income	40	0.19	47	0.33
Low Middle Income	12	0.06	17	0.12
Low Income	0	0	1	0.01
Total	57	0.27	76	0.54

Table 2.6

Monthly Expenditure on Rent				
Not Applicable	FEMALE		MALE	
	Frequency	Probability	Frequency	Probability
High Income	2	0.01	8	0.06
High Middle Income	56	0.26	46	0.33
Low Middle Income	64	0.3	27	0.19
Low Income	31	0.14	4	0.03
Total	153	0.71	85	0.4

Table 3.1

Below 15,000/-	FEMALE		MALE	
	Frequency	Probability	Frequency	Probability
High Income	0	0	0	0
High Middle Income	6	0.03	8	0.06
Low Middle Income	25	0.12	21	0.15
Low Income	6	0.03	4	0.03
Total	37	0.18	33	0.23

Table 3.2

15,000-20,000/-	FEMALE		MALE	
	Frequency	Probability	Frequency	Probability
High Income	0	0	1	0.01
High Middle Income	1	0	2	0.01
Low Middle Income	4	0.02	3	0.02
Low Income	0	0	0	0
Total	5	0.02	6	0.04

Table 3.3

20,000-25,000/-	FEMALE		MALE	
	Frequency	Probability	Frequency	Probability
High Income	2	0.01	0	0
High Middle Income	5	0.02	2	0.01
Low Middle Income	2	0.01	2	0.01
Low Income	0	0	0	0
Total	9	0.04	4	0.02

Table 3.4

Above 25,000/-	FEMALE		MALE	
	Frequency	Probability	Frequency	Probability
High Income	1	0	2	0.01
High Middle Income	6	0.03	8	0.06
Low Middle Income	4	0.02	3	0.02
Low Income	0	0	0	0
Total	11	0.05	13	0.09

Table 3.5

Monthly Expenditure on Food				
Below 10,000/-	FEMALE		MALE	
	Frequency	Probability	Frequency	Probability
High Income	1	0	1	0.01
High Middle Income	28	0.13	19	0.13
Low Middle Income	72	0.34	31	0.22
Low Income	28	0.13	7	0.05
Total	129	0.6	58	0.41

Table 4.1

10,000-15,000/-	FEMALE		MALE	
	Frequency	Probability	Frequency	Probability
High Income	0	0	4	0.03
High Middle Income	26	0.12	31	0.22
Low Middle Income	21	0.1	15	0.11
Low Income	9	0.04	1	0.01
Total	56	0.26	51	0.37

Table 4.2

15,000-25,000/-	FEMALE		MALE	
	Frequency	Probability	Frequency	Probability
High Income	1	0	2	0.01
High Middle Income	13	0.06	12	0.09
Low Middle Income	5	0.02	8	0.06
Low Income	0	0	0	0
Total	19	0.08	22	0.16

Table 4.3

25,000-35,000/-	FEMALE		MALE	
	Frequency	Probability	Frequency	Probability
High Income	1	0	1	0.01
High Middle Income	4	0.02	3	0.02
Low Middle Income	0	0	1	0.01
Low Income	0	0	0	0
Total	5	0.02	5	0.04

Table 4.4

Above 35,000/-	FEMALE		MALE	
	Frequency	Probability	Frequency	Probability
High Income	2	0.01	3	0.02
High Middle Income	3	0.01	1	0.01
Low Middle Income	1	0	1	0.01
Low Income	0	0	0	0
Total	6	0.02	5	0.04

Table 4.5

Average monthly expenditure on clothes				
1,000-1,500/-	FEMALE		MALE	
	Frequency	Probability	Frequency	Probability
High Income	0	0	2	0.014
High Middle Income	13	0.061	15	0.106
Low Middle Income	50	0.234	24	0.17
Low Income	25	0.117	6	0.043
Total	88	0.412	47	0.333

Table 5.1

1,500-3,000/-	FEMALE		MALE	
	Frequency	Probability	Frequency	Probability
High Income	2	0.009	1	0.007
High Middle Income	23	0.107	16	0.113
Low Middle Income	29	0.136	20	0.142
Low Income	10	0.047	2	0.014
Total	64	0.299	39	0.276

