

Easy Come, Easy Go:
Cheap Cash and Bad Corporate Decisions

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Abstract

This paper investigates the relation between the sources of cash reserve and firm's investment decisions. I explore the information on the cash flow statement to organize cash holding by its source: Financing, Operating or Investment activity. I find that the overspending evidence previously associated to firms with large cash holdings are driven by firms with high cash reserves coming from operations. My evidence is consistent with theories of the disciplinary effects of external financing. Furthermore, I show that manager's perception of the opportunity costs of their cash reserves affects their investment decisions, and can represent an additional source of agency problems.

KEYWORDS: CASH HOLDINGS, MERGER AND ACQUISITIONS, SHARE REPURCHASE, MARKET TIMING, COST OF CAPITAL, AGENCY

JEL CLASSIFICATIONS: G30, G31, G32, G34, G35

Corporate cash holding has become a favorite topic of the popular media, politicians and academics after its recent spike. The finance literature has sought an understanding of whether this excessive liquidity is optimal and has tried to predict how firms with large amounts of cash will spend it. Although the analysis of firm cash reserves has been explored extensively in the corporate finance literature, a few basic and crucial questions remain unanswered: Where does the cash that firms are currently holding come from? Did it come from operations, financing activities, or the sale of assets? Does the manner in which firms save their cash predict how they are going to spend it?

This paper seeks to determine which sources firms use to build their cash reserves. I develop a method that treats the three cash flow statement categories (operating, financing and investing) as separate accounts through which cash enters and leaves the firm to identify the origin of the cash. Thereafter, I organize the firms cash reserves in a way that each dollar in the firms' cash holdings is labeled to determine where it came from. The cash labeling puts me in a unique position to compare the investment decision of firms with different savings profiles. It allows me to test the predictions of different hypothesis about cash management in a completely new framework. For instance, excessive cash holdings is considered a source of agency conflict. According to these theories, high cash reserves will give the CEO flexibility to overinvest. However, different sources of cash should give the manager different levels of flexibility. Firms with more cash from financing activities should be subject to more monitoring than firms with more cash from operations. With this approach I will be able to test these differences and, for example, find that indeed firms with high cash reserves coming from financing activities are less likely to overspend than firms with high reserves coming from operations.

I first compare how firms with more cash from financing activities perform in their Merger and Acquisitions (M&A) when compared to firms with more cash from operations. Using the framework developed by Harford (1999), I find that firms with a greater percentage of cash from financing activities behave differently than similarly positioned firms with a percentage of cash from operations. Harford (1999) finds that firms with more cash holdings are more

likely to engage in M&A activities and that such activities generally destroy value. I find evidence that firms that derive their cash reserves from operations are largely responsible for the reputation for poor M&A judgment generally associated with all cash rich firms. Firms with greater amounts of cash obtained from operating activities are more than 2 times more likely to engage in M&A activities than similar firms with large reserves coming from financing activities. In addition, firms with more cash from financing activities do not destroy value if they do engage in such activities. In other words, these latter firms are not overspending the cash they have on their books.

Moreover, I analyze how firms with different compositions in their cash reserves perform in their share repurchases. The results reinforce the contrasts found on the M&A analysis. I find that firms with greater proportions of cash from financing activities perform better than firms with greater proportions of operational cash. In fact, the positive announcement return for repurchases previously associated to firms with high cash (Grullon and Michaely 2004) is driven by firms with high volumes of cash from financing activities. Firms with a larger fraction of their cash coming from operations actually present negative announcement returns to their repurchases. This findings shed a new light on this relation because the evidence is inconsistent with the standard explanations of agency problems of excess cash holdings. The explanation given by the existing literature for the reason firms with large cash reserves present a positive announcement return for their share repurchases is that, by doing a repurchase these firms are alleviating the agency conflict generated by excess cash. My results are inconsistent with this interpretation, because firms with more cash from operations have more flexibility and therefore are subject to more agency problems. If we were dealing with an standard agency conflict we should observe higher announcement returns for firms with high cash from operations. Investors should respond positively to the fact that firms that could potentially overspend their cash, are instead returning it to them.

Separating cash by its source reveals interesting features of the behavior of firms with high cash holdings. The first one is the disciplinary effect of external financing. Until now, the literature has treated cash holdings simply as free cash. However, this assumption seems to

be too broad in light of the framework developed in this paper. Cash from financing activities does not give the manager as much financial slack as cash from operations. The disciplinary effects of debt are well documented in the literature (Jensen and Meckling 1976, Jensen 1986, Hart and Moore 1995). In addition, every time a firm issues equity it will have its books scrutinized by the market (Easterbrook 1984). After the issue, we should also expect that new investors will be paying more attention to what the manager is doing, until they gain confidence in her. Furthermore, the primary investors in an IPO or a SEO are generally insiders, institutional investors, underwriters, and preferred clients who are sophisticated and after increasing their stake on the firm will likely keep the manager on a tighter leash.

The disciplinary effects of external financing explain why firms with more cash from financing activities are likely to behave better; however, it does not explain why firms with more cash from operations use their financial freedom to systematically invest in “bad deals”. Better deals would imply better returns for the firm, a higher salary and a longer tenure; thus, these managers should be searching for good investments and this should be captured in the data. These firms should have returns at least as good as the average firm. The share repurchases results are particularly puzzling, because my findings are inconsistent with the standard empire building/free cash flow agency explanations of high cash holdings. Therefore, I seek for an alternative explanation for the repurchases results exploring the reasons why these contrasts in returns are observed. I propose an alternative agency problem that can affect investment decisions. I argue that the inexpensive nature of cash from operations, combined with the low returns associated with this cash, misleads the management team in its calculation of the opportunity costs of cash. For this reason, they use an incorrect cost of capital when evaluating the investments they are going to pursue.

In order to find evidence of this alternative explanation, I explore firm’s misvaluations around the repurchase announcement. If firms with more cash from operations have a superior understanding of their cost of capital, they will be able to calculate their intrinsic value more precisely and therefore time the market more efficiently. My results are consistent with this idea, I find that firms with a higher percentage of their cash coming from financing activities

are less likely to do a share repurchase when their stock is overvalued. Firms with more cash from operations, on the other hand, time the market poorly and are more likely to do a repurchase when they are overvalued. This evidence is an alternative explanation to the share repurchase results. Firms with more cash from operations seem to be having worst outcomes to their share repurchase because they time the market poorly and not because the market is responding to a decrease on the firm's agency problems.

I find supportive evidence for this hypothesis revisiting the M&A results. First, I observe the behavior of firms holding greater percentages of cash from operations with respect to the returns on their cash investments. I argue that these firms are underestimating their costs of capital, because cash from operations has no direct costs and has a low return. If the returns on their cash investments are higher, the direct opportunity costs are higher. Therefore, firms with higher returns on their cash investments should better understand opportunity costs of cash and consequently make better deals. I investigate how firms with different returns on their cash holding make different decisions when making an acquisition. I find that firms with a large proportion of cash reserves coming from operations who have higher returns on their cash investments are less likely to bid on an acquisition than the same type of firm with lower returns. Moreover, these same firms with higher returns on their cash investments present higher announcement returns than similar firms with low returns on their cash holdings. Second, I analyze the method of payment used by firms with more cash from operations. If CEOs are not being perfectly careful about their financing decisions, they will be more likely to simply use the cash they have in hands, will not consider an alternative method of payment. I find that firms with more cash from operations are more likely to use only cash to pay for their acquisitions. They are almost 4 times more likely to pay exclusively with cash than similar firms with more cash from financing activities. These results offer supporting evidence that the perception of the opportunity costs of cash plays an important role on the financing decisions of the firm and on firm's investment decisions.

An advantage of my empirical strategy is that it allows me to perform sharper tests of the theoretical predictions of the impact of cash holdings on firms investment decisions. I show

that the disciplinary effects of external financing can also be observed on firms with large cash holdings. In addition, my findings also suggest that going to the market frequently has another positive side effect: firms will become more aware of their costs of capital and consequently will make better investment decisions. Therefore, cash composition reveals relevant cross-sectional differences between firms, not captured by other variables available in the data. This distinction will be useful for the future empirical analysis, as we should consistently see differences between these two groups, regardless of the problem we are considering. In addition to that, the results change the perception of efficient cash holdings allocation. Up to this point, efficient cash holdings were determined simply by a level characterized by the firm's and its industry's characteristics. This paper shows that we need to add another dimension into considerations, because two firms with the same cash levels could behave very differently depending on their cash composition.

I. Connection to Existing Literature

This study contributes to the existing literature in several ways. First, to the best of my knowledge, this is the first paper that explores the different ways that companies accumulate cash and examines whether cross-sectional differences in cash composition provide meaningful information about the way the firm will end up spending the money. Most of the existing literature about cash has built upon the framework developed by Jensen (1986), Jensen and Meckling (1976) and Myers and Majluf (1984) which treats cash reserves as a source of agency conflict. The conflict between managers and owners is built into the structure of a public firm (Jensen and Meckling 1976, Hart and Moore 1995, Holmstrom 1979), and free cash flows aggravate this situation. Free cash flows give the manager discretion to decide how to spend firm money (Jensen 1986). Harford (1999) finds evidence of the free cash flow hypothesis on a firm's M&A activity, while Grullon and Michaely (2004) observe that information asymmetry drives the positive stock reaction of share repurchase for cash-rich firms.

The previous literature assumes that cash holdings are simply a pile of free cash flow

(Harford 1999) and ignore the fact that cash holdings may also be a result of financing activities. Kim and Weisbach (2008) and Hertz and Li (2010) find evidence that companies are also using SEOs and IPOs in their cash management and McLean (2011) shows an increase in the use of these instruments for cash management over the years. If, for instance, firms are holding cash from debt, we should expect the disciplinary effects of debt (Jensen and Meckling 1976, Hart and Moore 1995) to attenuate or even offset the agency conflict effects that come with the increase in cash holdings. To the best of my knowledge this is the first paper that attempts to label each dollar of the firm to try to separate what is actual free cash from what it is not.

There are also positive aspects of cash holdings, according to the literature. Using internal financing, firms can avoid debt overhang problems (Hart and Moore 1995) and adverse selection as a result of issuing equity (Myers and Majluf 1984). These types of financing friction make external financing costly and internal financing beneficial. Therefore, one should expect firms with more investment opportunities and more information asymmetry to have higher cash reserves. This result is well documented in the existing empirical literature¹. In addition, this paper also connects to the literature that uses the precautionary motive to explain the recent increase in cash holdings in US public firms (Bates, Kahle, and Stulz 2009, Pinkowitz, Stulz, and Williamson 2012).

Another goal of this paper is to show that cash from financing activities actually presents the management team with a clearer idea of their costs of capital. To properly time the market, firms will require good knowledge of their cost of capital to price their assets correctly. In the M&A literature, it is well documented that misvaluation drives acquisition activity (e.g. Dong, Hirshleifer, Richardson, and Teoh 2006, Rhodes-Kropf, Robinson, and Viswanathan 2005, Loughran and Vijh 1997, Rau and Vermaelen 1998, Agrawal, Jaffe, and Mandelker 1992). In addition, firms are more likely to make repurchases when they are undervalued (Baker and Wurgler 2002, Ikenberry, Lakonishok, and Vermaelen 1995). In summary, timing the

¹See for example: Almeida, Campello, and Weisbach (2004), Harford (1999), Opler, Pinkowitz, Stulz, and Williamson (1999), Bates, Kahle, and Stulz (2009), Gao, Harford, and Li (2012), Farre-Mensa (2011)

market is one of the primary concerns of a firm in making its financial decisions (Graham and Harvey 2001). However, evidence shows that managers do not have a good understanding of even the concept of the cost of capital (Kruger, Landier, and Thesmar 2011). Miscalculating the cost of capital may lead to misvaluations in both M&A and repurchase activity, which may, in turn, explain the negative returns in connection with their announcements. The incorrect use of cost of capital in different divisions is an example of this anomaly previously found in the literature. In a recent paper Kruger, Landier, and Thesmar (2011) find evidence that managers erroneously use the cost of capital calculated on a firm-wide basis to make investment decisions for separate divisions of the firm; certain managers actually admit they are doing this (Graham and Harvey 2001). In this paper, I argue that this problem may be even worse than previously thought.

Finally, this paper complements our understanding of the recent increase in the cash holdings of US firms (Bates, Kahle, and Stulz 2009). By separating the different sources of cash, this paper reveals that the recent spike may be mostly explained by an increase in accumulation of cash from operations. However, consistent with Dittmar and Duchin (2012) I find that the cash from operations is concentrated in the hands of a few firms that benefited from a steady stream of profits and that cash from financing activities plays an important role in the firm's cash management.

II. Hypotheses

The goal of this paper is to analyze the cross-sectional differences between firms with different cash compositions. In this section, I develop hypotheses to try to explain why there should be differences between firms with more cash from financing activities compared to firms with more cash from operations.

