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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.

His work concerns the macroeconomic consequences of the persistent earnings losses that follow job displacements (Jacobson, LaLonde, and Sullivan (1993)); he shows that consumers who perceive these losses have a strong precautionary motive, which induces a much stronger 'precautionary multiplier' for business cycle fluctuations than arises in the existing literature, which counterfactually assumes that the income losses due to unemployment are purely transitory (or rather, that they are *believed* to be transitory). He does so by building and solving a rich and realistically calibrated HANK model with search and matching frictions (as well as human capital dynamics that reproduce the facts about persistent earnings losses following job displacement).

Will's JMP is closely related to the work of a number of economists at the Fed, in particular Bence Bardoczy, Sebastian Graves, and Christopher Huckfeldt. Bardóczy (2020) investigates whether spousal insurance would serve as a powerful automatic stabilizer against the effects of countercyclical unemployment risk, while Graves (2020) evaluates whether unemployment risk amplifies business cycles. In Will'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 Huckfeldt (2022) finds that unemployment scarring is concentrated on workers who switch occupations and justifies how this scarring can arise in a structural model. While Huckfeldt (2022) studies the causes of unemployment scarring, Will's work studies the consequences of unemployment scarring instead.

Further, Will 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 decomposed the components of the housing wealth channel (Slides). I know from Fed contacts that a number of different sections/groups there are interested in housing models; Will would make a strong fit in any group looking to build such a model as he would be immediately ready to contribute.

Finally, Will is well versed with the sequence space Jacobian (SSJ) approach to solving HANK models (Auclert, Bardóczy, Rognlie, and Straub (2021)). Both the HANK model in his JMP as well as the housing model at the Bank of England were solved using the SSJ toolkit. Moreover, Will has integrated the SSJ methods into the HARK toolkit by programming methods to produce heterogeneous agent Jacobians with the 'Fake News' Algorithm (Auclert, Bardóczy, Rognlie, and Straub (2021)). Since Bence Bardoczy is one of the creators of the sequence space method and toolkit, Will would be keen to seek out Bence and connect with him on these topics.

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.

References

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