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Managing Liquidity Risk in a Changing Debt Environment: The Issuer's Perspective

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Author

Gabilondo, José

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MANAGING LIQUIDITY RISK IN A CHANGING DEBT ENVIRONMENT:
THE ISSUER'S PERSPECTIVE

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José Gabilondo, Assistant Professor, Raphael Díaz-Balart Hall
College of Law, Florida International University
Miami, Florida 33139, jose.gabilondo@fiu.edu¹

ABSTRACT

Some trends in global funding markets are leading to a new paradigm about liquidity risk in issuers: increased cross-border debt and equity flows; the growth of equity intermediaries like private funds, sovereign wealth funds, and “club” consortia; and the use of financial products which embed contingent liabilities in firms, liabilities which “spring” into maturity in market downturns. Working together, national regulators are moving towards an enterprise – rather than entity – view of liquidity risk and making clearer distinctions between market liquidity risk (to assets) and funding liquidity risk (to obligors). Current surges of commercial liquidity make this a timely issue for issuers (liquidity consumers), prospective investors and creditors (liquidity providers), and national regulators with system responsibilities for financial public goods, like the funding markets. Creative conflicts between the interests of issuers, investor and lenders, and regulators are a healthy part of a financial system, but this paper argues for more financial literacy about funding liquidity risk. After explaining this concept, the paper situates “event risk” in the context of funding liquidity. Recent bondholder losses in leveraged restructurings of firms (“event risk”) have raised questions about whether bond indenture covenants provide adequate protection against the risk of these losses. This paper argues that funding liquidity risk and its management are important aspects of event risk, which liquidity covenants might help to mitigate for issuers and others.

¹ I am very grateful for the opportunity to participate in the Associação Latino-Americana e do Caribe de Direito e Economia. Before teaching, most of my professional experience consisted of service in the U.S. Securities and Exchange Commission (trading market structure), the U.S. Comptroller of the Currency (national bank trading book and treasury management), the World Bank (legal aspects of administration), and the U.S. Department of the Treasury (legal section for credit transactions, public debt issuance, and domestic credit and capital markets law). This paper draws on insights from government practice in order to disseminate some analytical perspectives of potential interest to both private and sovereign issuers, especially those in the region. Let me note that this is the first draft of this paper. So I very sincerely invite and look forward to feedback and suggestions on any legal, financial, or economic aspect of it from other conference participants, in particular on the future research mentioned in note 130..

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I. INTRODUCTION

As is often the case, change-of-control mergers and acquisitions, record-breaking leveraged restructurings, and the ensuing windfall returns to shareholders are again making headlines. This time, the large capital pools behind the deals take the form of leveraged loan syndicates, private equity funds, hedge funds, and trans-border consortia of large asset-holders. Although it tends to be the equity capital which gets the attention, it is equity's power to leverage debt which provides the real drama, as reflected in the patterned issuance of debt several times in excess of that of equity. (Sovereigns too issue debt and face some of the same funding market dynamics of private issuers, although creditors have fewer remedies against sovereign debtors, who also enjoy non-market access to resources for repayment, like taxation.) Yet, not enough attention is paid to the debt market, until, of course, debt claims begin to bear loss. Then the attention moves quickly – but too late – to these claims.

We seem to be in a liquidity surge just at the moment. Sovereign debt issuance in Latin America, for example, suggests a trend towards increasing the length of public yield curve,²

² Uruguay increased the issuance size of inflation-linked 20-year bonds from \$200 million to \$500 million; Colombia plans to issue a 20 year benchmark security and has made noises about issuing a 30 year bond; Argentina extended its yield curve to 10-years with \$750 million in dollar-denominated Bonar bonds; and Trinidad and Tobago plans to sell 15 year bonds. I have extracted these transactions from the trade journal Latin Finance. LATIN FINANCE 2007.

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favorable pricing,³ large issuances and unmet investor demand,⁴ and, significantly, liquidation of multilateral and bilateral debt.⁵ Much the same is true for private debt issuance in the region, including many local currency offerings. Recent offerings have included very large issuances,⁶ long terms,⁷ favorable credit ratings,⁸ and significant unmet demand.⁹ (Counter-examples exist too.¹⁰)

Borrowers, lenders, and regulators have distinct interests, but they share an interest in maintaining the going-concern value of the firm.¹¹ Effective liquidity management lets issuers meet lender and investor expectations, reassuring regulators on the look-out not only for commercial sectors but for the wider risks to social sectors of commercial disruptions. The risk is that upturns in liquidity cycles bring is bad credit underwriting, as liquidity-hungry firms meeting liquidity-rich asset holders.¹² Merton Miller has suggested that there may be no such thing as an “overleveraged” firm (the same may not be true for countries), but managing leverage when

³ Brazil recently raised \$500 million in an issuance with the lowest yield yet for a global real-denominated borrowing; Standard & Poor’s recently increased Colombia’s long-term foreign currency sovereign credit rating from BB to BB+ and, with respect to local currency borrowings. *Id.*

⁴ Venezuelan PDVSA issued \$7.5 billion in 10-, 20-, and 30-year notes to residents, up from the original issuance projection of \$5 billion; Energía de Bogotá plans to tap local markets to refinance a \$1.46 billion loan; an issue of 2-5 year notes by the central bank of the Dominican Republic was oversubscribed by a ratio of 4:1. *Id.*

⁵ Venezuela has paid off its World Bank and IMF obligations ahead of schedule; Peru plans to pay off its outstanding Brady and Paris Club debts in 2007. *Id.*

⁶ Banco Magro issued \$150 million in Argentina’s first offering of perpetual debt to unmet demand; Brazilian Rede Empresas de Energia Elétrica plans to offer perpetual non-callable bonds and Mexican Cemex plans to issue perpetual non-callable debentures. *Id.*

⁷ Claro Chile issued perhaps the largest financing (\$400 million) in the Chilean market; Brazilian TAM increased the offering size of 10-year bonds from \$200 million to \$300 million; Uruguayan Puerta del Sol completed that largest local currency offering (\$87 million); Brazilian Grupo Rede increased the size of an issuance of perpetual, non-callable notes from \$200 million to \$400 million. *Id.*

⁸ Mexico’s Su Casita earned AAA ratings from S&P’s, Moody’s, and Fitch on a \$232 million in mortgage-backed securities; S&P also assigned a AAA rating to La Hipotecaria Panamanian Mortgage Trust’s securitization in the first local deal to be rated higher than Panama’s local and foreign currency ratings. *Id.*

⁹ Peruvian company Alicorp received bids for twice the amount of a local currency issuance of bonds. *Id.*

¹⁰ For example, Citi has had more trouble than expected in placing the longer-term of a working capital loan for Brazilian Grupo Votorantim; and Brazilian Secretary of the Treasury Massote de Godoy said that Brazil would not issue 10-year debt as previously suggested. *Id.*

¹¹ This is not true as the asset value of a firm drops below the value of liabilities: then the bondholders might prefer immediate liquidation to the risk of more loss. Nor is it true for hyper-bearish providers of “death spiral” funding because they gain the most as the issuer fails.

¹² Although it may be that liquidity surges lead to financial innovation that might not otherwise take place. Consider how the petro-liquidity boom of the 1970s set the stage for the later shift in sovereign financing from bank loans to securities issuance thanks to the U.S. Treasury’s efforts to shield U.S. and U.K. banks from credit losses through the Brady Plan.

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funding is plentiful benefits from sobering assumptions.¹³ This paper argues that improved liquidity management (mostly in firms but, to a lesser extent, sovereigns too) would help to manage funding – for all parties concerned – during a liquidity cycle. Variation in the structure of local funding markets – for example, those in Latin America – makes it hard to generalize about liquidity risk, but this paper tries to articulate some principles of general application. In doing so, I remain open to the critiques made against the reception of economic law in Latin America.¹⁴

II. MASTERING THE LIQUIDITY CHALLENGES OF FINANCIAL INNOVATION

The term “liquidity” may refer to asset market liquidity or obligor funding liquidity. Market liquidity refers to the depth of supply and demand for an asset.¹⁵ When an asset’s bid-ask spread widens or when the purchase (sale) of an asset exhausts market interest at a price level, it may be said that the purchaser (seller) pays a “market liquidity premium” for executing the transaction at that time. (The prices in a “fire sale” reflect a market liquidity discount.) Moving from asset to obligor, though, funding liquidity refers to an obligor’s ability to manage its cash flow, credit, and other resources such that maturing liabilities can be paid and that maturing assets can be reinvested or otherwise redeployed. Funding liquidity relates both to the right- (liability claims) and left-hand side (asset claims) of a firm’s balance sheet. Of course, incurring a liability claim by borrowing can provide a firm with instant liquidity, but assets too can provide liquidity. Asset liquidity refers to a firm’s ability to extract liquidity from the claims which it books on the left-hand side of its balance sheet.¹⁶ Of course, cash and cash-like claims like bank accounts are a

¹³ Merton H. Miller, *Leverage*, 1990 ECONOMIC SCIENCES 291, 298-300 (Nobel Lecture, Dec. 7, 1990) (transcript available online at http://nobelprize.org/nobel_prizes/economics/laureates/1990/miller-lecture.pdf) (arguing that market forces “self-correct” the supply and demand for leverage endogenously through interest rates).

¹⁴ YVES DEZALAY AND BRYANT GARTH, *THE INTERNATIONALIZATION OF PALACE WARS[:] LAWYERS, ECONOMISTS, AND THE CONTEST TO TRANSFORM LATIN AMERICAN STATES* 198-219 (2002) (analyzing how the reception of U.S.-style law practice in Latin-American interacted with local elites and social structure).

¹⁵ Market liquidity is what the large investment banks which serve as primary dealers provide to the U.S. Treasury as issuer when it floats new bills, notes, and bonds. Being a primary dealer means promising to take down the “on-the-run” Treasury security. Once the Treasury issues a later security of the same term, the old security becomes “off-the-run” and the new one goes “on-the-run.” As they come to rest in customer portfolios, off-the-run securities have less market liquidity than the on-the-run, in part because of the primary dealers’ market-making role.

¹⁶ A form of collateral market, the repurchase market illustrates how asset liquidity works because in it a debtholder can liquefy an asset – a government security – by pledging it as collateral for a money loan, albeit in the form of a pair of back-to-back purchase and sale contracts. Government securities repurchase markets also provide regulators with important information about the behavior of government securities holders. In the U.S., the Federal Reserve Bank of New York track the “repo” rate for government

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form of asset liquidity, but the concept refers more broadly to any asset which can be easily converted into cash. This includes not only short-term money market claims but also longer term financial claims, as each one – regardless of its current term – will ripen at some point into an operational concern calling for liquidity management.

This paper considers only funding liquidity.¹⁷ At the heart of funding liquidity – and market liquidity too, actually – is the question of imminent value in a real-time market as an empirical matter. So, liquidity questions trump book values, accrual accounting and the discretion that it makes possible, or forward-looking projections generally. Capital structure policy addresses several periods, but liquidity deals with the here-and-now. Of courses, flows make stocks and the daily accumulation of liquidity policies ultimately adds up to balance sheet assets (or liabilities). Part A explains the concept of a commercial liquidity cycle. Liquidity cycles are the province of macro-economists but it behooves lawyers to heed them (the cycles and the economists) for their clients’ sakes. Private attorneys representing issuers, investors, or lenders face the liquidity cycle one deal at a time. Public-sector lawyers have a dog in this race too because, in the aggregate, these deals impact financial stability. To help bridge the private-regulatory divide, Part B discusses how national finance regulators are moving towards a more comprehensive approach to liquidity cycles by targeting financial conglomerates and institutionalizing knowledge about relatively new financial products with “leverage-inducing” effects. This time, private firms can learn from the regulators (now that they have learned from financial conglomerates).

