Campello, Murillo

Article
Corporate liquidity management

NBER Reporter

Provided in Cooperation with:

Suggested Citation: Campello, Murillo (2015) : Corporate liquidity management, NBER Reporter, National Bureau of Economic Research (NBER), Cambridge, MA, Iss. 3, pp. 16-18

This Version is available at:
http://hdl.handle.net/10419/178711

Terms of use:
Documents in EconStor may be saved and copied for your personal and scholarly purposes.
You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.
If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.
Corporate Liquidity Management

Murillo Campello

The global financial crisis drew fresh attention to the way firms manage liquidity, as credit markets dried up and internal savings became key to corporate survival. Liquidity management is an old topic; it has been discussed at least since John Maynard Keynes’ examination in the 1930s. It attracts much attention today, as large companies worldwide have amassed some $4 trillion in “idle cash” on their balance sheets. Figure 1 depicts S&P 500 firms’ holdings of cash and liquid securities over the last 20 years. The holdings of liquid assets in the figures are the highest both in absolute values as well as a fraction of total corporate assets since at least WWII. Apple Inc., alone, recently reported holding nearly $180 billion in cash, enough to acquire the combined equity and debt values of its industry rivals, and comparable to the GDP of Portugal or Greece.

Academic work on corporate liquidity took off around 2000. The notion of corporate liquidity management has since evolved to encompass not only how firms administer their cash balances, but how they deal with credit lines, manage their debt capacity, and use derivatives for hedging. Central to this research is the idea that managers use liquidity as a way to maintain financial flexibility if their firms should face difficulties securing cash in the capital markets. In the corporate world, financial flexibility can be key to sustaining firms’ real-side operations at close to optimal levels. In that regard, the broad conclusion is that cash remains “king,” at least for certain groups of firms. Debt capacity does not provide the same degree of downside protection as cash, and derivative instruments can only help with a limited set of risks that are traded in the market. While credit lines are good all around substitutes for cash, firms may still prefer cash when their liquidity risk is systemic in nature, and thus hard for banks to insure. The global financial crisis taught us that, in bad times, banks are unable to aggressively support surges in corporate liquidity needs, as banks themselves may experience liquidity shortages too.

Is There an “Optimal” Level of Cash?

There is a general fascination with the level of cash companies carry on their balance sheets. Various figures are discussed in the media, among academics, practitioners, and even in Federal Reserve Board meetings. But this focus on — or search for — the optimal corporate cash level may be misplaced. In practice, the literature’s focus on cash has been driven by lack of data on alternative mechanisms of liquidity provision such as credit lines and derivatives-based hedging. Now, however, it is becoming possible to incorporate data associated with these other mechanisms into the analysis of corporate liquidity. For example, recent studies have documented that the existence of undrawn credit lines can add substantially to a firm’s liquidity. Firms that hold undrawn credit lines also hold some cash, but firms without such lines hold significantly more cash. Credit line facilities, too, add up to trillions of dollars nowadays and the message one should take from this is that the notion of firms trading off that firms face in dealing with their liquidity needs. There should be less focus on observed cash balances per se, and more awareness that cash management is just one piece of a multi-faceted process. In joint work, Hector Almeida, Michael Leibach, and I proposed looking beyond corporate cash levels to examine how firms hedge their marginal savings decisions. We look at why firms may choose to save funds from operating cash flows, and which firms are likely to do so. We show that firms can engage in very active liquidity management processes independent of their level of cash shown on their balance sheets.

We model and discuss a concept that we dub “the cash flow sensitivity of cash.” In essence, we isolate the fraction of incremental cash flows that firms retain as additional cash in each period. In our model, firms have easy access to fairly-priced external funds (“financially unconstrained firms”) invest at first-best levels. As such, cash flow innovations have no effect on investment spending. Firms facing financial constraints, on the other hand, need to channel part of their cash flow into savings as a way to increase their ability to invest today and in the future. The fraction of cash flows that a firm retains will reflect management’s view as to whether the future is bright or dark. In the case of bank credit lines, critically, credit line-based liquidity management relies on the ability of the banking sector to honor drawdowns. This can be problematic if corporate liquidity needs and banking sector shortages are correlated.

