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Recommendation of William Du for

Federal Reserve Board Dissertation Fellowship

William Du is a PhD student of mine at Johns Hopkins University, who is applying to you for a summer internship.

William's JMP is closely related to the work of a number of economists at the Federal Reserve Board of Governors. In particular, his JMP concerns the macroeconomic consequences of persistent earnings losses following job displacements with regards to the transmission of unemployment risk as a business cycle amplifier and the transmission of various UI policies as macroeconomic stabilizers. He does so by building and solving a HANK model with search and matching friction as well as human capital dynamics to produce realistic persistent earnings losses following job displacement. This is closely related to the job market papers of Bence Bardoczy, Sebastian Graves, and Chris Huckfeldt. Bence's JMP investigates whether spousal insurance would serve as a powerful automatic stabilizer against the effects of countercyclical unemployment risk, while Sebastian's JMP evaluates whether unemployment risk amplifies business cycles. In William's JMP, he shows that UI extensions are a powerful macro stabilization tool due its expectational transmission and demonstrates that the unemployment risk channel is 2-3 times larger when households are subject persistent earnings losses. In Chris' JMP finds that unemployment scarring is concentrated on workers who switch occupations and justifies how this scarring can arise in a structural model. While Chris' JMP studies the causes of unemployment scarring, William's JMP studies the consequences of unemployment scarring instead.

Further, William has both strong interest and experience in solving HANK models with Housing as discrete choice. As a PhD intern as the Bank of England, he solved a HANK model with housing as a discrete choice. I have been made aware that various divisions at the Federal Reserve are interested in housing models and therefore William would make a strong fit in any group looking to build such a model as he would be immediately ready to contribute.

Finally, William is well versed with the sequence space jacobian approach to solving HANK models. Both his HANK model in his JMP as well as his housing model at the Bank of England

were both solved using the sequence space jacobian toolkit. Moreover, Will has integrated the sequence space jacobian methods into the HARK toolkit by programming methods to produce heterogeneous agent Jacobians with the 'Fake News' Algorithm. Since Bence Bardoczy is one of the creators of the sequence space method and toolkit he would mesh well if they were to work together.

[Description of JMP and any other relevant work]

William's job market paper evaluates the macroeconomic consequences of the long lasting negative effects of unemployment on labor earnings in the transmission unemployment risk as a business cycle amplifier and in the transmission of UI as a macroeconomic stabilizer. To do so, he builds a heterogeneous agent New Keynesian (HANK) model with search and matching frictions augmented to include human capital dynamics. His model matches the persistent earnings loss following job displacement that is present in the data, the path of IMPCs documented in Norwegian data, and the distribution of liquid wealth consistent with the Survey of Consumer Finances. With the model in hand, he shows that precautionary saving in response to heightened unemployment risk is substantially larger when households are subject to long term earnings loss following job displacement. Over the business cycle, he demonstrates that unemployment risk is a much stronger amplifier of fluctuations and that UI multipliers rise with the policy horizon largely due to their effect on expectations as opposed to their stimulative effect on income. For longer policy horizons, he finds that extending UI is considerably more stimulative than increasing the UI replacement rate as it precisely mitigates the precautionary saving that arises against the possibility of long term unemployment.

[Draft of conclusion written by student - will be edited by CDC]

Overall, I strongly recommend William Du for the Federal Reserve Board Dissertation Fellowship for this coming summer. He would be a great fit because his research is closely related to a number of economists at the Federal Reserve Board and he has the experience and skills to be quickly contribute to divisions looking to build and solve housing models of monetary policy.