A. Commercial liquidity cycles

A commercial liquidity cycle refers to the contraction or increase of financial resources – cash or credit – available for lending or equity investment in commercial sectors. (Of course, this type of liquidity is a function of the wider liquidity market.) Commercial liquidity obeys the laws of supply and demand: flush asset holders will seek out good investment opportunities leading, in

securities to monitor incipient shortages of market liquidity in particular securities. The repo rate is a notional interest rate on a money loan secured by government securities: when a particular securities issue is scarce – going on “special” – it may signal a debtholder strategy to hoard an issue, which may compromise the efficacy of open-market operations to influence monetary policy. The repo function helps to “complete” market structure by letting investors extract collateral value from their assets. It seems that repo can develop only when a deep and liquid secondary market exists for a security.

¹⁷ JOINT FORUM ON FINANCIAL CONGLOMERATES, *The Management of Liquidity Risk in Financial Groups* 1, n.7 (May 2006) (hereinafter “JOINT FORUM, *Liquidity Risk*”).

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the aggregate, an upturn in the liquidity cycle. Of course, this is an analogy to the business cycle, a model for the direction and periodic fluctuations in a country's economic growth.¹⁸ Business cycle studies try to explain and predict contractions and expansions in a country's productive capacity, in part to mitigating their foreseeable downside.¹⁹ Like business cycles, liquidity cycles recur, although John Kenneth Galbraith's observation that financial memory is short means that this is soon forgotten.²⁰

Much as changes in sea level have serious effects for shore-dwellers, so to do waves of commercial liquidity affect firms. But it is harder to "see" liquidity flows and to appreciate them in the aggregate before they reach the particular funding market in which a firm operates. The Board of Governors of the Federal Reserve System's flow-of-funds data comprehensively tracks the size and direction of liquidity movements between intermediaries – including finance intermediaries.²¹ But I am aware of no comparable tool at the global level. The International Monetary Fund ("IMF") has monographs on sectoral flows, e.g. foreign portfolio investment, or regions, as shown in its annual Financial Stability Report. And the IMF's annual balance-of-payments reports reconcile resource flows between countries on the basis of the capital and current accounts. But not even balance-of-payments data has the same granularity about intermediaries as does the Board's flow-of-funds data.²² So it is hard to get a mental picture of global liquidity and to appreciate – period to period – the role that different intermediaries play in generating, storing, releasing, and using liquidity. What is needed is a dynamic data set that tracks the asset bases of the official sector (central banks and sovereign wealth funds), private investment capital pools (like equity and hedge funds), fiduciary pools (like pension funds), credit providers (like banks), and other intermediaries. And, from the perspective of firm operations, a

¹⁸ See generally R.C.O. MATTHEWS, *THE BUSINESS CYCLE* (Cambridge, 1958).

¹⁹ What Matthews notes about the business cycle applies as well to liquidity cycles, including those in Latin America and the Caribbean:

In almost all countries since the time they began to industrialise or to come into contact with industrial countries, the path of economic growth has been punctuated by fluctuations in income and employment. Sometimes these fluctuations have been mild, sometimes they have been catastrophic. It is our business to try to understand why they have happened. (citation omitted) *Id.* at 1.

²⁰ See JOHN KENNETH GALBRAITH, *A SHORT HISTORY OF FINANCIAL EUPHORIA* 1–17 (1993) (arguing that collective psychological mechanisms contribute to financial crises by, inter alia, discouraging criticism of financial speculation)..

²¹ The information is contained in time-series found at <http://www.federalreserve.gov/releases/Z1/>.

²² See, e.g., INTERNATIONAL MONETARY FUND, Committee on Balance of Payments Statistics, Annual Report (2005), available at <http://www.imf.org/external/np/sta/bop/bop.htm>. See generally INTERNATIONAL MONETARY FUND, Balance of Payments and International Investment Position Statistics, <http://www.imf.org/external/np/sta/bop/bop.htm> (last visited May 6, 2007).

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continuous and pervasive awareness of how different claims impact the firm's funding liquidity is key.

Such as it is, the available data suggests that we are now in such an upturn of a commercial liquidity cycle, although perhaps at a lull or the tail end of it. The credit climate is such that some corporate borrowers can actually cut the interest rate on existing loans just by asking creditors to "reprice" the deal, although "fatigued" investors are becoming less willing to do so.²³ (It is as though lenders had issued "free" options to lock-in lower interest rates should they drop after the loan.) The IMF reports a perception that firms have unused debt capacity, low interest rates, and "appetite" on the part of investors for more risk, all factors suggesting that funds are chasing investments.²⁴ In this view, echoing Michael Milken's 1980s rationale for the high yield bond market, the wave of leveraged restructurings "optimizes" these firms through "capital structure arbitrage" carried out by equity intermediaries.²⁵ And, indeed, the number of large dollar mergers and acquisitions (those involving over \$1 billion dollars), in particular, increased in 2006.²⁶ The IMF cautiously notes the risk of risk from these leveraged restructurings;²⁷ but it also qualifies its concerns by suggesting that structural factors too explain recent liquidity surges, much as Alan Greenspan did earlier when suggesting that structural

²³ Cynthia Koons, *Just Saying No to Repricings Investors Rein in Market That Funds Leveraged Buyouts*, WALL STREET JOURNAL C5 (Apr. 27, 2007) (referencing Reuters loan pricing data that between January, February, and March lenders had cut rates on between \$16.6 to \$44.3 billion each month but that for April only \$1 billion in loans had been repriced). There are other signs, too, that the liquidity cycle may be turning. See, e.g., Serena Ng, *Bond Investor's Lament Fallout as Moody's S&P Cut Ratings on Issues Tied to Subprime Loans*, Wall Street Journal C1 (May 3, 2007) (reporting on actual or potential credit downgrades of \$1 billion in securitizations of high yield mortgage loans, including investment-grade securities).

²⁴ The IMF mentions these as three factors contributing to the current liquidity supply. INTERNATIONAL MONETARY FUND, GLOBAL FINANCIAL STABILITY REPORT 29.

²⁵ This observation needs qualification, though, because many of these leveraged restructurings also involve a higher degree of proprietary exposure on the part of acquirers – not only do they mobilize other investors' credit resources but they are also taking equity stakes in the acquired firms – than did the leveraged restructurings of the 1980s.

²⁶ FactSet Mergerstat, *Release: M & A Wrap Up for 2006*, available at <http://www.mergerstat.com/newsite/press/release35.htm> (reporting 11,000 deal announcements overall for 2006).

²⁷ These risks affect financial intermediaries differently based on their involvement in these leveraged restructurings. Not only might pre-existing bondholders face downgrade risk, but banks offering bridge financing during the pendency of the ultimate financing arrangements in these deals bear some risk that a contraction in the business or the liquidity cycles would impair the quality of their asset claims. GLOBAL FINANCIAL STABILITY REPORT 15.

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changes to inventory policies had permanently “ramped up” the U.S. economy’s productive capacity.²⁸

Another expression of a liquidity upturn is the increase of nonbank sources of credit to supplement traditional sources of funding for operations and acquisitions. In the leveraged loan market – typically a floating-rate sub-investment grade credit exposure issued in loan rather than security format – the percent of loans purchased initially by banks has decreased from 70% in 1994 to just over 20% in 2004.²⁹ This liquidity cycle has also brought with it some new equity capital intermediaries – hedge funds and private equity funds (they seem to be converging somewhat), sovereign wealth funds, and large consortia of already large investors. Because U.S. securities regulation does not require that these funds register or make public disclosures, less is known – and can be predicted – about their behavior.³⁰ Hedge funds are large pools of private capital – often domiciled off-shore – which invest in a wide range of debt, equity, hybrid, and derivative products.³¹ Private equity funds are large pools of capital organized to acquire controlling interests in firms – which then become the fund’s “portfolio companies” – by taking them private with an eye to, either, flipping them quickly again in a public issuance, so called “reverse leveraged buyouts.”³² Many of these deals are funded by recycling of profits from earlier deals, after the private equity funds upstreamed resources from the acquired firm.³³ Only time will tell whether these extractions can be repeated.

²⁸ The IMF’s Financial Stability Report cites a study suggesting three “structural” factors contributing to the liquidity cycle: lower real credit risk in firms due to an upturn in the business cycle; less volatility than during the 1990s stock market bubble; and the development of volatility markets (presumably options, swaps, and futures markets). GLOBAL FINANCIAL STABILITY REPORT 86. Only the third factor – the rise of volatility markets – seems structural to me. Another structural factor is that more asset holders are investing globally, sacrificing “home bias” for the promise of better returns abroad. *Id.*

²⁹ Loan Syndication and Trading Association, The U.S. Leveraged Loan Market: A Primer 20, available at http://www.lsta.org/assets/files/Research_Data/MilkenLevLoanPrimer1004.pdf.

³⁰ For example, one way that regulators estimate the size of hedge funds is by extrapolating hedge fund size by considering the credit exposures to hedge funds of regulated entities like banks.

³¹ The single best report on hedge funds is probably the European Central Bank’s Report Hedge Fund Stability. EUROPEAN CENTRAL BANK, HEDGE FUNDS AND THEIR IMPLICATIONS FOR FINANCIAL STABILITY (2005), available at <http://www.ecb.int/pub/pdf/scpops/ecbocp34.pdf>. The classification of hedge funds into four types – arbitrage funds, directional funds, event funds, and “funds of hedge funds” – is especially helpful for understanding hedge fund trading strategies. *Id.* at 8-10.

³² One recent study suggests that the re-released public companies remain profitable to equity shareholders. Jerry Cao & Josh Lerner, *The Performance of Reverse Leveraged Buyouts*, at 4 (National Bureau of Economic Research Working Paper No. 12626). Their analysis of roughly 500 leveraged buyouts between 1980 and 2002 found that firms subject to reverse leveraged buyouts often outperform other initial public offerings and are not compromised by the additional leverage.

