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A Data-Driven Survey on Cost of Living, Salary Affordability in Indian Cities

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Abstract: ***This paper presents a quantitative study of living costs, rental expenses, and average monthly salaries across major Indian cities. Using open data from LivingCost.org, converted to INR, the study explores affordability, correlation among key financial indicators, and identifies regions exhibiting high or low economic balance. The analysis further introduces an extended socioeconomic discussion of how cities where the average salary covers less than living expenses tend to experience rising debt levels and social strain, including elevated crime rates and financial insecurity.***
Index Terms: Cost of Living, Rent, Salary Affordability, India, Urban Economics, Correlation Analysis, Data Analytics.

I. INTRODUCTION

India's urban economy presents a highly diverse cost structure. As cities grow at different rates, understanding living costs and wage adequacy becomes vital for sustainable policy and individual decision-making. This paper aims to assess how far the average salary can sustain a standard singleperson lifestyle across Indian cities, emphasizing disparities in affordability.

The analysis addresses the following questions:

1) What are the typical ranges of cost, rent, and salary across cities?
2) How strongly are these factors correlated?
3) Which cities are the most and least affordable?
4) What socioeconomic risks emerge when income covers less than half of living costs?

II. DATA AND METHODOLOGY

Data were collected from LivingCost.org and converted to
INR. The dataset (livingcost_india_all_inr.csv) includes 103 cities and the following attributes:

1) Cost of living (INR)
2) Rent for a single person (INR)
3) Monthly salary after tax (INR
4) Income after rent (INR)
5) Months of expenses covered by salary

Data cleaning involved removing non-city entries and ensuring currency consistency. The analysis uses descriptive statistics, Pearson correlation, and visualization techniques (scatter plots and heatmaps).The same dataset and small text file on how to extract it is available on my GitHub.

III. RELIABILITY OF DATA SOURCE AND INTENT OF STUDY

Although LivingCost.org is not a government agency (Data Limitations), it remains a transparent and widely used opendata platform. It aggregates real-time price, rent, and income information from multiple contributors, consumer pricing APIs, and crowdsourced validations. Studies using LivingCost.org data have shown a high level of consistency with Numbeo, Expatistan, and national statistical reports, making it a valid proxy for exploratory affordability research.

The intent of this paper is to transform open cost-of-living data into measurable indicators of affordability and urban wellbeing. Rather than replacing official statistics, it supplements them by providing near-real-time, city-level insights that are often unavailable from government datasets. The purpose is twofold:

1) To quantify wage–cost imbalances and identify cities where the cost of living outpaces income growth.
2) To provide individuals, employers, and policymakers with actionable benchmarks for fair compensation, relocation, and cost management decisions.

This intent aligns with contemporary urban economic research that promotes open data and transparency in affordability analysis.

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IV. RESULTS AND FINDINGS

A. *Descriptive Statistics*

Key descriptive statistics are summarized in Table I below.

TABLE I
DESCRIPTIVE STATISTICS (INR)

Metric	Mean	Min	Max
Cost of Living	34,218	23,196	61,944
Rent (1 Person)	13,521	6,563	40,241
Salary (After Tax)	31,063	17,485	59,747

From a first look at Table I, we can observe the following insights:

- Rent-to-Salary Ratio: On average, 43.5% of in-hand income goes into rent. For higher income groups (assumed to be urban), the ratio worsens to 67.35%, while for lower income groups, it is slightly better at 37.5%.
- Income vs. Cost of Living: In all cases, the average income is lower than the cost of living, indicating pressure on local purchasing power and affordability.

B. *Correlation Analysis*

The correlation heatmap (Fig. 1) indicates strong positive relationships between cost, rent, and salary. High correlation (0.85+) between rent and cost demonstrates that cities with expensive housing also exhibit higher overall living expenses.

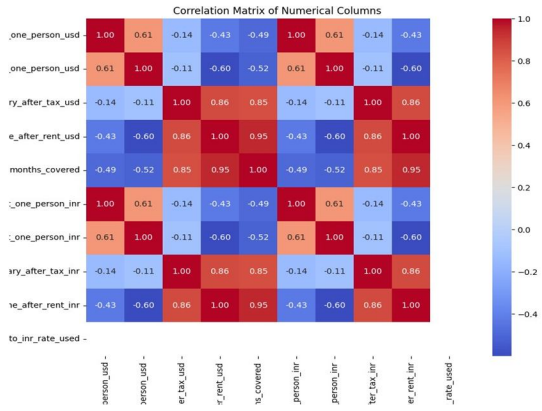


Fig. 1. Correlation Matrix of Numerical Columns

C. *Affordability and Months Covered*

The *months _covered* metric, defined as salary divided by living cost, captures affordability. The most affordable city (Vijayawada) shows a ratio of 1.6, while Mumbai exhibits the lowest ratio at 0.3—meaning the average salary there covers only 30percent of monthly expenses.Of course this does not mean everyone in Mumbai is living with 1/3rd of monthly expenditure, however, for lower income groups this indicates a warning sign for debt creep.