It is well documented in the theoretical literature about cash holdings that free cash flow will generate agency problems (Jensen 1986). Until now, the empirical literature has treated cash reserves as a pile of free cash (Harford 1999).); however, this literature ignored the fact

that cash reserves can come from different sources, including debt. Debt has a disciplinary effect (Jensen and Meckling 1976, Jensen 1986, Hart and Moore 1995). Cash reserves from debt are not considered free cash, and when the management team decides to spend the money, it will be subject to the disciplinary characteristics of debt. Consequently, managers will be more careful. As opposed to debt, equity has no disciplinary effect built into it. There is no threat of default, and there is therefore no automatic punishment for a bad investment. However, there are at least two reasons why cash from an equity issuance may also decrease management's freedom. First, in general, the initial investors who obtain access to an equity offering will be company insiders, institutional investors, underwriters, and preferred clients. These investors are generally more sophisticated and more likely to monitor the firm; if they increased their stake in the firm, they will be more attentive to where the money is going. Second, new investors will be closely watching their investment until they actually know and trust the management team. Over time, familiarity with the management team may decrease the benefits of monitoring.

Hypothesis 1 Firms with more cash from financing activities will be subject
to more monitoring

The first hypothesis explains why managers of firms with more cash from operations would be more likely to overspend the money, but does not explain why they systematically make bad investments. Better investments would yield higher returns, which would consequently increase their salary and their tenure. Thus, it is not clear that the manager will systematically abuse the freedom given to them. Even with the financial freedom to invest in whatever they choose, managers should rationally be searching for good investments. This fact should be observed in the data, and these managers should perform at least as well as the average firm. I argue that such managers may miscalculate the opportunity costs of cash because cash from operations has no direct costs and low returns.

Calculating the costs of capital for a firm can be demanding. Because a management team addresses a multitude of problems on a daily basis, it may overlook important nuances of the

opportunity costs of cash (Kruger, Landier, and Thesmar 2011). A manager may think of the opportunity costs of cash simply as how much the cash is earning at the moment. In other words, he could be thinking, “if my cash is currently earning 2% per year and I can secure an investment that is 4% per year, this should be a good deal,” which, of course, would ignore the fact that he must use WACC for all firm investments. Cash from financing activities would hinder this because it is the most expensive type of cash a firm can have on its books; with the firm’s cash coming from financing activities, the manager would have a clear understanding of the costs of that cash. Thus, in making an investment decision, it should be easier to be more careful with the evaluation calculations. For this reason, I expect firms with more cash from financing activities to make more careful investment decisions.

Hypothesis 2 Firms with more cash from financing activities will have a better understanding of their costs of capital

III. Data

This paper constructs new variables to determine how firms save cash and then seeks to understand whether information about how firms save cash provides useful information about how firms use the cash. Therefore, I look first to see whether there is a consistent pattern of this type of firm across different branches of the literature, particularly as it relates to M&A activities and share repurchases. For this reason, the data for this paper comes from several sources.

The backbone of the analysis comes from the COMPUSTAT files, from which I obtain the accounting information of firms. In 1987, the FASB adopted the Statement of Financial Accounting Standard (SFAS) 95 entitled “Statement of Cash Flows.” For this reason, I can only construct the excess cash flow variables beginning in 1988; therefore, the data I use covers the years between 1988 and 2010. I consider all cash prior to this date equal to zero. The information for both the merger & acquisitions and the repurchases analyses comes from Thompson’s Security Data Corporation (SDC) data sets. The information on stock returns

come from CRSP files. To create the normal cash holdings variable in my M&A analysis, I also require information on recession quarters, which I obtain from the National Bureau of Economic Research, and the spread between AAA and Junk bonds, which I obtain from the Federal Reserve.

The construction of the database follows standard practices in each of the branches of the literature considered. I winsorize every variable in the analysis at the 1% level. I do all the analyses by both including financial firms and utilities (SIC codes 6000-6999 and 4900-4999) and excluding them. For both analyses, I use only firms that I was able to merge with the COMPUSTAT and CRSP files. For the M&A analysis, I only use mergers that are greater than 1% of the acquiring firm's total market value, I only use transactions labeled "Acquisition of Assets" or "Merger", and I only use transactions in which the acquiring firm had less than 50% of the equity of the target and was acquiring 100%.

Table 1 present the summary statistics of the main variables used in my analysis, for each relevant group in my analysis. Column (1) presents the sample of all firm-years on the COMPUSTAT-CRSP merged database. Column (2) presents the summary statistics of the sample of firms on the top quartile of the excess cash holdings distributions defined as in (Harford 1999). Column (3) presents the sample of firms with some level of cash from financing activities on their books. Column (5) presents the results of firms with high cash holdings that have some level of cash from financing activities on their books. This last group will be the most relevant group for my analysis.

IV. Separating the Origin of Cash: Variable Construction and Analysis

To determine where the money firms are saving is coming from, I explore the details contained in the cash flow statement of the firms. The cash flow statement is separated into three different categories. The first item of the statement is "*Cash Flows From Operating Activities*". This section includes net income and other items such as depreciation and amortization,

stock-based compensation and changes in operating working capital and non-current assets and liabilities; this cash flow concerns cash flow from the everyday activities of the firm. The second item is the “*Cash Flow From Investing Activities*”, which includes investments, capital expenditures, acquisitions of business and proceeds from the sale of assets; this is cash flow from buying and selling assets. Finally, the third item of the cash flow statement is the “*Cash Flows From Financing Activities*”, which includes any stock or debt issuance or repurchase and proceeds and repayments of borrowing.

To determine the excess cash generated by each account, I utilize a few simple steps: First, if all three cash flows were positive, then the excess cash generated by each account is simply the cash flow. Second, if one or more of the cash flows is negative, I initially use the cash that was accumulated from previous years in that account and only after that do I use the positive cash generated by the other account(s). The idea behind this is to try to recognize cash that was raised and never used. For example, if in one year I raised money through an equity issuance but did not use the entire amount and repurchased shares the next year, the “firs” money that should be used for the repurchase is the money raised through the financing activity (the equity issuance). Third, if the savings in a specific account are insufficient to pay for the expenses in that year, I use money from other accounts to fund the gap. Initially, I use cash flows generated by the positive accounts in the same year. If the aggregate cash flow of that year was positive, the positive account(s) will contribute proportionally to the size of their cash flow; an account with a higher cash flow will contribute more. In this case, the excess cash flow from the accounts with positive cash flows will be reduced and will eventually be whatever is left after covering the deficit of the other account(s). Finally, if the aggregate cash flow of the three accounts was negative, I use the available savings from the other accounts to fund the deficit in a proportional manner, as described above. Thus, even if an account had a positive cash flow, it will have a negative surplus or excess flow. Once I have all the excess cash flows, I simply accumulate them over the years, never letting them reach values below zero. Figure 1 presents a diagram with an example of this process.

In addition, Table 2 details different examples of how I manipulate the original cash flows

to generate the excess cash and cumulative cash variables. The first line shows an example in which there is no savings and the aggregate cash flow is negative; thus, the firm spent more than what they had (there is an inconsistency in the reported numbers). In this case, all the excess cash flows are zero and there is no cash accumulation for that year. In the second line, we have a positive aggregate cash flow, indicating that the firm is increasing its cash reserves. Note that both the operations and the finance cash flows are identical, for this reason they contribute equally to fund the negative flow from the investment account. The final excess cash flow from investment is zero, although the actual cash flow was negative. Because there was no cash saved in this account, there cannot be an outflow from it this year (a firm cannot have negative cash holdings by construction). The third line presents an example of a negative cash flow in an account that previously had some cash accumulated in it. Note that the "first" cash I use to fund this account is always the savings from that account. Finally, the fourth and the fifth year show examples in which the aggregate cash flows were negative; in these cases, the firm is decreasing its cash holdings. In the fourth year, all cash flows are negative or zero, and the firm uses the savings accumulated in the Operations and Financing accounts to fund the negative flows on the investment accounts. This is accomplished by taking the money proportionally to the account size. In the fifth year, only cash from the operations account is positive. I initially use the cash flow generated that year to cover the deficit, then I use the accumulated cash left in the operations account.

In summary, the variables created here capture the instances in which some cash is generated in a given account but was not used. Facebook may become a good example for this methodology in upcoming years. It had its IPO recently, but do not have a clear destination for the cash they received. In the coming years, if all its investments are financed by its cash flows, then this would indicate that it actually did not require the IPO in the first place (at least not to raise capital for investments). Therefore, under this analysis, they will have an excess amount of cash from financing activities.

All the results reported here use the data created using this methodology. However, I tried 6 alternative constructions of the data set:

- Use all Cash (Cash Flow and Savings) from Financing Activities First
- Use all Cash (Cash Flow and Savings) from Operating Activities First
- All positive Cash Flows first, Savings From Financing second and other accounts savings last.
- All positive Cash Flows first, Savings From Operations second and other accounts savings last.
- Old Cash First (Savings), New Cash second (flows)
- Cash Flows Sequentially (Financing, Operations and Investing), then Cash Saved Sequentially (Financing, Operations and Investing)

Table A.1 of the internet appendix presents the results using alternative cash separation constructions. The results remain qualitatively similar regardless of the way I construct the variables. The results change with the construction by becoming stronger if the criteria for holding cash from financing activities become tighter. For example, if I use all cash from financing activities first, only firms that really held cash from financing activities will remain with some amount of this cash on their books. The effects for this construction seem to be stronger. Conversely, if I loosen the criteria for holding cash from financing activities (e.g. by using cash from operations first), thereby increasing the number of firms with more cash from financing activities, the results seem to weaken; however, they are still qualitatively the same as the original construction. Therefore, firms that used security issuance as a cash management tool, and are saving cash from the issuance are driving my findings.

V. Firms' Cash Composition

The next step of the analysis is to explore the variables created. First, I investigate whether their behavior is consistent with the aggregated variables (Cash Flow and Cash Holdings)

commonly used in the literature. I start by exploring basic summary statistics to see whether the distribution, the mean and standard deviation of the separated variables present any odd characteristic. Table 1 presents the main statistics for the variables created here and their aggregate counterpart. The means, the distributions and the standard deviations of the variables created are consistent with their aggregate counterparts. The majority of the cash flow comes from operations, followed by financing activities and investments. The identical pattern is observed with the accumulated cash.

The evolution of the cash flows and the cash holdings of the firms also present an interesting pattern. Figure 2 presents the evolution of the aggregate cash holdings of the US firms, which is consistent with the findings of Bates, Kahle, and Stulz (2009), Cash holdings increased significantly after 2000, with public US corporations currently holding \$ 2 trillion , a statistic that has been widely explored by politicians and the popular media. Another interesting fact is that cash from operations is responsible for most of the increase in cash holdings. Cash from financing activities played a more significant role in the past. Prior to 2000, cash from financing activities represented approximately 1/3 of public corporations' holdings. However, it is important to note that, even with the excessive amount of cash currently available on the books of firms, corporations still rely on financing activities for their cash management. In 2010, they held \$ 250 billion in cash from financing activities.

According to Dittmar and Duchin (2012), the current increase in cash reserves is concentrated in the hands of a few firms that built their cash flow from a steady stream of profits. For this reason, I also explore the cash variables separated by source normalized by total assets. These findings are consistent with Dittmar and Duchin (2012), and show that the average ratio of cash to total assets did not undergo a dramatic change in the past decade. More importantly, on average, cash from financing activities represents a similar fraction of total assets as cash from operations. Therefore, cash from operations is not the dominating strategy for cash management. Different firms, of course, use different strategies to manage their cash.

Figure 4 performs a similar analysis but explores the flow variables, using the aggregate

cash flows coming from each account. The idea is twofold; first, each account's contribution to the increase in the cash holdings of the firms is tracked, and, second, the total movements in the three accounts are shown to be consistent with the changes in total cash holdings. Cash from operations was the most important source for cash accumulation in the past decade, which is consistent with Figure 2. However, cash from financing activities had an important role in the past and still represents a significant amount of firms' current cash flows.

I also investigate how the differences in cash composition across different industries and different times in the life of the firm. Figure 5 shows the average cash from financing activities separated by industry. Business Equipments (Computers, Software, and Electronic Equipment) and Health (Healthcare, Medical Equipment, and Drugs) rely more heavily on financing activities for their cash management. Nevertheless, cash from financing activities is used across all industries. Figure 6 presents the evolution of cash from financing activities during the life of the firm. Firms rely more heavily on financing activities for their cash management in the beginning of their lives. This cash is replaced by cash from operations during the life of the firm. Nevertheless, they still keep a substantial amount of cash from financing activities at all stages of the firm's life.