³³ *Id.*

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Sovereign wealth funds also add to the cycle. These funds are semi-private capital pools funded by countries with budget surpluses, typically from oil and other commodity exports.³⁴ Like private equity funds, they take controlling – and minority – interests in industries with strategic value.³⁵ More so even than with hedge funds, private equity funds, and multi-national enterprises generally, it is difficult to estimate their size, although one long-time analyst of these funds estimates their current value to be \$2.5 trillion.³⁶ They are the sovereign equivalent of off-balance sheet (“OBS”) assets, a vehicle for sovereigns to park foreign reserves rather than reporting them in publicly-available balance-of-payments data. In private firms, OBS arrangements let a firm avoid the brunt of legal prohibitions – typically contractual ones – keyed to the firm’s balance sheet figures for assets, liabilities, or net worth.³⁷ Although the stakes are different, OBS sovereign wealth funds provide a government asset-liability manager some of the same advantages, e.g., flexibility as well as freedom from oversight and public accountability. In these sense, these sovereign pools give government officials the same “switching options” with respect to investment which George Triantis has analyzed in the context of firms.³⁸ It should be noted that these funds are well-poised to take advantage of any downturns in asset prices, much as buyers in the Depression were able to profit from fire-sale prices for U.S. companies. Indeed,

³⁴ STATE STREET LEGAL ADVISORS, Who Holds the Wealth of Nations (Aug. 2005), available at http://www.ssga.com/library/esps/Who_Holds_Wealth_of_Nations_Andrew_Rozanov_8.15.05REVCCRI145995576.pdf. For example, here I have extracted only the oil-based sovereign wealth funds (these are the largest types) with a reported value of more than \$1 billion: Abu Dhabi Investment Authority (United Arab Emirates) \$250 billion; Government Petroleum Fund (Norway) \$170 billion; Kuwait Investment Authority (Kuwait) \$65 billion; Brunei Investment Authority (Brunei) \$30 billion; Alaska Permanent Reserve Fund (U.S.) \$30 billion; Oil Stabilisation Fund (Russia) \$28 billion; Alberta Heritage (Canada) \$10 billion; Foreign Exchange Reserve Fund (Iran) \$8 billion; Kazakhstan National Fund (Kazakhstan) \$5 billion; Oman State General Reserve Fund (Oman) \$2 billion; and Azerbaijan State Oil Fund Azerbaijan) \$1 billion. *Id.* at 2. This list does not include Saudi Arabia’s sovereign wealth fund, although it is estimated to be as large as that of the United Arab Emirates. See Morgan Stanley, How Big Could Sovereign Wealth Funds Be by 2015? (May 4, 2007) (estimating Saudi Arabia’s sovereign wealth fund at \$300 billion), available at <http://www.morganstanley.com/views/gef/>. The IMF’s Financial Stability Report mentions these funds too. Financial Stability Report 74.

³⁵ See MORGAN STANLEY, How Big Could Sovereign Wealth Funds Be by 2015? (May 4, 2007) (estimating Saudi Arabia’s sovereign wealth fund at \$300 billion), available at <http://www.morganstanley.com/views/gef/>.

³⁶ *Id.* This estimate also suggests that they may grow to \$12 trillion by 2015.

³⁷ *Cf. In re Explorer Pipeline Co.*, 781 A.2d 705 (Del. Ch. 2001) (holding that corporation’s decision to enter into an OBS operating lease was not subject to a supermajority provision found in the corporation’s certificate of incorporation); see also Samir El-Gazzar et al., *The Use of Off-Balance Sheet Financing to Circumvent Financial Covenant Restrictions*, 4 J. ACC. AUDITING FIN. 217 (1989) (analyzing forty-three addenda to leases which contained debt covenants to examine how firms use OBS arrangements to modify covenant-based restrictions).

³⁸ George Triantis, *Financial Slack Policy and the Laws of Secured Transactions*, 29 J. LEGAL STUD. 35, 39, (2005) (“As a general proposition, managers are much more prone to take actions that increase their welfare (for example, perquisite consumption or empire building) or the welfare of their shareholders (for example, share repurchases or high-risk investments) if they have cash at their disposal.”).

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recession might drive many of these switching option into-the-money as market liquidity for assets dries up.

Earlier this year, the President's Working Group on Financial Markets issued a policy statement on the private and public risks of "private capital pools."³⁹ What is unusual about the Working Group's recommendations is that they involve warnings to highly sophisticated professional creditors and investors in these pooling vehicles to perform basic due diligence, credit underwriting, and credit monitoring of exposures to private pools of capital.⁴⁰ Although directed primarily at hedge funds, the Working Group's admonitions may apply generally to all of these pooling vehicles.

C. Liquidity trends in the region

The liquidity surplus shows up in Latin American funding market too, sovereign and private ones. For the sixth year in a row, the region has a current account surplus – despite rising imports – reflecting increases in private capital flows, which have also increased the international reserves of many countries in the region.⁴¹ Although the stock of outstanding foreign debt has remained roughly stable, the increase in exports has made the debt burden more bearable, as reflected in the decline of the ratio of external debt to exports.⁴² Spreads to U.S. Treasuries (considered a riskless asset) on Mexican, Brazilian, Colombian, Peruvian, Venezuelan, Argentine, and Uruguayan sovereign debt have declined (even more so than have the spreads of comparably rated U.S. corporate debt), while those of Chile and Ecuador have remained the same.⁴³

³⁹ PRESIDENT'S WORKING GROUP ON FINANCIAL MARKETS, *Agreement Among PWG and U.S. Agency Principals on Principles and Guidelines Regarding Private Pools of Capital* (2007). See also Press Release, U.S. Dep't of the Treasury, Common approach to private pools of capital guidance on hedge fund issues focuses on systemic risk, investor protection (February 22, 2007) available at <http://www.ustreas.gov/press/releases/hp272.htm>. The Working Group is an inter-agency body with representatives of the U.S. Treasury, the Board of Governors of the Federal Reserve, the U.S. Securities and Exchange Commission, and the U.S. Commodity Futures Trading Commission charged with examining financial market trends with regulatory and risk implications that cut across the narrower interests of each particular government agency.

⁴⁰ *Id.* at 3-5. Recommendations 7 and 8 address the due diligence of, respectively, creditors and investors in these pools of capital.

⁴¹ International Institute of Finance, Regional Overview: Latin America 1-2 (March 9, 2007). The current account surplus, however, is projected to decline in the near future. *Id.* at 5.

⁴² *Id.* at 2.

⁴³ Mexico (comparable to a BBB corporate): from 174 to 119; Brazil (comparable to a BB corporate): from 376 to 175; Colombia (comparable to a BB corporate): from 332 to 158; Peru (comparable to a BB corporate): from 239 to 124; Venezuela (comparable to a BB- corporate): from 403 to 199; Argentina

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Moreover, Mexican officials have said that they will have a functioning debt repurchase market (and equities securities lending) by the end of 2007. Repo markets are important liquidity tools because a healthy repo market lets firms extract the collateral value of certain assets, helping to liquefy the asset-side of their balance sheet, accomplishing in miniature and for a shorter term what securitization does for long-term receivables. (Recall the difference from earlier between “asset liquidity” and “liability liquidity.”)

Worker remittances have also contributed to sovereign asset-liability management in the region. For some countries, remittances are the single largest source of foreign exchange, greater than the sum of foreign direct investment and official development aid.⁴⁴ Moreover, remittances seem not to respond – that is, go away – to the external economic shocks which make foreign borrowing and portfolio investment more “callable” by foreign asset holders in a flight to different investments.⁴⁵ Remittances are also manna for a receiving country’s balance-of-payments because they are “unrequited transfers” acquired by the country with no off-setting claim to a foreign third party, as is the case for “quid-pro-quo” sources of foreign financing like borrowing or foreign direct investment.⁴⁶ Some countries have also securitized their anticipated remittance flows, so called “future-flow securitizations,” the value of which has climbed from 65 million dollars in 1994 to over one billion dollars for each year since 1999.⁴⁷ Despite noting the risk that future-flow securitizations may limit a country’s overall credit position (these deals “mortgage” future receipts binding the government’s future discretion over asset-liability

(comparable to a B corporate): from 4527 to 202; Uruguay (comparable to a B corporate): from 388 to 189. See International Institute of Finance, Regional Overview: Latin America 5.

⁴⁴ Although difficult to estimate definitively due to the use by remitters of informal transfer mechanisms, the World Bank estimates that in 2005 global remittance flows reached between \$150-200 billion. WORLD BANK, GLOBAL ECONOMIC PROSPECTS ECONOMIC IMPLICATIONS OF REMITTANCES AND MIGRATION 85 (2006) (hereinafter “GLOBAL ECONOMIC PROSPECTS”).

⁴⁵ The stability of workers’ remittances as a form of external financing– their relative immunity to the external shocks which produce variation in other foreign exchange flows, e.g. foreign direct investment and foreign lending – has been noted as one of their chief financing virtues. “Remittance flows are much more stable than private capital flows, which exhibit strong herd-like behavior, amplifying the boom-bust cycles in many emerging markets.” Devesh Kapur, *Remittances: The New Development Mantra* 331-360 in SAMUEL MUNZLE MAIMBO and DILIP RATHA, eds., REMITTANCES DEVELOPMENT IMPACT AND FUTURE PROSPECTS 338(World Bank, 2005)

⁴⁶ Most balance-of-payments transactions involve a quid pro quo with a resident of another country. In other words, in exchange for a resident of Country A issuing an outflow of value to a resident of Country B, the Country A resident acquires a claim on a Country B resident. In contrast, unrequited transfers involve a one-way transfer of value – with no offsetting consideration -- from a resident of one country to a resident of another. Workers’ remittances are the most significant example of an unrequited transfer

⁴⁷ See *supra* note 44, GLOBAL ECONOMIC PROSPECTS 103.

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management), the World Bank has endorsed these future-flow remittance securitizations.⁴⁸ . Nevertheless, several countries – including Mexico, Panama, Peru, and Brazil – have used the deals to get better credit ratings on the securitized debt.⁴⁹ Some countries may even conclude that their citizenry -- rather than agricultural or manufactured commodities – may form their most valuable export.⁵⁰ Indeed, some countries have tried to better harvest remittances by through managed migration programs and requirements that diaspora workers repatriate earnings.⁵¹

Along with the up-tick in sovereign liquidity, that of firms has also improved, including through local currency issuances that contribute to the local yield curve.⁵² (Foreign investors may still care more about a country's long-term foreign currency rating than its local currency rating.) As in other markets, it also appears that more institutional investors (in this case foreign ones) are increasing their exposures in the region, suggesting the same risk of radicalization by equity owners which has posed credit risks to bondholders.⁵³ This rising tide is also lifting boats like the public supranational entities that provide development and balance of payments finance to the region, entities such as the Caribbean Development Bank, Central American Bank for Economic Integration, Corporación Andina de Fomento, Fondo Latinoamericano de Reservas, Inter-American Development Bank (including the Inter-American Investment Corporation).⁵⁴

C. Multilateral trends towards integrated, cross-sectoral liquidity regulation

⁴⁸ World Bank, Financing development through future-flow securitization, Poverty Reduction and Economic Management Notes, Number 69 (June 2002) (“...future-flow debt – combined with debt owed to other preferred creditors – can reduce flexibility in servicing debt and jeopardize sovereign creditworthiness.”)

⁴⁹ See *supra* note 44, GLOBAL ECONOMIC PROSPECTS 103. Credit rating agencies conclude that future-flow transactions involve less sovereign risk ordinary government securities because the receipts end up on an off-shore special-purpose vehicle rather than passing through the home country. *Id.*

⁵⁰ Anupam Chander, *Homeward Bound*, 81 N.Y.U.L. REV. 60, 67-8 (2006) (“Today, national policies train people to be emigrants. The Philippines requires exit lessons of its emigrants, even supplying a handbook, now in its sixth edition. People now rank among many nations' most important exports. A public policy towards emigrants is even more important for countries such as the Philippines; one out of every eleven Filipinos lives abroad.”) (citation omitted)

⁵¹ Countries which export their citizenry this way are contributing to a commodity theory of citizenship. From this point of view, the bonding mechanism described by Chander reduce the costs-of-carry of these foreign workers and help to conserve the value of a country's most important income producing assets – mobile citizens.

⁵² See *supra* notes 6-10.

⁵³ [citation forthcoming].

⁵⁴ STANDARD & POOR'S, SOVEREIGN RATINGS IN LATIN AMERICA 20-31 (2006) (summarizing sovereign credit trends and explaining rating criteria).

