

INDIVIDUAL INCOME DIFFERENCES (Quezon City, 1970)

By C. P. Parel*

Introduction

Studies on income distribution attest to the well known fact that personal income is not parceled out equally. What are the factors that cause this inequality?

Inequalities in income distribution is the concern not only of economists but also of government. Income differences affect economic activity. What and how will people buy depend largely on people's incomes. Consumption patterns vary greatly among income groups. These variations largely affect the composition of output and allocation of economic resources. The wide gap between the low and the high income groups is one of the causes of social unrest, and the narrowing of this gap is one of the main problems of the so-called developing nations.

The present paper is concerned with some factors affecting income inequalities. It attempts to show the inter-play of those factors in contributing to income differences.

"Income" in this paper refers to income derived from personal services.

Source of Data

The data used in the paper are from a socio-economic survey conducted in Quezon City¹ by the Office of Social Justice, Office of the Mayor in 1970.

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¹ Quezon City is the capital of the Philippines. It is about 12 kilometers distant from Manila and is where some of the National government offices and the University of the Philippines are located.

Survey was on a sample basis. The sample was a two-stage² one with electoral precincts as primary sampling units and residential lots as secondary sampling units. Out of 600 electoral precincts, 200 were chosen by systematic sampling with a random start, and from each of the selected precincts 10 residential lots were selected by the same procedure.

*Demographic Characteristics of the Employed Labor Force
in Quezon City*

There are more females than males in the employed labor force of Quezon City. Among the employed labor force (10 years old and over) 49.3% are males. (Table 1).

The employed labor force in Quezon City are relatively young. About two thirds (64.2%) of the unemployed labor force are 39 years old and below, and about one out of 4 of these are 19 years old and below. Only about 6.4% are "55 and above years old", and close to 17% of these are "65 and above years old."

TABLE 1.1 PER CENT DISTRIBUTION OF EMPLOYED LABOR FORCE BY THE AGE AND SEX

AGE GROUP	Both Sexes	Male	Female
T o t a l	100.00 (5,594)		
10 - 14	1.33	0.37	2.25
15 - 19	13.44	6.13	20.55
20 - 24	24.35	17.88	30.66
25 - 29	14.44	15.63	13.29
30 - 34	10.66	12.50	8.88
35 - 39	9.57	12.09	7.13
40 - 44	7.79	10.42	5.24
45 - 49	7.26	9.06	5.50
50 - 54	4.79	6.71	2.92
55 - 59	3.19	4.56	1.86
60 - 64	2.06	3.00	1.16
65 years & above	1.11	1.67	0.56

² The majority of the lots, however, have more than one dwelling unit; so, a dwelling unit had to be selected randomly.

As to educational level, more than one third (33.5%) of the employed labor force have finished college. In fact, the data indicate that about 1½ per cent have done post-graduate studies. Despite the many opportunities in Quezon City and nearby Manila to obtain some education, close to 4 per cent have had no formal schooling, and about one third (31.4%) have only elementary education. However, a bigger proportion of males than that of females have gone to college (Table 2) and the proportion of females that have no formal schooling and had gone only up to the elementary grades is one and half times that for the males.

TABLE 1.2. PER CENT DISTRIBUTION OF THE EMPLOYED LABOR FORCE BY EDUCATION LEVEL AND BY SEX (QUEZON CITY, 1970)

EDUCATIONAL LEVEL	Both Sexes	Male	Female
T o t a l	100.00	100.00 (2,937)	100.00 (3,017)
No schooling	3.63	2.00	5.26
Elementary	31.67	18.12	44.68
Secondary	19.15	23.36	14.92
Vocational	0.06	—	0.11
College undergraduate	11.65	15.37	7.91
Post graduate	1.45	1.56	1.34
Ph.D.	0.07	0.04	0.11
No response	0.99	0.63	1.34

TABLE 1.3. PER CENT DISTRIBUTION OF LABOR FORCE BY TYPE OF OCCUPATION AND BY SEX (1970)

