**RCC Research I Allocation Request – Fall 2021**

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**Research Goals and Impact**

We are interested in general in income volatility and policies to mitigate its consequences. There are two projects which currently require the use of the RCC both of which are in draft stages.

In the first project (*Strategic Default*) (joint with Pascal Noel) we study the motivations for household mortgage default, distinguishing between households that are motivated by negative equity and households that are motivated by adverse life events (such as the loss of income). Work on the RCC will be used to understand the external validity of the findings which rely on unbenchmarked administrative data. We have already benchmarked some summary statistics and conducted additional analysis on the CRISM data stored on the RCC. Understanding how many defaults are motivated by adverse life events informs our understanding of the stringency of optimal foreclosure regulation and the best ways governments and banks can intervene to avoid the necessity of foreclosure.

In the second project (*Wealth, Race, Consumption*) (joint with Pascal Noel and Damon Jones) we study how households’ consumption responds to typical labor income shocks. We estimate how this varies by both race and wealth, with an aim of documenting inequalities in the effect of income volatility between these groups. Using the resources of the RCC we are in the process of contextualizing our findings in a structural model of consumption and savings to determine the differential welfare effects of the transitory volatility by race. This element of racial inequality is understudied, and understanding the size of the welfare gap and how it relates to wealth inequality offers a possible policy approach to reducing inequality between racial groups.

**Results and Publications from Previous Allocation**

Last allocation cycle, we used 23% of our 50,000 SU allocation.

The list of published and submitted papers emerging from past allowance and citing RCC are as follows:

1. [US Unemployment Insurance Replacement Rates During the Pandemic](https://cpb-us-w2.wpmucdn.com/voices.uchicago.edu/dist/1/801/files/2018/08/1-s2.0-S0047272720301377-main.pdf). with Pascal Noel and Joe Vavra. 2020 in *Journal of Public Economics.*

**Resources Requested**

This cycle, we request again 50 000 SUs and 0.5 TB storage.

The PI is not part of the Cluster Partnership Program.

**Justification for Request**

| **Project** | **Description** | **Prior Results** | **Request** |
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| *Strategic Default* | Work here will extend the benchmarking of the administrative data where required. The current benchmarking code is written in R and primarily makes use of the broadwl partition although some usage of high memory nodes is required for the manipulation of the large loan file. | In an older request, we had intended to use the RCC to study how car purchases vary at the time of default, but a variety of data challenges made this difficult.  The use of the RCC last year allowed us preliminary benchmarking statistics (for example the 90-day delinquency rate, the distribution of LTV over time) and additional analysis on the share of defaulters that default due to negative equity, which we have compared to the administrative dataset. | 30 000 SUs |
| *Wealth, Race, Consumption* | Although we presently have a basic consumption savings model estimated using by allowing environmental parameters to differ by race, we seek to answer additional questions that will require different models to be estimated. For example, can our empirical estimates reject a model that generates the differences in consumption smoothing through differences in behavioral parameters? We might also be interested in the robustness of our welfare findings to variations parameters that have been calibrated from external data. These may require a substantial number of estimations, noting that our model presently takes about 400 SU to converge.  The code for this is written in python 2 which we launch using the anaconda module. We do not anticipate using partitions other than the broadwl. | Our current model is estimated using resources from the RCC. The estimation of this model proved to be more challenging than anticipated because of multiple local optima in the objective function for estimation. | 20 000 SUs |
|  |  |  | 50 000 SUs |