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One good thing about this liquidity cycle is that national regulators are paying close attention to linkages between different geographic and financial product markets. First, cross-border flows have increased. For example, in mergers and acquisitions involving financial institutions, the percentage of deals involving entities outside of a single country has increased from less than 1% in 1996 to nearly 40% in 2006.⁵⁵ As a result, more financial conglomerates include entities from other jurisdictions. When this is so, funding liquidity becomes a cross-entity affair, as any single firm may count on liquidity support from affiliates, subsidiaries, or a holding company or, vice-versa, be counted on as a liquidity source for a related entity.⁵⁶ When the entities in a conglomerate span multiple currency zones, foreign exchange risks also enter into these cross-entity liquidity arrangements.⁵⁷ Home country regulators to understand exposures of home country institutions to foreign transactions. Second, new kinds of financial arrangements had increased the linkages between different types of financial intermediaries. The credit derivatives market, for instance, creates cross-sectoral links between banks, securities firms, and insurance firms because each one type of firm participates as a counter-party or broker.⁵⁸ So, regulators saw the value of coordinating their approaches to different financial sectors, e.g., securities firms, banks, and insurance companies, each of which had previously operated under a sectoral regulatory regime.

Just as funding markets have become more globally linked across borders, so too have these regulators. The Bank for International Settlements' Joint Forum on Financial Conglomerates ("Joint Forum") epitomizes this trend by setting its sites, appropriately enough, on "heterogeneous financial conglomerates" that are active in different financial sectors across the globe.⁵⁹ The creation of the Joint Forum responded to the shared conviction among some

⁵⁵ GLOBAL FINANCIAL STABILITY REPORT 99.

⁵⁶ The most prominent example of this in the U.S. banking context is the upstreaming of liquidity from a non-bank subsidiary into the bank or the downstreaming of liquidity from a bank holding company into the bank. This is also called the "source of strength" doctrine.

⁵⁷ See *supra* note 17, JOINT FORUM, *Liquidity Risk* 5.

⁵⁸ Although its forms differ, in a credit derivative contract, the "protection seller" promises the "protection buyer" to transfer a cash flow to the buyer if the buyer suffers a credit loss on a transaction with a counterparty:

The recent growth of risk transfer across sectoral boundaries leads to increased inter-linkages among the sectors. Credit derivatives are an example. Because of the nature of their core business, banks tend to operate as net protection buyers. Insurers, on the other hand, tend to be protection sellers, whereas securities firms take positions from a trading perspective. Intra-group risk mitigation, a special form of cross-sectoral risk mitigation, is discussed below. JOINT FORUM ON FINANCIAL CONGLOMERATES, *Regulatory and Market Differences: Issues and Observations* 25 (May 2006) (hereinafter "JOINT FORUM, *Market Differences*").

⁵⁹ The Joint Forum defines a financial conglomerate as "conglomerates whose primary business is financial, whose regulated entities engage to a significant extent in at least two of the activities of banking,

national regulators that they needed to better understand the seeming convergences of market practices across different intermediation sectors – e.g., banks, securities firms, insurance firms. (Recalling the sovereign wealth funds from earlier, it might also be that the interest in financial conglomerates has something to do as well with how countries conduct their own asset-liability management.⁶⁰) So the Joint Forum brings together technical experts from each financial sector, the Basel Committee on Banking Supervision, the International Organization of Securities Commissions and the International Association of Insurance Supervisors.⁶¹ Focusing on banks, securities firms, and insurance companies makes sense too because both their assets and their liabilities are financial claims, so they have a dual effect on the financial system, more so than, say, a manufacturer or a service provider.⁶² The rise of financial conglomerates operating in different financial sectors has contributed to the development of enterprise-wide risk management, although the practice is still not widespread.⁶³ In an important sense, the work of the Joint Forum represents the learning curve of the official sector about the funding market and the state's relationship with that market.

insurance and securities business, and which are not subject to uniform capital adequacy requirements.” JOINT FORUM ON FINANCIAL CONGLOMERATES, *Supervision of Financial Conglomerates* 6 (June 1998), available at <http://www.bis.org/publ/bcbs34.pdf>. The European Union uses a somewhat different definition in its Financial Conglomerates Directive.

⁶⁰ Consider, for instance, this recent conference sponsored by private banks and featuring finance officials from OECD countries: Sovereign Asset and Debt Management Towards: Pro-active, Integrated Management of National Assets and Liabilities <http://www.centralbanking.co.uk/conferences/archiv/2005/saad/programme.htm>. The papers (many still available on the website) addressed Enhancing returns on sovereign assets, coping with the changing nature of official reserve and debt management, and diversifying official portfolios.

⁶¹ See Mandate of the Joint Forum, <http://www.bis.org/bcbs/jfmandate.htm>. The Bank for International Settlements hosts the Joint Forum and maintains a comprehensive library of its public documents and reports at <http://www.bis.org/dcms/fl.jsp?aid=1&pmddid=7&smdid=38&tmdid=0&fmdid=0&said=4>.

⁶² Important differences exist, though, in the asset-liability structure of these intermediaries:

Banking institutions fund long-term, illiquid instruments (eg loans) with short-term non-contractual funding sources (eg deposits). Securities firms' balance sheets are made up primarily of highly liquid securities (trading assets) that are funded through secured transactions such as repurchase agreements and stock loans. Insurance companies, especially life insurance companies, take on long-term liabilities that are invested in assets with an emphasis on matched funding. See *supra* note 17, JOINT FORUM, *Liquidity Risk* 2, n.3.

⁶³ Internal aggregation and offsetting of risk on an enterprise level is not the same as merely centralizing the process of monitoring and mitigating risk:

Centralised risk management and enterprise risk management are different concepts: Many firms, including complex financial institutions, have centralised the responsibility for risk management in a single group or legal entity....However, actually aggregating operational risk information sector by sector, region by region, and legal entity by legal entity across that same firm (ie true enterprise risk management) may not be taking place. Enterprise risk management is a relatively new concept and is still largely under development in financial conglomerates. *Id.* at 5-6, n.9.

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Led by international banking regulators, the trend in consolidated financial supervision is towards letting large firms use their own internal models to estimate how much capital must be apportioned to cover losses. Then part of the regulators' role is to understand the technical specifications of internal models in order to weigh in on their adequacy for public purposes.⁶⁴ This is a departure from the magnificent baggage of the sectoral liquidity regulation common to many national systems. In the United States, for example, both depository institutions – banks – and registered broker-dealers must comply with regulatory capital requirements, enforced in the case of state banks by the Board of Governors of the Federal Reserve System, by the U.S. Comptroller of the Currency for national banks, and by the U.S. Securities and Exchange Commission (“SEC”) for registered broker-dealers. In all three cases the regulatory goal is the same: to protect banks and securities dealers from default on customer payables such that the duty to indemnify customers comes to rest on the fisc.⁶⁵ As measured by their ability to avoid insolvency, the SEC's net capital rule has done a far better job of avoiding insolvency, but this may not be a fair comparison because banks and securities firms serve different functions. While securities firms help investors intermediate preferences about risk and volatility, it is (traditionally at least) banks which have the complex role of intermediating holding preferences about term in the financial system.⁶⁶ In particular, the adoption of the Basel Committee's risk-based approach to capital adequacy both reflects and intensifies the trends toward cross-entity measurement of liquidity, considering the cross-border links between liquidity flows and risks, and greater firm-level autonomy in monitoring and mitigating liquidity risks.

⁶⁴ See *supra* note 58, JOINT FORUM, *Market Differences* 8. “Model development by firms and acceptance by supervisors is an iterative process in which there is positive interaction between industry and supervisors, stimulating further model development and supervisory acceptance of risk modelling over time. Supervisors in the three sectors closely follow the developments in internal risk modelling within their respective sectors. Based on their experience and discussions with the industry and the scientific field, they assess the value of these developments to the ongoing improvement of their respective capital frameworks.” *Id.* at 16-17 (citation omitted).

⁶⁵ It is the Federal Deposit Insurance Corporation (“FDIC”) which bears the federal government's residual downside risk in the banking system (in options terms, you can see the FDIC as being a short a put on the assets in the banking system and insured customer deposits). In the securities industry, it is the Securities Investor Protection Corporation which bears the risk of “bailing out” securities firms whose insolvency results in the loss of customer deposits.

⁶⁶ For example, banks must be willing to hold long-term assets (like mortgages and auto loans) even though they may have to fund these assets with shorter-term liabilities, with all the interest-rate risk that such a term mis-match brings. The growth of loan securitization has changed this somewhat by shortening the term of bank assets and liquefying their balance sheet, but responsibility for term still seems to be the role of the banking system. And with intermediating term, of course, comes greater liquidity risk if a bank is stuck with illiquid long-term loans.

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Taken together, the Joint Forum's two major initiatives from last year signal future regulatory trends, in particular about funding liquidity. Released on the same day, the two reports should be seen as book-ends. The report on Regulatory and Market Differences: Issues and Observations addresses issues that jurisdictionally-bound national regulators should consider when thinking about financial conglomerates operating through banks, securities-dealers, and insurance firms, some of whose market practices may be converging.⁶⁷ The upshot of these two reports is a funding liquidity model that looks at financial conglomerates as a single financial enterprise.⁶⁸ The report on The Management of Liquidity Risk in Financial Groups reflects the Joint Forum's review of 40 large financial conglomerates active in multiple currencies in banking, securities, and insurance sectors.⁶⁹ Given the early stage of this project, the Liquidity Report makes no recommendations but merely tries to explain how complex finance firms manage liquidity risk, the types of products which have special liquidity implications, and how national regulatory approaches impact enterprise- and firm-level liquidity management.

D. Risk-management implications for firms

What does the learning of these regulators tell us about liquidity in the firm? An extensive regulatory and compliance literature already exists about liquidity risk in banks.⁷⁰ To a lesser extent, the same is true about securities dealers, for example a recent report by international securities regulators on best practices for funding liquidity management.⁷¹ But the liquidity gospel is spreading to finance firms generally. Consider, for example, a recent primer on liquidity risk management for firms published by the Institute for International Finance ("IIF").⁷² The IIF's committee on liquidity risk includes treasury management officers from forty of the

⁶⁷ The report is available at <http://www.bis.org/publ/joint15.htm>.

⁶⁸ In the United States, the Gramm-Leach-Bliley Act accelerated this regulatory convergence by removing some of the statutory limits which kept depository institutions from participating in securities activities. The result has been that U.S. financial regulators now collaborate much more than previously. This trend is less dramatic in places, like the United Kingdom, which already had a centralized financial regulator.

⁶⁹ This report is available at <http://www.bis.org/publ/joint16.htm>

⁷⁰ One good plain-English source on liquidity management in banks – although its implications extend to any firm facing changes in its funding provider – is the U.S. Comptroller of the Currency's handbook for national banks on liquidity. See U.S. COMPTROLLER OF THE CURRENCY, LIQUIDITY: COMPTROLLER'S HANDBOOK 1 (2001), available at <http://www.occ.treas.gov/handbook/liquidity.pdf>.

⁷¹ INTERNATIONAL ORGANIZATION OF SECURITIES COMMISSIONS, REPORT OF THE TECHNICAL COMMITTEE, Sound Practices for the Management of Liquidity Risk at Securities Firms (May 2002)

⁷² INSTITUTE OF INTERNATIONAL FINANCE, *Principles of Liquidity Risk Management* (2007) (hereinafter "*Principles*").

