1) Corruption, red tape and allocative efficiency

Let there be two types of entrepreneurs who wish to begin projects in a country. High types begin projects with a social value of H to the community and a private payoff h to the entrepreneur. Low types begin projects worth L to the community and give a private payoff of δ to them. The government can evaluate each entrepreneur who wishes to start a business. The evaluation will reveal a low type entrepreneur through a poisson process with an instantaneous probability λ. A high type will never accidentally be classified a low type through the evaluation scheme. The evaluation scheme however imposes a cost of δ per unit of time on the entrepreneur being tested, regardless of his type.

i) Suppose the government has one contract to award, and a both high and low type entrepreneurs applying for the award. If the government wanted to make sure a high type was awarded the contract, what combinations of price and testing time could it use?

ii) Now, instead of dealing directly with the entrepreneurs, bureaucrats act as an intermediary carrying out government policy. Bureaucrats act only to maximize their own interests and do not necessarily follow the rules of the government, nor do they care if a high or low type entrepreneur receives the contract. Bureaucrats can give the contract to any entrepreneur they choose under any combination of price and testing time they choose. If a bureaucrat chooses a price above the government ordered price, he keeps the difference. Bureaucrats deviating from the government ordered plan are caught with probability π. The penalty for being caught is different for each bureaucrat, C_b with C uniformly distributed between [2(h+δ), (h+δ)]. Bureaucrats caught in corruption by the government do not return the money to the entrepreneurs they swindled.

If the government wanted to keep it's ordered price as low as possible, what combination of price and evaluation time would it order? What value of π* would eliminate all corruption? Without knowing the type of bureaucrat she is facing, how much would an entrepreneur be willing to pay to increase π from 0 to π*? What is the average size of the rents extracted by corrupt bureaucrats from entrepreneurs as a function π?

2) Is Presidential Impeachment worthwhile?

In her dissertation ("The Effects of an Anti-Corruption Campaign"), Rita Ramalho uses the techniques developed in Ray Fisman's paper to evaluate whether impeaching a corrupt president led to a reduction in corruption in Brazil. The conclusion she finally draws is that corruption did not decrease, but the spoils of corruption were redistributed: new firms got to bribe and get the unfair advantage arising from it. Read the paper, and answer the following questions.

i) What are the facts on which she bases this conclusion?

ii) Set up and discuss a simple model, where politicians can increase the per-period profit of a firm (by selling them restricted licenses, for example), in exchange of a bribe. Net profits are redistributed to shareholders. The CEO maximizes shareholder's value.
iii) Assume the politician has all the bargaining power. If he owns no part of the capital, what bribes will be set? If he owns a fraction $\alpha$ of the capital, what bribe will be set? Which CEOs are willing to pay bribes? Which are indifferent?

iv) Suppose the restricted license is valid for ever, unless revoked. What will happen to the stock market value of firms who paid bribes at the time of impeachment?

v) Suppose the restricted license needs to be renewed periodically (each time with a new bribe). Assume the successor of the president is completely un-corruptible. What will happen to the stock market values different groups of firms (those who paid bribes before, those who did not, firms with high $\alpha$, firms with low $\alpha$, etc...)

vi) Consider the main facts of the papers (the family connected go down after impeachment, the others did not. Are these enough to support Rita's story?

vii) Develop the model to derive testable implications of two hypotheses:
   a. Nothing changed after the impeachment: the President was just replied by another corrupt President
   b. The President who replaced the corrupt president is completely honest, and there are no restrictive licenses allocated any more

viii) If the facts you need are in the paper, conclude which is true. If they are not, what other facts do you need? Explain the data you would collect and the regressions you would run.

3) Referee Report: The Regulation of Labor

Read the paper, "The Regulation of labor", and write a Referee Report for the Journal of Intelligent Economics. JIE is a general interest journal, interested in publishing high quality original work. Your report should be about 2 to 3 pages long, and achieve several objectives:
- Tell the editor what the paper is about, and in which literature it fits
- Help the editor decides whether the paper should be published in this form, in a revised form, or not at all
- Help the authors revise the paper, either for this journal or for another one.

Do you think the paper is important? Do you believe in the results? Which robustness checks are lacking? What assumptions are unsatisfactory? How else could the paper be improved?