TYPE OF OCCUPATION	Both Sexes	Male	Female
T o t a l	99.99	100.00	100.00
Professional and Technical and Related Workers	16.59	19.58	13.69
Administrative	5.84	9.77	2.02
Clerical Workers	12.19	13.35	11.07
Sales Workers	7.62	8.04	7.22
Farmers, Fishermen, etc.	0.13	0.27	—
Transportation Workers	3.19	6.23	0.23
Craftsmen	9.76	15.53	4.14
Service, Sports, Recreation	33.70	17.67	49.29
N.E.C.	0.46	0.54	0.36
No Response	0.77	0.72	0.83
Unemployed	9.74	8.30	11.15

Service, Sports, and Recreation account for more than one third of the labor force (33.7%), and the proportion of females in this occupation group is more than twice that of the males. The group of professionals, technical and related workers has about 16.6% of the labor force, more than half of whom are males. Approximately 12% are clerical workers; there are quite a number also of administrative workers (5.8%). As Quezon City is inland, it is not surprising to know from the data that only an insignificant proportion (0.13%) of the labor force are farmers and fishermen.

Distribution of Individual Incomes in Quezon City

The individual income distribution in Quezon City is highly skewed to the right. By sex, the female income distribution is steeper and more highly skewed than that of the males. Table 1 shows that there are more than three times more females earning "P150.00 and below per month" than the males. While there are about 12 per cent of the males earning "P1,000 and above" a month, there are only about 2 per cent of the females earning the same amount.

The median of individual incomes per month in Quezon City is between P250.00 to P349.00; the male income distribution is at the same level, but that for the females is much lower, "P150.00 and below."

Of the total labor force (10 years to 65 years and above), close to 10 per cent are unemployed. Of these, there are more females than males (58 per cent vs. 42 per cent).

The median income of the labor force in Quezon City (1970) lies only between P151.00 - P249.00. The model income level is P150 and below.

The data show that about 2 out of 5 in the labor force received an income of not more than P6.00 a day during the survey year. This amounts to about P1,800, or about P275 the approximate natural per capital income per year. (Table 3).

At the upper income level, close to 7% received P1,000 and above a month, and about 17.9% received P500 and above a month. This means that about this proportion received P6,000 and above a year _____ a proportion which is very much more than the natural proportion.

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TABLE 2.1. DISTRIBUTION OF INDIVIDUAL INCOMES IN Q.C. (1970)

INCOME PER MONTH	Both Sexes	Cum. %	Male	Female
P5,000 & Above	.32	97.88	.56	.07
4,000 — 4,999	.17	97.56	.30	.04
3,000 — 3,999	.41	97.39	.78	.04
2,000 — 2,999	1.10	96.98	1.89	.30
1,000 — 1,999	4.91	95.88	8.24	1.57
700 — 999	4.60	90.97	6.98	2.20
500 — 699	6.38	86.37	9.10	3.66
350 — 499	8.60	79.99	11.99	5.18
250 — 349	13.79	71.33	16.15	11.41
151 — 249	18.09	57.54	24.17	11.97
150 & Below	39.45	39.45	17.60	61.40
No Response	2.20		2.23	2.16
Total	100.02		99.99	100.00
Total Number			(2,693)	(2,681)
Employed				

TABLE 1.B. DISTRIBUTION OF INDIVIDUAL INCOMES IN QUEZON CITY (1970)

INCOME PER MONTH	Both Sexes	Male	Female
P5,000 & Above	100.00	88.24	11.76
4,000 — 4,999	100.00	88.89	1.11
3,000 — 3,999	99.99	95.45	4.54
2,000 — 2,999	100.00	86.44	13.56
1,000 — 1,999	100.00	84.09	15.91
700 — 999	100.00	76.11	23.89
500 — 699	100.00	71.43	28.57
350 — 499	100.00	69.91	30.09
250 — 349	100.00	58.70	41.30
151 — 249	100.00	66.98	33.02
150 & Below	100.00	22.36	77.64
No Response	100.00	50.85	49.15