I also evaluate the persistency of different types of cash reserves. This is important to mitigate concerns about the peculiarity of cash variables separated by source. For instance, it may be of some concern that all cash from financing activities is earmarked and would therefore be a temporary type of cash holdings. Firms will keep this cash on their books for a short period until the investments they are earmarked for are realized. I use the definition of excess cash holding ² and persistency ³ found in DeAngelo, DeAngelo, and Stulz (2010). Figure 7 shows the persistence of total cash holding and the cash variables separated by source. The results for the total cash holdings are consistent with those found in DeAngelo, DeAngelo, and Stulz (2010). In addition, cash from operations and cash from financing

²Cash/assets - Normal Cash/Assets Normal Cash/Assets is the industry median within 3x3 size and market to book breakpoints, each year

³Percentage of firms in the top quartile in one year that continue to be in the top quartile in the following years.

activities have a similar persistence as total cash holdings. Therefore, firms that have cash from financing activities are not more likely to use it first. Firms are indeed using financing activities as part of their cash management strategy.

VI. Easy come, Easy go: Cheap Savings and Bad Expenses

In this section, I investigate whether the way the firms save their cash (either from financing activities or operations) provides useful information about how the firm will spend it. I do this by analyzing M&A and repurchase activities.

A. Mergers & Acquisitions Results

A.1. Probability of Bidding

According to Hypothesis 1, I expect that cash from financing activities do not provide the identical financial freedom as cash from operations as discussed in the Hypotheses section, cash from financial activities has more “strings attached”. Therefore, one should expect that firms with a larger amount of cash from financing activities will not overspend even in situations in which they have large amounts of cash. To analyze this, I employ a methodology similar to the one developed by Harford (1999)⁴. The first step in his analysis is to create a normal cash level for each firm in the data. Normal cash is defined as the industry median predicted value of the following equation:

$$\begin{aligned}
 Cash/Sales_{i,t} = & \alpha_i + \beta_1 NetCFO/Sales_{i,t} + \beta_2 \Delta Riskpremium_{t+1} \\
 & + \beta_3 Recession_t + \beta_4 \Delta NetCFO/Sales_{i,t+1} \\
 & + \beta_5 \Delta NetCFO/Sales_{i,t+2} + \beta_6 M/B_{i,t-1} \\
 & + \beta_7 CFOVar_i + \beta_8 Size_{i,t-1} + \epsilon_{i,t}
 \end{aligned} \tag{1}$$

⁴I find similar results using Cash over Assets directly. The results of this analysis are presented on Table A.2 of the internet appendix and show that the results remain qualitatively the same using the raw variable.

Where *NetCFO* is operating income before depreciation (oibdp) minus interest expenses (xint) minus taxes (txt) - Δ Noncash working capital (act-lct-che). *Risk premium* is the spread between Junk and AAA bond yields, *Recession* is a dummy variable indicating years that the National Bureau of Economic Research has defined as a recession, *M/B* is the market to book ratio, *CFOVar* is the variance of firms cash flows and *Size* is log assets. I run this regression with firm-fixed effects separately for each Fama-French industry classification. Excess cash is defined as the cash holdings for the period minus the median of the predicted value for the industry, normalized by total assets. To evaluate the relation between cash and M&A, I start by looking at the probability of bidding using the following specification:

$$\begin{aligned} Acquisition(0/1)_{i,j,t} = & \beta_1 * CashDev_{i,j,t} + CashDev_{i,j,t} * CashComposition_{i,j,t} \\ & + CashDev_{i,j,t} * X_{i,j,t} + X_{i,j,t} + \mu_t + \delta_j \end{aligned} \quad (2)$$

Where $Acquisition(0/1)_{i,j,t}$ is a dummy variable indicating that firm i in industry j at year t , bid on an acquisition. $CashDev_{i,j,t}$ is the deviation to the prediction of the cash management model in Harford (1999). To explore the cross-sectional differences of the cash composition, I create different proxies for cash composition, represented in the equation by $CashComposition_{i,j,t}$. One of the proxies is the percentage of cash coming from a given source (either Operations or Financing), i.e., the fraction of cash accumulated that is coming from a particular account. To help with the interpretation of the estimators, I also use a dummy variable, that equals one if the percentage of cash from financing activities is in the top quartile of the distribution. Alternatively, I also tested a dummy variable that equals one when all of a firm's cash, comes from operating activities. $X_{i,j,t}$ is a set of controls that include firm size, age, leverage, profitability, market-to-book-ratio, Net Working Capital, Sales Growth, Price-to-Earnings and previous year abnormal stock returns. Note that I also include the controls interacted by the cash deviation variable to ensure that the impact I am measuring is not captured by another variable previously available in the dataset.

Table 4 presents the results for the probability of bidding on an acquisition target. Column (1) presents the baseline results found in Harford (1999) showing that firms with larger amounts of cash are more likely to bid. Columns (2)-(4) show the results for the interaction term of cash deviation and different proxies for cash holdings from financing activities. Column (2) uses the fraction of the total cumulative cash from financing activities. Column (3) and (4) uses a dummy variable that equals one when the firm's percentage of cash from financing activities is in the top quartile of its distribution. The different proxies show essentially identical results. Firms with large cash holdings and firms holding cash from financing activities are less likely to bid on an acquisition than similar firms with large cash holdings from operations. The results are robust to the inclusion of all the controls, interacted controls and firm-fixed effects. In addition, Column (5) and (6) shows the results for the dummy indicating that all the firm's cash came from operations. These firms are more likely to bid; in fact, firms with larger amounts of cash from operations are driving most of the results previously found in the literature that firms with more cash are more likely to bid. The findings are also robust to the inclusion of firm-fixed effects.

The results are consistent with the first hypothesis. Financing cash does not provide the financial permissiveness provided by cash from operations. The results show that firms with financing cash hold that cash closer and more dearly; managers are not making acquisitions simply because they have more cash on their books. In addition, I use the excess cash variables found in Opler, Pinkowitz, Stulz, and Williamson (1999) and DeAngelo, DeAngelo, and Stulz (2010) with qualitatively identical results.

A.2. Announcement Returns

I now turn to the cross-sectional differences in these performances when firms bid on an acquisition. For this purpose, I employ a cross-sectional analysis of the three-day announcement abnormal returns $(-1,0,1)$ of the bidding firms. The specification used is as follows:

$$\begin{aligned}
CAR(-1, 1)_{i,j} = & \beta_1 * CashDev_{i,j,t} + CashDev_{i,j,t} * CashComposition_{i,j,t} \\
& + CashDev_{i,j,t} * X_{i,j,t} + X_{i,j,t} + \mu_t + \delta_j
\end{aligned} \tag{3}$$

The proxies for cash composition are identical to those used in the previous section. Note that all the regressions are controlled for year and industry-fixed effects as indicated by μ_t and δ_j . The controls are similar to the ones found in the previous specification, but I also add a dummy for “all cash” acquisitions and the cumulative return for the 2 years prior to the acquisition.

Table 5 shows the results of a cross-sectional analysis. Column (1) presents the result found in Harford (1999) that firms with large cash reserves will have a worse announcement performance than the average firm. For columns (2)-(6), I employ the identical proxies for the composition of cash holdings used in the previous section. I find that firms with large cash reserves from financing activities do not destroy value when they do an acquisition. As with the results for probability of bidding, all the bad results found for firms with large cash holdings apply only to firms with a larger fraction of cash from operations. Column (6) shows that the interaction with the dummy indicating that all cash came from operations can explain all the negative variation previously associated with firms with large cash reserves (from any source).

The results are once more consistent with my first hypothesis. However, these results provide the first insight into the second hypothesis. Firms with more cash from operating activities are engaging in more acquisitions (which would sustain an empire-building hypothesis), and, in addition, they are more likely to choose a bad acquisition. To make this choice rational, the manager’s private benefit of this single transaction must be higher than the benefits of a different profitable acquisition and all the downside risk of a bad acquisition must be minimized (lower bonus, less-desirable stock options, employment uncertainty). This

suggests that these managers might be doing something wrong unintentionally. I argue that one possible explanation for this is that managers using cash from financing activities will use the correct cost of capital (or opportunity cost of cash) to evaluate their project because this type of cash is the most expensive cash a firm can have, and they will therefore only make economically prudent and profitable acquisitions.

B. Stock Repurchase Results

The results from the previous section offer some evidence that firms that obtain their money from financing activities seem to behave differently than firms that obtain the majority of their cash from operations. Firms obtaining cash through financing activities are less likely to bid, indicating that cash from financing activities does not provide the financial slack commonly observed in the previous literature. These firms also seem to be making better project evaluations, which may indicate that they have a better perception of their cost of capital. To extend this analysis, I move to the second field of the literature that ties in to this paper, Stock Repurchase Analysis. In his 2012 letter to the Berkshire Hathaway shareholder, Warren Buffet argued favorably for stock repurchases when firm liquidity needs are satisfied and the management team is certain that the firm's stock is undervalued ⁵. In this section I explore how analyzing the different ways of obtaining cash may provide useful information about how effectively the firms will conduct stock repurchases.

B.1. Announcement Returns

Hypothesis 2 predicts that firms with more cash from financing activities have a better understanding about the opportunity costs of the firm's cash and that these firms will therefore perform better in their repurchase announcement returns because their superior understanding of their cost of capital will make them more sensitive to the moments when they are

⁵The full quote is: “*Charlie and I favor repurchases when two conditions are met: first, a company has ample funds to take care of the operational and liquidity needs of its business; second, its stock is selling at a material discount to the company's intrinsic business value, conservatively calculated.*” and can be found at: <http://www.berkshirehathaway.com/letters/2011ltr.pdf>, page 6

undervalued. The first step I take to analyze this is to determine whether firms with different cash savings profiles actually perform differently when they conducting share repurchases. I use a similar specification as the one found in Grullon and Michaely (2004). I employ the cross-sectional analysis of the three-day announcement returns:

$$\begin{aligned}
 CAR(-1, 1)_{i,j} = & \beta_1 * Cash_{i,j,t} + Cash_{i,j,t} * CashComposition_{i,j,t} \\
 & + Cash_{i,j,t} * X_{i,j,t} + X_{i,j,t} + \mu_t + \delta_j
 \end{aligned} \tag{4}$$

Where $Cash_{i,j,t}$ is the firm’s total cash and cash equivalents normalized by assets, $CashComposition_{i,j,t}$ are the identical proxies used previously, and $X_{i,j,t}$ is a set of controls that follow Grullon and Michaely (2004) and include a firm’s age, size, market-to-book, leverage, changes in returns to assets and percentage of shares announced to be repurchased.

Table 6 presents the results of the cross-section analysis of the announcement returns. Column (1) presents the results found in Grullon and Michaely (2004)), where they find that firms with larger cash reserves present higher announcement returns for share repurchases. Columns (2)-(4) show that this result is mainly driven by firms with more cash from financing activities. Column (5) shows that firms with more cash from operations actually present negative announcement returns for share repurchases

The results in table 5 provide additional evidence for my second hypothesis. If agency problems or lack of monitoring/advising was so important, investors should not be so “unhappy” with the news that firms are returning their money to investors. In addition, the results for firms with more cash from financing activities show that there is a complex explanation for what is happening. If we were simply dividing firms into “good” and “bad” firms, investors should not be so “happy” that the good firms are returning their cash. In the next section, I will explore one possible explanation for the difference observed here.

B.2. Overvaluation and the Probability of Stock Repurchase

According to Grullon and Michaely (2004), the explanation for the positive announcement returns to share repurchases is a result of agency problems that cash holdings may generate, i.e., investors value the cash outside the firm more than inside it. However, this explanation is not consistent with my previous findings. Firms with more cash from financing activities have lower levels of agency conflict and yet present positive announcement returns to their share repurchases. Firms with more cash from operations are more prone to have agency conflicts because the manager has discretion to decide where the money is going.

An alternative explanation, consistent with my previous findings, is that the positive result found for stock repurchase announcements for firms with large cash holdings from financing is caused simply by better market timing. Firms with more cash from financing activities may be deciding the correct time to invest in a repurchase. To do investigate this possibility, I employ the methodology developed by Rhodes-Kropf, Robinson, and Viswanathan (2005). In their paper, they find that misvaluation drives M&A activity. To measure overvaluation, they start with the simple idea that, if we had the correct value of the firm, we could decompose the market-to-book ratio as follows:

$$\text{Market-to-Book} \equiv \text{Market-to-Value} \times \text{Value-to-Book} \quad (5)$$

Mathematically, we would have:

$$\begin{aligned} \log(M/B) &= \log(M) - \log(B) \equiv m - b \\ m - b &\equiv (m - v) + (v - b) \end{aligned} \quad (6)$$

Using this equivalence, they decompose the firm market-to-book ratio into the following three components:

$$m_{i,t} - b_{i,t} = \underbrace{m_{i,t} - v(\theta_{i,t}; \alpha_{j,t})}_{Firm} + \underbrace{v(\theta_{i,t}; \alpha_{j,t}) - v(\theta_{i,t}; \bar{\alpha}_j)}_{Sector} + \underbrace{v(\theta_{i,t}; \bar{\alpha}_j) - b_{i,t}}_{Long-Run} \quad (7)$$

Where $v(\theta_{i,t}; \alpha_{j,t})$ is estimated using the following specification:

$$m_{i,t} = \alpha_{0,j,t} + \beta_{1,j,t}b_{i,t} + \beta_{2,j,t}ln(NI)_{i,t}^+ + \beta_{3,j,t}I_{<0}ln(NI)_{i,t}^+ + \beta_{4,j,t}LEV_{i,t} + \epsilon_{ij,t} \quad (8)$$

where NI^+ is the absolute value of net income and $I_{<0}ln(NI)_{i,t}^+$ is an indicator function for negative net income observations. As the notation indicates, I run this regression separately for each Fama French industry classification and year. The parameters estimated therefore vary both by industry and year.