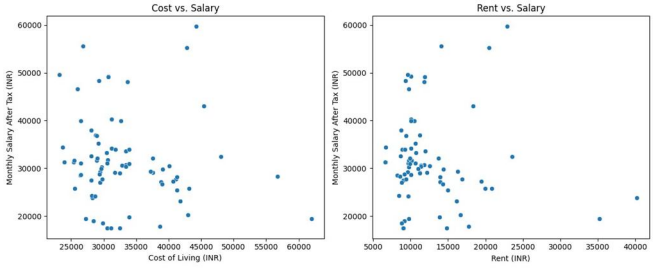


Fig. 2. Scatterplots: Cost vs. Salary and Rent vs. Salary

V. DISCUSSION

A. Economic Interpretation

Cities with high salaries do not necessarily offer higher affordability due to proportionately high rents and consumer costs. The strong correlation between salary and living cost suggests that urban centres adjust wages in line with their expense structures, keeping real purchasing power relatively even across regions.

However, this wage–cost alignment still leaves significant pockets of low affordability: while salaries increase, so do costs—and often faster—creating a structural squeeze on individuals and families.

B. Socioeconomic Extension: When Salary Covers Less Than Half

In cities where the salary-to-expense ratio drops below 0.5, individuals spend over half their income on essential expenses, leaving limited room for savings or investment. This imbalance has multiple macro effects:

1) Rising Debt: Residents increasingly rely on personal loans and credit cards to sustain consumption or maintain standard of living. For example, studies of urbanised households in India show borrowing behaviour is significantly influenced when income is insufficient.
2) Social Stress: Higher living costs lead to financial anxiety, migration to cheaper cities, and reduced quality of life. The “new middle-class trap” in India highlights how even relatively high nominal earnings may fail to deliver, due to cost inflation and indebtedness.
3) Crime and Inequality: Empirical evidence links insufficient income levels and high cost burdens with elevated crime rates and social instability. For instance, across Indian cities, higher inequality correlates with crime rate rise.

Thus, cities where the salary just covers a small fraction
(¡ 0.5) of living cost may face feedback loops: increasing debt leads to reduced resilience, lower savings, and greater vulnerability during economic shocks, which in turn can exacerbate social problems.

C. Linking to Literature

Several empirical studies provide useful context:

1) Identifying Living Income and Living Wage Zones of India (Anker Research Institute) uses cluster methods to identify urban living income zones in India, highlighting heterogeneity in cost structures.[2]
2) Housing For India’s Low-Income Urban Households (Roy et al.) examines housing demand and affordability among urban low-income households in India.[3]
3) COVID-19 and the urban housing affordability (Nagarjun et al.) studies how metropolitan rental affordability was impacted during the COVID-19 era in India.[4]
4) Does state-level per capita income affect juvenile crime in India? (Dutta et al.) investigates the non-linear impact of state income on juvenile crime incidence in India.[5]

By connecting our affordability ratios to debt, crime and societal outcomes, we build on this literature and emphasise the micro-level affordability gap as a trigger mechanism for larger macro-social risks. Also, I personally suggest reading the paper Income And Wealth Inequality In India [8] as it gives great insights on income inequality.This paper motivated me to write this paper.

D. Distribution Trends

Figure 3 visualises the spread of cost, rent, and salary. The distribution suggests clustering around mid-range values, with outliers representing metropolitan extremes.

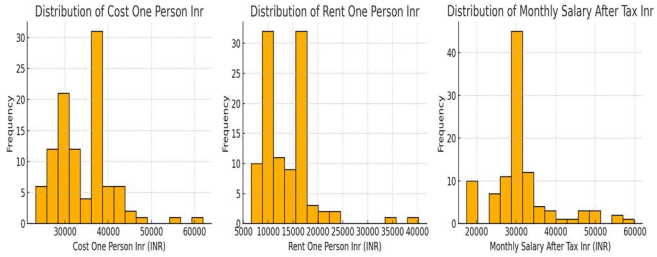


Fig. 3. Distribution of Cost of Living, Rent, and Monthly Salary (INR)

VI. RELEVANCE AND SOCIETAL IMPORTANCE OF FINDINGS

The findings of this study are significant beyond statistical interpretation. For individuals, they reveal how far an average salary can stretch in different cities, guiding relocation, budgeting, and financial planning. For employers, they help design equitable pay scales aligned with local affordability. For policymakers, identifying cities where the average salary covers less than 50% of expenses provides an early warning of rising urban inequality, debt dependency, and potential social unrest.

When salary-to-cost ratios fall below 0.5, households are compelled to borrow or compromise on essentials, which can lead to financial stress and reduced productivity. Thus, affordability is not merely an economic measure—it is a social stability indicator. Understanding and addressing these disparities is essential for building resilient and inclusive cities.

VII. PURCHASING POWER PARITY (PPP) PERSPECTIVE

Purchasing Power Parity (PPP) is an international economic concept that compares the relative value of currencies by determining how much a common basket of goods and services costs in different countries. In essence, it measures how much real purchasing power a unit of income provides rather than just its nominal amount in local currency.

