**Capstone project proposal**

**ECOM30002/90002 Econometrics 2, Semester 2, 2024**

***Quantifying the impact of housing quality on mental illness in Ghana.***

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**Research question**

The quality of housing is integral to public health. However, while there is a strong empirical link between housing and physical health outcomes ([REFERENCES]), its impact on mental health is less pronounced. Demonstrating this link is critical for demonstrating practical measures which can be taken to improve public health outcomes.

**Key causal relationship**

Our research question seeks to understand if the quality of housing () has an impact of the likelihood of an individual having a mental health disorder (). We define our causal model as follows:

We hypothesize that that the quality of housing reduces the likelihood of contracting a mental health. This is because the quality of housing can reduce stress and anxiety, improve physical health or improve social connectivity – all of which impact mental health outcomes ([INSERT REFERENCES]).

However, as it stands our causal model cannot be estimated given there is likely an endogenous relationship between the quality of housing and mental health outcomes ([INSERT REFERENCES]). We propose to use individuals’ distance from their main source of drinking water () and access to electricity () as instrumental variables as we consider they satisfy the relevance and exogenous assumptions a priori.

We also propose to use several control variables in our analysis: age (), living in a rural area (), [X] () and [X] (). These additions change our causal model:

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Table 1 shows descriptive statistics for the variables we will be to answering our research question with. Many of the variables we’re proposing to use are dummy variables, except for distance from main drinking water source and age.

**Table 1: Descriptive statistics**

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| Variable | Mean | Standard deviation | Minimum | Maximum |
| Mental disorder dummy |  |  |  |  |
| Distance from main drinking water source |  |  |  |  |
| Sewerage exposure |  |  |  |  |
| Age |  |  |  |  |
| Sex |  |  |  |  |
| Rural |  |  |  |  |