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Personal Information

Date of Birth: June 9, 1982, Sex: Male, Citizenship: South Korea

Education

The University of Chicago, 2010 to present
Ph.D. Candidate in Economics
Thesis Title: "Credit Access and Household Distress: Evidence from Payday Lending"
Expected Completion Date: June 2017

M.A. in Economics, The University of Chicago, 2015
B.A. in Economics (first-class honors), The University of British Columbia, 2009
B.A. in Mathematics (first-class honors), The University of British Columbia, 2009

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Teaching and Research Fields

Primary fields: Household Finance, Financial Regulation and Health Economics
Secondary fields: Applied Microeconomics

Teaching Experience

Fall, 2016	Energy and Energy Policy, U of C, TA for George Tolley and Stephen Berry
Fall, 2015	Economic for Public Policy, U of C, TA for Sabina Shaikh
Fall, 2015	Energy and Energy Policy, U of C, TA for George Tolley and Stephen Berry
Spring, 2015	Microeconomics and the Korean Economy, U of C, Lecturer
Winter, 2014	Econometrics A, U of C, TA for Ingvil Gaarder
Fall 2014	Energy and Energy Policy, U of C, TA for George Tolley and Stephen Berry
Fall, 2013	Introduction to Microeconomics, U of C, TA for Allan Sanderson

Conference and Seminar Presentations

2016	Applications of Economics Workshop, The University of Chicago
2015 & 2016	Applied Microeconomics Lunch, The University of Chicago

Honors, Scholarships and Fellowships

2012-2017	Social Sciences Fellowship, The University of Chicago
2013	Division of Social Sciences Summer Grant, The University of Chicago

Research Papers

"Credit Access and Household Distress: Evidence from Payday Lending" (Job Market Paper)

Abstract: Using plausibly exogenous variation in geographic and temporal accessibility of payday loans at the zip code level, I estimate the causal effects of access to payday loans on household distress. To address endogeneity concerns of credit access, I use an identification strategy that isolates variations in the access to credit from the underlying state and local economic conditions that may vary systemically with the degree of household distress. Using suicide attempts as a proxy for household distress, I find evidence of detrimental effects from payday loans; that is, having access to payday loans substantially increases the suicide attempts. The dynamic analyses find that there is no existing trend during the pre-payday periods, but a sharp increase in the attempted suicides emerges after gaining access to payday loans. The effects are significant only among those under age 65, while the elderly who have no or limited eligibility for payday loans do not experience increased suicide attempts. Moreover, only suicide attempts by people with private insurance, i.e. the employed, increase, and I do not find any significant effects for the uninsured and people with Medicare and Medicaid. Further analyses show that zip codes with a higher demand for payday loans experience significantly larger increases in attempted suicides, whereas low demand zip codes do not.

Work in Progress

"Banking Deregulations, Credit Constraints, and Household Subjective Well-being"

Abstract: This paper examines a link between U.S. banking deregulations and household subjective well-being. Most states lifted banking regulations from the 1970s through 1990s. I find that suicide mortality significantly decreases after banking deregulations were introduced to foster a competitive environment in the banking industry. This finding emerges after exploiting the timing of these different deregulations across states. Further, an analysis at the county level finds that counties with more credit-constrained households, such as counties with a low median family income and a high poverty rate, experience significantly larger reductions in suicides. Overall, the empirical evidence supports the view that increased competition among lenders in deregulated states alleviates the financial hardship of households by expanding the credit supply to credit-constrained households that were previously excluded or under-served in the mainstream credit market.

"Banking Deregulations, Credit Supply and Personal Bankruptcy"

Abstract: This paper examines the relationship between credit supply and personal bankruptcy. The empirical evidence on this topic is mixed. While more credit can alleviate borrowers' temporary financial hardships, it can also increase household debts that could lead to more bankruptcies. To examine this conjecture, I use the exogenous variation in the timing of different interstate banking deregulations in the 1990s and 2000s. The results show that personal bankruptcy increases. Further analyses find that counties with a higher share of credit-constrained households, such as counties with a low median family income and a high poverty rate, experience a significantly larger increase in personal bankruptcy.

Credit Access and Household Distress: Evidence from Payday Lending

Jaeyoon Lee*

Introduction

Payday loans are small, short-term unsecured personal loans. These loans have high annual percentage rates of over 400%. Theory suggests that credit allows households to smooth consumption over their life cycles and to invest in both physical and human capital. In a rational world, high cost credit should not cause social welfare losses if the market is highly competitive and both borrowers and lenders are well-informed on the risks and costs of securing the loans. Thus, a high premium is just a trade-off between present and future consumption. However, this may not be true in situations where there is a considerable degree of borrower irrationality and it takes time for borrowers to learn about the risks and the fee structures of loans.