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largest globally active finance firms.⁷³ Reflecting the trend towards looking across different organizational forms of financial intermediation, the report encourages liquidity management at “financial institutions” broadly.⁷⁴ Coming, as they do, during the peak of a liquidity cycle, they may act as prophylactics to minimize the private and social costs which may accompany any contraction in the liquidity supply.

The main approach recommended by the report is that firms engage in ongoing scenario analysis and stress-testing of the firm’s ability to remain liquid and solvent, which is a good recommendation for all firms, whatever they hold on the asset-side of their balance sheets. Think of this as “liquidity war games” which rehearse strategic behavior in response to firm-level and market-wide events which impact the firm’s ability to fund maturing obligations.⁷⁵ When doing scenario analysis, firms test for firm-specific events and market-wide events. The most common firm-specific event seems to be a credit rating agency downgrade.⁷⁶ This is because credit rating downgrades may be the single most significant proximate cause of funding liquidity risk.⁷⁷ The formal expression is a contingency funding plan with strategies for exploiting upside opportunities and downside contractions. From the issuer’s perspective, then, all borrowing (and other forms of resource mobilization too like share-issuance) should form part of a consolidated funding plan. Although not mentioned in the IIF report, detecting the early warning signs of liquidity risk is key as well.⁷⁸

⁷³ The report addresses government officials too by encouraging them to think in terms of a firm’s “integrated liquidity position.” *Id.* at 40.

⁷⁴ *Id.* at 8.

⁷⁵ *Id.* at 34-39.

⁷⁶ See *supra* note 17, JOINT FORUM, *Liquidity Risk* 3.

⁷⁷ Again, the Joint Forum report does a nice job analyzing the effect of ratings downgrade across intermediary type:

For securities firms, a downgrade or other loss of market confidence would impact the firms’ ability to refinance current unsecured debt obligations, which are their primary sources of funding for activities that cannot be self-financed. For insurers, such a triggering event would typically cause many policyholders to consider surrendering their policies provided that the contractual and economic conditions are fulfilled. In addition, many reinsurance contracts include a ratings-downgrade trigger under which collateral is required when the rating of the counterparty falls below investment grade. For banking organisations, a downgrade can result in reduced market access to unsecured borrowings (eg commercial paper) from institutional investors, a reduction or cancellation of inter-bank credit lines, or a reduction of deposits. *Id.* at 7.

⁷⁸ Liquidity risks may show up internally in a firm’s management reports, in the credit evaluations of third parties, in the secondary market for an issuer’s shares, or in the terms of credit with liquidity providers. Professional analysts and other market participants may express concerns about the bank’s credit capacity through market rumors or downgrades by credit rating agencies. Bearish secondary market activity in the issuer’s securities like a drop in the firm’s stock price or widening spreads in the secondary market for the firms debt are classic indicators of liquidity risk. Finally, the firm’s funding market may begin to contract as creditors demand credit support, better credit terms, or shorter duration lending, any of

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Contingency funding plans for a sovereign take on a grander scale but they demonstrate the same dynamics as a contingency funding plan for single firm. The U.S. federal government's actions in mitigating the potential liquidity crises caused by Congressional refusal to increase the U.S. Treasury's debt limit provides an excellent way to examine one way that sovereigns implement a contingency funding plan.⁷⁹ In 1996, the Congress persisted in its refusal to increase the federal debt ceiling, a cap on borrowing authority like that found in a firm's organic law. Experienced in anticipating this contingency, official at the U.S. Treasury identified alternatives for obtaining the liquidity needed to fund maturing debt obligations and to satisfy federal payroll and other disbursement obligations. Mostly, the options consisted of skimming asset liquidity from investments holding liquid assets.

Another of the IIF report's key recommendations is that firms must come to terms with new products.⁸⁰ Granted, it is a cliché, but there is a reason why things become clichés. Over-the-counter derivatives – like equity swaps and leveraged derivatives – are a good example of a new product which presents complex liquidity risks.⁸¹ These products challenge traditional liquidity management because each one may involve “springing” leverage which – in a market downturn – leads to obligations with serious liquidity obligations. An equity swap is a financial contract that reproduces the risk and return effects of holding an actual security without the need

which may increase liquidity costs. See U.S. COMPTROLLER OF THE CURRENCY, LIQUIDITY: COMPTROLLER'S HANDBOOK 6-8.

⁷⁹ United States General Accounting Office, Debt Ceiling Analysis of Actions During 1995 –1996 Crisis, GAO/AIMD-96-130 (1996) (summarizing chronology of the federal executive branch's actions responding to a legislative suspension of public borrowing authority and analyzing the legality of executive action).

⁸⁰ See *supra* note 72, *Principles* 13. (“To some degree, the greatest liquidity risk to global financial stability may be the pace of change and the need to understand what is new, modified, or interacting differently. The private sector perspective proposed here has been developed with an eye toward these developments, but also with an appreciation of what remains to be well understood.”)

⁸¹ In particular, demands on the issuer to post margin or collateral when these derivatives go out-of-the-money create funding liquidity risk:

...where sharp and unanticipated market movements or events, such as an unanticipated bankruptcy, default, or ratings downgrade, could cause demand for additional collateral from counterparties. Similar pressures...can arise from collateral calls from exchanges in connection with foreign exchange and securities transactions....liability mismatches arising from settlement systems requiring effective hedging or increased collateralisation, and short positions in financial options with cash delivery. Firms reported that the liquidity risks from these sources have been increasing over recent years. Higher trading volumes, information-efficient markets, and ratings-linked behaviour of market participants have contributed to funding liquidity pressures for some firms....[at banks] committed lending facilities to customers, committed backstop facilities to commercial paper conduits, and committed back-up lines to special purpose vehicles [create funding liquidity risks]. See *supra* note 17, JOINT FORUM, *Liquidity Risk* 7.

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to own the physical security. Entering into an equity swap agreement is less expensive than purchasing the equity, even using the margin credit available for securities purchases. For example, while current margin rules would require an investor to put up \$50 to buy a \$100 share of stock (the broker lending the other \$50), the investor may enter into a total return swap on that security for as little as \$5.⁸² If the stock goes up, the investor gets a return more cheaply than if he had to buy the security. But if the stock goes down (obligating the investor to pay his swap counterparty the loss dollar-for-dollar), his losses will equal a multiple of his investment which is higher than if he had purchased the security.

Leveraged derivatives present the same risks of an exponential increase in debt as do equity swaps. A leveraged derivative is a financial contract whose terms intensify (“leverage”) the direction of adverse market movements. This was the type of financial product which led to the litigation in *Procter & Gamble vs. Bankers’ Trust*.⁸³ The two parties had entered into an interest-rate swap in which Bankers’ Trust (a professional swaps dealer) had promised to pay Procter & Gamble a fixed interest rate. In exchange, Procter & Gamble had promised to pay a floating rate; but the rate was “levered” in that it was based on a floating rate – in that case the London Inter-Bank Offer Rate – to which was added a spread which increased exponentially to any rise in interest rates (it also shrank exponentially to any downward movement in interest rates). When interest rates climbed – moving against Procter & Gamble – the obligation to pay the floating rate became more expensive than an unlevered floating rate would have.

Contingent liabilities are nothing new. (Take stand-by letters of credit issued by a bank; they too involve contingent liabilities which can lead to liquidity risk.) But users of derivatives may not grasp the scope and nature of contingent leverage when it is embedded in an already complex financial product. Given the creativity of financiers (and financial creativity is a good thing), it is impossible to set out a taxonomy of all products with contingent leverage. The important thing here is to understand the nature of a firm’s effective leverage. In other words, it is not enough to include the liquidated obligations which show us liabilities on a firm’s balance sheet. A contingency funding plan must also take into account the risks of “springing” leverage from financial arrangements which – depending on market movements – may generate liabilities with serious liquidity implications when market triggers puts into motion the contingent leverage

⁸² Randall Smith and Susan Pulliam, *As Funds Leverage Up, Fears of Reckoning Rise*, WALL STREET JOURNAL A12 (Apr. 30, 2007).

⁸³ *Procter & Gamble Co. v. Bankers Trust Co.*, 925 F.Supp. 1270 (S.D.Ohio 1996).

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embedded in financial products. In the U.S., a wave of losses – of which Enron was the most salient – made regulators aware of these springing risks, especially those caused by off-balance sheet arrangements which had escaped thorough disclosure on public accounting documents.⁸⁴ Some SEC rules which came out of that episode have somewhat increased the transparency of off-balance-sheet and contributed to financial literacy about these products.⁸⁵ It is a good step, but the SEC has noted that the off-balance-sheet sector – from which these contingent liabilities spring – is still pretty opaque. Between experienced finance firms, netting agreements reduce the exposure from arrangements like this by providing for off-setting of positions and collateralization of credit exposures.⁸⁶ Often these firms hold off-setting positions against each other which “net-down” to a single duty to pay or right to receive which is a fraction of the replacement value of the swap or other financial product (replacement value rather than the value of the underlying notional is the proper way to measure the risk from swaps).⁸⁷ But netting agreements tend to be in place only between professional finance firms.

III. EVENT RISK AS LIQUIDITY RISK

Now that I have explained something about funding liquidity and about how some very good minds in finance regulation are beginning to think about it, let me provide one example of how a funding liquidity perspective can help when considering one of the main vectors of corporate finance law: the shareholder-bondholder conflict.⁸⁸ To do so, the discussion moves somewhat from the issuer’s perspective to that of the bondholder, whose rights to receive scheduled cash flows – unlike the contingent return, if any, to the common shareholder –

⁸⁴ In Enron’s defense, however, it should be noted that even their public disclosures filed with the U.S. Securities and Exchange Commission did, in fact, admit their exposure to trading arrangements which even Enron could not value. Whether one reads such a statement in a “hot” bullish state or with the benefit of hindsight after the value proposition has been resolved seems to have made more of a difference than the statements themselves.

⁸⁵ Sarbanes-Oxley Act of 2002 § 401(c)(1) and (c)(2)(E), U.S.C. § 7261(c)(1) and (c)(2)(E).

⁸⁶ The International Swaps and Derivatives Association Master Agreements serve these functions.

⁸⁷ One clear place to see this is the table on “Netting Benefit” in the Comptroller of the Currency’s quarterly report on national banks’ derivatives activity. See U.S. COMPTROLLER OF THE CURRENCY, *Report on Bank Derivatives Activity*, <http://www.occ.treas.gov/deriv/deriv.htm>. Prepared quarterly and available online, the report analyzes the product composition of these derivatives and tracks bank exposure to them.

⁸⁸ The conflict is that the respective claims of shareholders and bondholders often pit their interests against each other. A bondholder’s claim has high priority but the claim is limited in amount, i.e. the interest and principal provided for in the debt contract. The shareholder’s claim is “residual” in that it is subordinated to the bondholder’s. Because it is a residual interest, though, the shareholder’s upside is potentially limited and may exceed the bondholder’s return if corporation “clears” enough profit after settling debt claims. All else being equal, then, a bondholder prefers a high-probability, low-return investment which increases the likelihood that its debt claim will be satisfied in full. In contrast, a shareholder favors a low-probability, high return investment because this gamble increases the chance of clearing debt claims and leaving something over for the shareholder.

