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RESEARCH STATEMENT

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My work spans three areas of finance: household finance, corruption & governance, and asset management. A unifying theme across all of my research is that I seek to expand knowledge by focusing on areas of finance where research can inform policy or product innovations to improve economic playing fields, especially for those not empowered. My interest in household finance and asset management comes from these topics being both understudied and critically important for the financial welfare of people. An even more transparent current that runs through my agenda is a desire to speak on topics in which some party is worse off because of some form of corruption or governance/regulatory failure in the financial system.

In the below, I also report direct impact that my research has had on policy with bullets of policy impact. I kindly also refer readers to my media section in my c.v. to see additional evidence of real-world impact from my research.

Section 1: Topic Discussions and Perspective on My Research

Section 2: Bibliography and Paper Findings

1. Topic Discussions and Perspective on My Research

Household Finance

Within household finance I have focused on the liability side of household's balance sheets, with a specific interest in the impact of increased access to borrowing on household debt levels and welfare. In [1], my job market paper, I study the impact of payday lending on borrower welfare. Payday lending expanded rapidly starting in the mid-1990s and by 2005 constituted annual lending flows of \$50 billion. With loans fees amounting to 400 percent in APR, policy circles began to be filled with opinions, but without economic evidence as to the welfare consequences of payday loans. I contribute real outcome evidence to this debate using new (GIS-overlaid) data on lenders and welfare, using a matched, triple-difference methodology around the natural experiment of natural disasters.

While I argue in [1] that payday lending likely contributes to welfare increases for some households in the face of emergency consumption needs, it is clear from industry surveys that some borrowers borrow repeatedly at high implied interest rates without seemingly facing any concurrent income shocks or shocks to consumption needs. This suggests a need for the literature not just to document mistakes but to seek remedies. In [2], together with Marianne Bertrand, I design a randomized field experiment to study whether financial disclosure at the time of borrowing is an effective form of education for borrowers who may be cognitively limited or biased such that they do not comprehend the loan product or their own financial situation. Our idea was and our contribution is that educating-and-debiasing disclosure holds a real possibility to remedy bad financial decision-making because of its timeliness (education provided at the point of a decision) and its tailoring (designed specifically to overcome the cognitive hindrance causing the bad decision). The punchline of the article is that disclosure that helps individuals add up the impact of a loan over time changes behavior. The basic idea is akin to the MPG (mileage per gallon) disclosure requirements of the EPA for new cars wherein new cars not only display the MPG, but also the implication in dollars for a year's driving.

This work is a lead article in the *Journal of Finance*, and we won the Brattle Prize, the most important prize given every year for a paper in corporate finance. Both of my papers on payday loans have over 150 google scholar cites. More importantly, our disclosure design has been adopted by U.S. state and Canadian province banking regulators to appear in payday loan stores, and enters the recent federal discussions in Washington. The most direct regulator implementations have been in Texas and Ontario, covering over forty million people, of which 15% are thought to have taken out a payday loan in the past five years, or 4 million annually.

- **Policy Impact:** My research changed the payday loan disclosure regulations of banking regulators in Texas and Ontario. To see these implementations, included in this document is Appendix with the treatment exhibit from our paper (information conveyed on cash envelopes handed out to payday loan borrowers), followed by the disclosure sent to me by the Texas and Ontario banking regulators. The Texas regulator sent us this disclosure as they were implementing it, and the Ontario regulator contacted us for comment early on in their disclosure law change process.

In addition, in speaking with civil servants in the Consumer Finance Protection Bureau, we have been told that our paper was one of the handful of papers motivating the evidence-based policy approach listed explicitly in the Dodd-Frank Law Title X creating the Consumer Finance Protection Bureau.

- **Policy Impact:** Provided Congress with policy relevant research motivating the evidence-based mandate for the Consumer Finance Protection Bureau adopted in the Dodd-Frank Law Title X.

In the process of doing the field experiment just mentioned, Marianne Bertrand and I realized that we could track payday loan use at the very moment when the government was issuing stimulus (tax rebate) checks. Because payday loans are the most expensive, and thus the marginal, finance for most borrowers, we could speak to the marginal propensity to consume for the highly indebted. (It is worth noting that “consuming” for the highly indebted often mean paying rent or buying groceries.) This short paper is [3].

Recently, I wrote a review article, [4], entitled “Peer-to-Peer Crowdfunding: Information and the Potential for Disruption in Consumer Lending”, forthcoming in the Annual Review of Financial Economics. When I wrote my original payday loan dissertation, no payday loan research appeared in the top finance journals, thus my goal was not just to provide policy-relevant evidence, but also to open awareness among financial economists. When Antoinette Schoar asked me to write a review article on small dollar loans recently, I decided to use the opportunity to speak to the literature in the new unsecured loan markets of peer-to-peer lending and generally crowdfunding platforms (‘marketplace finance’). I have tried to make my contribution more than just a summary of work done, partially because prior research is very thin on marketplace finance and generally very narrowly focused on peer networks and asymmetric information. The issues of the transitions happening in finance and who will capture rents from the information economy are large. Projections suggest that platform lending will capture fifteen percent (\$127 billion) in credit card float of consumer debt in the medium term. In bringing together pieces of evidence from the nascent literature, I suggest in the article that credit scoring via agencies can be augmented with big data; e.g.,

Facebook network quality measures and Google search term histories. Innovations in underwriting may imply new economic rents from better profiling, however, it is very clear that we do not understand the future of who (platforms, investors, borrowers, or owners of big data) will capture the new rents and how the improved sorting will distribute in population access to and cost of finance. I have tried to use this review article to frame a host of issues and provide fodder for future research. In the big picture of what I try to do, I hope that this opportunity increases some awareness of new frontiers.