Similar to theories that do not provide unambiguous predictions, the empirical evidence is mixed on the effects of payday loans on consumers' welfare. Several studies find evidence that supports the positive effects on household welfare: fewer foreclosures and less crime of some types after natural disasters (Morse, 2011), reduced fluctuations in consumption between paychecks (Zaki, 2016; Parsons and Van Wesep, 2013), lower incidence of bounced checks (Morgan et al., 2012; Morgan and Strain, 2008), fewer complaints about lenders and debt collectors, and lower rates of Chapter 7 bankruptcy (Morgan and Strain, 2008). Some studies, on the other hand, report negative effects on borrowers' welfare: more bank overdrafts and late bills (Zinman, 2010), increased crime rates (Cuffe, 2013), poorer job performance, poorer retention and readiness of military personnel (Carrell and Zinman, 2014), increased bankruptcies: (Skiba and Tobacman, 2009; Morgan et al., 2012), greater difficulties in paying bills and more postponed medical care (Melzer, 2011), and increased involuntary checking account closures (Campbell et al., 2012). Moreover, Bhutta (2014) and Bhutta et al. (2015) find null effects from payday lending on credit scores. My job market paper provides additional evidence on the effects of payday loans on the borrower's welfare by using a measure of life satisfaction that has not been used in the payday literature.

Method

The emergence of payday stores in the mid-1990s provides temporal and geographic variations in access to payday loans. I use the plausibly exogenous variation in geographic and temporal accessibility of payday loans at the zip code level to examine whether access to these loans mitigates or exacerbates household distress. To measure distress, I use the number of suicide attempts in a zip code from the universe of discharge-level inpatient data from New York and New Jersey. A suicide attempt is an extreme case of household distress. According to the theoretical model in Daly et al. (2013), individuals have different thresholds for suicide, and any negative shocks to happiness (e.g., unemployment and financial difficulties) can locate an individual below his or her life satisfaction threshold for suicide. Therefore, if credit-constrained borrowers become trapped in a cycle of debt by using payday loans, they could be substantially below their thresholds. In this case, the risk of committing suicide is high.

Many confounding factors make it difficult to estimate the causal effects of credit access on suicide attempts. One of them is the locational choices of payday lenders. Payday lenders choose

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to enter a geographical market where high demand for such short-term loans is present or expected. Such locations, for example, are military bases (Carrell and Zinman (2014); Flannery and Samolyk (2005)), low to moderate income neighborhoods Melzer (2011)), and areas with a high proportion of minority groups (King et al., 2005). Also, a state's regulatory decisions may endogenously react in multiple ways to the state's economic situations and to the relative lobbying powers between alternative financial services providers, such as payday lenders and mainstream insured depository institutions. If any of these factors are at play, then the estimates in the models will be biased.

To address the endogeneity concerns of credit access, I use an identification strategy that isolates variations in the access to credit from the underlying state and local economic conditions that may vary systemically with the degree of household distress. This strategy, similar to that in Melzer (2011), uses the proximity of zip codes in states that ban payday loans to the zip codes in states that do not. Therefore, focusing only on the variation in credit availability in the zip codes that never allowed payday lending (New York and New Jersey in my data) but had a contiguous state with payday stores (Pennsylvania or Delaware), this strategy mitigates endogeneity issues.

Due to the count nature of suicide attempts, I use a fixed-effects Poisson model for the outcome measures. Specifically, I estimate the conditional expectation of the outcome measures as:

$$\mu_{zct} = \exp\left(\alpha_z + \beta Payday_{zt} + X'_{zt}\delta + Border_z \cdot t + \gamma_t + \eta_c \cdot t + \epsilon_{zt}\right), \tag{1}$$

where μ_{zct} is the expected number of attempted suicides of residents in zip code z and county c in year t. The α_z represents a fixed effect for the zip code that controls for time-invariant differences in observable (e.g., the relative size and characteristics of the population of the zip code) and unobservable characteristics. The inclusion of zip code fixed effects leads to the identification of the effects of payday access, β, solely from within the zip code variation across time. The $Payday_{zt}$ is a dummy variable that equals one if the zip code is within 25 miles of any Pennsylvania or Delaware zip code after the rise of payday lending, and zero otherwise. The X_{zt} represents a set of time-varying controls that comprises the logarithms of the average annual payroll, total number of employees and establishments, and the total number of all inpatient discharges at the zip code level. The $Border_z \cdot t$ is the linear time trend for bordered areas, where $Border_z$ equals one if the zip code is located within 25 miles of any border and, zero otherwise. This linear time trend for the border captures any secular differences across areas depending on the proximity to a state border. The γ_t captures the synthetic year fixed effect, The $\eta_c \cdot t$ represents the county-specific linear time trend, and the ϵ_{zt} represents an error term.

Main Results

Using suicide attempts as a proxy for household distress, I find evidence of detrimental effects from payday loans; that is, having access to payday loans substantially increases the suicide attempts by roughly 10% (in Column 2 of Table 1). The effects are significant only among those under age 65, while the elderly who have no or limited eligibility for payday loans do not experience increased suicide attempts (see my job market paper for the details). Moreover, only suicide attempts by people with private insurance, i.e. the employed, increase (in Column 1 of Table 2), and I do not find any significant effects for the uninsured and people with Medicare and Medicaid (Columns 4 and 7 of Table 2). Further analyses show that zip codes with a higher demand for payday loans experience significantly larger increases in attempted suicides, whereas low demand zip codes do not (Columns 2 and Column 3 of Table 2).

The top panel of Figure 1 shows the dynamic impact of access to payday loans on suicide attempts among those under age 65. Although there is a slightly increasing trend in suicide attempts during the pre-payday periods, the point estimates are not statistically different from zero. A sharp

increase appears after gaining access to payday loans along with relatively persistent effects over three years. The bottom panel displays the dynamic effects among the placebo group—the elderly. As can be seen, there is no discernible pattern after access to payday loans for the elderly . As with previous results, the striking difference between the two age groups provides strong evidence for negative effects from having access to payday loans on suicide attempts. Moreover, the dynamics of suicide attempts by patients of different insurance types (in Figure 2) provide additional support for my causal interpretation: for all insurance types, there are no pre-existing trends but there is a significant increase for employed patients (with private insurance).

