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November 12, 2007

To whom it may concern:

This letter of reference is in support of LIGUO LIN'S application for a position in your department. I have gotten to know Liguó during the last year in the course of several discussions about the applied aspects of his job market paper "Enforcement of Pollution Taxation in China". While I can't claim to know him well on a personal basis, I have had a good opportunity to form an opinion of him as a student and as an environmental economist with an empirical bent.

Liguó's job market paper concerns pollution control policy in China. The paper adapts Macho-Stadler and Pérez's (*JEEM*, 2006) model of optimal enforcement to the case of China. Section 2 of the paper contains a very useful discussion of the regulatory situation in China. This part of the paper is almost entirely original work. As a young Chinese economist, Liguó is in a much better position than most Western-educated economists to undertake an economic analysis of environmental regulation in China. It is difficult to imagine how a Western European or U.S. doctoral student could have written Section 2 of his paper. Given the size of the Chinese economy and the global effects that it has, it is clear that Liguó's project is important. Section 2 is an indication of Liguó's excellent positioning to contribute to the academic analysis of environmental management in China.

In Section 3, the paper adapts Macho-Stadler and Pérez's (*JEEM*, 2006) model to the Chinese case. The most important extension of their work is the allowance for a nonlinear tax schedule as exists in the Chinese system. This leads to quite a different situation than that studied by Macho-Stadler and Pérez. I find Liguó's adaptation of the previous work to fit the Chinese case quite convincing and interesting. While I am not a theorist, and no doubt his advisor will have more to say on the topic, Liguó appears to have an excellent command of the theoretical tools and the ability to apply the tools to a specific case.

In the next two sections, Liguó goes on to apply his model to data he obtained for the city of Fuzhou. His data set is new, and is in some senses richer than those used by previous studies of pollution management policy in China. He has quarterly data, and it includes information on output and on inspections of plants.

In the empirical part, Liguó finds that inspections cause plants to report higher levels of emissions, which is strong evidence of under-reporting in the absence of inspections. The other main finding of the paper, mostly motivated from the theoretical part, is that the current regulatory system does not incentivate plants to actually reduce emissions.

His conclusion is that to obtain this objective, a reform of the regulatory scheme is necessary.

In my opinion, Liguó's job market paper is a very good analysis of an extremely important topic. The paper is an excellent example of a theoretical analysis combined with a convincing empirical application. The paper's only weakness is that the relationship between reported emissions and actual emissions remains largely unknown. This is a criticism that applies to all previously published papers on the topic, to my knowledge. I believe that Liguó is one of the people who has a better chance of moving forward in the resolution of this question, and in doing so, helping to make useful recommendations in reforming China's pollution management policy.

Liguó is a pleasant person, and seems to be a very dedicated worker. I have enjoyed my discussions with him. I expect that his main advisor will provide more extra-academic information.

In summary, I think that Liguó's job market paper is very solid, and would be difficult to improve on, given the currently available data. He has a lot of potential to do excellent work in the future. If he is able to root out data sets similar to the one he already has, but that also contain actual emissions data, then he will be able to write some top-notch papers about a very important topic. I think that the chances that this will happen are quite good. Any department outside of the top 20 or so that is interested in a theoretically-oriented environmental economist with good empirical skills should consider Liguó Lin.

Best regards,

Michael Creel