In [5], I continue collaborations with Marianne Bertrand, studying a potentially important channel for increased access to borrowing to affect consumption – the desire for those lower down in the income distribution to live like those further up. An important macroeconomics discussion surrounds the increasing inequality of recent decades. Our goal has been to make a link between inequality and the declining savings rate. If the upper classes spend more because of their increasing incomes, and the middle and lower classes have a status seeking or status maintaining motive, the increasing inequality can cause an externality in spending behavior, facilitated by the increase access to credit of the last few decades. The findings in this work have generated significant media attention, including coverage in *The Economist*. The paper is forthcoming in the *Review of Economics and Statistics*.

Before concluding this section, I want to emphasize a few points about my contribution to the above agenda. Prior to getting my PhD, I was a startup entrepreneur and a corporate accounting manager in the waste industry. What do these have in common? Not much, except household finance. As a 21-year old startup entrepreneur, my constant task was finding cash for growth, navigating all sources that I could find and constantly re-allocating and optimizing using consumer finance products. Later, working in the waste industry, I paid many employees who would in turn use check cashing services, payday loans, and the like, incurring fees which represented a huge fraction of their paychecks. I grew to appreciate the costs and complexities of financial services for all income groups, especially those in need the most. I hope to continue to make an impact in this area where indeed I feel that I have some hands-on expertise.

Corruption, Fraud and Governance

In 2012, my coauthors (Margarita Tsoutsoura and Nikos Artavanis) and I made a simple observation leading to manuscript [6]. In places with massive tax evasion but developed, formal institutions and registered businesses (i.e., what is called semiformal societies), banks adapt to semiformality by offering credit to self-employed households based on their inference as to people's true income rather than the reported income from their tax filings. The banks implement a procedure of taking reported income from the households' tax filings and multiply it up to an estimate of true income based on occupation industry. They use years of

underwriting data and experience to estimate what these industry multipliers should be. The observation that banks offer credit to individuals off their best estimate of true income implies that we can invert the level of credit offered to households to estimate tax evasion finely by industries and other slices of the population. Thus, we offer a greater precision of understanding tax evasion incidence across industries in cash economies.

We gained access to a large Greek bank's microdata and use household finances to study tax evasion in Greece. The contributions are threefold: an estimation of the industry distribution of tax evasion in a cash economy, a study of what features might allow such a distribution to persist, and a new method contribution of using private data to infer hidden income off the norms of semiformal economies; namely, the adaptations private parties make to a lack of paper trail. The method contribution builds off the mainstream methods (consumption surveys and audits), but offers an improvement in places where these methods struggle because of tax evasion hiding norms. The paper [6] is forthcoming at the *Quarterly Journal of Economics*.

- **Policy Impact:** The raising of public awareness regarding the incidence and distribution of tax evasion in Greece empowered the Greek Parliament's tax policy debate and eventual reform. Three waves of Parliamentary-level law changes have resulted from the change in public sentiment, culminating in a new tax law of January 2013, materially changing the tax code to rebalance toward higher educated professionals and the self-employed. We cannot prove our role in this reform, but I want to convey the anecdotal evidence to speak for itself.

Beginning in the summer of 2012, when we received press surrounding the NBER CF summer meeting concerning the incidence of tax evasion and the correlation of tax offenders with parliament's member trade unions. The evidence we provided to ordinary Greeks that top evading industries included highly-educated professionals from the upper income levels with prominent social status confirmed past suspicions and infuriated the population. We have dozens and dozens of media articles in the Greek and international press citing our work. Ever since then, our study has been part of the discussion for tax reforms inside Parliament, the tax authority, a host of ministries, and business associations country-wide. In 2013 the Greek Parliament voted for the abolition of the tax-free limit only for self-employed professionals, which indicates the beginning of differential treatment of self-employed and wage income for tax purposes. Also, strict criteria were implemented for the determination of presumed income that is used as base for the estimation of taxes. We cannot prove causal credit for these changes, but our paper is recognized widely across

Greek households. In May 2014, the Prime Minister invited my Greek coauthor to his offices, and noted the importance of our work to changing the awareness of the public to the incidence of tax evasion that has driven reform.

It is hard to step from impact of the Greek paper to another work. However, I think the next paper, not yet in the publication process, will have as large of an impact.

Together with Anna Cieslak and Annette Vissing-Jorgensen, we study information coming from the Federal Reserve in manuscript [7]. We find a stock pattern that exists in a biweekly pattern reset each time the FOMC meets. The FOMC is the main policy making body of the Federal Reserve and meets eight times a year. The FOMC meetings are not on calendar time or any other news release time. It is well known that on average stocks outperform safe government bonds. What is new here is the “when” of when you earn the excess return on stocks (this is called the equity risk premium in finance terminology). We show that the entire equity risk premium has been earned in even weeks in “FOMC cycle time”, i.e. in weeks 0, 2, 4 and 6 relative to the scheduled FOMC meetings.

Why is that important? First, there is an enormous literature trying to determine what kinds of risks drive the equity risk premium. Literally thousands of papers later this issue remains unresolved. Almost by definition the two types of risk must be risks related to corporate earnings and to investors required compensation for taking on this risk. However, there are no agreed upon models of what the most important drivers of earnings risk are and what drives fluctuations in investors’ required compensation for risk. Our work, we hope, will take the literature in a whole new direction: Monetary policy. In the paper we argue that the bi-weekly return pattern in the graph is due to there being a risk premium for monetary policy news that coming from the Fed and which affects stock prices via its impact on earnings or investors required compensation for risk.