The results from a diverse set of robustness tests and a falsification test show that the relation between access to payday loans and increased suicide attempts is not coincidental (see my JMP for the details). The estimate of 10% means an additional 6 suicide attempts per 100,000 people and, if extrapolated to the national level, an additional 16,500 attempts in 1998. As such, the results indicate that the social cost to increased suicide attempts (and suicide deaths) caused by gaining access to payday loans is quite large. At a minimum, suicide attempts incurred annual medical costs of $155 million per year in the late 1990s and early 2000s.[1]

Conclusion

I exploit the exogenous variation in geographic and temporal accessibility of payday loans and find that payday loans cause increased household distress. This paper makes several contributions to the growing literature on the welfare consequences of payday loans. First is the use of detailed and disaggregated levels of data. The discharge-level inpatient data allows me to analyze suicide risks more accurately than county or state level aggregates do. Also, the use of geographic information at the zip code level in the construction of the distance-to-borders measure reduces measurement errors compared to the distance measure at the county level that prior studies have used. Second, this paper uses suicide attempts as the main outcome variable, instead of arguably unreliable self-reported measures. Finally, to the best of my knowledge, this paper is the first in the payday literature to relate credit expansion to suicide risks.

My current research focuses on the examination of how policy changes and the supply of credit influence household finance with a focus on welfare and personal bankruptcy. During my research, I find that both the credit supplied by mainstream and "fringe" (non-mainstream) banking industries have substantial influence on household finances and therefore on subjective well-being, especially for credit-constrained households.

My future research, as a Post-Doctoral fellow at NBER, will be to attempt to further understand how changes in the financial market affect household finances and well-being. For example, I am in the process of developing research on investigating how the stricter eligibility requirement for bankruptcy under the Bankruptcy Abuse Prevention and Consumer Protection Act of 2005 (BAPCPA) affects household finances. Under the this reform, filing a bankruptcy becomes more costly and difficult. Thus, I expect that a nontrivial share of households that are deprived of an opportunity for a fresh-start (bankruptcy) would experience greater financial difficulties, which then could lead to a deterioration in their subjective well-being. To empirically analyze this conjecture, I intent to use, in addition to suicide mortality data, Gallup-Healthways' Well-Being Index, a rich survey that asks questions about participants' well-being.

[1] In the sample used in this paper, average medical charges per attempted suicide is $9,410.

References

Bhutta, N. (2014). Payday loans and consumer financial health. *Journal of Banking & Finance 47*, 230–242.

Bhutta, N., P. Skiba, and J. Tobacman (2015). Payday loan choices and consequences. *Journal of Money, Credit and Banking 47*(2-3), 223–260.

Campbell, D., F. A. Martínez-Jerez, and P. Tufano (2012). Bouncing out of the banking system: An empirical analysis of involuntary bank account closures. *Journal of Banking & Finance 36*(4), 1224–1235.

Carrell, S. and J. Zinman (2014). In harm's way? payday loan access and military personnel performance. *Review of Financial Studies 27*(9), 2805–2840.

Cuffe, H. E. (2013). Financing crime? evidence on the unintended effects of payday lending. Technical report, Working Paper.

Daly, M. C., D. J. Wilson, and N. J. Johnson (2013). Relative status and well-being: evidence from us suicide deaths. *Review of Economics and Statistics 95*(5), 1480–1500.

Flannery, M. J. and K. Samolyk (2005). Payday lending: Do the costs justify the price? *FDIC Center for Financial Research Working Paper* (2005/09).

King, U., W. Li, D. Davis, and K. Ernst (2005). Race matters: The concentration of payday lenders in african-american neighborhoods in north carolina. *Center for Responsible Lending 22*.

Melzer, B. T. (2011). The real costs of credit access: Evidence from the payday lending market. *The Quarterly Journal of Economics 126*(1), 517–555.

Morgan, D. P. and M. R. Strain (2008). Payday holiday: How households fare after payday credit bans. *FRB of New York Staff Report* (309).

Morgan, D. P., M. R. Strain, and I. Seblani (2012). How payday credit access affects overdrafts and other outcomes. *Journal of Money, Credit and Banking 44*(2-3), 519–531.

Morse, A. (2011). Payday lenders: Heroes or villains? *Journal of Financial Economics 102*(1), 28–44.

Parsons, C. A. and E. D. Van Wesep (2013). The timing of pay. *Journal of Financial Economics 109*(2), 373–397.

Skiba, P. M. and J. Tobacman (2009). Do payday loans cause bankruptcy? *Vanderbilt Law and Economics Research Paper* (11-13).

Zaki, M. (2016). Access to short-term credit and consumption smoothing within the paycycle.

Zinman, J. (2010). Restricting consumer credit access: Household survey evidence on effects around the oregon rate cap. *Journal of banking & finance 34*(3), 546–556.

