Problem Set 4 – Practice Only

EE468 Integrated Public Economics, Development and Political Economics

1. Risk, saving and insurance

1.1 Poor households are facing various kinds of production/income risk. Explain in words, why might farmers care about risk?

1.2 Discuss two possible strategies households use to smooth consumption in the absence of formal financial market. For each strategy, also discuss potential limitations to consumption smoothing.

1.3 One common strategy rural households use to smooth consumption is by sharing risk in a mutual insurance network in a village. If income of household *i* in village *j* and year *t* can be disaggregated into

$$y_{ijt} = \bar{y}_{jt} + \theta_{jt} + \varepsilon_{ijt}$$

where $\bar{y}_{jt}$ is village *j*'s average income in period *t*, θ_{jt} is common village aggregate shock and ε_{ijt} is idiosyncratic shock independent across households. With large number of farmers in a village, explain how and under what circumstances/assumptions might risk sharing under mutual insurance work. Explain also the potential limitations of social insurance.

1.4 Explain how you would proceed to testing the extent of risk sharing within mutual insurance (be specific on the kind of data you might seek and estimation models)

1.5 Because of these limitations, most farmers in low-income areas are still facing large "uninsured" risk. Explain mechanisms by which uninsured risk could reinforce multiple equilibria poverty trap in the settings with early evidence of poverty trap.

1.6 Explain why formal insurance market fails to exist in low-income countries.

2 Credit markets

2.1 Use simple model of credit market to explain the key facts on informal credit markets in low-income areas: (i) high lending rates, (ii) variability of lending rates, (iii) credit rationing

2.2 According to the model, what might be the roles of wealth, monitoring and contract enforcement costs and lender's cost of default on rates and availability of credit in rural areas?

2.3 Why are formal credit institutions absent but informal moneylender exist? Use the above analysis to discuss relative strengths and weaknesses of these two institutions

2.4 Use the above model to discuss the key, potential advantageous features of microfinance

2.5 Suppose you have designed an innovative credit scheme that you believe would have good potential in resolving these market failures. You would like to pilot the product in some remote areas and to conduct a rigorous randomise control experiment to evaluate the impact of the product

Ideally, the goal is to estimate the impact of credit b on household's outcome Y_i with $T_i = 1$ if household takes out credit and $= 0$ if not.

$$Y_i = a + bT_i + \varepsilon_i$$

Explain how you might feasibly design this RCE research. Be specific on (i) how and what you would randomise (at community or household level or both), (ii) what estimation model (s) you propose to estimate the impact b, (iii) what survey data might you collect.