Table 5.2

3,000-5,000/-	FEMALE		MALE	
	Frequency	Probability	Frequency	Probability
High Income	0	0	1	0.007
High Middle Income	24	0.112	20	0.142
Low Middle Income	17	0.079	7	0.05
Low Income	1	0.005	0	0
Total	42	0.196	28	0.199

Table 5.3

5,000-10,000/-	FEMALE		MALE	
	Frequency	Probability	Frequency	Probability
High Income	3	0.014	0	0
High Middle Income	11	0.051	12	0.085
Low Middle Income	2	0.009	4	0.028
Low Income	1	0.005	0	0
Total	17	0.079	16	0.113

Table 5.4

Above 10,000/-	FEMALE		MALE	
	Frequency	Probability	Frequency	Probability
High Income	0	0	1	0.007
High Middle Income	3	0.014	3	0.021
Low Middle Income	0	0	1	0.007
Low Income	0	0	0	0
Total	3	0.014	5	0.035

Table 5.5

Mode of Daily Transport				
Personal	FEMALE		MALE	
	Frequency	Probability	Frequency	Probability
High Income	5	0.023	9	6.38
High Middle Income	63	0.294	59	41.84
Low Middle Income	57	0.266	42	29.79
Low Income	19	0.089	6	4.26
Total	144	0.672	116	82.27

Table 6.1

Public	FEMALE		MALE	
	Frequency	Probability	Frequency	Probability
High Income	0	0	1	0.71
High Middle Income	4	0.019	4	0.71
Low Middle Income	35	0.164	12	2.84
Low Income	16	0.075	2	8.51
Total	55	0.258	19	12.77

Table 6.2

Metro	FEMALE		MALE	
	Frequency	Probability	Frequency	Probability
High Income	0	0	1	0.71
High Middle Income	2	0.009	1	0.71
Low Middle Income	1	0.005	2	1.42
Low Income	1	0.005	0	0
Total	4	0.019	4	2.84

Table 6.3

Taxi	FEMALE		MALE	
	Frequency	Probability	Frequency	Probability
High Income	0	0	0	0
High Middle Income	4	0.019	2	1.42
Low Middle Income	6	0.028	0	0
Low Income	1	0.005	0	0
Total	11	0.052	2	1.42