After documenting the new empirical fact, we provide evidence that the Fed really is driving the bi-weekly stock return pattern. We rule out alternative information sources and provide evidence that information processing/decision making within the Fed tends to happen bi-weekly in FOMC cycle time. Specifically, a subset of the FOMC members, the Board of Governors of the Federal Reserve, meet more frequently in between the eight annual meetings. The Board members all work at the Fed in Washington, unlike the rest of the FOMC members who are presidents of the twelve regional Federal Reserve Banks. We show that the Board of Governors board meetings tend to take place going into the even weeks in FOMC cycle time and

that the bi-weekly return pattern is present only when focusing on days that do in fact follow Board meetings.

Interestingly, the Board meetings are closed to the public, minutes are only released with a delay, and there are no transcripts. So, how does the information from these meetings get into the public domain and thus into stock prices? The likely channel is subtle communication (what you may call intentional leaks) by Fed officials to journalists and bankers. We are in the process of understanding this communication process. Over the past few weeks, several Fed officials have been willing to discuss these issues with us and we are in the process of documenting this process via interviews, media searches etc. This part of our work is particularly timely given recent congressional dissatisfaction with Fed leaks (you may have seen the front page coverage of these issues). As you can see, this is very much ongoing work but it is exciting, both from a finance perspective of understanding what drives the stock market and from an institutional perspective of assessing Federal Reserve communications processes and whether current processes give unfair advantage to those most closely connected to the Fed.

In addition, we are planning a second paper specifically documenting Fed leaks and how they fit into existing legal and political science theories of leaks. We are also planning more work on whether monetary policy was equally important prior to the last 20 years. Since Fed operating processes are changing over time, this requires a substantial historical study of those process and we have just begun assessing what declassified information is available in the National Archives. In short, we hope that this working paper opens up a whole new research agenda for us and for other researchers. The work has already had impact among practitioners with several hedge funds now considering FOMC cycle-related strategies, but the full impact on Fed procedures has yet to emerge. The paper has been written up in the Wall Street Journal with the on-line coverage available here:

<http://www.wsj.com/articles/heard-on-the-street-making-money-with-the-fed-dont-get-mad-get-even-1404330574>. It has been presented at/scheduled for presentation at all the top finance conferences (including the NBER Asset Pricing Meeting, the NBER Monetary Economics Meeting, the Western Finance Association conference, the American Finance Association conference, and the European Finance Association conference).

Policy Impact: The full impact of our FOMC paper [7] has, in our opinion, yet to be seen. We are actively engaging with Fed officials at high levels who seem keen on engaging with our study to bring out the importance of their information transmission and curtail non-productive leaks in the system.

My other corruption research is a series of papers concerning corporate governance and fraud. The literature on corporate governance primarily focuses on which legal rules, corporate charters, executive remuneration, and board structures can help prevent corporate misbehavior and mismanagement from occurring. In [8], my coauthors (Alexander Dyck and Luigi Zingales) and I try to broaden the picture of corporate governance by asking who detects frauds when the standard governance mechanisms fail to prevent it.

In the first paper, after manually doing case studies on hundreds of frauds cases, we document the village of players serving a fraud-detection role. We then delve into understanding the [dis]incentives of various parties to bring fraud to light (e.g. company employees, journalists, analysts, short sellers, and government authorities). The paper has been widely cited (thus far, 540 google scholar cites), as being among path breaking studies relating gatekeeping actors (analysts, legal watchdogs, regulators, auditors, media, etc) to failures in governance. Beyond our academic contribution, our findings on bounty provisions for whistleblowing are implemented directly in the Dodd-Frank Act. We were told the implementation came from our paper directly.

- **Policy Impact:** Congress directly adopted our findings in what are called the “bounty provisions” (Section 922) of the Dodd Frank Law, providing for money payments of a portion of fraud fines to whistleblowers. During first two years of implementation of these provisions, 2,000-3,000 tips to the SEC of corporate fraud emerged per year.

To provide further perspective on the importance of corporate fraud, in [9] we use a novel methodology based on the forced turnover of auditors following Arthur Andersen’s demise to quantify the overall incidence of detected and undetected corporate fraud. The idea is new auditors have the incentive to clean out the dirty laundry, especially after the accusations of laxity or fraud by Arthur Andersen. Thus, the setting allows us to claim conservatively to see the detection likelihood approach one for clients who had to switch auditors after Arthur Andersen closed shop. Our big picture motivation follows the logic that if society does not know how big the problem is, how can we figure out what the appropriate level of cost and effort that we should incur to stop fraud? We already have witnessed a number of subsequent studies using our Arthur Andersen demise methodology to learn more about fraud.

Another vein of corporate governance research concerns compensation. In [10], together with coauthors Vikram Nanda and Amit Seru, I ask whether some portion of CEO performance compensation is ‘rigged’ in the sense that it is not based on performance. The idea is that executives might know that one performance

measure is performing better than another (say, accounting profits versus stock returns). Powerful CEOs might be able to influence the board to weight compensation to the better performing measure that year. The goal of the paper is to push for greater ex ante disclosure as the exact weights applied to performance pay. The U.S. began to adopt greater transparency in such disclosures in 2006, followed by other countries more recently. In 2015, the SEC set out for comment its rules mandated by Dodd-Frank Law Section 953(b) commonly called “Pay versus Performance”. The rules set forth procedures for companies to provide “a clear description of the relationship” between executive compensation actually paid and the company’s performance, including performance narratives. Although we have no direct evidence of our paper’s influence on this directive, the language in the proposed rules and the attention our paper has received in the literature suggests that we may have been influential in this latest reform.

Policy Impact: Contributed to a literature informing Congress and the SEC on Dodd-Frank Law Section 953(b) “Pay versus Performance” rules.