The difference between the firm's current market value and the estimated intrinsic value is: $m_{i,t} - v(\theta_{i,t}; \alpha_{j,t})$. This difference measures the idiosyncratic firm's misvaluations; thus, $v(\theta_{i,t}; \alpha_{j,t}) - v(\theta_{i,t}; \bar{\alpha}_j)$ is the difference between the estimated value with current parameters and an estimated value using average parameters for a particular industry. The value estimated using the industry parameters captures the long-term estimated value for the firm; this is also called the time-series sector error, and $v(\theta_{i,t}; \bar{\alpha}_j) - b_{i,t}$ is called the long-run error. It is the deviation of the long-term estimated value from the firm's book value using. This difference measures long-run misvaluations. These variables will provide proxies for different types of misvaluations that should be considered by the manager when considering a share repurchase.

To determine whether firms with more cash from financing activities are timing the market better, I evaluate whether these firms are more likely to do a repurchase when they are undervalued based on the proxies created by Rhodes-Kropf, Robinson, and Viswanathan (2005). I run a separate probit regression of the probability of announcing a repurchase on each one of the valuation error variables, using the following specification:

$$\begin{aligned}
Repurchase(0/1)_{i,j,t} = & \beta_m * Valuation\ Error_{i,j,t,m} \\
& + Valuation\ Error_{i,j,t,m} * HighCash_{i,j,t} \\
& + Valuation\ Error_{i,j,t,m} * HighCash_{i,j,t} * CashComposition_{i,j,t} \\
& + X_{i,j,t} + \mu_t + \delta_j + \theta_i
\end{aligned} \tag{9}$$

where *Valuation Error* is one of the three proxies for misvaluation from Rhodes-Kropf, Robinson, and Viswanathan (2005), *HighCash* is a dummy indicating that the firm is in the top quartile of the cash distribution, and *CashComposition*_{*i,j,t*} are the proxies for cash composition used in the other sections of the paper.

Table 7 shows the results for the undervaluation analysis, divided into 3 panels. Each panel is the analysis of one of the measures of misvaluation. Panel A shows the results for the firms' specific error. This measure captures idiosyncratic errors in the firm's valuation. Column (1) shows that firms in general time the market and are less likely to do a repurchase when they are overvalued 6. Column (3), shows that the results found in column (1) are primarily driven by firms with more cash from financing activities. Firms with more cash from operations are actually more likely to do a repurchase when they are overvalued (as shown in Column (6)). The results in Panel B and Panel C confirm that firms with more cash from financing activities time the market better and that firms with more cash from operations are worse, regardless of the measure we are using for overvaluation.

These results are consistent with Hypothesis 2, once again firms with more cash from operating activities are systematically choosing bad investments. In this case, they are making incorrect bets on their own value. For the repurchases, we can exclude the possibility of private benefit, and therefore the manager must be looking simply for the best opportunity to invest this cash. These managers must systematically be making mistakes that managers of firms with more cash from financing activities do not make. I argue that the reason for this that

that they have an incorrect perception of the opportunity costs of cash. In the next section, I will provide further evidence of this behavior.

C. Cost of Capital and M&A Activity

The existing literature about cash reserves treats cash holdings as free cash flow. Free cash flow gives the manager freedom to act in his own interests that will drive him to make bad investment decisions for the firm. Throughout this paper, I argue that this explanation may be incomplete. Even if they are seeking private benefits, managers should be interested in profitable projects because they will increase their salary and their job security. Therefore, there must be an additional explanation for this behavior. My results for share repurchases reinforces the need for this explanation because these managers are making a bad investment that is not associated with empire building or private benefit.

I argue that the fact that cash from operations has no direct costs and also has low returns misleads these managers about the actual opportunity costs of cash. Managers may be thinking that employing this cash in a low return investment should be sufficient to guarantee a better use of this cash because it is returning the firm close to nothing. Conversely, cash from financing activities has a direct cost that reminds the manager of the actual opportunity costs of the cash they are holding. Another way to remind the manager about this opportunity cost of cash is a higher return on their current cash investments. The manager would be more careful in choosing another investment, because that investment would have a higher hurdle to be considered a better use of the cash.

To explore this, I analyze the cross-sectional differences in the M&A activities of firms with different returns on their short-term investments. The returns on short-term investments are the firm's interest income divided by total short-term investments. In this section, I use a derivation of the specification used in the M&A section of this paper:

$$\begin{aligned}
Acquisition(0/1) = & \beta_1 * CashDev_{i,j,t} + CashDev_{i,j,t} * CashComposition_{i,j,t} \\
& + CashDev_{i,j,t} * CashComposition_{i,j,t} * Ret.on.Invest_{i,j,t} + X_{i,j,t} + \mu_t + \delta_j
\end{aligned} \tag{10}$$

And

$$\begin{aligned}
CAR(-1, 1)_{i,j} = & \beta_1 * CashDev_{i,j,t} + CashDev_{i,j,t} * CashComposition_{i,j,t} \\
& + CashDev_{i,j,t} * CashComposition_{i,j,t} * Ret.on.Invest_{i,j,t} + X_{i,j,t} + \mu_t + \delta_j
\end{aligned} \tag{11}$$

where $Ret.on.Invest_{i,j,t}$ is the interest income divided by total short-term investments. All other variables are identical to the variables used in the M&A analysis.

Table 8 presents the results of the triple interaction regressions using returns on short-term investments. Panel A shows the results of the probit regressions of the probability of bidding on an acquisition. When firms have a higher return on their investment, they are less likely to bid on an acquisition. In addition, Panel B shows that they also perform better on their acquisitions, and have higher announcement returns.

The results are consistent with hypothesis 2. When the direct opportunity costs of cash are higher, managers are more careful in their spending. High returns on cash investments might be forcing them to pay more careful attention to their costs of capital. Consequently, they evaluate their investments better. It is important to note that these results are also consistent with the advising hypothesis. Higher returns on investment might indicate a closer relationship with the firm's bank and investors, which might provide the firm with better advice about its investments.

Finally, I try to find supportive evidence to the idea the high cash from operation managers are not paying attention to the cost of capital, by looking more broadly at their financing decisions. I investigate the differences on the method of payment used by the two groups. If the excess cash on hands are hindering the ability of the manager to calculate the cost of

capital it should also influence the method of payment she uses. She will likely prefer the easiest method of payment. In order to test that I run a multinomial logit regression with the following outcomes:

$$Outcome = \begin{cases} 0 & \text{if No M\&A} \\ 1 & \text{if All Cash M\&A} \\ 2 & \text{if M\&A with other method of payment} \end{cases}$$

Table 9 presents the results of the multinomial logit regressions using M&As with other methods of payment (2) as the base outcome. Therefore, the results of this table are measuring the probability a firm will pay exclusively with cash provided that they already did an M&A. Firms with more cash from operations are more likely to use only cash to pay for they M&As. They are almost 4 times more likely to pay exclusively with cash than similar firms with more cash from financing activities. Managers with more cash from financing activities are more careful with their financing decisions and even though they have large amounts of cash on their books, they are less likely to do an all cash M&A than firms with more cash from operations.

VII. Conclusions

In this paper, I investigate which sources firms use on their cash management strategies. Furthermore, I analyze whether the composition of the cash holdings provides meaningful information about the way the firm will spend its money. I classify firms based on the different percentages of cash from financing or operating activities to analyze their subsequent expenditures on M&A activity and share repurchases.

I find that the expenditure behavior of firms with a higher fraction of their cash coming from financing activities diverge significantly from the behavior of similar firms that built their cash reserves saving from operational cash flows. The former firms are not more likely to bid on an acquisition, and when they bid they do not destroy value. In addition, firms

with high percentages of cash from financing activities also perform better in their stock repurchases. This effect seem to come from better timing in the market because these firms are more likely to make a repurchase when they are undervalued. Finally, I find evidence that a better understanding of the costs of capital might be driving these results and find that firms with more cash from operations actually do better when the returns to their current cash investments are higher.

The results in this paper are consistent with the hypothesis that more cash can increase agency problems in a firm, however it shows that not all cash is identical; cash from financing activities may actually have disciplinary effects. The disciplinary effect could come in the form of closer monitoring/advising by investors because the cash the firm is hoarding came directly from their pockets. In addition, this paper suggests an additional form of agency problems related to excess cash holdings. I argue that the fact that cash from operations has no direct cost and expectations of low returns mislead managers with respect to the true opportunity cost of cash. Cash from financing activities may provide the firm with a better picture of the opportunity costs of cash; because cash from financing activities is the most expensive cash the firm will hold, the management team will have a clear understanding of how much the new project must return for it to be worth investing. Consequently, although these firms may have large cash holdings, they will be more careful when spending the money.

Finally, this study provides guidance about what not to expect from the accumulation of corporate cash holdings in recent years. The spike in cash holdings has spawned journalists, politicians and even academics to make predictions about merger waves and repurchase waves. This paper finds evidence that cash holdings by themselves do not tell the whole story. Depending on the firm's cash holding composition, we should have different predictions about the intensity and the consequences of these mergers and repurchases.

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Figure 1: Generating Excess Cash Flow Variables Separated by Source

Figure 1 presents the methodology employed to obtain excess cash flows generated by each account. Cash Flow from operating activities is the total Cash flow coming from Operations obtained directly from COMPUSTAT. Similarly, Cash Flow from Financing and Investment Activities are the total cash flows from financing and investment activities, respectively. Cash from Operating, Financing, and Investment Activities is the accumulated cash from the Excess Cash Flows generated by this methodology.

