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Recommendation letter for Ligu Lin, PhD candidate, UAB 2008

Ligu Lin is working in his thesis in Environmental Economics under my supervision. He will defend the thesis in July/September 2008. I am writing to strongly recommend him for any top department looking for an Applied Microeconomist with an expertise in Environmental Economics.

Ligu Lin was one of the very best students during the two years of the master in the International Doctorate in Economic Analysis (IDEA). This is a very strong and competitive international graduate program where a group of 18 students is admitted out of a set of around 200 candidates. Instructional language is English for both courses and research; Ligu is fluent in English (he also speaks some Spanish). IDEA graduates find jobs all over the world, including tenure-track or tenure positions at universities as Duke University, University of North Carolina-Chapel Hill, University College London, or University of Toronto. Our graduates are also highly successful at high level research positions in nonacademic institutions such as the European Bank of Reconstruction and Development, OCDE, Central Banks of Hungary or Venezuela, or consultancy firms as Lexecon or London Economics.

Ligu's job market paper (the first chapter of his thesis) is a clear example of his approach to research. The main part of this paper is an empirical investigation of the functioning of the Chinese system. Ligu obtained an EEPSEA Award to go to China and obtain the data he needed for his research. This unique data set is much more appropriate than previous data sets for the study of firms' compliance since they are quarterly (instead of yearly) data. In fact, Ligu obtains results that are contrary to previous studies in

US/Canada and even in China; his results are more in line with theoretical predictions than the previous analysis. In particular, he shows that past and current number of inspections has a significant and positive effect on reported emissions. Also, he shows that the level of reported emissions does not react to inspections on those pollutants that are not taxed (due to the peculiarities of the Chinese system) while the level does react on those pollutants on which the firm pays taxes. Liguó's results suggest that Chinese firms clearly underreport their emissions.

The job market paper starts with a novel theoretical investigation of the environmental regulation and firms' behavior in China. This study takes root in recent theoretical analyses of firms' behavior and optimal inspection policies for environmental regulations based on taxes, self-reports and inspections. Liguó shows that the Chinese system leads firms' pollution first to decrease and then jump to a higher level as the inspections are more frequent. On the other hand, reported pollution is an increasing function of the expected inspection rate. This is the first paper that shows the negative consequences of a tax system based on (self-report and) decreasing marginal tax rates on firms' decision about their level of pollution (although, not on their decision on reported pollution).

The second chapter of Liguó's thesis also includes both a theoretical and an empirical investigation. The objective is to study how inspection policy and firms' behavior vary with local conditions. In the theoretical part, he proposes a bargaining model between local and national agencies to set the standards and the inspection policy. Local characteristics do influence the issue of the negotiation as local authorities with lower GDP per-capita are less concerned about the environment and more concern about growth. Liguó is now using the plant-level data obtained in three different regions in China to check the implications of the theoretical model and investigate how inspections vary with local conditions. The preliminary results already show that plants' reaction to inspections is quite different across regions. The results seem to match quite well the theoretical predictions. The first version of this chapter will be ready in a few weeks.

Finally, Liguó wants to look at the broader picture of countries' strategies facing climate change. He has set a regional dynamic general-equilibrium model and has started its calibration. Preliminary results suggest that only considering the production side damage

of global warming may underestimate the welfare loss of global warming. This underestimation pushes the policy path away from the optimal path. All the building blocks of this third chapter are already there, so Liguó will certainly have the time to finish it to be able to defend the thesis at the end of this academic year.

Liguó is a very clever, ambitious and very hard working person. He is a very independent researcher who also listens carefully to advice. His research projects do not come from variations of other people's papers. He looks for interesting questions with economic and social impact; he then decides which techniques are more appropriate to deal with these questions. This way, he has developed strong capabilities in areas as incentive theory, optimal taxation, game theory, and general equilibrium models; he has also become an expert user in econometrics and calibration techniques. I am personally not an expert in all of those areas, but Liguó has found advice from my colleagues. Liguó Lin is a flexible professional ready to learn and use different techniques to tackle different problems.

On the personal side, Liguó is a very friendly and elegant person. He has excellent relationships with his colleagues as well as with the faculty of IDEA. He is definitely a very honest and reliable person with a strong sense of integrity, and I am confident he will be a valuable and well-respected colleague. He regularly participates on all the department activities and moreover he is always willing to help and support you in any task. He is a mature person and has adapted very well to live in a country as far as his as Spain. Liguó has and defends his own opinions but also listens.

Liguó is an excellent researcher and is called to become a top economist in the field of Environmental Economics. I strongly support his application to any university (except maybe the top ten US Universities) looking for an Applied MicroEconomists. All universities looking for an Environmental Economist should carefully consider Liguó's application.

I will be happy to provide any additional information you may need.

Yours Sincerely,

David Pérez-Castrillo
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