I have a new manuscript that hopefully brings attention to an area of internal governance and executive agency issue not yet considered in the finance literature. Our motivation was an awareness of the growing importance of lawyers in corporations who provide intellectual property expertise in strategic decision-making in the information economy. It turns out that this casual observation is empirically true, and overlaps with lawyer gatekeeping. In [11], my coauthors, Wei Wang and Serena Wu, and I study the gatekeeping and strategic input tension inherent in the office of executive lawyers. Lawyers are now in the inner executive office in almost half of publicly-traded companies, an increasing trend. We take an optimal contracting view of their job tensions; on one hand they are called to add strategy input; on the other, they are gatekeepers charged to monitor for breaches. We offer evidence using equity incentive pay to speak to this tension. The gatekeeping title partially becomes a totem of governance, when lawyers are valuable strategically.

Asset Management

In a new manuscript [12] with Joseph Gerakos, Juhani Linnainmaa, I study the asset management industry, hereto almost untouched in academic research. In 2012, assets under management held by institutional investors across asset classes were \$63 trillion, almost a third of total market value. We were able to obtain data allowing us to view the holdings and returns of delegated funds managed by the largest asset managers in the world. We add a number of contributions to literature on how much of this capital is delegated, why

it is delegated, and what is the role of asset managers in the overall value added of financial services. Our hope is that this work will spawn a literature on what it is that the Blackrock or Goldman Sachs Asset Management companies do and what are the implications for all investors.

Because this paper makes a number of new contributions, I list them here. First, we document the size of the market – \$46 trillion in 2012, 29% of the total market capitalization across asset classes. Second we document that this capital is actively managed. Third, we document that institutions are annually paying \$172 billion in aggregate fees for asset manager services. Fourth we document asset manager funds exhibit a 1.19% annual gross alpha over the market, implying an adding up constraint for non-delegated investors (retail and institutional) having a negative alpha. Fifth, from the perspective of institutions investing for strategy-level exposures, we document that asset managers outperform strategy benchmarks by 96 basis points. Sixth, we use a model to uncover what investors are paying asset manager funds to do (in recent language of the industry: “implement smart beta”). Finally, we do a replication analysis to understand whether the value proposition of the \$172 billion in fees is worth the cost. We find that it has been worthwhile, but the future is less clear for asset manager funds, because of the growth in the availability of ETF products at low cost.

My newest paper is preliminary draft called “Impact Investment” [15] (a draft is available and we have sent the preliminary document to conferences). Together with Brad Barber and Ayako Yasuda, I study impact funds in the venture capital and growth capital private equity arena. Impact investments are private equity vehicles (typically) designed to provide social or environmental benefits in what some call a “double bottom line” strategy (i.e., maximizing over profits and societal benefits). The idea behind the study is that there exist social and environmental issues which would be deemed important if there was a social planner deciding on world agenda. Government aid and philanthropy fail to meet all such pressing problems, but there is at least \$59 trillion in investment capital (the signors of the United Nations Principles of Responsible Investment) that nominally (very nominally) supports the demand for using investment in a way that supports pressing problems for the world. The study addresses a series of questions, which we think are central to our times. (1) How do investors value the provision of positive externalities as an attribute of an investment when making investment decisions? (2) Does the preference for the provision of a positive externality depend on the source of capital (e.g., a public pension fund vs. endowment)? (3) Is the supply of financial investment vehicles a hindrance to demand for externality-providing investment? To answer the questions, we collect all private equity investments by limited partners, isolate private equity funds that explicitly state a double bottom line approach, categorize the limited partners by the source of the capital, and the estimate demand for impact and non-impact investments in VC and growth capital by the type of

investor (banks, public pension, etc.). Our results speak to what demand exists for externalities and what frictions in the investment process and/or fiduciary rules hinder or support externality-driven investment. What is unique in our thinking, beyond simply the topic, is the idea that constituents of capital (organizations and people) indeed have utility to a varying degree over externalities. But research has yet to explore the magnitude and meaning of impact as an objective entering investment decisions and the financial architecture, because little data supports the idea that demand for impact investment exists.

My other research on asset management also covers a large portfolio manager about whom we know little. Over the last few decades, sovereign wealth funds (SWFs) have grown dramatically in size and currently hold portfolios worth over \$7 trillion. Despite their large size, we have not known very much about their holdings (across asset classes, geographies, and industries), much less their objectives. Do they invest like other long-term investors such as pension funds? Or do their holdings suggest other investment motives, such as developmental industrial planning and fostering entrepreneurial environments? In [13], my coauthor Alexander Dyck and I start answering these questions based on a unique data set on SWF investments, we have painstakingly compiled from a host of sources.

In [14], I think about the impact of such large holders of wealth. Sovereign Wealth Funds and large pension funds (often also sovereign) are the newly emerging class of active investors. I ask whether large investors can impact decisions made by intermediaries, in particular venture capitalists and private equity funds. I document the extent to which VC and PE funds that have SWFs among their fund investors invest in portfolio companies that are linked to those SWFs. Linkages might be an upstream/downstream connection to the direct holdings of SWFs, pre-determined personal linkages, or exit linkages in which portfolio companies might be sold directly to the SWF or one of its companies. I then quantify the impact such links have on fund returns. My analysis speaks more broadly to the question of whether large pools of capital suggest conflicts of interest in delegated asset management, or if the networks implied by such resources suggest information advantages in sourcing the best entrepreneurs and buyout firms and helping remove frictions to success.

2. Paper Findings & Bibliography

Household Finance

[1] “Payday Lenders: Heroes or Villains?” *Journal of Financial Economics*, 2011

I ask whether access to high-interest credit (payday loans) exacerbate or mitigate individual financial distress. Using natural disasters as an exogenous shock, I apply a propensity score-matched, triple-difference specification to identify a causal relation between welfare and access to credit. California foreclosures increase by 4.5 units per 1,000 homes after a natural disaster. The existence of payday lenders mitigates 1.0-1.3 of them, with the caveat that not all payday loans are for emergency distress. Payday lenders also mitigate larcenies (but not burglaries or vehicle thefts). In a placebo test of disasters covered by homeowner insurance, payday lending has no mitigation effect.