Table 1: Main Results

VARIABLES	(1) suicide	(2) suicide	(3) ln(rate of suicide)	(4) ln(rate of suicide)	(5) ln(rate of 1+suicide)	(6) ln(rate of 1+suicide)
	Poisson		OLS		OLS	
payday	0.104**	0.100**	0.122***	0.108***	0.101**	0.092**
	(0.045)	(0.044)	(0.045)	(0.041)	(0.041)	(0.038)
log(wage)		0.003		-0.078		-0.042
		(0.056)		(0.064)		(0.051)
log(employment)		0.037		0.025		0.009
		(0.055)		(0.050)		(0.036)
log(establishment)		0.110		0.015		0.043
		(0.150)		(0.146)		(0.112)
total any discharges (per 1000)		0.000		0.006***		0.005***
		(0.000)		(0.001)		(0.001)
Effects of payday access	11.0%	10.5%	12.2%	10.8%	10.1%	9.2%
Mean rate of dep. var.(per 100k)	52.3	52.3	52.3	52.3	52.3	52.3
Additional discharges (per 100k)	5.7	5.5	6.4	5.6	5.3	4.8
Observations	14,063	13,662	10,916	10,796	14,833	14,268
Number of zip	2,009	1,976	2,009	1,978	2,119	2,086
Controls	NO	YES	NO	YES	NO	YES
Border Trends	YES	YES	YES	YES	YES	YES
County Trends	YES	YES	YES	YES	YES	YES
ZIP FEs & Year FEs	YES	YES	YES	YES	YES	YES
Cluster	county	county	county	county	county	county

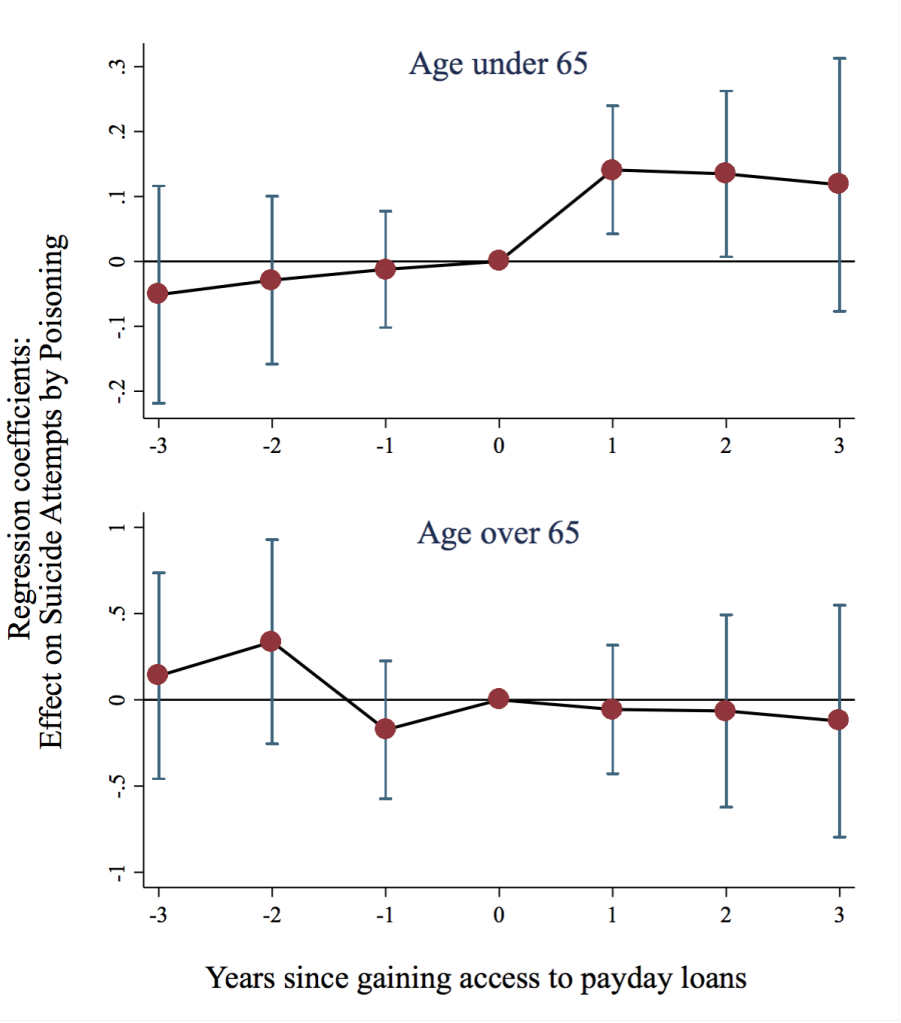
Notes: In columns 1 and 2, the Poisson models are estimated by Poisson Quasi-Maximum Likelihood (QMLE). In columns 3 through 6, the models are estimated by the Ordinary Least Squares (OLS). For columns 1 and 2, "Effects of payday access" is the exponentiated coefficient of "payday" variable, which is the percentage change in the expected number of suicide attempts, and for columns 3 through 6, it is just the estimated coefficient of "payday" variable. "Additional discharges (per 100k)" is the percentage change in the expected number of dependent variable multiplied by its mean rate, indicating the additional number of expected discharges per 100,000 population. To save space, this table omits coefficients of border trends, county-specific trends, ZIP fixed effects and year fixed effects. All models report standard errors clustered by county, which are reported in parentheses.
*** p<0.01, ** p<0.05, * p<0.1