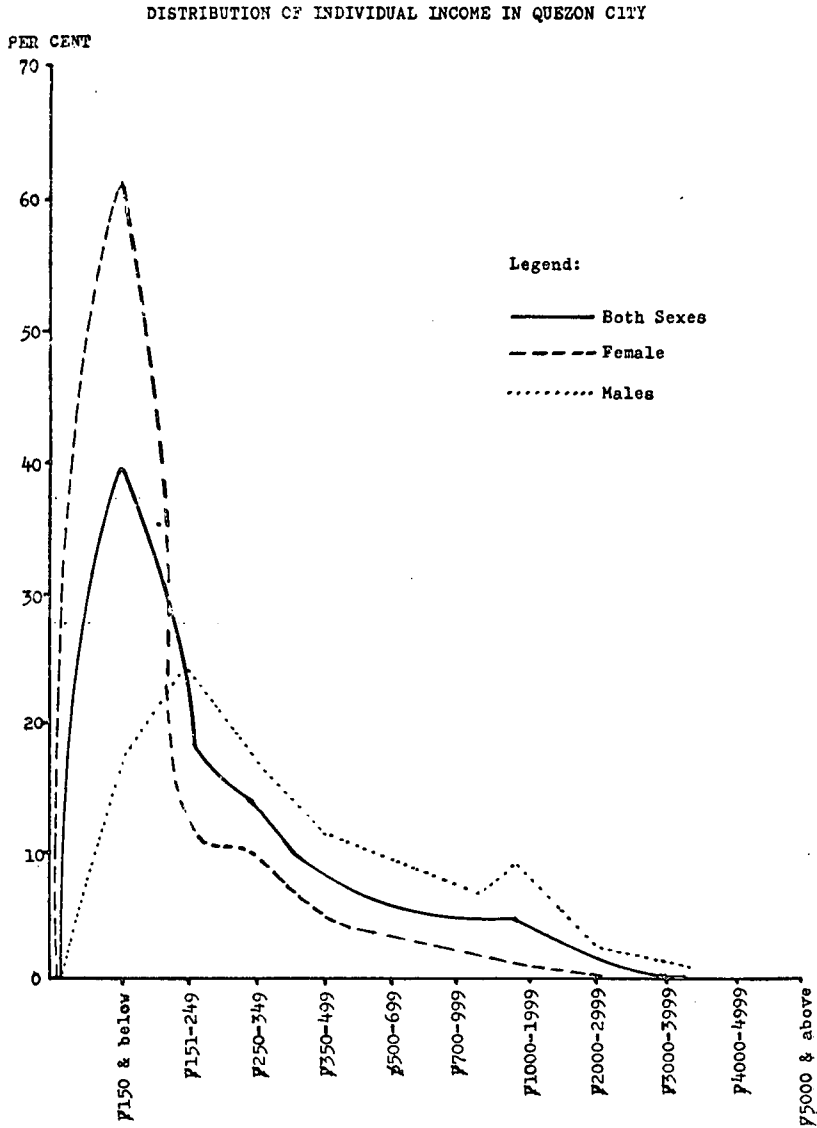


FIG. 2.1. DISTRIBUTION OF INDIVIDUAL INCOMES IN QUEZON CITY (1970)

Combined Effects of Occupation and Education on Income

To examine the relationship between income on one hand and occupation and education on the other hand, an analysis applicable to a $p \times q$ factorial set up was made. An analysis of variance of means was performed. (The analysis of variance table is found in Table 4.)

The analysis reveals that type of occupation, educational level and the interaction of educational level and type of occupation are significant factors on income. In other words, there are differentials in income for different types of occupation and education levels and that educational level and type of occupation have an important combined effect on income.