[2] “Information Disclosure, Cognitive Biases and Payday Borrowers” (with Marianne Bertrand) *Journal of Finance*, December, 2011.

We study whether psychology-guided information disclosure can induce borrowers to lower their use of high-cost debt? In a field experiment at payday stores, we find that information that makes people think less narrowly (over time) about finance costs results in less borrowing. In particular, reinforcing the adding-up dollar fees incurred when rolling-over loans reduces the take-up of future payday loans by 11% in the subsequent four months. Although we remain agnostic as to the overall sufficiency of better disclosure policy to “remedy” payday borrowing, we cast the 11% reduction in borrowing in light of the relative low cost of this policy.

[3] “Indebted Households and Tax Rebates” (with Marianne Bertrand) *American Economic Review, Papers and Proceedings*, 2009.

Building on prior literature that constrained individuals consume the most out of a tax rebate, we study the tradeoffs high interest borrowers face when they received their 2008 tax stimulus checks. We find a persistent decline in payday borrowing in the pay cycles that follow the receipt of the tax rebate. The reduction in borrowing is a significant fraction of the mean outstanding loan (12%) and appears fairly persistent over the time, but is moderate in dollar magnitude (about \$35) relative to the size of the rebate check (\$600 per person). In trying to reconcile this finding with the cost of not retiring expensive payday debt, we find substantial heterogeneity across borrowers. Among individuals that we classify as temptation spenders (e.g. those that use 400% APR loans to buy electronic goods or go on vacation), we find no reduction in payday borrowing after the tax rebate is issued, but this group represents only a small fraction of payday borrowers. A second group for which we find no debt retirement post-check is the set of borrowers that appear to use what should be short-term payday loans as a long-term financing solution. We infer that the marginal use of the tax rebate for this group was to deal with regular monthly obligations, such as paying down late utility bills or making rent payments.

[4] “Peer-to-Peer Crowdfunding: Information and the Potential for Disruption in Consumer Lending,” *Annual Review of Financial Economics*, 2015.

Can peer-to-peer lending (P2P) crowdfunding disintermediate and mitigate information frictions in lending such that choices and outcomes for at least some borrowers and investors are improved? I offer a framing of issues and survey the nascent literature on P2P. On the investor side, P2P disintermediates an asset class of consumer loans, and investors seem to capture some rents associated with the removal of the cost of that financial intermediation. Risk and portfolio choice questions linger prior to any inference. On the borrower

side, evidence suggests that proximate knowledge (direct or inferred) unearths soft information, and by implication, P2P should be able to offer pricing and/or access benefits to potential borrowers. However, social connections require costly certification (skin in the game) to inform credit risk. Early research suggests an ever-increasing scope for use of Big Data and incentivized reintermediation of underwriting. I ask many more questions than current research can answer, hoping to motivate future research.

[5] “Trickle-Down Consumption?” (with Marianne Bertrand), *Review of Economics and Statistics*, Forthcoming

Using state-level variation over time in the top deciles of the income distribution, we observe that non-rich households consume a larger share of their current income when exposed to higher top income and consumption levels. We argue that permanent income, wealth effects, and upward local price pressures cannot provide the sole explanation for this finding. Instead, we show that the budget shares which non-rich households allocate to more visible goods and services rise with top income levels, consistent with status-maintaining explanations for our primary finding. Non-rich households exposed to higher top income levels self-report more financial duress; moreover, higher top income levels in a state are correlated with more personal bankruptcy filings. Non-rich households might have saved up to 3 percent more annually by the mid-2000s had incomes at the top grown at the same rate as median income since the early 1980s

Corruption & Governance

[6] “Tax Evasion across Industries: Soft Credit Evidence from Greece” (with Nikolaos Artavanis and Margarita Tsoutsoura), *Quarterly Journal of Economics*, Forthcoming

We use bank microdata on household credit to document the magnitude and incidence of tax evasion for Greece. We start from the new observation that in many developed and emerging countries, banks lend to tax-evading individuals based on the bank's perception of true income. This insight leads to a novel approach to estimate tax evasion from private-sector adaptation to a norm of semiformality. The paper has two main contributions. Replicating the bank's credit scoring of hard and soft information, we estimate a lower bound of 27 billion euros of unreported income for Greece. Our best estimate is that tax evasion is 41 billion euros. The foregone government revenues amount to 68 percent of the deficit for 2010. The second contribution is analyzing the industry distribution of tax evasion. Primary tax-evading occupations are lawyers, dentists, doctors, financial services, accountants, and other professional services. The industry distribution of tax evasion is not consistent with the theory that governments would want to subsidize the apprentice training of low-skilled workers. Instead, the industry distribution is consistent with a role for paper trails in hindering tax evasion for some industries and with politicians protecting their own occupations.

[7] “Stock Returns over the FOMC Cycle” (with Anna Cieslak and Annette Vissing-Jorgensen)

We document that since 1994 the US equity premium follows an alternating weekly pattern measured in FOMC cycle time, i.e. in time since the last Federal Open Market Committee meeting. The equity premium is earned entirely in weeks 0, 2, 4 and 6 in FOMC cycle time (with week 0 starting the day before a scheduled FOMC announcement day). We show that this pattern is likely to reflect a risk premium for news (about monetary policy or the macro economy) coming from the Federal Reserve: (1) The FOMC calendar is quite irregular and changes across sub-periods over which our finding is robust. (2) Even weeks in FOMC cycle time do not line up with other macro releases. (3) Volatility in the fed funds futures market and the federal funds market (but not to the same extent in other markets) peaks during even weeks in FOMC cycle time. (4) Information processing/decision making within the Fed tends to happen bi-weekly in FOMC cycle time: Before 1994, when changes to the Fed funds target in between meetings were common, they disproportionately took place during even weeks in FOMC cycle time. In addition, after 2001 Board of

Governors discount rate meetings (at which the board aggregates policy requests from regional federal reserve banks and receives staff briefings) tend to take place bi-weekly in FOMC cycle time. As for how the information gets from the Federal Reserve to the market, we rule out the Federal Reserve signaling policy via open market operations post-1994. Furthermore, the high return weeks do not systematically line up with official information releases from the Federal Reserve or with the frequency of speeches by Fed officials. We end with a discussion of quiet policy communications and unintended information flows.

