

Final Examination

(1 hour 20mn, 20% of final grade, 30 points)

Respond concisely in words and equations to 3 of the following 4 questions (10 points each)

1. Non-separable household model

In the context of Northern Burkina-Faso, where agricultural activities consist in food crop and livestock production, Dutilly et al. (*Journal of African Economies*, 2003) observe that food is exclusively produced for home consumption: there are no net sellers of food, 15% of the farmers are self-sufficient in food while the remaining 85% are net buyers of food.

a. What do you expect a low cost technological change (water harvesting technique in that case) that improves the yield in food production would imply for land allocated to food crops for the two types of farmers? Briefly justify your answer.

b. How do Dutilly et al. set up their empirical strategy to test this hypothesis?

2. Household response to shock

It has often been said that households protect their consumption by using the labor market in response to idiosyncratic shocks to crop income. Explain the empirical strategy used by Kochar (*Review of Economics and Statistics*, 1999) to test this hypothesis.

3. Household production decision under price risk

In their paper "Marketed Surplus Under Risk: Do Peasants Agree with Sandmo?" (*American J. of Agricultural Economics*, 1991), Finkelshtain and Chalfant consider a simple static behavioral model of households producing a food crop. All households are either net buyers or net sellers, and the food crop price is risky. The model is specified as follows:

$$\max_q EV(y, p)$$

where $y = pq - c(q) + T$.

y is income, p the risky price of the crop, q the non-stochastic production level, $c(q)$ the cost function, T exogenous transfer to the household, and EV is expected utility, function of income and the food price.

The paper establishes that, at the optimal household decision:

$$EV_y(c'(q) - \bar{p}) \text{ is of the same sign as } \frac{dV_y}{dp}$$

$$\text{and } \frac{dV_y}{dp} = -\frac{1}{p} V_y(Rs_q - s_c(R - \eta)) = -\frac{1}{p} V_y(R(s_q - s_c) + s_c\eta)$$

where \bar{p} is mean price, $s_c = \frac{pc}{y}$ is share of food in consumption, $s_q = \frac{pq}{y}$ is share of the food crop in

production, $\eta = \frac{\partial \ln c}{\partial \ln y}$ is the food income elasticity, and $R = -y \frac{V_{yy}}{V_y}$ is relative risk aversion.

What conclusions can you derive regarding the level of production of these households, in comparison with that of risk neutral profit-maximizer farmers and of risk averse commercial farmers that would not consume their production. Give an intuitive interpretation for your results.

4. History of thought in development economics

There have been several major reversals in development thinking about the roles attributed to the market and to the state in promoting development. Trace out five of these reversals across schools of thought and explain briefly what was in each case the reason that made the reversal occur.