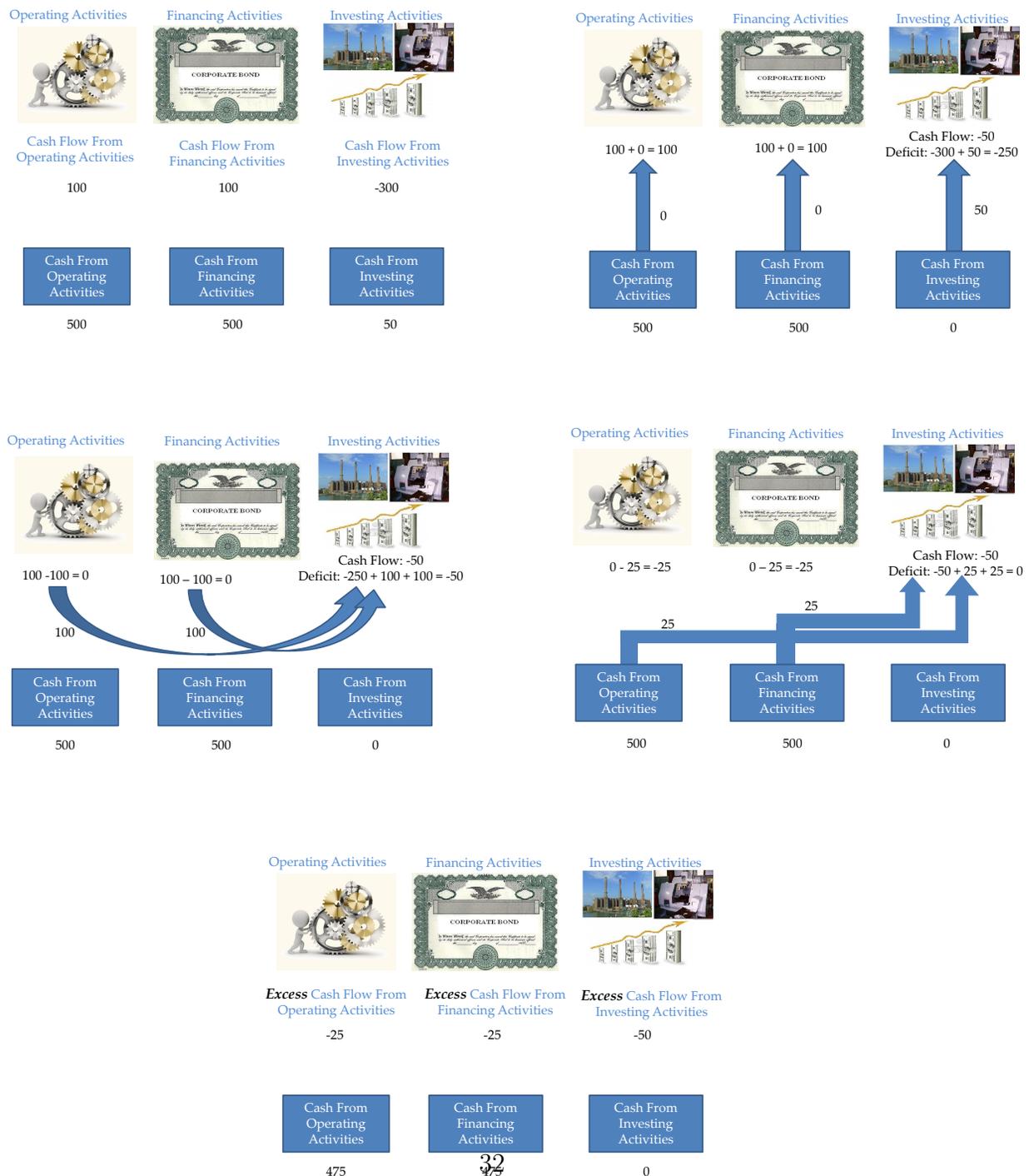
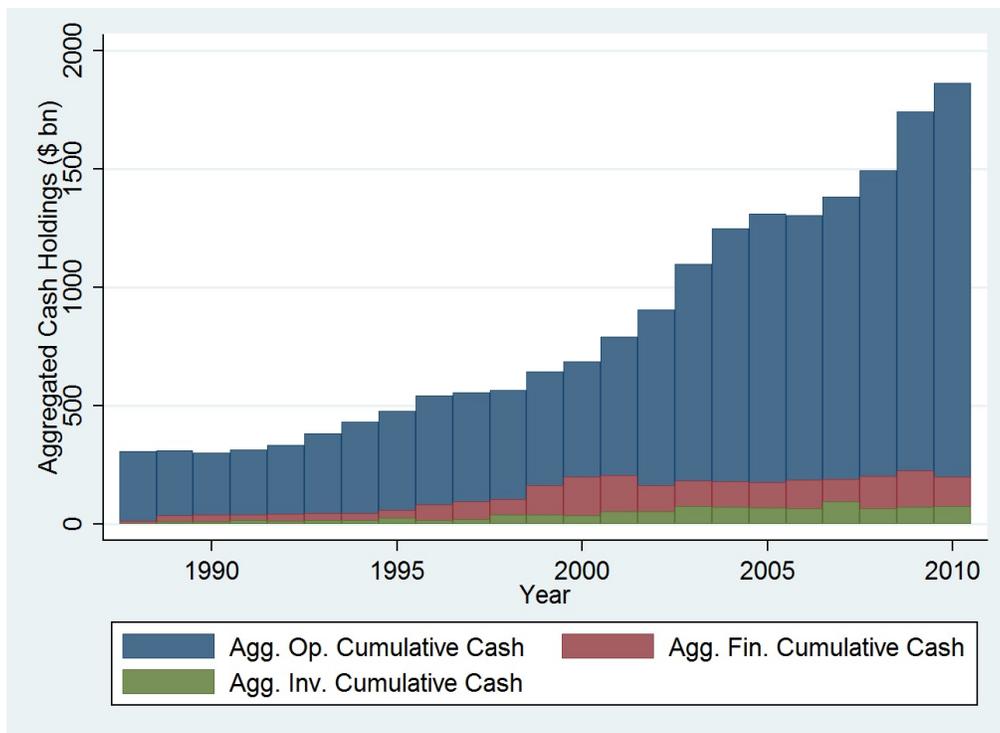


Figure 2: Average Cash Holding Separated by Category

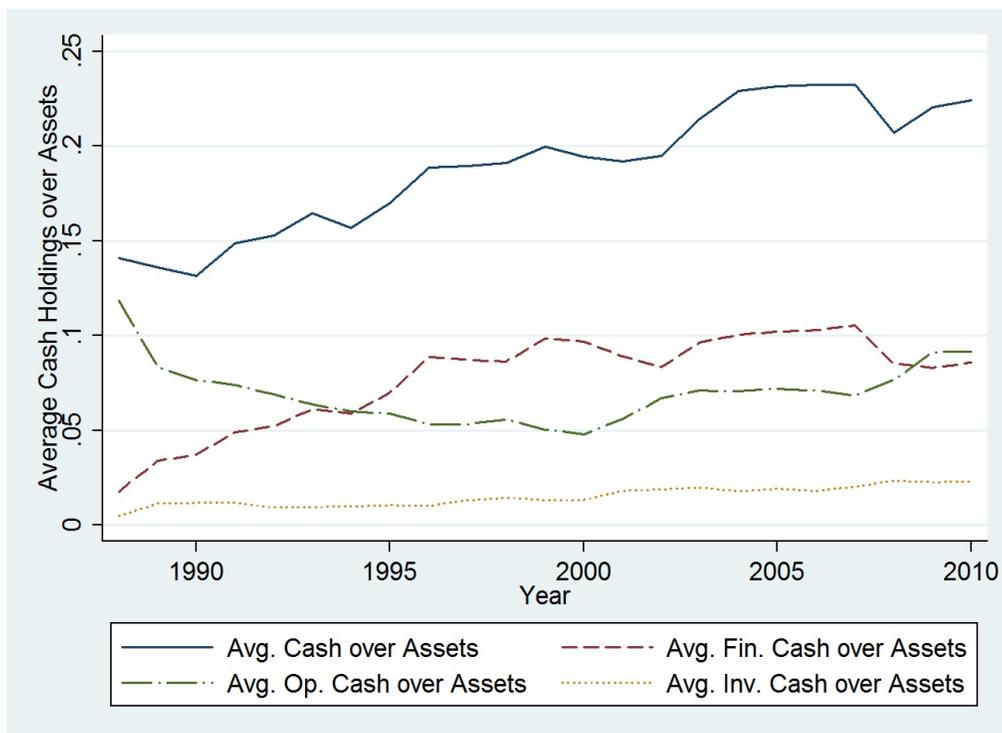
Figure 2 presents aggregate cumulative cash separated according to its source. Agg. Op. Cumulative Cash is cash that was accumulated from the excess cash flows from operations. Similarly, Agg. Fin. Cumulative Cash and Agg. Invn. Cumulative Cash are the cumulative surplus from the Cash Flows from Financing and Investing activities, respectively.



Take away: Cash from Operations Represents the majority of the cash holdings of firms. However, Cash from financing activities still represents a significant amount of the cash holdings of US corporations; in 2010, the firms in the dataset were holding approximately 250 billion dollars in cash from financing activities.

Figure 3: Average Cash Holdings Separated by Source Divided by Total Assets

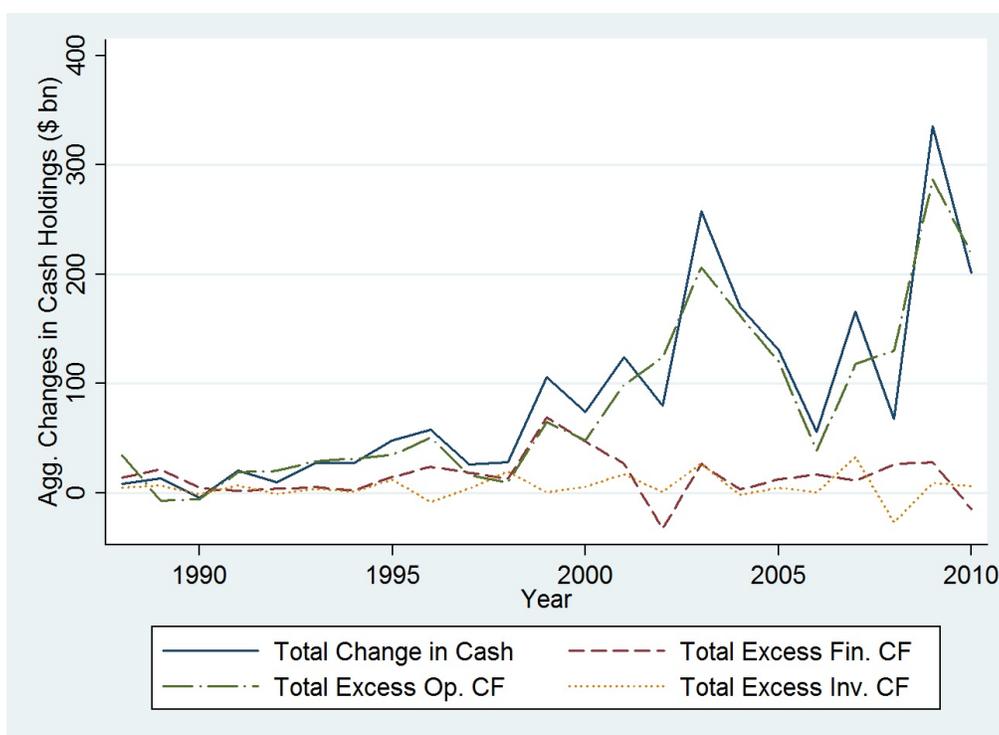
Figure 3 presents average cash by source normalized by total assets. Avg. Cash over Assets is the total cash holdings of the firm divided by total assets. Similarly Avg. Op. Cash over Assets, Avg. Fin. Cash over Assets and Avg. Inv. Cash over Assets are the total cash accumulated from operating, financing and Investing activities, respectively, divided by total assets.



Take away: The results here show that cash is concentrated in the hands of a few firms (consistent with Dittmar and Duchin (2012)) and that, on average, cash from financing activities actually represents a similar fraction of the firm’s cash holdings as cash from operations.

Figure 4: Aggregate Excess Cash Flow Separated by Category

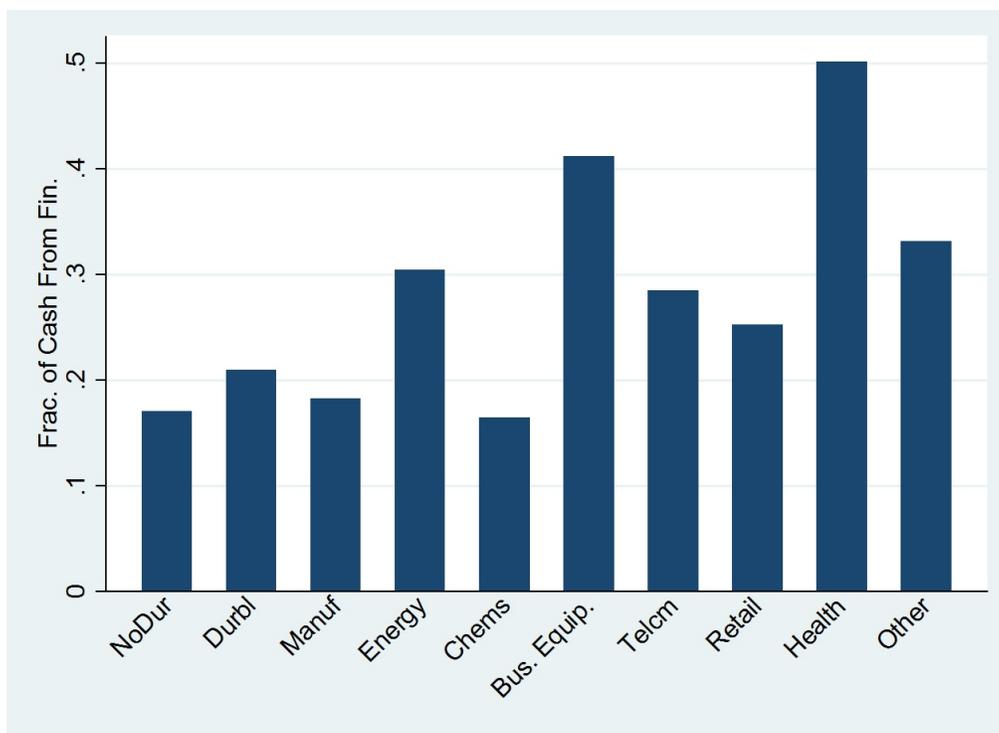
Figure 4 presents the total excess cash flow separated by the source of cash. Total Change in Cash is the COMPUSTAT variable for the changes in cash in the firm's balance sheet. Total Excess Op. CF, Total Excess Fin. CF and Total Excess Inv. CF represent the break down of the total changes into the three categories from the cash flow statement.



Take away: The results show that the dataset created here is consistent with the changes in cash from COMPUSTAT. In addition, I draw similar conclusions as from Figure 1. Cash from financing activities was a more important part of the changes in the cash holdings of the firm, and still represents a significant amount of the changes in the cash holdings of firms. In 2009, 28 billion dollars of the increase in cash holdings came from cash from financing activities.

