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Social Connections and Precautionary Saving Decisions of U.S. Households during the COVID-19 Pandemic

MASTER THESIS

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Executive Summary

The global spread of the COVID-19 pandemic has had a substantial impact on people's daily lives since 2020. During the pandemic, economic activity, an important component of personal activities, decreased significantly. According to the literature, real personal consumption expenditures decreased by more than 15% during the first four months of the pandemic (January to April 2020) and partially recovered in May and June thanks to government fiscal stimulus, which directly increased personal disposable income. It is an interesting research topic to investigate what factors, and how, can influence consumption and precautionary saving behaviours during the pandemic. Such studies may benefit future economic recovery when developing disaster recovery policies.

In this paper, we investigate the potential influence of social connections on precautionary savings during the pandemic in the U.S. Social connections, as a vital information source in modern life, could have a significant impact on making consumption and savings decisions. In the pandemic scenario, the influence can be in terms of both *financial concerns* and *health concerns*. An intuitive reason is that if an area "P" is experiencing a pandemic outbreak, *i.e.*, a large number of new COVID-19 cases and fatalities, another area "Q", which has a close social connection to the area "P" and is aware of the situation in "P", may take similar precautionary measures in response to the potential upcoming outbreak, even if the numbers in the area "Q" are still low. Thus, it is important to explore how social connections can influence consumption expenditures and savings decisions during the pandemic.

More specifically, we utilize social connections to define a *social neighbourhood* for a focal area, and investigate whether the COVID-19 severity in its social neighbourhood can impact the savings and consumption decisions during the pandemic. The social neighbourhood is distinct from the typical geographic neighbourhood, as the latter is based on administrative divisions. we define a *social neighbourhood* of a county as the counties with which it has close social connections. We use the Facebook Social Connectedness Index (SCI) to quantify social connectedness between administrative areas in the U.S., which is widely used in literature for measuring social connections. Facebook connections are ideal for our research, as it is mostly used to interact with real-life friends and family members

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whose experiences are most likely to influence household financial decisions.

We utilize the Consumer Expenditure Survey (CE) data set, administered by the U.S Bureau of Labor Statistics, to measure consumption and savings decisions of households in the U.S. To investigate how households' consumption and savings decisions respond to the COVID-19 situation in the social neighbourhood, we exploit the severity of the pandemic in the social neighbourhood (SNCS), which takes into consideration: (1) the cases and fatalities in each area inside the social neighbourhood, (2) the strength of social connection to each area inside the social neighbourhood. Specifically, we consider two measures, SNCS-ϕ and SNCS-ψ, which have different strategies for mapping and scaling the above two aspects, *i.e.*, the COVID-19 severity in an area and the social connectedness to this area, to quantify SNCS.

We conduct two sets of analyses. In the first set of specifications, we examine how the severity of the pandemic in a typical geographic area can impact the household consumption rate, which reflects and quantifies the consumption and savings decisions. This set of analysis is used to provide the baseline information on how the consumption rate responds to the pandemic. Our result shows that the pandemic severity in a geographic area has a negative and statistically significant effect on consumption rate, and the number of the fatalities (compared with the number of cases), is better for depicting the severity of the pandemic to predict consumption rate changes.

In the second set of specifications, we use SNCS-ϕ and SNCS-ψ, to investigate how social connections impact consumption and savings decisions during the pandemic. Our primary result shows that pandemic severity in socially connected areas, as measured by SNCS-ϕ and SNCS-ψ, has a negative and statistically significant effect on household consumption rate. Moreover, we explicitly include both the SNCS variables and the local pandemic severity variables in some specifications. We find that social connections have a significant impact on consumption rate even after controlling for local pandemic developments. The result confirms that social connections have an impact on consumption and savings decisions, and SNCS variables are not just proxy variables for the local pandemic severity. We further compare the two SNCS variables and find that the variable SNCS-ψ, which applies normalized SCI factors, can explain higher share of the consumption rate changes than the SNCS-ϕ.

We also measure and confirm the robustness on the scale of SNCS, *i.e.*, whether changing the size of the social neighbourhood could impact SNCS's ability to explain the consumption rate changes. We find that regardless of the size of the social neighbourhood (top-5, top-10, and top-30 counties), the SNCS has a significant and negative impact on household consumption rate with both SNCS-ϕ and SNCS-ψ. Meanwhile, the explained portion of the consumption rate changes remains similar when changing the size of social neighbourhood in SNCS variables.

Overall, we provide evidence that social connections have a meaningful effect on households' consumption and savings decisions, *e.g.*, precautionary savings, during the pandemic. We exploit SNCS to quantify the severity of the pandemic in the social neighbourhood. Our findings suggest that future economic responses to a pandemic or disaster should take social connections into account.