Table 2: Suicide Attempt by Insurance Type and Demand

	(1)	(2)	(3)	(4)	(6)	(6)	(7)	(8)	(9)
	Private Insurance			Medicaid			Medicare		
VARIABLES	All	High Demand	Low Demand	All	High Demand	Low Demand	All	High Demand	Low Demand
payday	0.124**	0.233**	0.063	-0.046	-0.023	-0.122	0.072	0.186	-0.062
	(0.058)	(0.103)	(0.078)	(0.093)	(0.123)	(0.149)	(0.089)	(0.153)	(0.131)
log(wage)	-0.029	-0.088	0.001	0.031	0.058	0.015	0.066	0.009	0.070
	(0.082)	(0.129)	(0.103)	(0.108)	(0.171)	(0.123)	(0.147)	(0.360)	(0.163)
log(employment)	0.099	0.194	0.052	0.056	0.004	0.086	-0.056	-0.139	-0.142
	(0.068)	(0.121)	(0.083)	(0.096)	(0.129)	(0.124)	(0.120)	(0.204)	(0.147)
log(establishment)	0.131	0.055	0.170	-0.210	-0.122	-0.354	0.128	-0.125	0.190
	(0.139)	(0.233)	(0.165)	(0.216)	(0.297)	(0.304)	(0.216)	(0.415)	(0.240)
total # any discharges per 1000	0.000**	0.000**	0.002*	0.001	0.000	0.004**	0.002	0.001*	0.008***
	(0.000)	(0.000)	(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.000)	(0.001)
Effects of payday access	13.2%	26.2%	6.5%	-4.5%	-2.3%	-11.5%	7.5%	20.4%	-6.0%
Mean rate of dep. var.(per 100k)	20.9	21.5	20.6	16.4	17.8	15.7	7.4	8.0	7.1
Additional discharges (per 100k)	2.8	5.6	1.3	-0.7	-0.4	-1.8	0.6	1.6	-0.4
Observations	12,874	6,023	6,844	11,238	5,299	5,939	10,391	4,382	6,009
Number of zip	1,856	872	983	1,615	763	852	1,492	631	861
Controls	YES	YES	YES	YES	YES	YES	YES	YES	YES
County Trends	YES	YES	YES	YES	YES	YES	YES	YES	YES
ZIP FEs & Year FEs	YES	YES	YES	YES	YES	YES	YES	YES	YES
Cluster	county	county	county	county	county	county	county	county	county

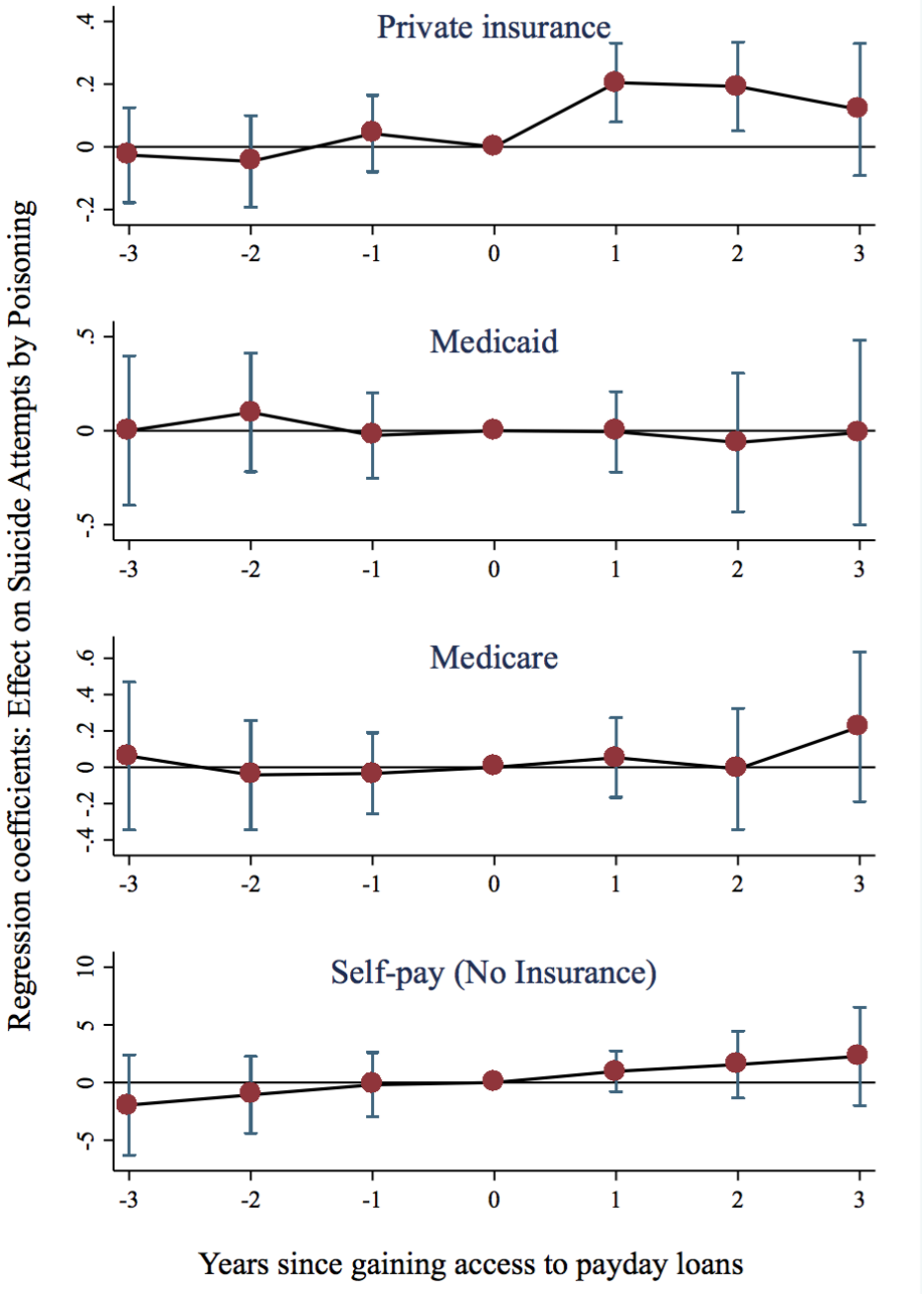
Notes: All regressions report coefficients from Poisson regressions estimated by Poisson Quasi-Maximum Likelihood (QMLE). The dependent variable of each column is number of suicide attempts by patients of the denoted insurance type in zip code with the denoted demand level. A "High Demand" ZIP code has above the median share of households with income in $20,000 - $40,000, and "Low Demand" ZIP codes are constructed similarly. The median share of households with income in $20,000 - $40,000 is 0.28 (the Decennial Census 1990). "Effects of payday access" is the exponentiated coefficient of payday variable, which is the percentage change in the expected number of suicide attempts. "Additional discharges (per 100k)" is the percentage change in the expected number of dependent variable multiplied by its mean rate, indicating the additional number of expected discharges per 100,000 population. To save space, this table omits coefficients of controls, border trends, county-specific trends, ZIP fixed effects and year fixed effects. Standard errors are clustered by county and reported in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Figure 1: Dynamic Effects of Access to Payday Loans on Suicide Attempts by poisoning