Figure 5: Avg. Fraction of Cash From Financing Activities by Industry

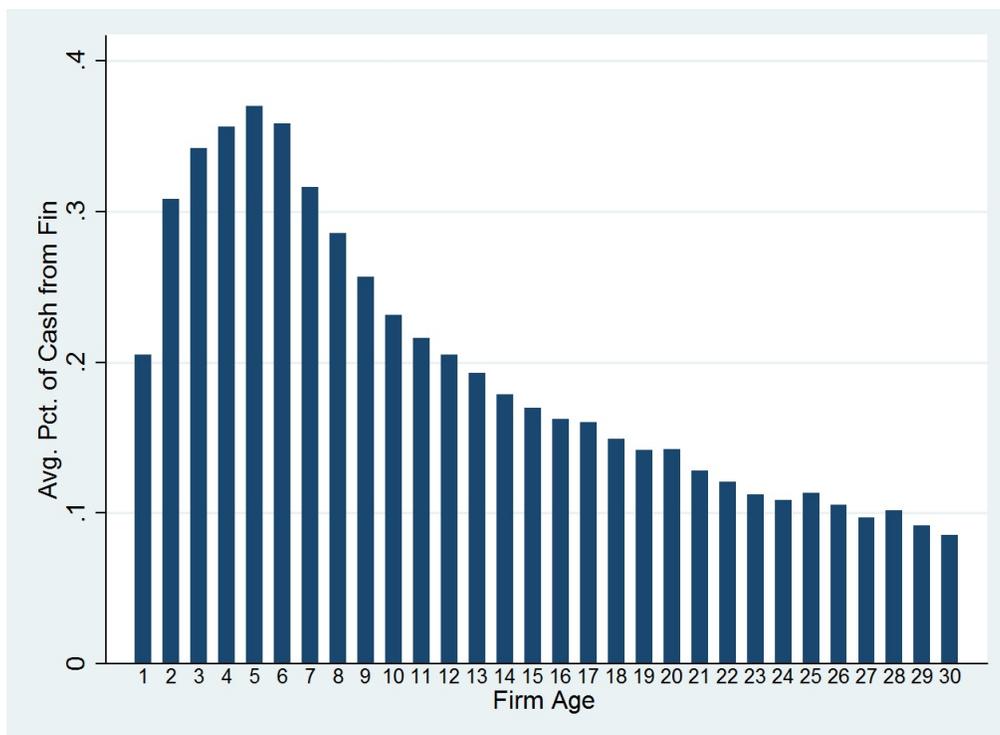
Figure 5 presents the average fraction of cash from financing activities separated by the Fama and French industry classification. The fraction of cash from financing activities of a firm is determined by the accumulated cash from financing activities divided by the total accumulated cash.



Take away: The results show that most industries present a similar average fraction of cash from financing activities. Business Equipments (Computers, Software, and Electronic Equipment) and Health (Healthcare, Medical Equipment, and Drugs) rely more heavily on financing activities to build their cash reserve.

Figure 6: Avg. Fraction of Cash From Financing Activities by Age

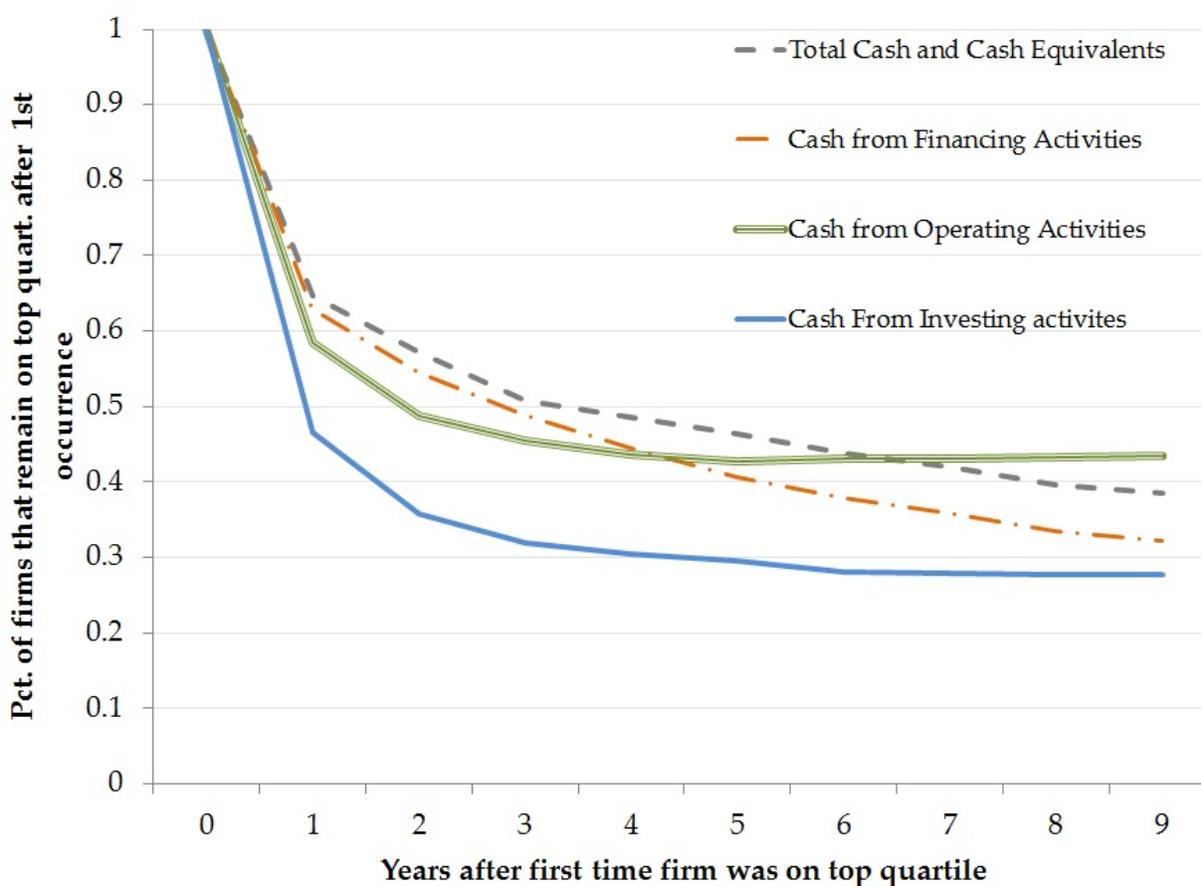
Figure 6 presents the average fraction of cash from financing activities separated by firm age. The fraction of cash from financing activities of a firm is determined by the accumulated cash from financing activities divided by the total accumulated cash.



Take away: Firms rely more heavily on financing activities to build their cash reserves in the beginning of their lives. This cash is replaced by cash from operations during the life of the firm. Nevertheless, they still keep a substantial amount of cash from financing activities at all stages of the firm's life.

Figure 7: Cash Holding Persistence Separated by Source

Figure 7 presents the persistence of total excess cash holdings, excess cash holdings from operations, and excess cash holdings from financing activities. The graph depicts the percentage of the firms that were in the top 4th quartile of the Excess Cash holdings for one year, that continued to be in this group for the following years. Excess Cash holdings is defined by Deangelo, Deangelo and Stulz (2010), which is the industry median each year of a group based on size and market-to-book breakpoints.



Take away: Cash from financing activities is not a transitory holding that adjusts quickly. Firms hold cash from financing activities for the same amount of time they hold cash from operations and the average cash and cash equivalents.

Table 1: Summary Statistics

Table 1 presents the summary statistics of the main control variables used in the paper for different samples. Column (1) reports the summary statistic of the Full Sample. Column (2) presents the results for firms with High Cash Holdings. Firms are classified as having high cash holdings if they are on the top quartile of the Excess Cash distribution. Column (3) consider the sample of firms with some cash from financing activities on their books. Column (4) consider the sample of firms with high cash holdings that have some cash from financing activities on their books. Variable construction is presented on variable appendix. Standard deviation presented in parenthesis.

	Compustat	High Cash	Has Cash from Financial	High Cash and Has Cash from Financing
	(1)	(2)	(3)	(4)
<i>Cash</i>	0.149 (0.187)	0.321 (0.207)	0.234 (0.239)	0.409 (0.226)
<i>Size</i>	5.276 (2.089)	6.194 (1.706)	4.911 (1.999)	5.694 (1.591)
<i>Leverage</i>	0.782 (1.759)	0.332 (1.088)	0.616 (1.714)	0.271 (1.081)
<i>Market-to-Book</i>	2.095 (7.751)	3.010 (6.966)	3.122 (6.788)	3.630 (5.841)
<i>Sales Growth</i>	0.083 (0.612)	0.133 (0.644)	0.219 (0.847)	0.261 (0.855)
<i>Noncash Working Capital</i>	0.108 (0.213)	0.058 (0.162)	0.052 (0.214)	0.022 (0.154)
<i>Price-to-Earnings</i>	11.782 (46.948)	15.456 (54.801)	10.904 (58.444)	15.223 (68.288)
<i>Age</i>	11.984 (8.262)	12.349 (8.106)	11.610 (8.244)	10.697 (7.596)
<i>Cash Flows</i>	0.048 (0.259)	0.078 (0.208)	-0.055 (0.305)	-0.011 (0.237)
Observations	117,981	21,723	36,374	9,551

Table 2: Variable Construction

Table 2 presents a hypothetical example of how firm's excess cash flow and total cash holdings separated by source are created from the COMPUSTAT variables. *CF Op*, *CF Fin*, *CF Inv* are the COMPUSTAT variables: Net Cash provided (used) in operating activities, investing activities and financing activities, respectively. *Op Def*, *Fin Def* *Inv Def* are the deficit generated by each individual account when the cash flow was negative and there was no accumulated cash in that account to cover it. *Ex Op CF*, *Ex Fin CF* and *Ex Inv CF* are the flow variables used in the paper. They determine the excess cash provided (used) in each account. *Cum Op*, *Cum Fin*, *Cum Inv* are the cumulative sum of the flow variables, restricting them to be always positive.

Year	<i>CF Op</i>	<i>CF Fin</i>	<i>CF Inv</i>	<i>Op Def</i>	<i>Fin Def</i>	<i>Inv Def</i>	<i>Ex Op CF</i>	<i>Ex Fin CF</i>	<i>Ex Inv CF</i>	<i>Cum Op</i>	<i>Cum Fin</i>	<i>Cum Inv</i>
1	100	100	-200	0	0	-200	0	0	0	0	0	0
2	100	100	-100	0	0	-100	50	50	0	0	0	0
3	100	-30	30	0	0	0	100	-30	30	50	50	0
4	0	0	-40	0	0	-10	-8.82	-1.18	-30	150	20	30
5	20	-28.82	-30	0	-10	-30	-20	-18.82	0	141.18	18.82	0
6										121.18	0	0

Table 3: Cash Types Distribution

Table 1 presents the summary statistics for the cash variables created in this paper. *Cash Holdings* is the total cash the firm currently holds in its books from Compustat. *Op. Cash Holdings*, *Fin. Cash Holdings*, *Inv. Cash Holding* are the cash holdings coming from Operations, Financing and Investment activity respectively created for this paper, scaled by total assets. The categories are created based on the origin of the cash surplus. *Changes in Cash* is the total changes in cash, calculated using current levels of cash minus the previous year's cash levels. *Op. Cash Surplus*, *Fin. Cash Surplus* and *Inv. Cash Surplus* are the cash surplus generated by Operations, Financing and Investment activities respectively, scaled by total assets. The construction of these variables is explained in details in section IV..

Variable	mean	1 st Quartile	Median	3 rd Quartile	SD	N
<i>Cash Holdings</i>	117.4	0.658	5.087	30.07	806.6	167991
<i>Op. Cash Holdings</i>	77.77	0	0.279	9.921	598.9	165108
<i>Fin. Cash Holdings</i>	16.31	0	0.0129	3.492	174.5	165104
<i>Inv. Cash Holding</i>	5.412	0	0	0	142.8	164759
<i>Changes in Cash</i>	16.91	-2.257	0.0270	5.855	411.1	152797
<i>Op. Cash Surplus</i>	12.17	0	0	1.488	242.8	165108
<i>Fin. Cash Surplus</i>	1.924	-0.0500	0	0.262	108.6	165104
<i>Inv. Cash Surplus</i>	0.704	0	0	0	128.8	164759

Table 4: Predicting M&A bidders

Table 4 reports the results of the regressions of probability of bidding for an acquisition target. Panel A presents the results of logit regressions in which the dependent variable is a dummy that equals one when the firm has bid to acquire another firm in a given year and zero otherwise. *CashDev* is the cash deviation from the cash management model developed by Harford (1999). *PctFinCash* is the percentage of total cash coming from financing and activities. *HighFinCash* is a dummy indicating that that the firm's percentage of cash from financing activities are in the top quartile of the distribution. *OnlyOpCash* is a dummy indicating that all the firm's current cash holdings came from operations. The other controls are listed in section VI. and their construction details are available in the variable appendix. Panel B presents the marginal effects for the logit regressions. * significant at 10%; ** significant at 5%; *** significant at 1%. Clustered t-statistics in parentheses.

