

Written Exam at the Department of Economics summer 2019

Advanced Development Economics: Micro Aspects

Final Exam

Date: 31 May 2019

(3-hour closed book exam)

Answers only in English.

This exam question consists of 2 pages in total.

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- contact an invigilator who will show you how to register and submit a blank exam paper.
- leave the examination.
- contact your GP and submit a medical report to the Faculty of Social Sciences no later than five (5) days from the date of the exam.

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You cheat at an exam, if during the exam, you:

- Make use of exam aids that are not allowed
- Communicate with or otherwise receive help from other people
- Copy other people's texts without making use of quotation marks and source referencing, so that it may appear to be your own text
- Use the ideas or thoughts of others without making use of source referencing, so it may appear to be your own idea or your thoughts
- Or if you otherwise violate the rules that apply to the exam

Question 1: Property rights and Land reforms

- a) Tenancy reforms in developing countries have usually:
- (i) Ruled out share tenancy practices.
 - (ii) Regulated rents at low levels.
 - (iii) Prohibited eviction of tenants.

Discuss the assumptions underlying such policies and comment on whether empirical evidence has been in support of such policies in general.

Answer: There are **three presumptions** justifying these programs: **First**, the tenants belong the poorest segment of rural society and therefore the transfer of land property rights from landlords to tenants serves to the goal of greater social equity. **Second**, owner-cultivated farms are not inefficient and by transferring land from landlords to tenants we may get an efficiency gain. **Third**, share tenancy is less efficient than leasehold tenancy and owner cultivation. However, in general the **presumptions are incorrect**: **First**, the poorest of the rural poor are often landless laborers. **Second**, share tenancy is generally not very inefficient compared with leasehold tenancy and owner-cultivation, unless tenancy contracts are distorted by land reform laws. Here the good answer could elaborate by stating that the standard rationale for share tenancy practices (sharecropping) used to be purely in terms of risk sharing. BUT theoretically with constant returns to scale (CRS) sharecropping yields no extra risk-sharing benefits over a suitable mix of fixed-rent tenancy and wage labor contracts. Hence, there is no additional risk-sharing advantage under share tenancy practices (sharecropping). In sum, share tenancy practices has nothing going for it under CRS and full information. Hence, other imperfections, i.e. information imperfections, have to be added in order to be able to rationalize sharecropping. However, as soon as we assume/observe that information imperfections are present then one can show that a contract can be designed such that sharecropping arrangements are optimal. (Students showing this mathematically should be given extra credit). **Third**, by suppressing the option of tenancy contracts, land reform tends to induce large owner cultivation with employment of **hired labor**, which we do not know is more efficient. **Fourth**, land reform tends to block the agricultural ladder for landless laborers to ascend by suppressing tenancy transactions, thereby continuing its contribution to rural poverty.

Regulating rents at lower levels may make it more affordable for poorer peasants to engage into a contract with larger landlords. However, it may also create distortions and lead to unnecessary inefficiencies. The student could discuss that the underlying assumption behind this policy is that an inverse relation exists between farm size and agricultural productivity, and the transfer of land from larger farmers to smaller farmers (or making it more affordable for smaller farmers to enter into tenant contracts with larger landlords) will result in higher production efficiency as well as more equitable distribution of income. As low households savings and imperfect credit markets will

make small farmers incapable of paying the market price of land, an indirect way of “forcing” smaller efficient farmers into larger landlord properties, is by regulating tenant rents.

Prohibiting tenant evictions have opposing effects: **Bargaining power effect:** Increase in outside option - Impossibility to use eviction as a threat reduces the landlord bargaining power, and forces the landlord to offer the tenant a higher crop share, which translates into stronger incentives.

Security effect: Two opposing effects. 1) The landlord may use the threat of eviction when output is low to induce the tenant to work harder (**effort effect**). Cannot use eviction threat as a discipline device which may reduce efficiency. 2) Greater security of tenure encourages the tenant to invest more since it gives him the confidence that he will stay on the land long enough to enjoy the fruits of his investment (**investment effect**).

However, there are two ways in which eviction threats may have positive effects on the incentives to invest (**dynamic effects**). **First**, investments today raises the chances of doing well tomorrow and hence of retaining the job the day after tomorrow. **Second**, if eviction threats raise current effort, then it raises the change of the tenant being around in the next period, and this effect too is good for investments.

- b) Empirical research have found that despite having well-defined property rights in place land market reallocation in favor of more efficient cultivators is not taking place. Outline the potential reasons for why land market reallocations are not taking place despite having well-defined property rights.

