# MTHM506 - Statistical Data Modelling: Individual Project

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## Contents

**Declaration of AI Assistance**: I have used OpenAI's ChatGPT tool in creating this report.

AI-supported/AI-integrated use is permitted in this assessment. I acknowledge the following uses of GenAI tools in this assessment:

1. I have used GenAI tools to check and debug my code.
2. I have used GenAI tools to proofread and correct grammar or spelling errors.
3. I have used GenAI tools to give me feedback on a draft.

I declare that I have referenced use of GenAI outputs within my assessment in line with the University referencing guidelines.

Table 1: Table 1: Summary Statistics of Socio-Economic Covariates and TB Rate

**Summary Statistics of Socio-Economic Covariates and TB Rate**

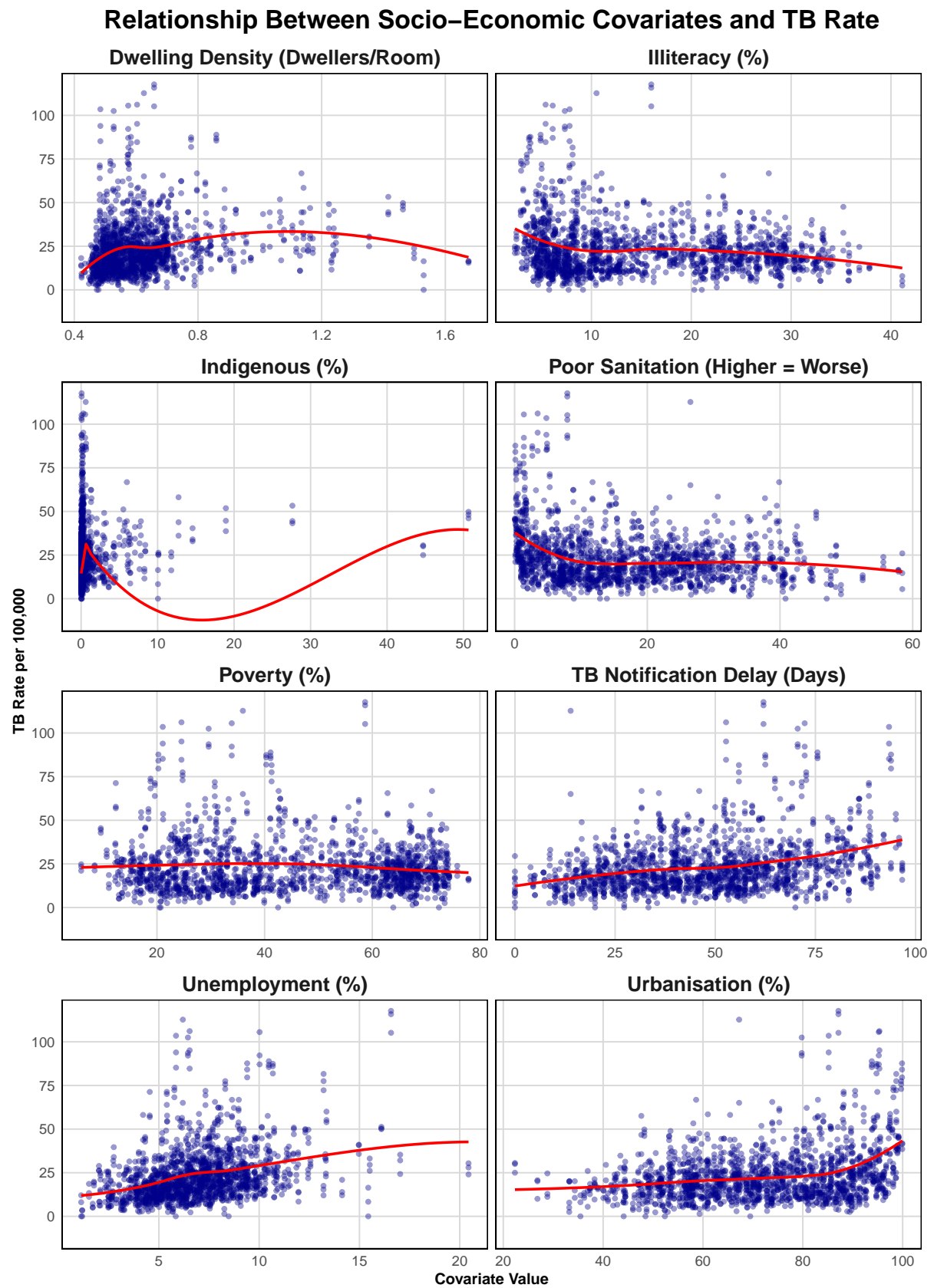| Covariate | **Mean** | Std Dev | **Min** | 25th Percentile | **Median** | 75th Percentile | **Max** |
|---|---|---|---|---|---|---|---|
| Indigenous | 0.84 | 3.53 | 0.01 | 0.06 | 0.11 | 0.24 | 50.65 |
| Illiteracy | 14.80 | 9.30 | 2.34 | 6.68 | 11.52 | 22.84 | 41.14 |
| Urbanisation | 71.96 | 16.53 | 22.34 | 58.45 | 72.66 | 86.16 | 99.93 |
| Density | 0.62 | 0.17 | 0.42 | 0.52 | 0.58 | 0.66 | 1.68 |
| Poverty | 44.37 | 19.37 | 5.92 | 26.23 | 42.60 | 63.91 | 77.88 |
| Poor Sanitation | 16.45 | 12.51 | 0.05 | 6.39 | 13.91 | 25.00 | 58.43 |
| Unemployment | 6.93 | 2.56 | 1.13 | 5.15 | 6.78 | 8.40 | 20.44 |
| Timeliness | 47.67 | 21.47 | 0.00 | 31.29 | 48.36 | 62.58 | 96.69 |
| TB Rate | 23.54 | 15.42 | 0.00 | 13.52 | 20.11 | 28.94 | 117.73 |

Figure 1: Relationship Between Socio-Economic Covariates and TB Rate per 100,000 Population.