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interface with the issuer's liquidity.⁸⁹ (Of course, the issuer considers the bondholder's perspective because ultimately that is what determines the cost which the issuer pays for the bondholder's money.) The occasion for the following discussion is a request for comment made in September 2006 by Moody's Investor Services about their proposal to begin evaluating "event risk" covenants more systematically.⁹⁰ I want to put event risk covenants in the context of funding liquidity because I want to show that an integrated approach to liquidity management – whether from the perspective of the issuer or bondholder – can shed light on the bondholder-shareholder conflict. What happens during leveraged restructurings is that a firm's capacity to carry debt is stretched to such an extent that it compromises the investment-grade quality of bondholders who are not taken out as part of the transaction. Although not typically viewed in this way, what this amounts to is a form of projected liquidity risk, creditworthiness being nothing more than a projection of the firm's funding liquidity. Part A examines what event risk is and review the covenants used by unsecured bondholders to ensure against losses in leveraged restructuring. Part B suggests uses of covenants to protect bondholders from funding liquidity risk in the issuer. Such covenants may benefit the issuer too as "pre-commitment" mechanisms.

A. Event risk covenants

Most generally, "event risk" means any kind of unsystematic risk which causes large movements in the value of an asset or portfolio for reasons other than market-wide price changes

⁸⁹ I use "bondholder" to mean all holders of debt claims against the firm, i.e., those listed on the right-hand side under "Liabilities." Strictly speaking, "bond" should mean a debt obligation with a term of more than ten years, although issuers no longer respect this usage. My discussion is most relevant the longer a debt claim's term because the longer the term the longer the horizon of funding liquidity risk that threatens the value of the debt claim; the gist of the argument, though, applies to shorter-term paper too.

⁹⁰ Credit rating agencies like Moody's act as information intermediaries with respect to debt and other securities. These rating agencies – which in the United States must be recognized by the U.S. Securities and Exchange Commission ("SEC") – analyze both an issuer and a security's features in order to give it a tiered rating which reflects the probability that the issuer will satisfy the payment obligations under the security. As part of the rating process, issuers provide Moody's with comprehensive information about the issuer's financial condition. Although Moody's clients (issuing firms) issue both equity and debt securities to fund themselves, Moody's – like all credit rating agencies – focuses on credit instruments, in particular in maintaining a ratings distinction about investment-grade ratings, which are considered a "bright line" between two large debt asset classes, investment-grade and sub-investment-grade. In this sense, Moody's duty runs not to issuers or lenders in particular but to the integrity and stability of one of the rules of the game, i.e. a system interest. For a good overview of how credit rating agencies work, see Claire A. Hill, *Regulating the Rating Agencies*, 82 WASH. U. L.Q 43 (2004) (analyzing the history and regulatory oversight of ratings agencies and urging more competition in the rating market by recognizing different types of rating agencies, e.g., industry-specific ones).

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that affect an entire asset class.⁹¹ Internalizing event risk into forecasting models is another way for these models to better approximate actual market conditions (financial hubris, the gods might say).⁹² In funding markets, the term “event risk” more narrowly assumes the perspective of a bondholder to mean almost any kind of risk of loss, e.g. operational risks, funding risks, business risks. Even more narrowly, the Moody’s proposal discussed below uses “event risk” to mean loss to bondholders caused when an issuer increases its debt load after a leveraged restructuring, particularly loss or downgrades of investment-grade debt.⁹³ Typically, this happens in management buyouts or other “going private” transactions when the target company— assumes so much new debt that it compromises the credit quality of its pre-deal unsecured debt.⁹⁴ This old debt then becomes subject to a downgrade in the reports of credit analysts, to trading at a discount in the secondary debt market, or, more likely, both.⁹⁵

In general, U.S. corporate law imposes fiduciary duties on a corporate issuer’s managers only with respect to the firm’s owners – shareholders – and not its creditors.⁹⁶ State corporation law often allows issuers to substantially amend their by-laws and share provisions to eliminate creditor protections based on the corporation’s organic law, so contractual covenants may be the recourse that bondholders have against investment risks, including those arising from leveraged restructurings.⁹⁷ It is worth noting that, as William Bratton has pointed out, an issuer’s covenant

⁹¹ Michael S. Gibson, *Incorporating Event Risk into Value-at-Risk 2* (“‘Event risk’ is defined here as the risk that a market price can jump, for example due to news of a default or earnings surprise. Put simply, ‘event risk’ and ‘jump risk’ are the same thing.”)

⁹² *Id.* at 2 (“A second characteristic of actual market data is ‘fat tails.’ ... In other words, price jumps, event risk and fat tails are different names for the same phenomenon. Note that, because large price jumps are rare events, event risk/fat tails must be estimated from a long data history.”)

⁹³ In these transactions, the bondholder’s event risk is often a golden opportunity for the existing shareholders to receive an above-market premium on their shares. Indeed, it is precisely the attractiveness of these leveraged restructurings to a company’s owners that leaves bondholders facing the risk of subordination as an effect of the issuer’s taking on more debt.

⁹⁴ William W. Bratton, *Bond Covenants and Creditor Protection: Economics and Law, Theory and Practice, Substance and Process* 15

⁹⁵ Because event risk has emerged inductively as a “catch all” category, though, for a type of risk unforeseen to bondholders at the time of investment there is nothing to keep us from broadening the concept of event risk. So, for example, it may be that in Latin American funding markets, factors other than leveraged restructuring threaten bondholder interests in unforeseen ways. In that case, the thinking that has evolved about restructuring event risk may serve as a useful analogy to responding to local event risks. Indeed, one could think of event risk more generally as a field of financial and contracting contingencies which call attention to directions which covenant drafting practice and regulatory oversight follow in order to further systematize the understanding, allocation, and mitigation of funding risks.

⁹⁶ The two main common law duties of managers are the duty of care and the duty of loyalty.

⁹⁷ As a corporation lurches towards insolvency, its assets will approach the value of its debt claims and, then, drop below that value. At that point, as an economic matter, the creditors “own” the corporation. In that case, a court could conclude that managers suddenly have springing duties to the creditors. *See, e.g.* Credit Lyonnais Bank Nederland N.V. v. Pathe Communications Co., Delaware Chancery Court (1991).

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practices vary with the credit characteristics of the issuer and the medium in which the issue is floated.⁹⁸ Higher-grade credits can use public debt markets to float issues with skeletal covenants that impose minimal constraints on the issuer's freedom of action. Investors in these issues may not have the benefit of many explicit covenant protections, but they take comfort in the issuer's credit-rating and in the availability of public secondary markets in which to exit the position if the investor's holding preference changes. In contrast, firms with a lower credit-rating may have recourse only to private placement or bank loan markets in which investors and lenders will negotiate more aggressively for covenant protection from the quite real prospects of issuer default.⁹⁹ (An issuer's activity in one market may influence its credit costs in another one, as suggested by a recent study finding that (even after controlling for default risk) firms which had issued debt in public markets paid less for bank loans than firms which had no public debt offerings.¹⁰⁰) Accordingly, then, the following discussion is most relevant to issuers who do use covenants, their investors, and the relevant regulatory authorities.

The efficacy of covenants, though, is an open question. For example, the presence of a covenant does not necessarily increase the credit quality of a bond. S&P notes that mere covenants without collateral (collateral being the best "hostage" for any credible commitment) will not increase a bond's credit rating.¹⁰¹ This is consistent with S&P's basic method of evaluating a debt instrument's quality by playing out an imaginary liquidation of the issuer and anticipating how that particular debt claim would stand up to the competing claims (secured and unsecured) on the insolvent issuer.¹⁰² And, as S&P points out, covenants are difficult to enforce

⁹⁸ Indeed, one thing which makes event risk so unexpected is that it involved bondholder losses in issues floated by high-quality credits.

⁹⁹ Understandably, then, the trade group for the issuer community – the Securities Industry and Financial Markets Association ("SIFMA") has objected to rating covenants on noninvestment grade debt. Letter, Mary Kuan, Vice President and Assistant General Counsel, Securities Industry and Financial Markets Association (November 14, 2006) to Christina Padgett, Moody's Investor Service. Because these securities are likely to involve some payment default, SIFMA notes, investors already scrutinize them more carefully and demand more covenant protection than they do for investment-grade issues. *Id.* at 3. Moreover, those who buy noninvestment-grade debt have less need for third-party covenant assessment because they tend to be professional investors in the private placement market who rely more on their independent analysis of the default risks of the issue. *Id.* at 3. The SIFMA reaction illustrates Bratton's observation about a differential use of covenants based on the issuer's credit quality. See Bratton, *supra* note 93.

¹⁰⁰ João A.C. Santos and Andrew Winton, *Bank Loans, Bonds, and Information Monopolies Across the Business Cycle* (Nov. 18, 2005) (on file with author).

¹⁰¹ STANDARD & POOR'S, CORPORATE RATINGS CRITERIA 71 (2006) (comprehensively summarizing the agency's criteria and methodology for rating junior debt, secured debt, commercial paper, preferred stock, operating leases, parent-subsidary financial links, and hybrid instruments).

¹⁰² S&P ranks debt in terms of declining credit quality as follows: (i) debt secured with higher-quality operating asset collateral; (ii) debt secured with lesser-quality operating asset collateral; (iii) lease

and often not worth doing so, their virtue being the open-ended options which their breach gives lenders to renegotiate an ongoing relationship with an unruly borrower.¹⁰³ Another argument against covenants is that, as some have suggested, even holders of bonds without covenants may be able to recover against issuer managers on a theory of fiduciary liability, following a 1991 case which found that as a firm approaches the “zone of insolvency” the managers’ duties shift from owners to bondholders, i.e. the new owners.¹⁰⁴ In other words, even though not contractually bound to restrict payments to owners, some issuer managers may do so voluntarily out of fear of liability to bondholders on this theory.¹⁰⁵

Still, the perception had been that the traditional set of covenants did a good job of preserving the preferred quality of senior debt, whose investment grade ratings could survive the dynamic funding strategies of issuers.¹⁰⁶ This began to change in the United States in the 1980s merger boom when pre-existing bondholders in acquired firms suffered credit losses while the outgoing shareholders received a premium. “Wealth expropriation!” squealed these bondholders, a metaphor with quite different connotations in other parts of the world. In general, a bond’s credit rating does not reflect the risk that the issuer of the bond will merge or be acquired in this way.¹⁰⁷ (Again, it is not the fact of a change in control or merger that impairs bond value, quite

obligations or securitizations; (iv) senior unsecured debt; (v) senior liabilities; (vi) subordinated debt; (vii) junior subordinated debt; (viii) other issuer liabilities; (ix) senior debt of the issuer’s holding company; and (x) the subordinated debt of the issuer’s holding company. *Id.* at 48.

¹⁰³ S&P’s take on the value of covenants is a beautiful example of the substance-over-form doctrine:

Enforcement [of bond covenants] is dubious. A company determined to do so can often, with the assistance of its lawyers, find ways to evade the letter of the agreement embodied in covenants. They could even choose to ignore them altogether. A court usually will not force a company to comply with covenants. Rather, the court will award damages – if the breach of covenant is considered the cause of the damages. As long as the company continues to pay principal and interest, the court is unlikely to recognize any damages as having occurred. In the event of a breach of a covenant, the usual remedy is the ability to declare an event of default and accelerate the loan. However, this remedy is so severe that, more often than not, lenders choose not to precipitate a default by demanding immediate repayment – despite a stipulated right to do so. Instead, the lender may prefer to take a security position or to get additional collateral, to raise rates, to obtain a waiver fee, or to provide more input into the company’s decisions. In reality, these are the benefits of covenant protection. *Id.* at 36.