Alternative Forms of Liquidity

The foregoing work shows that cash creates financial flexibility because it ensures liquidity. Other forms of liquidity are important as well. In tests of some of the hypothesis that a firm’s cash balance depends positively on its cash flow, a situation that indicates the existence of financial constraints. Using a large sample of U.S. companies, we show that firms that are small, that do not pay dividends, and that do not have rated bonds or commercial paper (“constrained firms”) display a pronounced positively association with financial constraints. Financially unconstrained firms, in contrast, display no such savings sensitivity.

The literature has since been reported in a number of studies, including some analyzing data from other countries. Bank versus Debt Capacity

Firms can use external debt to fund their projects even when they face some financial constraint. In these situations, too, cash policy can be quite active, with corporate savings responding to firms’ needs to optimize debt policy across time and economic environments. I studied this type of problem in work with Viral Acharya and Almeida. We look jointly at firms’ cash and debt policies, identifying key differences between “savings” in the form of cash accumulation and in the form of built-up debt capacity. When facing financial constraints, firms may use up their debt capacity even when they have enough internal cash to fund current investments. The reason is that constrained firms’ future cash flows are low, they likely will be shut out of the credit markets, interrupting their investment plans. On the other hand, firms may use up their cash. This is because they transfer cash flows to the payment of a commitment fee.

We show that the most efficient corporate access to liquidity is to use derivatives to manage corporate financing constraints. Derivative instruments can substitute for cash holdings in securing the continuity of the investment process because they transfer cash flows to states of the world in which liquidity is needed. In a 2011 study, Chen Lin, Yue Ma, Hong Zhou, and I explore how hedging affects access to external funding and investment. We argue that when firms have large drawdowns, a sharp increase in the cost of other funding commitments that lower the cost of financial distress and reduce their odds of going bankrupt, which enhances their access to bank credit. Consistent with this idea, we show that firms with active hedging programs in place face lower loan spreads. Importantly, the terms of their loan contracts become more lax, with credit facilities placing far fewer covenants on their investment decisions. Bank credit lines can be structured as replicative derivative instruments that ensure corporate access to liquidity. The key feature of a credit line is that it allows a firm to incorporate financing up to a certain quantity in exchange for the payment of a commitment fee. Notably, the length of time over which this insurance works in practice has limitations; for one thing, lines can be revoked by the bank if the situation at the firm materially deteriorates (MAC clauses). But, critically, credit line-based liquidity management relies on the ability of the banking sector to honor drawdowns. This can be problematic if corporate liquidity needs and banking sector shortages are correlated.

In a 2013 paper, Acharya, Almeida, and I use this insight to derive key predictions about the choice between cash and credit lines. We show that the most efficient corporate access to liquidity is to use derivatives to manage financial constraints. Derivative instruments can substitute for cash holdings in securing the continuity of the investment process because they transfer cash flows to states of the world in which liquidity is needed. In a 2011 study, Chen Lin, Yue Ma, Hong Zhou, and I explore how hedging affects access to external funding and investment. We argue that when firms have large drawdowns, a sharp increase in the cost of other funding commitments that lower the cost of financial distress and reduce their odds of going bankrupt, which enhances their access to bank credit. Consistent with this idea, we show that firms with active hedging programs in place face lower loan spreads. Importantly, the terms of their loan contracts become more lax, with credit facilities placing far fewer covenants on their investment decisions.
series analyses further show that firms’ cash reserves rise in times of high aggregate volatility. At such times, credit line initiations fall, their spreads widen, and maturities shorten.

The Role of Liquidity When Capital Markets Collapse

The relation between corporate liquidity and real activity came to the forefront of the academic and policy debate during the global financial crisis. The credit market breakdown started in 2008 and became acute in the spring of 2009. Firms’ inability to obtain external funding allowed researchers to look at corporate liquidity tratment at a time of acute liquidity scarcity.

In the fall of 2008, as the crisis started to engulf the economy, John Graham, Cam Harvey, and I sent out survey questionnaires to thousands of CFOs in 39 countries asking them about their corporate plans for the coming year. These data provided us with unprecedented information about corporate liquidity management, and they revealed that managers thought about liquidity as a way to guard against a crash that was about to happen. We found that, in anticipation of a severe liquidity contraction, financially constrained firms cut back their plans to cut their cash stocks by as much as 15 percent points, compared to only 2 percentage points, on average, among financially unconstrained firms. These planned cuts in liquidity were accompanied by other major changes. In particular, constrained firms reported plans to reduce employment (by 11 percent), technology spending (by 22 percent), capital investment (by 9 percent), as well as cash dividend payments (by 14 percent) in many industries. Fiscally unconstrained firms, in contrast, reported much milder changes in their planned policies for 2009. Notably, firms reported plans to reduce their technology facilities — drawing unprecedented amounts of cash from their lines — as a way to insulate against the effects of the crisis.

