

James Wang
University of Michigan

jtabw@umich.edu
www.jtabw.com

Digitization Application

Dear Dan Healy,

I wish to apply for the NBER Digitization tutorial. I am a graduate student in economics at the University of Michigan. I am in my last year and on the job market, and my dissertation committee is composed of Francine Lafontaine, Daniel Akerberg, Ryan Kellogg, Ying Fan, and Sugato Bhattacharyya. My research interests are in industrial organization and applied microeconomics with an emphasis on organizational economics and information economics. I think that I am an excellent fit for the Digitization tutorial because of my research interests. Specifically, my job market paper focuses on the ability of loan officers to screen soft information compared to automated decision-making based entirely on hard information.

In my job market paper **Why Hire Loan Officers? Examining Delegated Expertise**, I study the value of delegating loan decisions to loan officers. While loan officers can screen soft information, their preferences may distort decisions away from the lender's objective. For example, they may be risk averse or unwilling to exert effort. Additionally, behavior inconsistent with a simpler model motivates a third type of heterogeneity where some loan officers may even exhibit overconfidence. To weigh the costs and benefits of delegation, I combine these multiple dimensions of heterogeneity into a delegated expertise model incorporating a costly screening effort choice and a loan size choice. I use the model to explain a number of interesting features of the data including how loan amounts causally affect profits, how different loan officer characteristics impact loan decisions, and how overconfidence may reduce the costs of risk aversion. Identification of the model primitives including preference parameters uses data on loan decisions and resulting profits. I use the estimates to examine a number of counterfactuals that compare profitability both across and within loan officers.

I find three main results. First, there is substantial heterogeneity in risk aversion, overconfidence, and cost of effort across loan officers. This leads to large differences in average loan amounts and resulting profits. Second, loan officers increase annual profits by 147,000 RMB per loan officer compared to automated lending that tries to maximize profits conditional only on the borrower's hard information. With an average annual compensation of 45,000 RMB, loan officers contribute roughly three times their pay in additional annual profits. Lastly, I find that counterfactuals that eliminate the distortions due to preferences lead to 224,000 to 448,000 RMB more in annual profits compared to the automated case.

The insights of my paper relate to the comparison between man and machine, and one important conclusion is that despite the distortions, loan officers are able to outperform automated lending. My work also gives insights on how to evaluate the role of experts within the firm, design interventions that mitigate distortions due to agency conflicts, and respond to different forms of private or social information. My paper is available on my website <http://www.jtabw.com>.

Best,

A handwritten signature in black ink, appearing to read 'James Wang'. The signature is stylized with a large, sweeping loop at the bottom.

James Wang

11/10/2014