Effects of Educational level and Sex on Income

From the analysis of variance table (Table 5), the factors; sex, educational level and sex x educational level are significant at 1% level. That means that male and female employees are not equitably paid, and that female employees with the same level of education as male employees seem not to be getting the same income as their male counterparts.

Effects of Age and Educational Level on Income

From the analysis of variance table (Table 6), age and education affect income significantly, but the interaction of age and education on income is not significant. This confirms the observation in the regression analysis.

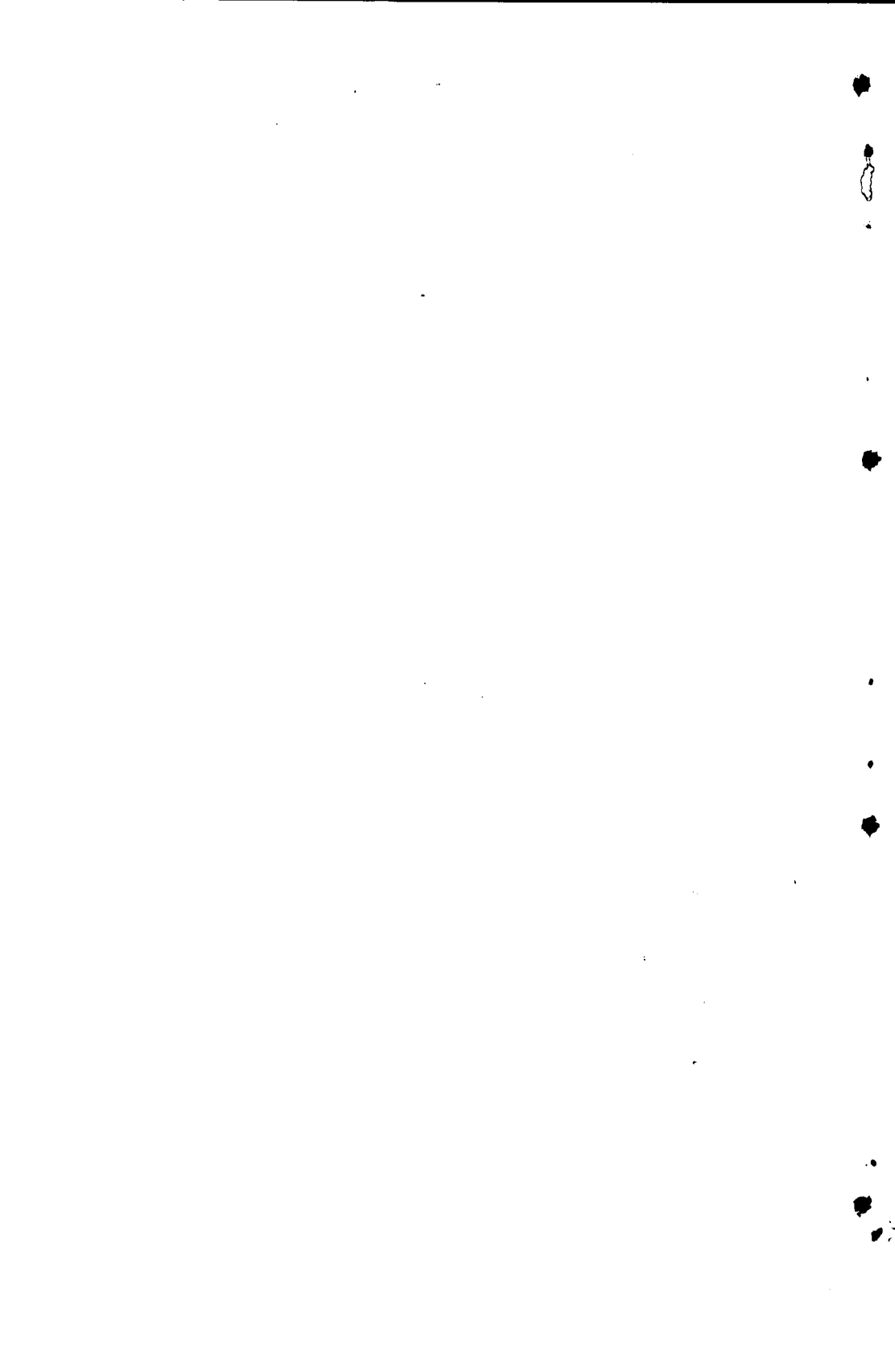


TABLE 4. TABLE OF MEAN INCOMES BY TYPE OF OCCUPATION AND EDUCATIONAL LEVEL

	No Schooling & Elementary	High School & Vocational	College Undergraduate	College Graduate Post-Grad. & Ph.D.	T o t a l
Professional & Adm.	$\bar{x}_{11} = 333.1111$ $n_{11} = 9$	$\bar{x}_{12} = 949.1045$ $n_{12} = 40$	$\bar{x}_{13} = 649.1789$ $n_{13} = 115$	$\bar{x}_{14} = 891.4844$ $n_{14} = 1153$	$\bar{x}_{1.} = 2,822.8789$ $n_{1.} = 1317$
Clerical & Sales Workers	$\bar{x}_{21} = 234.3369$ $n_{21} = 141$	$\bar{x}_{22} = 303.1998$ $n_{22} = 224$	$\bar{x}_{23} = 348.0316$ $n_{23} = 301$	$\bar{x}_{24} = 435.2576$ $n_{24} = 490$	$\bar{x}_{2.} = 1,320.8259$ $n_{2.} = 1156$
Farmers, Transportation Workers & Craftsmen	$\bar{x}_{31} = 159.5439$ $n_{31} = 302$	$\bar{x}_{32} = 211.7811$ $n_{32} = 338$	$\bar{x}_{33} = 277.8686$ $n_{33} = 97$	$\bar{x}_{34} = 297.9274$ $n_{34} = 31$	$\bar{x}_{3.} = 947.1210$ $n_{3.} = 768$