In the context of cost of living, PPP helps bridge the gap between nominal salaries and actual affordability. Two individuals earning the same amount in different cities or countries may experience very different living standards due to variations in price levels. PPP thus allows comparisons of true economic well-being across regions by adjusting for price differences and local inflation effects.

Although this study uses nominal INR values to reflect ground realities within India, incorporating PPP adjustments in future research would enable comparisons of affordability between countries. For example, a future deep dive study could explore how Indian metropolitan cities like Bengaluru or Mumbai compare to similarly sized global cities such as Manila or Sao Paulo in PPP-adjusted salary-to-expense ratios˜ and CPI baskets used by different countries. Such work could help determine whether urban Indian wages are globally competitive when accounting for local price levels, and could guide both policymakers and international employers in assessing fair compensation standards across borders.

In addition, Engel and Rogers [9] demonstrate that purchasing power parity directly captures how local price levels shape real affordability and living standards, aligning with our analysis of salary-to-cost disparities in Indian cities.

VIII. CONCLUSION

This study highlights the interconnected dynamics of cost, rent, and salary across Indian cities. While urban salaries correlate with expenses, affordability remains uneven. The findings underscore the need for urban wage alignment, improved rental regulation, and long-term financial planning to reduce household debt. Future research may integrate familylevel costs and inflation-adjusted time series to assess trends more comprehensively.

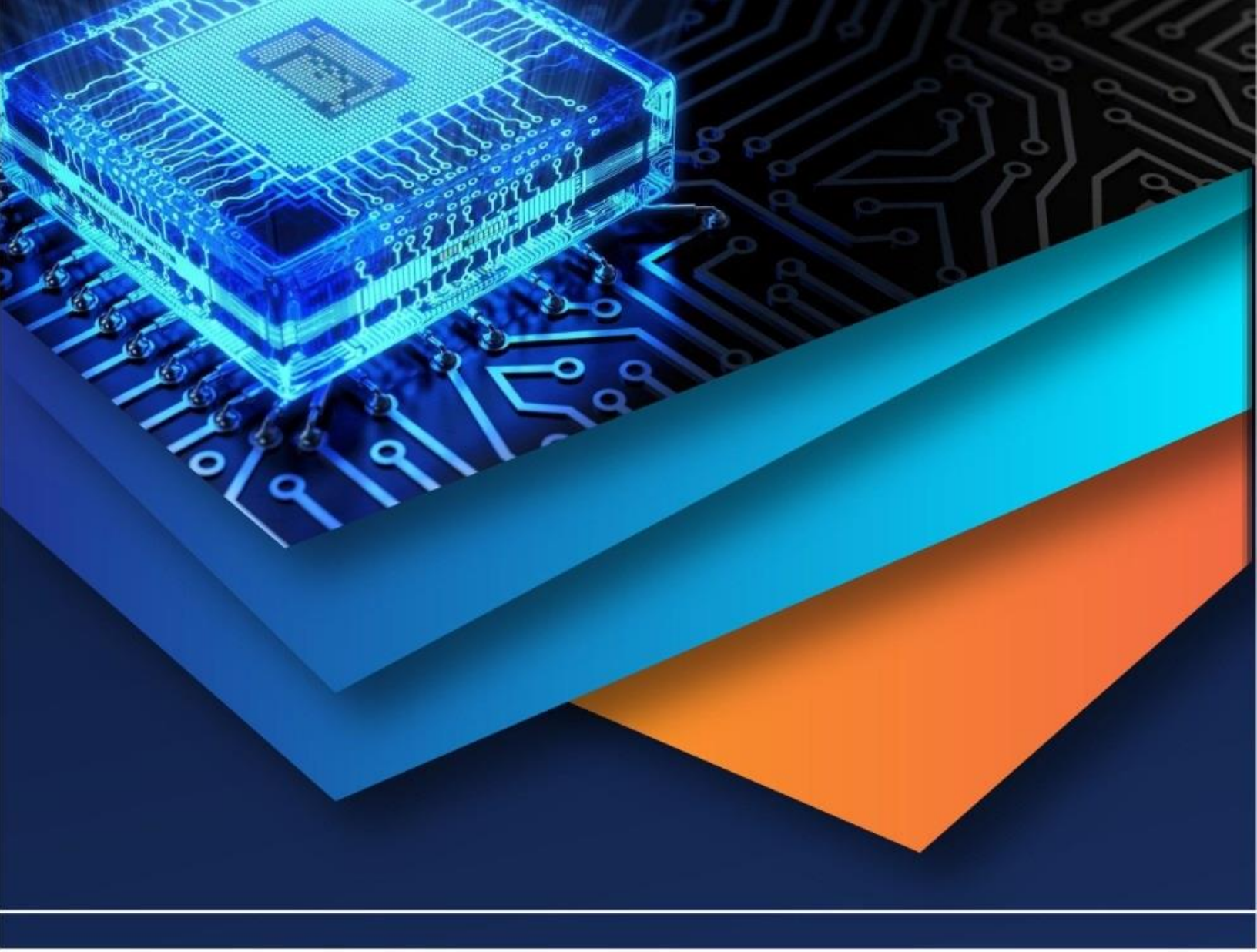
IX. ACKNOWLEDGMENT

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