After gathering information on how access to funds modulated corporate plans during the crisis, Graham, Harvey, and I teamed up with Erasmo Giambona to assess how firms chose between different liquidity instruments. We used a new method of CFO surveys to gauge how firms’ cash positions and cash flow impacted their access to credit lines and their plans with regard to saving. Pre-2008 cash position proved to be of paramount importance. For firms coming into the crisis with healthy cash balances, cash flows had no bearing on their access to bank credit lines. Only the firms with low cash exhibited a positive correlation between operating cash flows and credit line access. Notably, firms with more cash had their investment plans boosted by greater access to credit lines. At the same time, lack of access to credit lines forced firms to choose between saving and investing. In the absence of pre-crisis savings, access to credit lines was crucial in allowing firms to invest and to survive in the years ahead. Our work extended to Europe, where bank-based economic systems made credit line access particularly important for corporate financing during the global downturn. These analysis, yes that corporate liquidity management should not be restricted to the study of corporate cash, and that credit lines can play a fundamental role in assisting firms’ access to liquidity in difficult times.


11. These analyses show that corporate liquidity management should not be restricted to the study of corporate cash, and that credit lines can play a fundamental role in assisting firms’ access to liquidity in difficult times.


13. First, the costs of college have increased markedly, even after accounting for inflation and expansions in student aid. Second, average returns to college (net of tuition payments) have increased sharply. Third, labor market uncertainty has increased considerably, highlighted by the Great Recession.

14. The first two trends, rising costs and returns to college, have contributed to a dramatic increase in demand for student loans. Annual student borrowing levels doubled in the 1990s and then again over the next decade. Combined government and private student debt levels in the U.S. quadrupled from $250 billion in 2003 to $1.1 trillion in 2013, reflecting sizeable increases in both the incidence of debt and debt levels among borrowers.

15. At the same time, there are concerns that many recent students are taking on too much debt. Growing portions of debt, coupled with rising labor market uncertainty and the last recession have led to a sharp increase in default on federal student loans. After increasing, the share of non-federal student loans at 25 percent of all undergraduate borrowing in the mid-1990s, this share dropped to 20 percent in 2009–2011.

16. For example, a dramatic change in the distribution of cumulative debt among U.S. baccalaureate recipients since 1989–90. The share of college graduates borrowing more than $30,000 rose from 4 percent to 10 percent.

17. The steady rise in student borrowing over the late 1990s and 2000s masks the fact that government student loan limits remained unchanged (in nominal dollars) between 1993 and 2008. Adjusting for inflation, this reflects a nearly 50 percent decline in value. In 2008, aggregate Stafford loan limits for dependent undergraduate students jumped from $23,000 to $31,000, although this value was still less than the 1993 limit after accounting for inflation. Not surprisingly, the share of full-time/full-year undergraduates that maxed out Stafford loans increased more than five-fold from 1989–90 to 2003–04. Undergraduates changed more and more to private lenders to help finance their education prior to the 2008 increase in federal student loan limits and contemporaneous collapse in credit markets. Undergraduate borrowing from non-federal sources peaked at 25 percent of all undergraduate borrowing. After use this increase in private lending, there are reasons for concern that a growing fraction of youth from low-income and even middle-income backgrounds are unable to access the resources they need to attend college.

18. At the same time, there are concerns that many recent students are taking on too much debt. Growing portions of debt, coupled with rising labor market uncertainty and the last recession have led to a sharp increase in default on federal student loans. After increasing, the share of non-federal student loans at 25 percent of all undergraduate borrowing in the mid-1990s, this share dropped to 20 percent in 2009–2011.

19. At the same time, there are concerns that many recent students are taking on too much debt. Growing portions of debt, coupled with rising labor market uncertainty and the last recession have led to a sharp increase in default on federal student loans. After increasing, the share of non-federal student loans at 25 percent of all undergraduate borrowing in the mid-1990s, this share dropped to 20 percent in 2009–2011.