Services, Not elsewhere classified jobs, no info	$\bar{x}_{41} = 61.5640$ $n_{41} = 1376$	$\bar{x}_{42} = 126.1382$ $n_{42} = 407$	$\bar{x}_{43} = 298.1016$ $n_{43} = 96$	$\bar{x}_{44} = 725.3095$ $n_{44} = 84$	$\bar{x}_{4.} = 1,211.1133$ $n_{4.} = 1963$
T o t a l	$\bar{x}_{.1} = 788.5559$ $n_{.1} = 1828$	$\bar{x}_{.2} = 1,590.2236$ $n_{.2} = 1009$	$\bar{x}_{.3} = 1,573.1807$ $n_{.3} = 609$	$\bar{x}_{.4} = 2,349.9789$ $n_{.4} = 1758$	$\bar{x}_{..} = 6,301.9391$ $n_{..} = 5,204$

The first part of the document discusses the importance of maintaining accurate records of all transactions. It emphasizes that every entry should be supported by a valid receipt or invoice. This ensures transparency and allows for easy auditing of the accounts.

In the second section, the author details the various methods used to collect and analyze data. This includes both primary and secondary research techniques. The primary research involves direct observation and interviews with key stakeholders, while secondary research involves reviewing existing literature and reports.

The third section focuses on the results of the data analysis. It presents a series of charts and graphs that illustrate the trends and patterns identified in the data. These visual aids are crucial for understanding the complex relationships between different variables and for identifying areas that require further investigation.

Finally, the document concludes with a series of recommendations based on the findings. These recommendations are designed to address the identified issues and to provide a clear path forward for the organization. It is hoped that these insights will be valuable in making informed decisions and in achieving the organization's strategic goals.