Table 6.4

Score	[Education/Hobbies] (F)
1	28
2	27
3	49
4	39
5	71

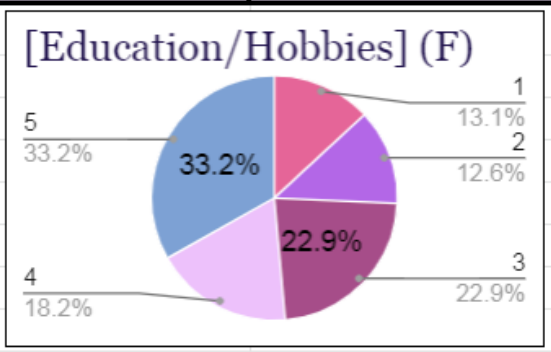


Chart 1.1

[Education/Hobbies] (M)	Score
11	1
43	2
37	3
22	4
28	5

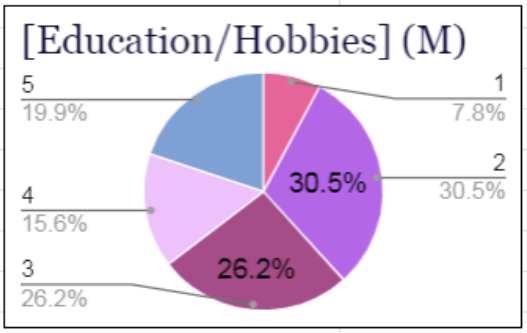


Chart 1.2

Score	[Luxury Products (Gadgets, Jewelry, etc.)] (M)
1	52
2	31
3	29
4	18
5	10

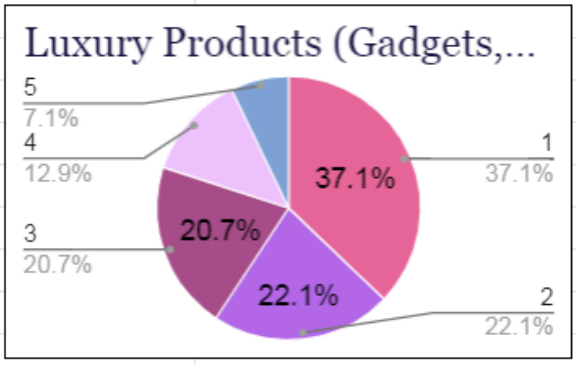


Chart 1.3

Score	[Luxury Products (Gadgets, Jewelry, etc.)] (F)
1	79
2	59
3	38
4	22
5	16

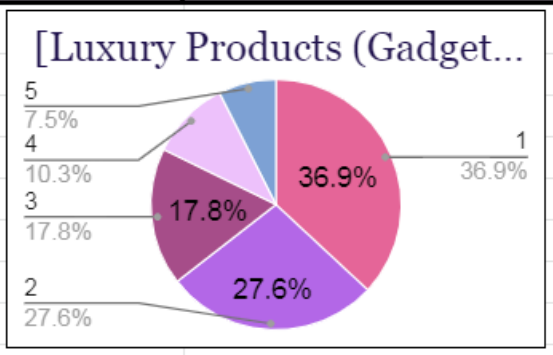


Chart 1.4

Score	[Investment] (M)
1	14
2	20
3	42
4	21
5	44

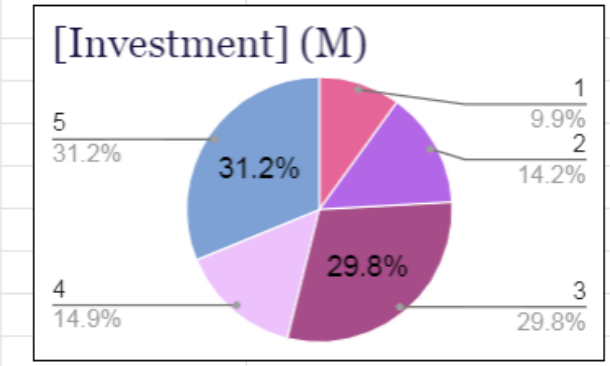


Chart 1.5

Score	[Investment] (F)
1	40
2	32
3	38
4	38
5	66

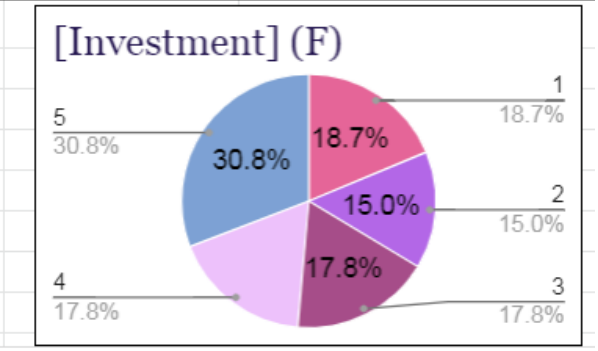


Chart 1.6

Score	[Clothes/Personal Care products] (M)
1	41
2	46
3	31
4	17
5	6

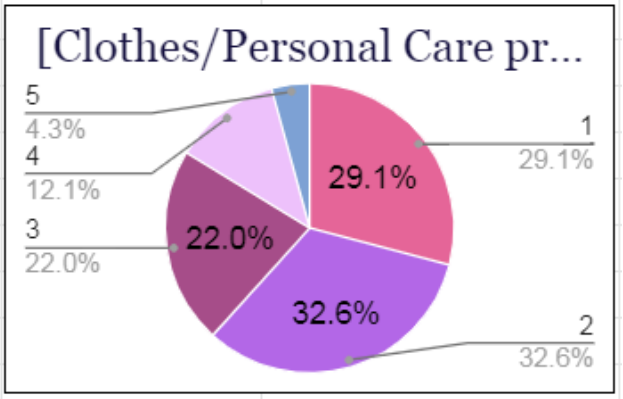


Chart 1.7

Score	[Clothes/Personal Care products] (F)
1	38
2	64
3	62
4	27
5	23

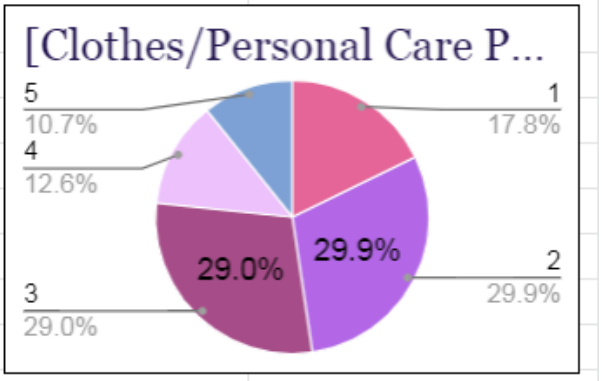


Chart 1.8

[Vacation] (M)	Score
34	1
26	2
46	3
17	4
18	5

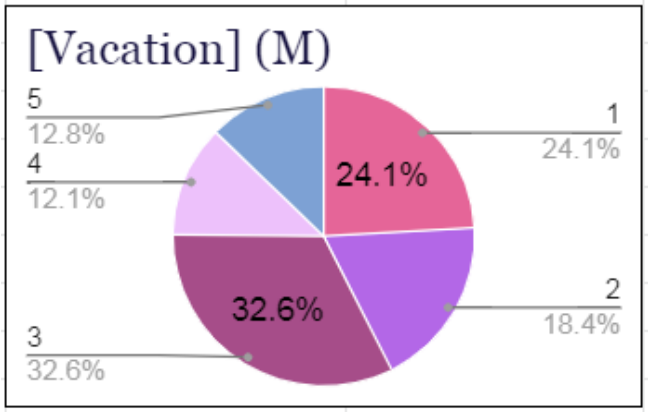