Answer: Well defined property rights gives farmers incentives to invest in land improvements and it will foster the creation of a credit market based on collateralized land. BUT, the movement towards well-defined property rights of land is fraught with difficulties. Even if property rights are well defined, it is a puzzle why land market reallocation in favor of more efficient cultivators is not taking place. Why land does not move from rich to poor:

Reason 1

Land serves special functions for the rich. Holding land may offer tax advantages, speculative opportunities, safe investment opportunities where non-agri investment opportunities are limited or too risky, give special status or political power, etc. Therefore, the asking price for land may be above the capitalized value of the profit stream even for the more productive small farmers. Moreover, low households savings and imperfect credit markets, will make small farmers incapable of paying the market price of land.

Reason 2

Inherent asymmetric information problem associated with loan repayment through output produced on the land. Assume the poor farmer has a limited liability:

- In a bad state he cannot be made to repay more than a given amount.
- In a good state he must repay a larger amount.

This 'debt repayment threat' reduces the tenant/farmer's incentive to exert effort on the farm after purchasing it. Anticipating this, owner/lenders may assess a default risk high enough that they are unwilling to advance the loan/ engage in a tenant contract.

Question 2: Land reform example

The attached dataset of Indian states and the do-file included should be used for answering this question. The dataset includes information on poverty, average expenditures, and land reforms from 1957 to 1992. The do-file loads the applied dataset and helps structure your answers.

- a) In 1949, India granted states the opportunity to implement land reforms. This led to substantial variation among states in terms of land legislation, and research is therefore able to exploit this variation to study the effect of land reforms on outcome variables such as poverty. What is the simple (uncontrolled) relationship between the rural poverty gap index and the four-year lag of total cumulative land reforms? How does including state and year fixed effects change the result?

Answer: Without state and year fixed effects, there is no significant correlation between the rural poverty gap index and total cumulative land reforms. Including state and year fixed effects the relationship becomes significantly positive, where an additional reform is associated with a drop in the rural poverty gap index by 0.50, which corresponds to a drop of 3.4% of the average rural poverty gap index. This change is driven mostly by the state fixed effects, whereas the year fixed effects makes the relationship more positive. Thus, while there is no unconditional relationship, there is a negative relationship within the states and a positive relationship within years.

- b) Which types of reforms are driving the overall relationship between poverty and land reforms, and how do the results differ when studying urban poverty? Interpret your results and discuss if it is sensible to include land reforms with a four-year lag.

Answer: It is mostly the tenancy and no intermediaries reforms that drive the overall relationship. On average, an additional tenancy reform reduces the rural poverty gap index by 0.75 points, whereas a no intermediaries reform reduces the rural poverty gap index by 2.85.

The relationship between land reforms and the urban poverty gap index is insignificant, mostly driven by an insignificant effect of tenancy reforms. This is in line with expectations as urban population is much less likely to be engaged in agriculture and thereby benefiting from the reforms. It is preferred to have the reforms lagged to acknowledge it takes time before the policies are implemented and come into effect. Whether a four-year lag is the optimal structure is not given. One may use different information criteria to evaluate the best models, or one may simply analyze the sensitivity of the results with different lag structures.

- c) How does the relationship between poverty and land reforms depend on land inequality at the time of the reform? Further, discuss the potential mechanisms from land reallocation on poverty in the Indian case.

Answer: Using the Gini coefficient for land ownership, the correlation between poverty and land reforms remain significantly negative. This will only be clear if the student demean the Gini coefficient, which should not be expected. If the student does not demean the Gini coefficient, the negative relationship can still be derived for states with high inequality. This is done by combining the coefficient estimate associated with land reforms and the interaction term between land reforms and land inequality when the Gini coefficient is above 0.56. The correlation between poverty and inequality is found to be significantly positive, and the negative correlation between poverty and land reforms are more negative in states with high inequality, which is in line with expectations as these states have larger scope for improvements caused by the reforms. The significantly negative coefficient estimate associated with the interaction between four-year lag reform and four-year lag inequality seems to be driven by all but the no intermediaries reforms. Potential mechanisms in favor of the results: 1) Immediate direct effect on poverty when poor people receive land; 2) Inverse relationship between size and productivity; 3) Market failures due to land acting as social equity and provide political power; 4) Issue of moral hazard reduced if moving from sharecropping to full ownership. Mechanism against the results: Future investments may be limited if the owner is afraid of becoming too large and thereby having land taken away.