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Dear NBER Research Associates,

I am Helen (Shuxuan) Zeng, 3rd-year PhD student in information system and management at Heinz College, Carnegie Mellon University. I am super excited to apply to attend the tutorial meeting organized by NBER in 2021. My research incorporates econometric modelling and machine leaning techniques to empirically address an important and timely public policy question: how to respond to the rise in human sex trafficking facilitated by online marketplaces. I am proposing to finish my doctoral dissertation in this research area. In the following, further details will be provided about my past and current research, my plans for future study on this topic, as well as other research projects in process.

From the beginning of 2020, I started to work with Prof. Michael Smith[1], Prof. Daniel Nagin[2] and Prof. Brett Danaher[3] on my first paper, analyzing the impact of an April 2018 law designed to reduce online human trafficking. The paper was given the Suresh Konda Award for the best first year doctoral student paper at CMU's Heinz College and I was honored to be awarded the K&L Gates Presidential Fellowship in Ethics and Computing by Carnegie Mellon University. In this paper, I compiled local level data from FBI's Uniform Crime Report (UCR), Marinus Analytics (a local star-up in Pittsburgh) and found that this federal law did not increase violence against women in terms of female homicides and rape incidents.

Currently, I am continuing this line of research in several ongoing projects. Earlier this summer, I partnered with IBM's Traffik Analysis Hub and an organization called

[1]J. Erik Jonsson Professor of Information Technology and Marketing at Carnegie Mellon University's H. John Heinz III College, `https://mds.heinz.cmu.edu/`

[2]Teresa And H. John Heinz III University Professor Of Public Policy And Statistics, `https://www.heinz.cmu.edu/faculty-research/profiles/nagin-daniel/`

[3]The George L. Argyros School of Business and Economics, Chapman University, `https://www.chapman.edu/our-faculty/brett-danaher`

Stop The Traffik to obtain data compiled from a variety of public, NGO, and government sources documenting online sex trafficking and how the location and frequency of trafficking has changed over time. So far, our results with regard to the law show that the law had no effect on the number of sex trafficking cases or prostitution activities, likely because the majority of advertisers and users of the shut down sites quickly gravitated toward other remaining (often off-shore) online advertising portals. The volume of escort ads soon recovered on a new group of other websites post the passage of the law. In July 2020, IBM and Stop The Traffik invited me to present our findings and ongoing research during meetings of their worldwide research partners.

My current project in this research area has been analyzing whether recent legislation has made it more difficult to sell minor victims for sex online. To analyze this question, I scraped an extensive data set from an online review site that allowed me to document the reported ages of individuals being advertised for commercial sex online, information about the specific sex services they provided, and the advertised prices for those services. I am applying machine learning techniques as well as econometric models to figure out if the April 2018 law caused a disproportionately large increase in advertised prices for providers in younger (18-21, 21-24) age groups, which might suggest that the law may have reduced the supply of younger sex providers. I am currently analyzing whether there was a disproportional increase in the prices of "riskier" services that might be associated with trafficked victims.

In addition, earlier this summer I obtained a dataset from Heyrick Research documenting the geographic locations of Illicit Massage Businesses in the United States, and how the prevalence and location of these businesses has changed over time. The Illicit Massage Industry has become a hub for sex trafficking of Asian nationals, and we are hoping to analyze the economics of this industry and how recent Federal, state, and local policy changes have impacted the market for foreign sex trafficking victims.

So far my research has had direct policy impact. In the summer the Senate Judiciary Committee voted on a bill designed to reduce the prevalence of Child Sex Abuse Material online. Senator Bob Casey co-sponsored this bill. My primary advisor Prof. Michael Smith spoke at length to his Legislative Director about our research and sent him a copy of my first paper so he could brief the Senator and the bill's other co-sponsors on our findings. Later this week, I will be talking to two lawyers from the Human Trafficking Response Unit in the Manhattan District Attorney's office about my findings.

Except from the research in the arena of human sex trafficking, I am also currently working with Prof. Yan Huang [4] on a project studying the impact of piracy on the sales

[4]Tepper School of Business, Carnegie Mellon University, https://www.cmu.edu/tepper/faculty-and-research/faculty-by-area/profiles/huang-yan.html

movies from legitimate channels, with the use of structural econometric modelling.

I am genuinely excited about the opportunity of attending this tutorial workshop. And I am looking forward badly to hearing the presentations from, as well as to interacting with the distinguished researchers & scholars at the workshop. Thank you for considering my application.

Sincerely,

Helen (Shuxuan) Zeng