[8] “Who Blows the Whistle on Corporate Fraud?” (with Alexander Dyck and Luigi Zingales)

Journal of Finance, 2010

To identify the most effective mechanisms for detecting corporate fraud, we study all reported fraud cases in large U.S. companies between 1996 and 2004. We find that fraud detection does not rely on standard corporate governance actors (investors, SEC, and auditors), but takes a village, including several non-traditional players (employees, media, and industry regulators). Differences in access to information, as well as monetary and reputational incentives help to explain this pattern. In-depth analyses suggest reputational incentives in general are weak, except for journalists in large cases. By contrast, monetary incentives help explain employee whistleblowing.

[9] “How Pervasive is Corporate Fraud?” (with Alexander Dyck and Luigi Zingales), R&R Journal of Finance

We estimate the pervasiveness and the cost of corporate fraud. To identify the potential ‘iceberg’ of undetected fraud we take advantage of Arthur Andersen’s demise, which forces companies to change auditors and exposes preexisting frauds. This experiment suggests that only one quarter of frauds are detected in normal times, and leads us to infer that in the 1996-2004 period on average one out of seven large publicly-traded US firms was engaged in fraud. We obtain similar estimates by using an alternative approach. Firms that engage in fraud destroy on average one fifth of their value. These estimates set the average cost of fraud in large corporations to be \$380 billion a year.

[10] “Are Incentive Contracts Rigged by Powerful CEOs?” (with Vikram Nanda and Amit Seru). Journal of Finance, 2010

We argue that powerful CEOs induce their boards to shift the weight on performance measures towards the better performing measures, thereby rigging the incentive part of their pay. The intuition is developed in a simple model in which some powerful CEOs exploit superior information and lack of transparency in compensation contracts to extract rents. The model delivers several testable implications: (1) powerful CEOs are more likely to rig their incentive pay; (2) rigging is expected to increase with CEO human capital intensity and uncertainty about a firm’s future prospects; and (3) firm performance is expected to be negatively affected by rigging. Using measures of CEO power and board independence on a large panel of firms in the U.S., we find support for these predictions. Rigging accounts for 25%-45% of the sensitivity of compensation to performance measures and is increasing in CEO human capital and volatility of a firm’s future prospects. Moreover, the portion of incentive pay that is predicted by power is associated with negative subsequent future performance of the order of 1-5% per year. Overall, the results provide evidence against the agency substitution theory and support instead the entrenchment skimming theory.

[11] “Executive Lawyers: Gatekeepers or Totems of Governance” (with Wei Wang and Serena Wu), Submitted

We study the paradox of executive gatekeepers serving both an internal governance role and a strategic officer role inside the firm. We document that moving in-house legal counsel into the executive suite is associated with improvement in internal governance. Their fixed effect explains 4% of variation in governance and 2.8% in investment across firms. We then consider whether strategic initiatives divert executive gatekeepers away from governance, using equity incentives as a proxy for the importance of strategic tasks to firm value. Our identification strategy relies on the assertion that executive gatekeepers hired from law firms are less likely to react to equity incentives initially by shifting their effort from internal governance (i.e., the natural lawyering behavior) to strategic growth than those poached from other corporations. We find that a one standard deviation increase in their compensation delta unwinds at least 2/3rds of the prevention of securities fraud associated with hiring an executive lawyer. Our results suggest that executive gatekeepers may only serve as totem of governance.

Asset Management

[12] “Asset Manager Funds” (with Joseph Gerakos and Juhani Linnainmaa)

Institutional investors paid asset managers average annual fees of \$172 billion over 2000--2012. The magnitude of these fees raises the question of why institutions delegate rather than manage assets in-house. Over this period, the funds offered by asset managers to institutions earned annual market-adjusted returns of 119 basis points before fees and 72 basis points after fees. This outperformance does not materially erode when we adjust for risk using a single-factor model with strategy-level benchmarks. Hence, the average dollar of everyone else had a negative alpha and the average annual transfer from everyone else to institutional funds was \$432 billion. When we evaluate performance using a multi-factor model based on Sharpe (1992), the positive gross and net alphas disappear. This result suggests that asset managers generated their outperformance through factor exposures. Institutions could have replicated asset manager performance using ETFs and institutional mutual funds at today's prices, suggesting that liquid, low-cost ETFs are eroding asset managers' comparative advantage.

[13] “Sovereign Wealth Fund Portfolios?” (with Alexander Dyck)

Using a novel, hand-collected dataset of Sovereign Wealth Fund (SWF) investments in public equities, private firms, and real estate, we establish what SWF portfolios look like. SWF allocations are balanced across risky asset classes, very home-region biased, and very biased toward certain industries, in particular, toward finance (owning 4.8% of world equity) and transportation, energy and telecommunication. SWFs invest actively (with control rights) in both public and private sectors, but mainly in these industries in their home regions. We use these allocations to understand better the objectives that drive SWF investment decisions. We find evidence for financial portfolio investor benchmarking and for hedging of income covariance risk. We introduce and test an industrial planning hypothesis as an alternative objective and find this has considerable explanatory power. We find that both measures to capture financial portfolio and industrial planning objectives together explain 14.4% of SWF portfolio variation. Of this, industrial planning accounts for 45%. There is significant variation in the power of industrial planning objectives across SWFs revealing important heterogeneity in this investor class. Industrial planning helps to explain active ownership, predicting higher ownership stakes.