Chart 1.9

Score	[Vacation] (F)
1	58
2	36
3	50
4	30
5	40

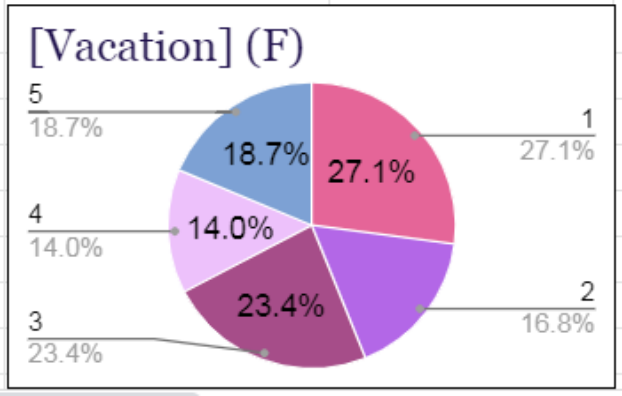


Chart 1.10

Females		
Do you think your gender counterparts have better economic opportunities?		
income	no	yes
H	4	1
L	13	24
HM	22	51
LM	31	68
Total	70	144
Do you think women earn less for the same job/service?		
income	no	yes
H	2	3
L	19	14
HM	26	42
LM	43	46
Total	90	105
Do you think women pay more for the same products/services than men?		
income	no	yes
H	5	0
L	24	9
HM	35	33
LM	60	29
Total	124	71

Table 7.1

Males		
Do you think your gender counterparts have better economic opportunities?		
income	no	yes
HM	37	30
LM	31	25
L	6	2
H	5	5
Total	79	62
Do you think women earn less for the same job/service?		
income	no	yes
HM	38	24
LM	30	17
L	8	0
H	4	4
Total	80	45
Do you think women pay more for the same products/services than men?		
income	no	yes
HM	45	17
LM	33	14
L	7	1
H	4	4
Total	89	36

Table 7.2

Abbreviations used-
LM- Low-middle Income
L- Low Income
HM- High-middle Income
H-High Income