TABLE 5. TABLE OF MEANS (INCOME) BY SEX AND EDUCATIONAL LEVEL

	No Schooling	Elementary	High School & Vocational	College Undergraduate	College Graduate	Post-graduate & Ph.D.	Total
Male	$\bar{x}_{11} = 143.3585$ $n_{11} = 53$	$\bar{x}_{12} = 173.6566$ $n_{12} = 466$	$\bar{x}_{13} = 268.5600$ $n_{13} = 617$	$\bar{x}_{14} = 446.1854$ $n_{14} = 410$	$\bar{x}_{15} = 897.0399$ $n_{15} = 1028$	$\bar{x}_{16} = 1,395.9643$ $n_{16} = 42$	$\bar{x}_{1.} = 3,324.7647$ $n_{1.} = 2616$
Female	$\bar{x}_{21} = 56.4344$ $n_{21} = 125$	$\bar{x}_{22} = 60.0420$ $n_{22} = 1181$	$\bar{x}_{23} = 160.3847$ $n_{23} = 394$	$\bar{x}_{24} = 267.4469$ $n_{24} = 200$	$\bar{x}_{25} = 474.9358$ $n_{25} = 649$	$\bar{x}_{26} = 659.2179$ $n_{26} = 39$	$\bar{x}_{2.} = 1,678.4617$ $n_{2.} = 2588$
Total	$\bar{x}_{.1} = 199.7929$ $n_{.1} = 178$	$\bar{x}_{.2} = 233.6986$ $n_{.2} = 1647$	$\bar{x}_{.3} = 428.9447$ $n_{.3} = 1011$	$\bar{x}_{.4} = 713.6323$ $n_{.4} = 610$	$\bar{x}_{.5} = 1,371.9757$ $n_{.5} = 1677$	$\bar{x}_{.6} = 2,055.1822$ $n_{.6} = 81$	$\bar{x}_{..} = 5,003.2264$ $n_{..} = 5204$

TABLE 6. TABLE OF MEANS (INCOME) BY AGE AND EDUCATIONAL LEVEL

	No Schooling	Elementary	Vocational and High School	College Undergraduate	College Graduate	Post-graduate & Ph.D.	Total
20 - 34 years	$\bar{x}_{11} = 62.4068$ $n_{11} = 59$	$\bar{x}_{12} = 76.0638$ $n_{12} = 776$	$\bar{x}_{13} = 173.7823$ $n_{13} = 511$	$\bar{x}_{14} = 301.7120$ $n_{14} = 362$	$\bar{x}_{15} = 431.9693$ $n_{15} = 760$	$\bar{x}_{16} = 786.5714$ $n_{16} = 21$	$\bar{x}_{1.} = 1,832.5056$ $n_{1.} = 2489$
35 - 44 years	$\bar{x}_{21} = 162.6250$ $n_{21} = 26$	$\bar{x}_{22} = 148.3710$ $n_{22} = 190$	$\bar{x}_{23} = 375.0409$ $n_{23} = 194$	$\bar{x}_{24} = 475.7622$ $n_{24} = 102$	$\bar{x}_{25} = 844.5589$ $n_{25} = 428$	$\bar{x}_{26} = 1,289.7072$ $n_{26} = 25$	$\bar{x}_{2.} = 3,296.0652$ $n_{2.} = 965$
45 - 59 years	$\bar{x}_{31} = 76.7300$ $n_{31} = 25$	$\bar{x}_{32} = 206.5187$ $n_{32} = 147$	$\bar{x}_{33} = 367.0454$ $n_{33} = 143$	$\bar{x}_{34} = 613.7214$ $n_{34} = 105$	$\bar{x}_{35} = 1,042.6692$ $n_{35} = 393$	$\bar{x}_{36} = 1,205.7131$ $n_{36} = 29$	$\bar{x}_{3.} = 3,512.3982$ $n_{3.} = 842$
60 years and over	$\bar{x}_{41} = 133.1042$ $n_{41} = 12$	$\bar{x}_{42} = 218.9167$ $n_{42} = 42$	$\bar{x}_{43} = 221.2250$ $n_{43} = 20$	$\bar{x}_{44} = 875.4000$ $n_{44} = 10$	$\bar{x}_{45} = 1,338.8775$ $n_{45} = 88$	$\bar{x}_{46} = 1,120.3333$ $n_{46} = 6$	$\bar{x}_{4.} = 3,907.8567$ $n_{4.} = 178$
Total	$\bar{x}_{.1} = 434.8660$ $n_{.1} = 122$	$\bar{x}_{.2} = 649.8702$ $n_{.2} = 1155$	$\bar{x}_{.3} = 1,137.0936$ $n_{.3} = 868$	$\bar{x}_{.4} = 2,266.5956$ $n_{.4} = 579$	$\bar{x}_{.5} = 3,658.0753$ $n_{.5} = 1669$	$\bar{x}_{.6} = 4,402.3250$ $n_{.6} = 81$	$\bar{x}_{..} = 12,548.8257$ $n_{..} = 4474$