[14] “Influence in Delegated Management: Active Investors in Private Equity Funds”

I investigate whether large, active investors exert influence over the portfolio decisions made by private equity (PE) fund managers to the detriment, or benefit, of smaller investors in the pool. Using a sample of 234 PE funds in which sovereign funds have invested, I document that 3.7 percent of portfolio companies have prior linkages to these active sovereign investors. This represents a linkage in 54 percent of PE funds in the sample. PE funds with these deal linkages perform 2.3 percentage points worse in IRR, robust to benchmark and placebo tests. Using portfolio company exit distributions to speak to the mechanism, I can

attribute 1% of the lower PE fund performance causally to lower exit returns in these linked companies. On the flip side, I document that 2.2 percent of portfolio companies are bought by acquirers linked to the active investor. These exit linkages bring a positive excess PE fund return. The results are consistent with a bailing out of failed investments or a propping up of fund performance. Influence has implications both to the benefit and detriment of passive investors. On net, geography can help investors sort out positive and negative settings of influence.

(15) Impact Investing (with Brad Barber and Ayako Yasuda)

We study investments in impact funds, which we define as private equity funds with a stated mandate to fund companies that generate both financial returns and positive externalities. Using data on the capital commitments of 6,000 limited partners (LPs) into 10,000 funds, we examine the effect of impact on LP's fund choice within a general fund choice model. We focus on how fund choice varies by LP type (e.g., public pensions, foundations, endowments). Generally, prior LP-general partner (GP) relationships and LP-GP proximity are, by far, the most important determinants of LP fund choice. LP demand for impact may show up in tilts toward certain industries or locations. However, like most GP and LP attributes, fund industry and location per se do not materially affect LP fund choice. Controlling for these general determinants of fund choice, being an impact fund has a positive effect on the probability that an LP invests in the fund. The effect is only reliably large for development organizations, public pension funds, and banks. Furthermore, for most LP types, the designation of the LP being a United Nations Principles for Responsible Investment (UN PRI) signatory – a measure of demand by its constituents for impact – fails to predict investment in impact. Our findings shed light on the rich heterogeneity across LP types in the general determinants of PE investment, and the importance of impact as a fund characteristic.

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- [7] “Stock Returns over the FOMC Cycle” (with Anna Cieslak and Annette Vissing-Jorgensen)
- [8] “Who Blows the Whistle on Corporate Fraud?” (with Alexander Dyck and Luigi Zingales), *Journal of Finance*, 2010
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- [10] “Are Incentive Contracts Rigged by Powerful CEOs?” (with Vikram Nanda and Amit Seru), *Journal of Finance*, 2010
- [11] “Executive Lawyers: Gatekeepers or Totems of Governance” (with Wei Wang and Serena Wu), submitted.
- [12] “Asset Manager Funds” (with Joseph Gerakos and Juhani Linnainmaa)
- [13] “Sovereign Wealth Fund Portfolios?” (with Alexander Dyck)
- [14] “Influence in Delegated Management: Active Investors in Private Equity Funds”
- [15] “Impact Investing” (with Brad Barber and Ayako Yasuda)

Appendix: Implementation of Bertrand Morse (2011) Information Treatment Envelopes

Page 1: Our Figures

Page 2-3: Texas Disclosure

Page 4: Ontario Disclosure

Our Figures:

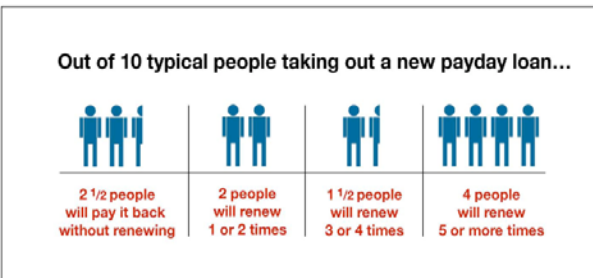


Annual interest rates on different types of loans

	Median Annual Interest % (from government surveys)
Payday Loan	443%
Installment Car Loans	18%
Credit Card	16%
Subprime Mortgages	10%

How much it will cost in fees or interest if you borrow \$300

PAYDAY LENDER (assuming fee is \$15 per \$100 loan)		CREDIT CARD (assuming a 20% APR)	
If you repay in:		If you repay in:	
2 weeks	\$45	2 weeks	\$2.50
1 month	\$90	1 month	\$5
2 months	\$180	2 months	\$10
3 months	\$270	3 months	\$15



AUTO TITLE LOAN—MULTI-PAYMENT



You Can Lose Your Car

If you miss a payment or make a late payment, your car can be repossessed.

After reviewing the terms of the loan, you are not required to choose this loan, and may consider other borrowing options, including those shown on the back of this document.

Borrowed Amount	\$500.00
------------------------	-----------------

Interest \$30.29
Contract Rate: 10%

Fees \$868.00
Includes a one-time \$33 certificate of title fee.

Payback Amount	\$1,324.50
-----------------------	-------------------

The loan information shown here is an example and may not reflect the actual fees and interests charged to a loan provided by the lender or credit access business.

How much will an 11-payment, bi-weekly \$500 auto title loan cost?