Note: Each figure plots coefficients from regressions of suicide attempt on a series of indicator variables including 3 years before and 3 years after gaining access to payday loans, as well as zip-code level controls, year fixed effects, zip-code fixed effects, border trends, and county-specific trends. The vertical I-beams represent 95% confidence interval. All estimates are estimated by the Poisson quasi-maximum likelihood estimator (QMLE) with robust standard errors clustered by county.

Figure 2: Dynamic Effects of Access to Payday Loans on Suicide Attempts by poisoning



Note: Each figure plots coefficients from regressions of suicide attempt on a series of indicator variables including 3 years before and 3 years after gaining access to payday loans, as well as zip-code level controls, year fixed effects, zip-code fixed effects, border trends, and county-specific trends. The vertical I-beams represent 95% confidence interval. All estimates are estimated by the Poisson quasi-maximum likelihood estimator (QMLE) with robust standard errors clustered by county.

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To Whom It May Concern:

It is with pleasure that I write this letter to recommend Jaeyoon Lee for a postdoctoral position at you institution.

Jaeyoon is a PhD student in our program, and I have known him for the past eight months. Because of very serious family circumstance, he took a leave from the program and was out of the country during most of my prior time at UChicago. Since returning to the program, he has worked primarily with Ben Keys (now at Wharton) and Luigi Zingales. In addition, Amir Sufi, and myself are part of his dissertation committee.

Jaeyoon' research is in applied microeconomics and household finance. His job market paper, entitled "Credit Supply and Household Distress: Evidence from Payday Lending" studies the effect of access to payday loans on individual wellbeing, exploiting variation across states in payday stores and unique data on suicides attempts. His findings indicate that when payday loans become more easily available, because of proximity to states that allow payday stores, suicide attempts increase, particularly in low-to-middle income communities that are more likely to approach these stores. This is a very creative paper that examines an unexplored topic: how access to particular kinds of high-interest loans can lead to severely adverse outcomes. This paper well showcases Jaeyoon's entrepreneurial and creative mind.

In a number of projects which are work-in-progress, like the one entitled "Banking Deregulation, Credit Constraints, and Household Subjective Wellbeing," Jaeyoon studies the interplay between consumer finance regulation and wellbeing, using unique health data.

Jaeyoon's research is very creative and ambitious. He is also a careful empiricist and has been proactive in ensuring the robustness of his findings. He focuses on important topics in consumer finance that are very relevant for policy today. In sum, I think that Jaeyoon is an excellent candidate for a postdoctoral program, in which he can focus on extending and deepening his important research agenda before applying for long-term academic positions.

Should you have any further queries regarding Jaeyoon, you may contact me anytime.

Sincerely,

Alessandra Voena



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November 27, 2016

Post-Doctoral Fellowship Selection Committee
National Bureau of Economic Research

Dear Post-Doc Selection Committee,

I am writing to enthusiastically recommend Jaeyoon Lee for the Post-Doctoral Fellowship on Household Finance at the NBER. I have known Jaeyoon for three years, served as his adviser when I was at the University of Chicago, and currently co-chair of his dissertation committee. Jaeyoon is exceptionally bright and talented, but due to family reasons would greatly benefit from a post-doc that gives him time to add depth to his job market paper and to delve more into his research agenda. I can think of no better place to do that than surrounded by exceptional scholars at the NBER.