TABLE 7. ANALYSIS OF VARIANCE
(EFFECTS OF OCCUPATION AND EDUCATION ON INCOME)

SOURCE OF VARIATION	d.f.	Sums of Squares	MS	F
Rows (Occupation)	3	537,112.7128	179,037.5709	33.0748**
Columns (Education)	3	304,830.1866	101,610.0622	18.7711**
Interaction	9	140,250.4078	15,583.3786	2.8788**
Error	5188	1,896,395,595.7089	5,413.1168	
$\bar{n}_r = 67.53$				

a = .01

TABLE 8. ANALYSIS OF VARIANCE
(INCOME VS. SEX AND EDUCATION)

SOURCE OF VARIATION	d.f.	Sums of Squares	MS	F
Rows (Sex)	1	225,859.4640	225,859.4640	55.05**
Columns (Education)	5	1,360,921.1578	272,184.2316	66.34**
Interaction	5	166,679.8123	33,335.9625	8.12**
Error	5192	2,736,188,955.4666	4,102.7009	
$\bar{n}_r = 128$				

TABLE 9. ANALYSIS OF VARIANCE
(INCOME VS. AGE AND EDUCATION)

SOURCE OF VARIATION	d.f.	Sums of Squares	MS	F
Rows (Age)	3	410,358.5113	136,786.1704	11.3068**
Columns (Education)	5	3,389,588.2705	677,917.6541	56.0372**
Interaction	15	396,434.7743	26,428.9850	2.1846
Error	4450	1,823,842,616.8691	12,097.6387	
$\bar{n}_r = 33.88$				

1. The first part of the document discusses the importance of maintaining accurate records of all transactions and activities. It emphasizes that proper record-keeping is essential for transparency and accountability, particularly in financial matters. This section also outlines the various methods and tools used to collect and analyze data, ensuring that the information is reliable and up-to-date.

2. The second part of the document focuses on the implementation of these practices across different departments and projects. It provides detailed instructions on how to set up systems for data collection and analysis, including the selection of appropriate software and the training of staff. This section also addresses the challenges that may arise during the implementation process and offers strategies to overcome them.

3. The third part of the document discusses the importance of regular communication and reporting. It highlights the need for clear and concise reports that provide a comprehensive overview of the data and the progress of the project. This section also outlines the roles and responsibilities of the various stakeholders involved in the process, ensuring that everyone is working towards the same goals.

4. The fourth part of the document discusses the importance of maintaining the confidentiality and security of the data. It outlines the various measures that should be taken to protect the information, including the use of secure communication channels and the implementation of strict access controls. This section also addresses the legal and ethical considerations that may arise in the context of data collection and analysis.

5. The fifth part of the document discusses the importance of regular review and evaluation of the data and the progress of the project. It outlines the various methods and tools used to analyze the data and identify trends and patterns. This section also discusses the importance of using the data to inform decision-making and to improve the overall performance of the organization.