	Dependent Variable: <i>Acquisition</i> (0/1)						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A: Logit Regressions							
<i>CashDev</i>	0.727*** (10.783)	1.026*** (3.940)	1.005*** (4.300)	1.197*** (8.353)	0.015 (0.078)	0.527*** (4.647)	-0.300* (-1.780)
<i>CashDev</i> × <i>PctFinCash</i>		-0.512*** (-3.210)					
<i>CashDev</i> × <i>HighFinCash</i>			-0.571*** (-4.277)	-0.736*** (-4.808)	-0.344** (-2.442)		
<i>CashDev</i> × <i>PctOpCash</i>						1.331*** (6.093)	0.748*** (3.616)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Interacted Controls	Yes	Yes	Yes	No	Yes	No	Yes
Industry Fixed-effect	No	Yes	Yes	No	No	No	No
Year Fixed-effect	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm Fixed-effect	No	No	No	Yes	Yes	Yes	Yes
Observations	75,144	46,106	46,106	19,352	19,352	19,352	19,352
Pseudo R^2	0.0862	0.0619	0.0615	0.0568	0.0634	0.0579	0.0643
Panel B: Marginal Effects							
$\partial \Pr(Acq) / \partial CashDev$	0.030*** (11.854)	0.062*** (4.157)	0.061*** (4.542)	0.296*** (7.973)	0.004 (0.078)	0.132*** (4.673)	-0.072* (-1.744)
$\partial \Pr(Acq) / \partial (CashDev * PctFinCash)$		-0.031*** (-3.271)					
$\partial \Pr(Acq) / \partial (CashDev * HighFinPct)$			-0.035*** (-4.359)	-0.182*** (-4.688)	-0.080** (-2.301)		
$\partial \Pr(Acq) / \partial (CashDev * PctOpCash)$						0.332*** (6.074)	0.181*** (3.409)
Joint test		0.031***	0.026**	0.114***	-0.076*	0.464***	0.108*
Joint test T-stat		(2.647)	(2.291)	(3.711)	(-1.808)	(8.843)	(1.724)

Take away: Firms that have cash from financing activities are less likely to bid even with large amounts of cash on their books.

Table 5: Announcement Returns

Table 5 reports the results of cross-section regressions in which the dependent variable is the 3-day cumulative return around an announcement of M&A activity (-1,0,1). *CashDev* is the cash deviation from the cash management model from Harford (1999). *PctFinCash* and *PctOpCash* are the percentage of cash coming from financing and operational activities. *HasFinCash* is a dummy indicating that the firm's holdings of cash from financing activities are greater than zero. *HighFinCash* is a dummy indicating that that the firm's percentage of cash from financing activities are in the top quartile of the distribution. The other controls are listed in section VI. and their construction details are available in the variable appendix. * significant at 10%; ** significant at 5%; *** significant at 1%. Clustered t-statistics in parentheses.

VARIABLES	Dependent Variable: $Car(-1, 1)$					
	(1)	(2)	(3)	(4)	(5)	(6)
<i>CashDev</i>	-0.023*** (-9.122)	-0.027*** (-2.911)	-0.036*** (-3.669)	-0.016** (-2.449)	-0.013** (-1.963)	-0.010 (-1.615)
<i>CashDev</i> × <i>PctFinCash</i>		0.019** (2.474)				
<i>CashDev</i> × <i>HasFinCash</i>			0.027*** (3.516)			
<i>CashDev</i> × <i>HighFinCash</i>				0.020*** (3.476)		
<i>CashDev</i> × <i>PctOpCash</i>					-0.016* (-1.685)	
<i>CashDev</i> × <i>OnlyOpCash</i>						-0.026*** (-2.780)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Interacted Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed-effect	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed-effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	8,630	7,148	7,148	7,676	7,148	7,148
R-squared	0.053	0.065	0.065	0.069	0.064	0.042

Take away: Firms that have cash from financing activities do not destroy value when making acquisitions. The agency problems associated with large cash holdings only apply to firms holding large amounts of cash from operations.

Table 6: Repurchases Announcement Returns

Table 6 reports the regressions of 3-day cumulative returns around the announcement of a stock repurchase based on firms' characteristics. I follow Grullon and Michaely (2004) for the variable construction. CAR is the cumulative return for the 3 days surrounding the announcement (-1,0,1). All dependent variables are deflated by total assets. $C_{i,t}$ is cash and cash equivalents. $PctFinCash_{i,t}$ is the percentage of cash holdings from financing activities. $HasFinCash_{i,t}$ is a dummy indicating that the firm has some cash from financing activities. $HighFinCash_{i,t}$ is a dummy indicating that the percentage of cash the firm is holding is in the top quartile of its distribution. $PctOpCash$ is the percentage cash holdings from operations. $OnlyOpCash$ is a dummy indicating that the firm only has cash from operations. The other controls are listed in section VI. and their construction details are available in the variable appendix. * significant at 10%; ** significant at 5%; *** significant at 1%. Clustered t-statistics in parentheses. * significant at 10%; ** significant at 5%; *** significant at 1%. Clustered t-statistics in parentheses.

Panel A: All Firms						
	Dependent Variable: $CAR(-1, 1)$					
	(1)	(2)	(3)	(4)	(5)	(6)
<i>CashDev</i>	0.020*** (2.797)	-0.056*** (-3.015)	-0.043** (-2.326)	-0.050*** (-3.118)	-0.019 (-1.186)	-0.029* (-1.903)
<i>CashDev</i> × <i>PctFinCash</i>		0.046** (2.453)				
<i>CashDev</i> × <i>HasFinCash</i>			0.020 (1.385)			
<i>CashDev</i> × <i>HighFinCash</i>				0.046*** (3.079)		
<i>CashDev</i> × <i>PctOpCash</i>					-0.044** (-2.541)	
<i>CashDev</i> × <i>OnlyOpCash</i>						0.000 (0.024)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Interacted Controls	No	Yes	Yes	Yes	Yes	Yes
Industry Fixed-effect	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed-effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3,837	3,562	3,837	3,837	3,562	3,562
R-squared	0.036	0.105	0.104	0.106	0.105	0.103

Take away: Firms with more cash from financing activities present positive announcement returns to their share repurchases. Firms with more cash from operations actually present negative returns (contrary to the existing literature)

Table 7: Probability of Repurchase

Table 7 reports probit regressions and logit regressions with firm fixed effects of a dummy indicating the firm had a repurchase that year on measures of overvaluation and interaction terms with our variables of interest. I follow Rhodes-Kropf, Robinson, and Viswanathan (2005) to construct the overvaluation variables. *Firm – SpecificError* is the deviation of market value from the estimated intrinsic value. *Time – SeriesError* is the deviation of the estimated intrinsic value from the average estimated value (which is called Long-run Value). *Long – runValuetoBook* is the deviation of the Long-run Value from the current book value. *High Cash* is a dummy variable indicating that the firm year is in the top quartile of the cash holding distribution of its industry. *PctCFin.* indicates the percentage of the current cash holdings that come from financing activities. Similarly, *PctCOp.* indicates the percentage that come from Operations. The other controls are listed in section VI. and their construction details are available in the variable appendix. The internet appendix presents the full version of this table. * significant at 10%; ** significant at 5%; *** significant at 1%. Clustered t-statistics in parentheses.

	Dependent Variable: <i>Repurchase</i> (0 1)					
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A: Firm-Specific Error						
<i>Firm – SpecificError</i>	-0.043*** (-2.812)	-0.043** (-2.560)	-0.018 (-0.961)	-0.066 (-1.193)	-0.020 (-1.060)	-0.062 (-1.115)
<i>Firm – SpecificError</i> × <i>HighCash</i>		-0.013 (-0.418)	0.047 (0.978)	0.013 (0.095)	-0.092* (-1.915)	-0.087 (-0.620)
<i>Firm – SpecificError</i> × <i>HighCash</i> × <i>PctCFin.</i>			-0.161** (-2.151)	-0.010 (-0.044)		
<i>Firm – SpecificError</i> × <i>HighCash</i> × <i>PctCOp.</i>					0.152* (1.803)	0.177 (0.773)
Observations	54,799	54,855	48,571	15,144	48,571	15,144
Pseudo R2	0.0553	0.0417	0.0562	0.0543	0.0571	0.0553
Panel B: Time-Series Error						
<i>Time – SeriesError</i>	-0.060 (-1.428)	0.221*** (5.286)	-0.038 (-0.753)	-0.292** (-2.300)	-0.034 (-0.681)	-0.286** (-2.248)
<i>Time – SeriesError</i> × <i>HighCash</i>		-0.401*** (-4.451)	-0.091 (-0.714)	-0.320 (-1.010)	-0.507*** (-3.477)	-1.215*** (-3.576)
<i>Time – SeriesError</i> × <i>HighCash</i> × <i>PctCFin.</i>			-0.466** (-2.084)	-1.015* (-1.897)		
<i>Firm – SpecificError</i> × <i>HighCash</i> × <i>PctCOp.</i>					0.516** (2.231)	1.104** (1.968)
Observations	54,799	54,855	48,571	15,144	48,571	15,144
Pseudo R2	0.0550	0.0426	0.0567	0.0569	0.0576	0.0578
Panel C: Long-run Value to Book						
<i>Long – runValuetoBook</i>	0.061** (2.309)	-0.079*** (-3.035)	0.089*** (2.860)	0.286*** (3.452)	0.086*** (2.767)	0.290*** (3.497)
<i>Long – runValuetobook</i> × <i>HighCash</i>		0.024 (0.396)	-0.003 (-0.047)	0.214 (1.104)	-0.145** (-1.966)	-0.300 (-1.211)
<i>Long – runValuetobook</i> × <i>HighCash</i> × <i>PctCFin.</i>			-0.140* (-1.903)	-0.668* (-1.686)		
<i>Long – runValuetobook</i> × <i>HighCash</i> × <i>PctCOp.</i>					0.185** (2.504)	0.610 (1.642)
Observations	54,799	54,855	48,571	15,144	48,571	15,144
Pseudo R2	0.0552	0.0418	0.0565	0.0559	0.0574	0.0567
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	No	Yes	No
Firm Fixed Effects	No	No	No	Yes	No	Yes

Take away: The positive announcement returns to their share repurchases are a result of timing the market better. The bad results of firms with large cash holdings from operations is because of poor timing.

Table 8: Returns on Cash

Table 8 reports the results of the regressions found on tables 4 and 5 adding an interaction with the returns on cash. Panel A reports the results of probit regressions on the probability of bidding. Panel B reports the 3-day announcement returns cross-section regressions. *Ret. on Cash* is Interest and Related income normalized by total assets. The other controls are listed in section VI. and their construction details are available in the variable appendix. * significant at 10%; ** significant at 5%; *** significant at 1%. Clustered t-statistics in parentheses.

	Panel A: Prob. of Bidding		Panel B: Ret. on M&A	
	Dep. Var: Acq (0 1)	(1)	Dep. Var.: CAR(-1,1)	(4)
<i>CashDev</i>	0.102***	0.106***	0.002	0.003
	(2.690)	(2.584)	(0.239)	(0.634)
<i>CashDev</i> × <i>PctOpCash</i>	0.611***	0.523***	-0.031*	-0.031***
	(6.810)	(6.169)	(-1.741)	(-2.613)
<i>CashDev</i> × <i>PctOpCash</i> × <i>Ret. on Invest.</i>	-1.161***	-1.189***	0.056**	0.056***
	(-3.721)	(-3.757)	(2.392)	(2.958)
Controls	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes
Industry Fixed Effects	No	Yes	No	Yes
Observations	31,681	31,681	2,337	2,337
Pseudo R2	0.0521	0.0590	R^2 0.034	0.038
Marginal Effects For Probit Model				
$\partial \Pr(Acq) / \partial CashDev$	0.014***	0.014***		
	(2.699)	(2.599)		
$\partial \Pr(Acq) / \partial (CashDev * PctOp.Cash)$	0.084***	0.071***		
	(7.004)	(6.292)		
$\partial \Pr(Acq) / \partial (CashDev * PctOp.Cash * Ret. on Invest.)$	-0.159***	-0.162***		
	(-3.726)	(-3.759)		

Take away: When returns on their short-term investments are higher, firms with more cash from operations perform better on their M&A activities

Table 9: Predicting All Cash M&As

This table reports the results of the multinomial logit regression that separates the M&As by method of payment. The dependent variable equals to 0 in firm-years with no M&A, it equals 1 in firm-years in which the firm does an all cash M&A and equals 2 in firm-years in which there is an M&As paid with different sources of capital, other than exclusively cash. Panel A presents the results of multinomial logit regressions using outcome 2 (M&As not paid all in cash) as the baseline outcome. *CashDev* is the cash deviation from the cash management model developed by Harford (1999). *PctFinCash* is the percentage of total cash coming from financing and activities. *HighFinCash* is a dummy indicating that the firm's percentage of cash from financing activities are in the top quartile of the distribution. *OnlyOpCash* is a dummy indicating that all the firm's current cash holdings came from operations. The other controls are listed in section VI. and their construction details are available in the variable appendix. Panel B presents the marginal effects for the multinomial logit regressions. * significant at 10%; ** significant at 5%; *** significant at 1%. Clustered t-statistics in parentheses.