Jaeyoon's research focuses on using new measures of well-being to estimate the impact of access to consumer credit products. In his job market paper, Jaeyoon uses variation in the regulation and expansion of payday lending to estimate the causal effect of credit supply on household distress. In this work, he expands upon papers such as Melzer's 2011 QJE paper on payday lending, deepening the relationship between credit supply and household well-being by using data on suicides and suicide attempts as outcome variables. Dating back to Hamermesh's 1974 JPE paper, economists have thought about suicide and the determinants of suicide as potential proxies for household well-being.

Jaeyoon leverages new hospital inpatient data from hospitals in New York and New Jersey and a state border difference-in-differences design to examine payday lending expansions in Pennsylvania and Delaware. To my knowledge, Jaeyoon is the first economist to use this hospital inpatient data on suicide attempts. The paper carefully discusses identification concerns and the value of using this type of data to assess household well-being.

The findings of Jaeyoon's study are striking. Using event-study figures, Jaeyoon shows a sharp increase in the suicide attempt rate of roughly 10% along the border relative to the interior of the state when a nearby state expands payday loan access. This increase is concentrated in those who

are most likely users of payday loans, lower- to middle-income prime-age households. In contrast, he finds no effect among the elderly, who are unlikely to be users of payday loans (which generally require a non-social security source of income). Jaeyoon also finds evidence of an increase in heart attacks and stress-related illnesses in affected areas.

In all, Jaeyoon's study is carefully done and reaches a provocative conclusion. As the first paper to combine issues in health and household finance in this way, there will surely be some pushback regarding the conclusions that can be drawn from the project, but I believe the empirical work on this project, both difference-in-differences and event study methods, is rigorous and robust to a range of specifications and decisions regarding the data. Jaeyoon communicates this rigor very clearly in the current draft of the paper. The results of the paper provide new and compelling evidence that access to payday loans can have a detrimental impact on consumer welfare.

In addition to the job market paper, Jaeyoon's other projects focus on topics at the nexus of banking regulation, credit supply, and household well-being. In related work, Jaeyoon's second paper examines the welfare consequences of banking deregulation and finds that state banking deregulation is associated with significant decreases in suicide mortality. In this work, it appears that credit supply expansions can benefit households. Of course, this points to a tension between the two projects, and has led Jaeyoon to seek a broader understanding of the type of credit that is expanded when state banking laws are relaxed and how that credit may be of different types (and to different segments of the population) relative to payday lending. I believe the projects as a whole will be groundbreaking across the areas of household finance, credit and banking, and health economics.

Jaeyoon's third paper revisits and extends the relationship between credit access and personal bankruptcy. Using data from recent banking deregulations, he combines the empirical approaches of recent papers in the JF (Dick and Lehnert 2010) and AER (Favara and Imbs 2015) to document a strong and sizable increase in bankruptcy filings after credit expansion. The next steps of this project will be for Jaeyoon to look for clearer evidence of heterogenous impacts across the population and connect the welfare consequences of personal bankruptcy to his other work on suicide attempts.

Wharton
University of Pennsylvania

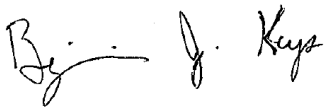
Jaeyoon's research is carefully executed and creative. He is ambitious and thoughtful, and his English skills are quite strong (especially in writing, but improving in conversational settings). I believe that he will be able to land an academic job in the U.S. with a bit more polish on his papers and more comfort in presenting and discussing his work.

Unfortunately, Jaeyoon has suffered a series of family-related crises over the last few years. His father was diagnosed with cancer, and Jaeyoon needed to return to South Korea to help his family. He took a leave of absence from the Ph.D. program at Chicago and spent two years back home. He then returned to Chicago, but his father's illness did not improve, and his father passed away in November. Throughout this time, Jaeyoon has continued with his studies and his research, but family considerations have kept him from being as engaged and productive as possible.

Unlike some applicants who would use the post-doc as a year to extend their tenure clock and polish their already stellar resumes, I believe a post-doc will be especially useful for Jaeyoon. The opportunity to have a post-doc at a top institution and the chance to improve his research may be the difference for Jaeyoon between an academic and a non-academic career.

In sum, I believe that a post-doc such as this one would be a perfect fit for a candidate like Jaeyoon, who is committed to studying household finance and has incredibly high potential but has faced challenges in his personal life during his doctoral studies. He would be a valuable contributor to seminars, give thoughtful feedback to colleagues, and greatly benefit from a post-doc opportunity. If you have any questions regarding my recommendation, please do not hesitate to contact me.

Sincerely,



Ben Keys
Assistant Professor, Real Estate Department
The Wharton School, University of Pennsylvania

The University of Chicago
Booth School of Business
5807 South Woodlawn Avenue
Chicago, Illinois 60637
Phone: +1 773 702 3196

Luigi Zingales
Robert C. McCormack Distinguished Service Professor of Entrepreneurship and Finance

November 30, 2016

Dear Sir or Madam:

I am writing to recommend **Jaeyoon Lee** for an assistant professor appointment at your university. He recently asked me to chair his dissertation, Jaeyoon has mostly worked under the supervision of Alessandra Voena. I was involved in the committee fairly late, but since I liked his dissertation, I decided to accept the role. The bad news is that my knowledge of the candidate is limited, so I will mostly focus on his papers. The good news is that Jaeyoon is completely self-made. He is also quite entrepreneurial since he went and bought the data for his paper. Our interaction was also limited by his father's disease (he passed away a couple of weeks ago), which caused him to spend quite a bit of time in Korea. I am actually impressed he could achieve so much given the circumstances.