Due After	Total Fees and Interest Paid With This Payment	Total Amount Paid With This Payment	Payoff Amount as of This Payment
2 Weeks	\$5.25	\$132.45	\$1,240.80
1 Month	\$4.76	\$132.45	\$1,113.11
2 Months	\$3.78	\$132.45	\$856.25
3 Months	\$2.79	\$132.45	\$597.43
4 Months	\$1.79	\$132.45	\$336.61
5 Months	\$0.79	\$132.45	\$73.79
Final Payment (22 Weeks)	\$0.28	\$74.07	\$0.00

*Payment amounts are approximated and based on a 30-day month.

CSO fees distributed across payments.

How Long Could It Take to Repay a Loan?

Of 10 people who take out a new auto title loan...



2.7 people will not renew their title loans



2.4 people will renew the loan 1 or 2 times



1.3 people will renew the loan 3 or 4 times

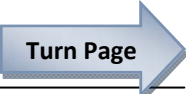


3.6 people will renew the loan 5 or more times

Adapted from: Tennessee Department of Financial Institutions, "The 2010 Report on the Title Pledge Industry", (Mar. 2010). Data based upon title pledge agreements with a single-payment term; repayment patterns may vary.

Ask Yourself...

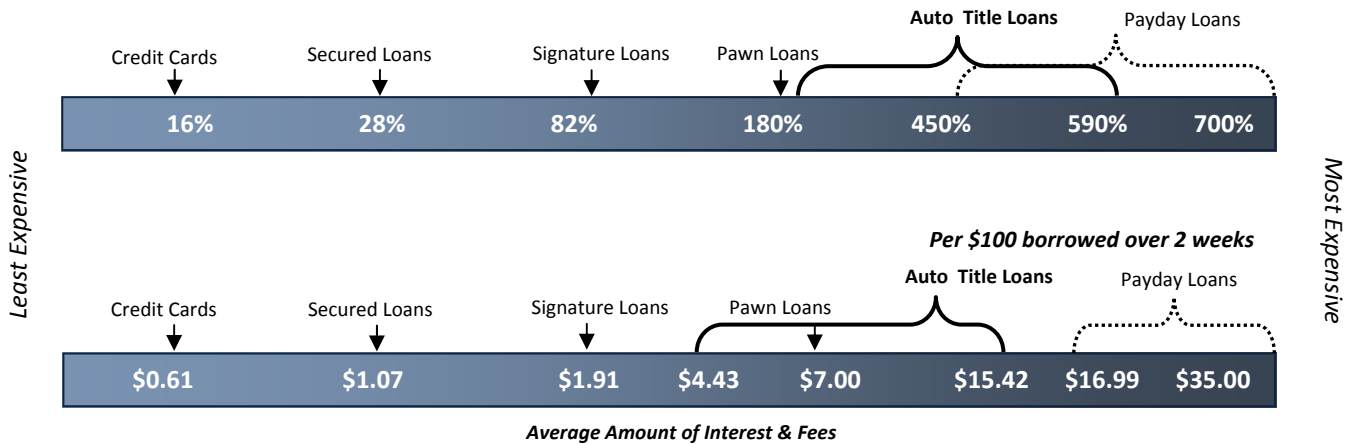
- ◆ Is it necessary for me to borrow the money?
- ◆ Can I afford to pay this loan back **in full** by the due date?
- ◆ Will I be able to pay my regular bills and repay this loan?
- ◆ Can I afford the extra charges, interest, and fees that may be applied if I miss or fail to make payment?
- ◆ Are other credit options available to me at this



How Does an Auto Title Loan Compare to Other Options?

TOTAL OF PAYMENTS (11-PAYMENT, BI-WEEKLY LOAN) The amount you will pay if you repay the loan on time.	\$1,324.50
INTEREST PAYMENTS The amount you will pay in interest for the loan.	\$30.29
TOTAL OF FEES The amount you will pay in fees for this loan.	\$868.00
ANNUAL PERCENTAGE RATE (APR) The yearly rate of the interest and fees for this loan.	567.27%
CASH ADVANCE / BORROWED AMOUNT	\$500.00

Loan Calculation & Cost Comparison



Auto title loans are cash advances provided to a borrower to meet financial needs. As a borrower, you will be required to use your car as collateral for the loan. You will be required to sign a loan agreement that tells you the amount you have requested to borrow, the annual percentage rate (APR) for that loan, the amount of interest and fees that may be charged for that loan, and the payment terms of the loan. Auto title loans may be one of more expensive borrowing options available to you. Auto title loans may also be referred to as car title loans, title loans, or title pledges.

Complaint or Concern?

If you would like to file a concern or complaint regarding an auto title loan, contact the **Office of Consumer Credit Commissioner** **800-538-1579**

Looking for Information on **Budgeting, Personal Savings, Credit Card Management, or other personal money management skills?**

Visit the OCCC's Financial Literacy Resource Page

http://www.occc.state.tx.us/pages/consumer/education/Financial_Literacy_Resources.html

Additional Information

- ◆ You may be required to write checks or authorize withdrawals from personal checking accounts to cover payments for the loans.
- ◆ You can compare all loan options available and select the option that is best for you.
- ◆ You can avoid extra fees and loan renewal costs by not missing payments and by repaying loans on time.



How much will **\$300** cost you for **two weeks?**



IF YOU BORROW:	PAYDAY LOAN (assuming cost of borrowing is \$21 per \$100)*	CREDIT CARD (assuming a daily interest rate at 23% APR for a cash advance)
One loan	\$63	\$2.65
Two loans	\$126	\$5.29
Four loans	\$252	\$10.59
Six loans	\$378	\$15.88

Complaint? Concern? Please call:

Ministry of Consumer Services at
(416) 326-8800 or 1-800-889-9768 | TTY 416-229-6086 or 1-877-666-6545

LEARN MORE ABOUT YOUR CONSUMER RIGHTS

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*In Ontario, the maximum allowable cost of borrowing is \$21 per \$100 borrowed (including all fees and charges).