Dependent Variable: <i>Type of Acquisition</i>				
Baseline outcome: Non All cash Acquisitions				
	(1)	(2)	(3)	(4)
Panel A: Logit Regressions				
<i>CashDev</i>	0.297** (2.544)	0.470** (2.453)	0.382** (2.513)	0.101 (0.689)
<i>CashDev</i> × <i>PctFinCash</i>		-0.567** (-2.260)		
<i>CashDev</i> × <i>HighFinCash</i>			-0.379* (-1.707)	
<i>CashDev</i> × <i>PctOpCash</i>				0.586** (2.186)
Controls	Yes	Yes	Yes	Yes
Industry Fixed-effect	No	Yes	Yes	Yes
Year Fixed-effect	Yes	Yes	Yes	Yes
Observations	75,144	46,106	46,106	46,106
Pseudo R^2	0.0859	0.0599	0.0540	0.0540
Panel B: Marginal Effects				
$\partial \Pr(Acq) / \partial CashDev$	0.018*** (9.338)	0.023*** (8.384)	0.022*** (10.084)	0.010*** (4.101)
$\partial \Pr(Acq) / \partial (CashDev * PctFinCash)$		-0.016*** (-4.095)		
$\partial \Pr(Acq) / \partial (CashDev * HighFinPct)$			-0.016*** (-4.350)	
$\partial \Pr(Acq) / \partial (CashDev * PctOpCash)$				0.019*** (4.259)
Joint test		0.007**	0.006**	0.028***
Joint test T-stat		2.693	2.192	8.800

Take away: Firms that have cash from financing activities are less likely to do an all cash acquisition.

A Variable Appendix

Variable	Description	Calculation using Original Data Set variable
<i>Panel A: Excess Cash Flows Data Set</i>		
<i>CashDev</i>	Excess Cash calculated using the Harford's (1999) methodology	Details on subsection A.1 of section VII
<i>PctFinCash</i>	Percentage of Cash coming from Financing activities	$Cash_{fromFin} / (Cash_{fromFin} + Cash_{fromOp} + Cash_{fromInv})$
<i>PctOpCash</i>	Percentage of Cash coming from Operations	$Cash_{fromOp} / (Cash_{fromFin} + Cash_{fromOp} + Cash_{fromInv})$
<i>HasFinCash</i>	Dummy Variable equals 1 when $PctFinCash > 0$	
<i>HighFinCash</i>	Dummy Variable equals 1 when $PctFinCash$ is in top quartile	
<i>OnlyOpCash</i>	Dummy Variable equals 1 when $PctOpCash$ equals 1	
<i>Panel B: COMPUSTAT</i>		
<i>CashHoldings</i>	Total Cash Holdings	che
<i>ChangesinCash</i>	Changes in Total Cash Holdings	$che - che_{t-1}$
<i>Cash</i>	Cash over assets	che/at
<i>NetWorkingCapital</i>	Non-Cash Net Working Capital	$(act - lct - che)/at$
<i>SaleGrowth</i>	Sales Growth	$(sale_t - sale_{t-1})/sale_{t-1}$
<i>Leverage</i>	Market Leverage	$(dlc + dltt)/(prcc_f * csho)$
<i>Market - to - book</i>	Market to Book Ratio	$(prcc_f * csho)/(at - lt - mib)$
<i>Price - to - Earnings</i>	Price to Earnings Ratio	$prcc_f/eps_{pi}$
<i>Size</i>	Firm's size	$\log(at)$
<i>Ab.Return</i>	12 month buy and hold return using the 5X5 Fama-French size and MB Portfolio	12 month buys and hold return - 12 month buy and hold return of FF 25 portfolio
<i>Profitability</i>	Income plus depreciation over total assets	$(ib + dp)/at$
<i>Age</i>	Number of years after IPO	
<i>ReturnonAssets</i>	Returns on Assets	ib/at
<i>Ret.OnInvest</i>	Interest income over short term investments	$idit/ivst$
<i>Panel C: SDC</i>		
<i>PSOUGHT</i>	Percentage of shares announced to be repurchased	$pct_s hs_a uth_{late} st_a uth_{late} / 100$
<i>AllCash</i>	All Cash Merger & Acquisition	$pctcash = 100$

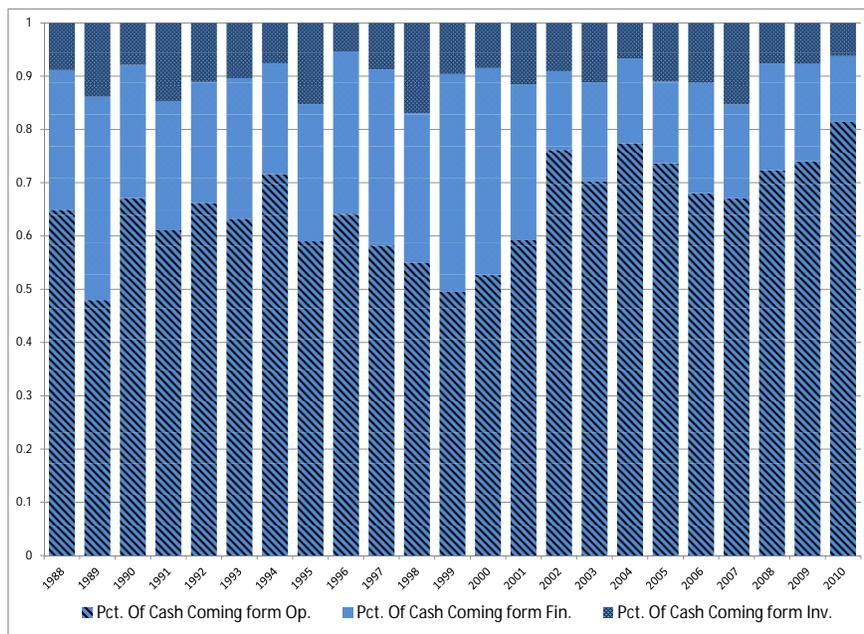
Internet Appendix for:
Easy Come, Easy Go:
Cheap Cash and Bad Corporate Decisions

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Figure A.1: Composition of Cash From Financing Activities Over The Years

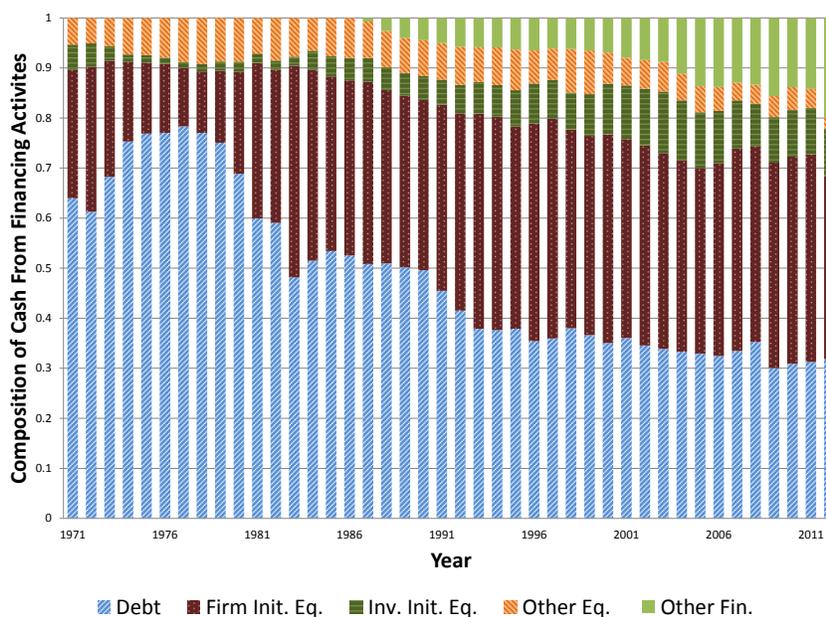
This Figure presents the average percentage of cash separated by category. *Pct. of Cash coming from Op.* is the average percentage of the total cash stock generated by Operations in a given year. Similarly, *Pct. of Cash coming from Fin.* and *Pct. of Cash coming from Inv.* are of the cash stock coming from Financing and Investment activity respectively. The surplus generated in the ow variables presented here will be accumulated to form the stock variables presented in Figure 2.



Take away: The take away is similar to what we see in Figure 2. Before the year 2000 a significant amount of the cash savings of the firms came from Financing activities. After 2000, the surplus was strongly dominated by cash from operations, but cash from Financing still represents a substantial amount of the cash hoarded by the firm each year, even with the large amounts of surplus from the Cash from Operational Activities.

Figure A.2: Composition of Cash From Financing Activities Over The Years

Figure A.2 presents the composition of the cash from financing activities over the years, separating it by whether it came from debt, equity or other financing activity. Following ? I also separate equity issuances by whether they were initiated by the firm or by investors.



Take away: During the 1970's and the 1980's most of the cash from financing activities was coming from debt. Consistent with McLean (2011), after the 1990's cash from equity increase its share and it currently represents the majority of the cash from financing activities. Consistent with McKeon (2012) investor initiated equity issuance is increasing its share over the years.

Table A.1: Predicting M&A bidders - Alternative Source of Cash Variable Construction

This table replicates the results on table 4 using different construction strategies for the source of cash variables. Column (1) reports the result using a construction strategy in which cash from financing activity is the first one to be used. Column (2) reports the results using a construction strategy in which cash from operations is used first. Column (3) reports the results using a construction strategy in which the first money used comes from the current cash flows and then the first saved money used comes from the cash from financing activities bin. Column (4) reports the results using a construction strategy in which the first money used comes from the current cash flows and then the first saved money used comes from the cash from operations bin. Column (5) uses a construction strategy in which saved money is used first. Column (6) uses a construction strategy in which the firm uses an order to spend their money: Cash flows from financing first, cash saved from financing second, cash flows from operations third, cash saved from operations fourth. *CashDev* is the cash deviation from the cash management model developed by Harford (1999). *PctFinCash* is the percentage of total cash coming from financing and activities. * significant at 10%; ** significant at 5%; *** significant at 1%. Clustered t-statistics in parenthesis.

	Dependent Variable: <i>Acquisition</i> (0/1)					
	(1) Fin. First	(2) Op. First	(3) Flows than Fin	(4) Flows than OP.	(5) Old First	(6) Order
Panel A: Logit Regressions						
<i>CashDev</i>	1.072*** (4.616)	0.842*** (3.558)	1.108*** (4.258)	1.088*** (4.684)	1.011*** (3.534)	1.090*** (4.537)
<i>CashDev * PctFinCash</i>	-0.739*** (-4.989)	-0.428*** (-2.858)	-0.571*** (-3.554)	-0.533*** (-3.502)	-0.352* (-1.951)	-0.675*** (-4.491)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Interacted Controls	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed-effect	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed-effect	Yes	Yes	Yes	Yes	Yes	Yes
Observations	49,404	48,818	47,917	50,600	38,218	49,529
Pseudo R-squared	0.0662	0.0673	0.0648	0.0662	0.0662	0.0656
Panel B: Marginal Effects						
$\partial \Pr(Acq) / \partial CashDev$	0.061*** (4.931)	0.047*** (3.753)	0.064*** (4.558)	0.062*** (4.950)	0.060*** (3.772)	0.062*** (4.851)
$\partial \Pr(Acq) / \partial (CashDev * PctFinCash)$	-0.042*** (-5.155)	-0.024*** (-2.910)	-0.033*** (-3.622)	-0.031*** (-3.524)	-0.021** (-1.962)	-0.038*** (-4.610)
Joint Test	0.019* (1.783)	0.023** (2.113)	0.031** (2.455)	0.032*** (2.888)	0.039*** (2.573)	0.024** (2.126)

Take away: The results are robust to other variable construction algorithms.

Table A.2: Predicting M&A bidders - Using Cash

This table replicates the results in table 4 replacing the *CashDev* by *Cash*. *Cash* is defined as cash and cash equivalents over assets. *PctFinCash* is the percentage of total cash coming from financing and activities. * significant at 10%; ** significant at 5%; *** significant at 1%. Clustered t-statistics in parenthesis.

	Dependent Variable: <i>Acquisition</i> (0/1)				
	(1)	(2)	(3)	(4)	(5)
<i>Cash</i>	0.242** (2.131)	0.448*** (2.580)	0.126 (0.722)	2.279*** (13.313)	2.471*** (10.626)
<i>CashDev * PctFinCash</i>		-0.832*** (-3.738)	-0.578** (-2.502)	-0.585*** (-2.842)	-0.548* (-1.783)
Controls	Yes	Yes	Yes	Yes	Yes
Industry Fixed-effect	No	Yes	Yes	Yes	Yes
Year Fixed-effect	Yes	Yes	Yes	Yes	Yes
Firm Fixed-effect	No	No	No	Yes	Yes
Observations	75,144	46,106	46,106	38,689	22,745
Pseudo R^2	0.0786	0.0460	0.0518	0.0356	0.0559

Take away: The results are robust to the using Cash instead of Cash Deviation