His job market paper revisits an important topic: the effect of payday loans on consumers' welfare. His innovation is on the measure of consumer welfare: suicide attempts. Jaeyoon only has data on failed suicide attempts, not successful suicides, because only the former leads to a medical discharge for which he can get data on. To the extent one believes these attempts are not just a side show to distract the creditors, but a real sign of distress, his measure is valid.

Jaeyoon has data on suicide attempts only at the zip code level. To identify the relationship between suicide attempts and access to payday loans, Jaeyoon uses Melzer's (2011) strategy based on the proximity of zip codes in payday-banning states to payday-allowing states. He finds that having access to payday loans increases suicide attempts by more than 10%.

Jaeyoon is very clever in the way he uses the data. For example, he shows that proximity to payday loans impacts suicidal attempts only among people below 65. This is relevant because social security is not eligible as collateral for payday loans. Hence, this result gives credence to the view that the result is not just a spurious correlation, but a causal effect of the availability of payday loans. Similarly, proximity to payday loans impacts suicidal attempts only among people with private insurance (i.e. people who are employed). The logic here is the same. If it was just a spurious correlation between some regional characteristics and suicide attempts, it is hard to see why this would be limited to employed people and there is no effect for uninsured, Medicare, and Medicaid

people, who do not have access to payday loans. I think the paper is very well done. If there was not Meltzer's paper, I would consider it a big hit. Given the existence of the Meltzer's paper, I think it represents a solid addition to the literature. Meltzer's results are based on survey data: suicide attempts are much more compelling. I think this paper will enter in the reading list of any course dealing with the negative effects of access to credit.

Interestingly, Jaeyoon has another, less polished, paper that studies the relationship between banking deregulations and family distress. He finds that the U.S. banking deregulations in the 80s reduced family distress through increased lending to credit constrained households. This result seems in contradiction to his earlier paper, but it is not. It reflects the different type of lending done by the different institutions.

I was hoping Jaeyoon could bring the two papers together, elaborating a grand theory of when access to credit can be good and when it can be bad. Unfortunately, his father's disease prevented him from doing so. I am sure he is going to work on it in the near future.

Jaeyoon is a talented researcher who can provide a useful addition to any finance department or to the research group of top institutions, like the Federal Reserve. If you need further information I would be delighted to talk to you. You can reach me at 773-702-3196.

Yours truly,



Luigi Zingales

Amir Sufi
Bruce Lindsay Professor of Economics and Public Policy
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December 2016

RE: Jaeyoon Lee

Dear Recruiting Committee,

I am writing to recommend Jaeyoon Lee for a post-doc position in your department. Jaeyoon is a Ph.D. student in the economics department at the University of Chicago. I have known Jaeyoon since May 2016. At that time, he approached me with a thesis study which I found quite interesting. I normally do not advise students so late in their Ph.D. matriculation, especially from outside Booth. However, I was struck by the findings, and I could immediately see there was something there.

His main thesis paper studies how the expansion in payday lending affects suicide attempts. Jaeyoon showed some initiative and creativity by finding the latter variable as a measure of wellbeing. In particular, while there are well known measures of county-level suicides and other causes of mortality from the Center for Disease Control and Prevention, Jaeyoon found hospital administrative data which allows one to measure the zip code where one lives who attempts suicide and is admitted into a hospital. Others have studied the welfare effects of expanding payday loan access, but Jaeyoon has this new variable which adds to our understanding.

The empirical strategy used in the paper focuses on New York, New Jersey, Delaware, and Pennsylvania, and it uses a border strategy similar to the one employed by Brian Melzer in his *Quarterly Journal of Economics* study. Jaeyoon focuses on zip codes in New York and New Jersey (where payday lending is banned) that are close to the border of Pennsylvania and Delaware (where payday lending is allowed). The control group in this strategy are other zip codes in New York and New Jersey not close to these borders.

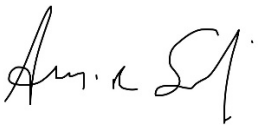
There is no sharp treatment in the time series across states when payday lending was allowed. Instead, the paper uses cross-sectional variation in access to payday loans across states, and the general time series pattern that payday lending was not available prior to 1998, and then became widely available in states where it was not banned. This I believe is a disadvantage of the empirical strategy: it relies only on the general expansion in availability of payday lending

nationwide instead of a sharp date where payday lending suddenly become available in some states as opposed to others.

Despite this drawback, the findings of the study are remarkably convincing. He finds that access to payday lending leads to higher suicide rates, especially among those most likely to rely on payday loans. One can only obtain a payday loan if one has a paycheck, which Jaeyoon uses nicely as a source of heterogeneity in the treatment effect. In particular, the higher suicide rates associated with payday lending are concentrated among individuals that have private insurance as opposed to Medicaid or Medicare. They are also concentrated among younger individuals, and they are stronger in zip codes with lower but not the lowest amount of income.

I have only known Jaeyoon for six months, but I find him to be a hard worker with initiative and creativity. I am confident he will continue to write good papers. I hope you consider his application seriously.

Sincerely,



Amir Sufi
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