

December 6, 2021

Dear Members of the Faculty Recruitment Committee,

Please consider this letter as my application for the position of tenure-track Assistant Professor. At Michigan State University, I am a dual Ph.D. candidate in Economics and Agricultural, Food, and Resource Economics, with a graduation date of May 2022.

I am an applied economist with a focus on environmental economics, and I work broadly at the intersection of production, the environment, and policy. There are two major lines in my research. The first is the *economic and environmental impacts of technological innovations*. My dissertation focuses on Genetic Engineering technology in U.S. corn production, and my job market paper, “Environmental and Economic Concerns surrounding Restrictions on Glyphosate Use in Corn”, quantifies the social welfare consequences of a hypothetical tax on glyphosate, a contentious herbicide widely used in combination with transgenic glyphosate-tolerant corn hybrids in the U.S. Environmental externalities associated with glyphosate and its substitute were monetized using non-market valuation method, and a welfare analysis framework incorporating both economic and environmental aspects was developed. The findings of this study were published in *Proceedings of the National Academy of Sciences*. The second line, which I am currently focusing on and intend to pursue in the next few years, is the *production-climate nexus*, particularly climate change adaptation in agriculture. An ongoing project in this area looks at the value of transgenic technology in adapting to climate change. We investigate the ability of transgenic technology, in particular drought-tolerant corn hybrids, to compensate for the adverse consequences of climate change on food security. I plan to complete and submit the manuscript for publication within the next year, which may lead to additional related projects. The moral hazard in adaptive behavior is a prospective project related to this. Specifically, we are exploring whether areas with higher insurance protection are less incentivized to adapt to drought weather by adopting drought-tolerant transgenic crops. Building on my current work, I am also interested in expanding my research into low-carbon economies in the future.

My research has always been inspired by policy-relevant questions, and my approach to teaching is also motivated by the goal of real-world application. I had the pleasure of teaching *Applied Microeconomics* at the Ph.D. level as a guest lecturer in spring 2020, and I have been very fortunate to have had great examples of professors who motivated my perspectives on teaching. As a result of those experiences, an essential goal in my teaching will be to develop self-sustaining motivation and foster collaboration. In addition, the ability to apply theories to solve real-world problems will be emphasized while I will not shy away from introducing theories. Given my training and research experience, I am prepared to teach environmental and resource economics at graduate level, as well as microeconomics and applied econometrics at undergraduate or graduate level as needed. I look forward to the opportunity to discuss with the school the design and development of courses based on my areas of expertise as well as what will fit best into the curriculum.

I am confident that I will be able to contribute in a unique way to the school's research, teaching, and mentoring. For my complete profile, please visit my website: <https://ziweiye.github.io>. I have asked the following people to write letters of reference on my behalf:

Felicia Wu	fwu@msu.edu
David A. Hennessy	hennessy@iastate.edu
Jinhua Zhao	jz638@cornell.edu
Songqing Jin	jins@msu.edu

Thank you for your time and consideration, and I look forward to speaking more soon.

Sincerely,



Ziwei Ye