¹⁰⁴ See Ronald Fink, *Bondholder backlash: LBO debtholders are getting tougher about protecting their interests*, CFO: MAGAZINE FOR SENIOR FINANCIAL EXECUTIVES, Feb. 2006, at http://findarticles.com/p/articles/mi_m3870/is_2_22/ai_n16101019. The case in question is Credit Lyonnais Bank Nederland, N.V. v. Pathe Communications Corp 1991 WL 277613 (Del.Ch. 1991).

¹⁰⁵ *Id.*

¹⁰⁶ Moreover, covenants may have public implications: the IMF has noted the weakening of bond covenants as a factor which may increase the vulnerability of particular firms acquired in leveraged restructurings, a weakness which may have financial stability concerns when these firms are considered in the aggregate. International Monetary Fund, *Global Financial Stability Report 3* (2007) (asserting that the current wave of leveraged restructurings are larger than those of the 1980s and involve more leverage).

¹⁰⁷ STANDARD & POOR’S, *Acquisition Risk and its Effect on Ratings* (Sep. 11, 2006).

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the contrary if the transaction enhances the issuer's capital position; it is the increased leverage which is the problem.) What led bondholders to start using event risk covenants was the Nabisco case, in which a court held that the existing covenants did not include an implied duty of good faith strong enough to keep the firm from leveraging itself this way.¹⁰⁸ The jury is out about whether these leveraged arrangements are "efficient" given that shareholders often reaped risk premia far in excess of what bondholders lost. In any event, the bondholder community came to see frustrations of investment-grade expectations as "event risk."

Market conditions influence covenant practices endogenously, as reflected by a comprehensive study of the development of bond indentures in the Brazilian bond market.¹⁰⁹ And event risk covenants seem to be a reaction to the increased risk to which bonds are exposed though change-in-control deals. But, as their unintended effects suggest, the use of covenant to mitigate event risk is still somewhat experimental. Consider a change-of-control put written by the issuer for the bondholder.¹¹⁰ (This is an option covenant, as though the bondholder were long an option to force a redemption of the bond by the issuer.) The put lets the bondholder sell the covenanted bond to the issuer if control of the issuer changes hands. Argentine Petrobras, for instance, plans a \$300 million offering in 10-year notes with a change-in-control put that goes in-the-money if the bonds trade at a discount of \$101. Rather than using a trading discount in the secondary market as a trigger – as will the Petrobras notes – a change-of-control put may require a credit rating downgrade of the issuer or the bond in order to trigger the bondholder's right to compel redemption by the issuer.¹¹¹ This requirement may leave a credit rating agency in a Catch-22: if the rating agency downgrades the bond and activates the put protection, the downgrade might not be warranted ex post in light of the issuer's obligation to redeem the bond;

¹⁰⁸ *Metropolitan Life Ins. Co. v. R.J.R. Nabisco, Inc.*, 716 F.Supp. 1504 (S.D.N.Y. 1989).

¹⁰⁹ Ricardo P. C. Leal and Andre L. Carvalhal-da-Silva, *The Development of the Brazilian Bond Market* 47-49, The Coppead Graduate School of Business at the Federal University of Rio de Janeiro (unpublished paper on file with author). I am curious about whether economists consider the trends cited by Moody's (the radicalization of shareholder activists, and the increase in the participation of private equity funds as exogenous or endogenous. They seem endogenous to the extent that they relate to developments in the overall funding market. But since these factors involve the institutionalization of the equity investment and prominence of a particular financial intermediary – private equity funds – I am curious about whether economists would consider these developments external to the debt market in the nature of "intermediation shock."

¹¹⁰ Rating agencies are well-aware of the effects of their action on the value of bonds in the secondary market: the fact of a downgrade alone will likely reduce the trading value of the bond. This seems to be consistent with the assumption of the Efficient Capital Markets Hypothesis that it is sophisticated information intermediaries – like rating agencies – which inform free-riding retail investors of what a security's value is.

¹¹¹ STANDARD & POOR'S, *Change-of-Control Covenants' Wording Can Be Crucial* (Feb. 22, 2007) (available free on-line to registered users at www.standardandpoors.com).

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but, ex ante, unless the rating agency downgrades the bond, the credit rating may not be accurate.¹¹²

Last September, Moody's Investors Service announced for public comment an Indenture Covenant & Assessment Framework ("Assessment Framework") which proposes a new ratings paradigm for evaluating and reporting on indenture covenants purported to protect bondholders from event risk.¹¹³ Moody's believes that the liquidity boom and the growth of equity power have tilted the shareholder-bondholder conflict in favor of shareholders.¹¹⁴ Unlike its main competitor Standard and Poor's, Moody's has not previously issued separate assessments of a bond's event risk covenants. Instead, the general rating given by Moody's includes any risks to creditworthiness, including those from leveraged restructurings. In contrast, Standard & Poor's issues separate rankings of event risk which "supplement" its general bond rating.¹¹⁵ In other words, for the same bond the Moody's rating will internalize the effect of any event risk covenant while the Standard & Poor's rating will not. A study comparing the Standard & Poor's and Moody's ratings for the same bond (with event risk covenants) found, somewhat intuitively, that the Moody's ratings are higher, although to a statistically significant degree.¹¹⁶ The same study found that investors are willing to accept a lower yield if a bond has event risk protections but concluded that the covenants themselves do not provide meaningful protection to bondholders from event risk.¹¹⁷

The Assessment Framework considers eight different types of covenants, each of which Moody's proposes to rates along a covenant quality ("CQ") scale from CQ-1 "Strong," CQ-2 "Good," CQ-3 "Weak," to "None."¹¹⁸ The request for comments leaves open several major issues about the implementation of the covenant assessment, including whether covenants should be rated only at issuance or periodically thereafter and, importantly, whether Moody's should rate

¹¹² *Id.* at 3-4.

¹¹³ MOODY'S, *Request for Comment on Moody's Indenture Covenant Research & Assessment Framework* (September 2006) (hereinafter "*Assessment Framework*").

¹¹⁴ What has happened, in one sense, is that some of equity's collective action problems have been solved as ownership and advocacy structures for equity claims have emerged in recent years which give equity interests more clout, suggesting some qualification to the Berle-Means thesis about share dispersion and shareholder suffrage.

¹¹⁵ Sung C. Bae & Daniel P. Klein, *Further Evidence on Corporate Bonds with Event-Risk Covenants: Inferences from Standard and Poor's and Moody's Bond Ratings*, 37 QUART. REV. ECONOMICS AND FINANCE 709, 710 (Fall 1997).

¹¹⁶ *Id.*

¹¹⁷ *Id.* at 722.

¹¹⁸ See *supra* note 13, *Assessment Framework* 4.

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each covenant individually or, instead, give a rating which comprehensively evaluates the strength overall of a particular issue's covenant protections.¹¹⁹ These covenants address the main dimensions of the shareholder-bondholder conflict: upstreaming of firm proceeds to residual claimants like shareholders; investment restrictions about the left-hand side of the firm's balance sheet; governance and merger restrictions; and funding restrictions on the right-hand side of the firm's balance sheet. The "Restricted Payments" covenants address upstreaming.¹²⁰ These covenants target an issuer's ability to transfer value to owners through dividends or repurchases of outstanding equity. These transactions increase a firm's leverage by siphoning off part of its capital cushion, increasing the firm's debt: equity ratio and leaving bondholders holding a claim against a more levered firm.

The "Change of Control" and "Merger Restrictions" discussed in the Assessment Framework address governance covenants.¹²¹ By definition, leveraged restructuring involve changes of control, so these covenants directly target the transformations in governance which are required in these restructurings. Two types of covenants bear directly on what an issuer may do with its assets, i.e. the left-hand side of its balance sheet: "Asset Sale/Conveyance Restrictions" and "Limitation on Sale/Leaseback."¹²² These restrictions curb an issuer's freedom of action in investment with limits on asset allocation that reduce the risk to bondholders of adverse changes in the business composition. Restrictions on asset sales encourage the issuer to use the proceeds of an asset sale to retire existing debt (which benefits bondholders) or to reinvest in a productive asset.¹²³ The restriction on leasebacks keeps the issuer from selling assets and taking on debt in the form of lease obligations, which often happens in a leveraged restructuring.¹²⁴

Finally, three types of covenant directly address bright-line limits on the issuer's ability to incur additional debt, getting to the heart of the borrowing which finances management buyouts and going private transactions: "Limitations on Debt Incurrence," "Negative Pledge/Limitations on Liens," and "Limitations on Subsidiary Debt."¹²⁵ Limitations on total debt are a clean way to cap increase in an issuer's debt: equity ratio, but, as always, the devil is in the

¹¹⁹ *Id.*

¹²⁰ *Id.* at 4-6. The Moody's definition also considers as a "Restricted Payment" the issuer's investment in subsidiaries not subject to the indenture covenants. *Id.* at 4. Otherwise, an issuer could use such subsidiaries as conduits for the upstreaming targeted by Restricted Payment covenants.

¹²¹ *Id.* at 6.

¹²² *Id.* at 6-8.

¹²³ *See supra* note 13, *Assessment Framework* 7.

¹²⁴ *Id.* at 8.

¹²⁵ *Id.* at 7-8.

details. It is the scope of the debt subject to the cap which determines the effectiveness of such covenants to prevent leveraging to the detriment of existing bondholders.¹²⁶ Popularized by the sovereign and project financing practices of international financial institutions like the Inter-American Development Bank and the International Finance Corporation, negative pledge clauses require an issuer to give existing creditors a proportional stake in any security offered in later issuances.

B. Using covenants against funding liquidity risk

Taken as a whole, the covenants which Moody's is considering do include substantial protection for bondholders from leverage-linked event risk. As is typical for many indenture covenants, though, they focus on balance sheet numbers.¹²⁷ The balance sheet is a point-in-time snapshot of a firm's wealth position which "recognizes" the claims of the firm – "Assets" – and the claims on the firm – "Liabilities."¹²⁸ For example, the prohibitions on "Restricted Payments" and future indebtedness use balance sheet aggregates, like net worth and the debt: equity ratio. Balance sheet covenants are valuable but, unless they are supplemented with liquidity covenants, the bondholder's strategy may fail to appreciate the firm as a liquidity pool, what George Triantis has called the firm as an "internal capital market."¹²⁹ My assertion is that centering event risk – and event risk covenants – in the context of funding liquidity enriches our understanding of the firm as a "black box" of contingencies and cash flows. While balance sheet covenants are a way ex ante to reign in management action that might create event risk; liquidity management happens in the band of contingency between ex ante and ex post. Just as a firm's management accounts may differ from its observable audited financial reports – liquidity management happens inside

¹²⁶ *Id.* at 7.

¹²⁷ See, e.g., Richard Frankel & Lubomir Litov, *Financial Accounting Characteristics and Debt Covenants* ("...we divide accounting-based covenants into two categories, (1) "EBITDA-based covenants" [EBITDA means "earnings before income taxes, depreciation, and attempts to measure effective net economic income] and (2) balance sheet and earnings-based covenants. (hereafter "B&E covenants").

¹²⁸ See FIN. ACCOUNTING STANDARDS BD., STATEMENT OF FINANCIAL ACCOUNTING CONCEPTS NO. 6: ELEMENTS OF FINANCIAL STATEMENTS (1985), available at <http://www.fasb.org/pdf/con6.pdf>. The firm's balance sheet also includes the assets and liabilities of any other entity controlled by the firm. Accounting definitions sound somewhat metaphysical because they deal with the passage of time. "Assets are probable future economic benefits obtained or controlled by a particular entity as a result of past transactions or events." *Id.* at 6. "Liabilities are probable future sacrifices of economic benefits arising from present obligations of a particular entity to transfer assets or provide services to other entities in the future as a result of past transactions or events." *Id.* at 6. By convention, the "Assets" equals the sum of the "Liabilities" and "Equity" accounts. This is called the "fundamental accounting equation."

¹²⁹ George G. Triantis, *Organizations as Internal Capital Markets: The Legal Boundaries of Firms, Collateral, and Trusts in Commercial and Charitable Enterprises*, 117 HARV. L. REV. 1102 (2004) (modeling a firm as an internal capital pool in which legal restrictions on liquidity restrict managerial discretion, including the freedom to consume perquisites).

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the firm's "black box," as part of its daily practice of survival in competitive funding markets. So some of these covenants could be enhanced by paying more attention to the issuer's funding liquidity, an issue I intend to explore in future research.¹³⁰

Of public financial reports – the balance sheet, the income statement, the statement of cash flows, and the statement of changes in shareholder equity – it is the statement of cash flows which holds the most promise for saying more about the "inside" of the firm as a liquidity pool; yet it is the most neglected, in terms of covenant practices. The statement of cash flows was the last major financial report to become widely used by firms.¹³¹ And the SEC did not begin to mandate the public disclosure of cash flow information until the 1970s after an accounting standards body recommended such disclosure in a firm's audited statements.¹³² Beginning in 1987, firms had to report cash flow classified according to whether it was related to operating,¹³³ investing,¹³⁴ or financing¹³⁵ activity, a classification which may contain information of interest to monitors of a firm's funding liquidity.

For instance, elsewhere I have recommended that the statement of cash flows should further break down investment cash flow into operational investment income – the kind that comes assets which the firm uses in its core business – and market investment – the kind that

¹³⁰ This summer, I plan to use the SEC's public filings database to see whether indenture covenants post-Enron reflect greater awareness of off-balance sheet liabilities, the risks from springing product-leverage, or the importance of cash flows. I would welcome any suggestions on research design.

¹³¹ See Karl Käfer & V.K. Zimmerman, *Notes on the Evolution of the Statement of Sources and Applications of Funds*, 1 INT'L. J. ACCT. EDUC. & RES. 89–121 (1965) (tracing statement from emergence in the early 1900s through the early 1960s in UK and USA). Large railroad concerns were the first to include these statements in their financial statements. *Id.*

¹³² In 1971, the Accounting Principles Board of the American Institute of Certified Public Accountants issued Opinion 19, recommending the inclusion of a "Statement of Changes in Financial Position" in a firm's financial statements. AM. INST. OF CERTIFIED PUB. ACCOUNTANTS, ACCOUNTING PRINCIPLES BOARD OPINION NO. 19: REPORTING CHANGES IN FINANCIAL POSITION (1972). The main objective of Opinion No. 19 was to "summarize the financing and investing activities of the entity, including the extent to which the enterprise has generated funds from operations during the period." *Id.* at ¶ 4.

¹³³ Operating cash flow reflects net cash flow from a firm's core business, sales in the context of a merchandising concern, interest rate differentials and fee income in the context of a depository institution, capital return in the context of a registered broker-dealer, and the net return on underwriting in the context of an insurance company. See generally EUGENE BRIGHAM & MICHAEL EHRHARDT, FINANCIAL MANAGEMENT THEORY AND PRACTICE 40–41 (10th ed. 2002). Operating cash flow tells a reader of a firm's financial statements how much liquidity arose or was consumed by the firm's core business. *Id.* In this sense, operating cash flow may be the best indicator of trends in a firm's going concern value.

¹³⁴ Investment cash flow reflects both the cash flow from a firm's position-taking in investment markets—just like any other investor in the capital market—as well as the net cash effects of investing in (or liquidating) assets that support the firm's core business.

¹³⁵ Financing cash flow reflects the firm's cash position as a borrower and lender in the capital market.

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comes from position-taking unrelated to core activities.¹³⁶ Even though accounting rules do not require this distinction, bondholders can covenant for such information or any other accounting information which would say more about the firm's current and future funding liquidity is. Not only would doing so give bondholders contracting leverage over a factor – liquidity management – that bears directly on a firm's ultimate creditworthiness, but recognizing the importance of liquidity management through covenants would help to make a market for liquidity expertise by sending the signal that creditors value this form of expertise. Another kind of information useful to bondholders relates to any implicit leverage in financial products which – if triggered – could lead to funding risk. For the restrictions on enterprise borrowing, in particular, to have any teeth, they ought to capture not only subsidiary debt, but a wider range of contingent obligations of the type which got Enron and others into trouble when the contingencies leading to a spiral of rising debt claims on the issuer materialized. The Moody's proposal, makes no mention of this risk.

Liquidity covenants are part of the traditional bundle of covenants but they seem to get little attention, reflecting a lag on the part of firms in catching up with growing regulatory awareness about funding liquidity risk. For example, the LPC DealScan database tracks 24 kinds of covenants in bonds, but only three of these covenants use some measure of cash flow.¹³⁷ Also, one covenant tracks the short-term liquidity of the firm by comparing the firm's assets and liabilities maturing within one year. Of the 24 covenants tracked by DealScan only these four seem to monitor liquidity.¹³⁸ Moreover, none of these covenants say much about the behavior of the statement of cash flows, the accounting report which presents trends in liquidity in the greatest detail. The lag is understandable but regulators are moving and so too should firms.

Granted, accounting-based covenants are only as good as the accounting data used. To the extent that firm managers can delay accounting recognition of relevant financial events through discretion over the accrual of items of gain or loss, the value of such covenants is reduced. This is especially true in the case of "bad news" about the firm.¹³⁹ Because borrowers may have an incentive to change accounting methods in order to avoid triggering accounting

¹³⁶ José M. Gabilondo, *Financial Moral Panic! Sarbanes-Oxley, Financier Folk Devils, and Off-Balance Sheet Arrangements*, 36 SETON HALL LAW REVIEW 781, 844-45 (2006).

¹³⁷ These covenants track (i) the amount of operating cash flow divided by cash interest expense ("Cash Interest Coverage"), (ii) the amount of outstanding debt divided by book cash flow ("Debt to Cash Flow"), and (iii) the amount of senior debt divided by book cash flow ("Senior Debt to Cash Flow").

¹³⁸ This is the Current Ratio.

¹³⁹ See Frankel and Litov, *supra* note 127, at 7.

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thresholds that rise to covenant violations, lenders and investors can also protect themselves against opportunistic accounting moves by borrowers through covenants. As Beatty has pointed out, mandatory accounting changes introduce uncertainty into credit contracting because – during the negotiations between the borrower and the lender – it cannot be determined whether a future mandatory accounting change will increase or decrease the likelihood of a violation of the covenant, in the terms originally conceived by the borrower and the lender.¹⁴⁰ Voluntary decisions by a borrower to change accounting methods can also “loosen the tightness of accounting-based covenants.”¹⁴¹ Lenders protect themselves against these risks by “locking-in” accounting standards at the time of the loan which exclude subsequent accounting changes, mandatory or voluntary ones. In exchange, borrowers pay less on credit when they have contracted to be bound by the original accounting terms rather than conforming to mandatory changes or making discretionary accounting changes.¹⁴²

Of course, there must be something in it for the issuer to say more about its liquidity characteristics. One such “carrot” might be lender forbearance on one of its rights against the issuer based on liquidity performance. Consider an analogy to the practice of “accounting-based performance pricing” in some bank debt contracts. A relatively new trend, some bank loans use accounting-based measures to track the borrower’s performance. Based on reaching certain performance targets, the lender rewards (or punishes) the borrower by lowering (or raising) the interest rate on the debt contract.¹⁴³ These debt contracts use accounting triggers to reprice the rate charged on the loan within a range of about 90 basis points (almost 1%).¹⁴⁴ By providing for cheaper credit as the borrower’s creditworthiness improves and more expensive credit as it declines, performance pricing reduces the need to renegotiate the original debt contract, thereby saving transaction costs ex ante for both the borrower and the lender.¹⁴⁵ In this sense, building

¹⁴⁰ Anne Beatty, K. Ramesh, and Joseph Weber, *The Importance of Excluding Accounting Changes from the Calculation of Debt Covenant Compliance* 5 (finding that lenders “price-protect” themselves against the risk of both mandatory and voluntary changes in accounting methods). Three factors correlated with the lender’s contracting for protection from accounting changes are a longer maturity, the presence of multiple lenders, and revolving credit. *Id.* at 16.

¹⁴¹ *Id.* at 6.

¹⁴² In Beatty’s study of 147 loan agreements using DealScan and Lexis-Nexis data, lenders charged 40 basis points less when the debt contract excluded mandatory accounting changes and 140 basis points less when it excluded both mandatory and voluntary changes. *Id.* at 20.

¹⁴³ Anne Beatty, Illia D. Dichev, Joseph Weber, *The role and characteristics of accounting-based performance data in private debt contracts* [citation forthcoming].

¹⁴⁴ *Id.*

¹⁴⁵ *Id.* at 8

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this variability in the cost of credit might be a substitute for having to renegotiate when firm or market conditions change.¹⁴⁶

IV. CONCLUSION

As much as anything, what is needed is a sensibility about liquidity, which is, of course, a very good thing, be it the asset or the funding type. My goal here has been to suggest that the question of how a financial arrangement impacts funding liquidity should pervade all aspects of our thinking about firm structure and operations. Of course, the link between liabilities and funding liquidity seems the most obvious. But asset sources of funding liquidity matter too, as repurchase markets show when liquefying asset claims, an example, by the way, of how asset liquidity contributes to funding liquidity. And, crucially, derivatives and other financial claims whose accounting nature may shift between asset or liability – and then back again – based on market moves deserve special attention: their “springing” leverage can lead to untoward effects on the firm’s funding liquidity, including threats to bondholder expectations. Derivatives have their virtues too, but, unless their implicit leverage is appreciated and provisioned for in some way, they can mushroom into forms of event risk for bondholders. We serve different clients, but finance lawyers in both the private and public sector belong to the same “interpretive community,” Stanley Fish’s term for a group of people who share practices of textual interpretation, in our case financial semiotics.¹⁴⁷ So, this paper has invited private parties to free-ride on the growing learning of regulators about funding liquidity risk, for the greater good of financial literacy.

¹⁴⁶ *Id.* at 8

¹⁴⁷ See STANLEY FISH, IS THERE A TEXT IN THIS CLASS? THE AUTHORITY OF INTERPRETIVE COMMUNITIES 14 (1980) (“Indeed, it is interpretive communities, rather than either the text or the reader, that produce meaning and are responsible for the formal features.”) . See also Lawrence A. Cunningham, *Semiotics, Hermeneutics, and Cash: An Essay on the True and Fair View*, 28 N.C. J. INT’L L. & COM. REG. 893, 894–95 (2003) (arguing that a hermeneutic approach to accounting would facilitate the convergence of national accounting standards).