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Remembering Financial Crises: The Risk Implications of the Rise of Institutional Investors in Project Finance

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COMMENT

REMEMBERING FINANCIAL CRISES: THE RISK IMPLICATIONS OF THE RISE OF INSTITUTIONAL INVESTORS IN PROJECT FINANCE

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Barely a decade ago, a cascading sequence of market failures threatened to topple the global financial system. Public responses to the recent Financial Crisis were immediate and drastic to resuscitate the global economy while attempting to make the markets safer. Many financial services sectors have since recovered to pre-crisis levels. One such industry is project finance, which comprises various financing arrangements often used to fund long-term infrastructure or industrial projects. Curiously, significant post-crisis banking regulations and other global credit enhancement initiatives are pushing banks out of project finance and giving rise to institutional investors. This Comment argues that animated institutional activity in project finance may increase both financial and, more notably, governance risks. Further, increased institutional investment in project finance shifts the risk intended to be captured under new banking regulations to unregulated markets and makes the financial system more complex and interconnected. Ultimately, public responses to the Financial Crisis may have the unintended consequence of increasing project-level risks and injecting seemingly regulated systemic risk back into the global financial system.

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Introduction

In 2013, Paul Tucker, the former Deputy Governor of the Bank of England, famously commented, "It will be a while before confidence in the system is restored, and never again should confidence be so blind."[1] But others are less sure about Tucker's prediction. They argue that faith in the market will be restored in less than a decade,[2] pointing to the human tendency to be forgetful of financial crises and engage in similar risky behaviors, so-called "financial crisis amnesia."[3] Similarly, the former Chairman of the Board of Governors of the Federal Reserve System once quipped that "about every 10 years, we have the biggest crisis in 50 years."[4] Although it has been more than a decade since the beginning of the Financial Crisis, we have not yet experienced a similarly catastrophic event.

The Financial Crisis resulted in losses estimated at more than $500 billion.[5] In its aftermath, many people, even those outside the financial sector, lost their jobs and retirement savings.[6] A number of financial services came

1. Paul Tucker, Deputy Governor, Bank of Eng., Banking Reform and Macroprudential Regulation: Implications for Banks' Capital Structure and Credit Conditions, Address at the SUERF/Bank of Finland Conference (June 13, 2013), *in* Banking After Regulatory Reforms—Business As Usual? 65, 77 (Esa Jokivuolle & Jouko Vilmunen eds., 2014).

2. Alex J. Pollock, Opinion, *Our Financial Crisis Amnesia*, Wall Street J. (July 9, 2014, 6:50 PM), https://www.wsj.com/articles/alex-pollock-our-financial-crisis-amnesia-1404946250 (on file with the *Michigan Law Review*).

3. Tim Geithner, Opinion, *Financial Crisis Amnesia*, Wall Street J. (Mar. 1, 2012, 7:19 PM), https://www.wsj.com/articles/SB10001424052970203986604577253272042239982 (on file with the *Michigan Law Review*).

4. Pollock, *supra* note 2 (statement of Paul Volcker, former Chairman of the Federal Reserve).

5. PricewaterhouseCoopers, Infrastructure Finance—Surviving the Credit Crunch 6 (2008) [hereinafter PwC Report], https://www.pwc.com/ng/en/pdf/surviving-the-credit-crunch.pdf [https://perma.cc/GB5E-JD4K]. For background information about the Financial Crisis, see generally Fin. Crisis Inquiry Comm'n, The Financial Crisis Inquiry Report (2011) [hereinafter FCIC Report], https://www.gpo.gov/fdsys/pkg/GPO-FCIC/pdf/GPO-FCIC.pdf [https://perma.cc/MW3U-QXPL].

6. *See* Mike Rothman, Opinion, *Years After Worldwide Financial Crisis, We Can't Afford to Forget*, Hill (Sept. 23, 2017, 8:00 AM), http://thehill.com/opinion/finance/352024-years-after-americas-financial-crash-we-cant-afford-to-forget [https://perma.cc/HM76-6F8W].

to a screeching halt, including project finance for large infrastructure and industrial projects.[7] Project finance has been widely used as a funding mechanism for various projects, such as constructing Disneyland in Paris and improving and expanding Buenos Aires's water and sewage services.[8] This funding mechanism has allowed governments and private companies to spread the risks and responsibilities of constructing and operating large projects by creating a legal vehicle to pool investments from private parties.[9] After the Financial Crisis, this market momentarily contracted.[10]

The vitality of project finance has been tested repeatedly,[11] but the market remains resilient and has rebounded since the Financial Crisis.[12] Observers of this phenomenon express great optimism, likely because project lending has not generally been viewed as inherently risky.[13] The recent revival of the project finance market, however, is notably different from past recoveries. Global regulators and policymakers took drastic measures after the Financial Crisis that resulted in the rapid growth of project bonds and institutional investment activity in project finance.[14]

To demonstrate the negative effects of financial crisis amnesia, this Comment discusses the potential ramifications of the increased role of insti-

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7. *See* Jakob Müllner, *International Project Finance: Review and Implications for International Finance and International Business*, 67 MGMT. REV. Q. 97, 101 (2017); *infra* Section I.A.

8. JOHN D. FINNERTY, PROJECT FINANCING 399–429 (3d ed. 2013) (describing the Euro Disneyland Project and the use of project finance to address various considerations and challenges of the project); INT'L FIN. CORP., WORLD BANK GRP., THE PRIVATE SECTOR AND DEVELOPMENT: FIVE CASE STUDIES 15–21 (1997) (explaining the importance of project finance in the Aguas Argentina project).

9. There is no single definition of "project finance," but it generally "involves the creation of a legally independent project company financed with equity from one or more sponsoring firms and non-recourse debt for the purpose of investing in a capital asset." Benjamin C. Esty, *Why Study Large Projects? An Introduction to Research on Project Finance*, 10 EUR. FIN. MGMT. 213, 213 (2004). For more information on project finance, see generally Müllner, *supra* note 7, at 99–104.

10. *See* James Leigland & Henry Russell, *Another Lost Decade? Effects of the Financial Crisis on Project Finance for Infrastructure*, GRIDLINES, June 2009, at 2–4; Vasco Pinto Ferreira, *Project Finance Recovers*, WORLD FIN. (Aug. 19, 2010), https://www.worldfinance.com/banking/investment/project-finance-recovers [https://perma.cc/7YS3-U97A] ("From H1 2008 the [project finance] market has suffered with restricted access to credit and increased margins resulting in a severe decrease in transactions closed and thinner pipeline of deals.").

11. *See infra* Section I.A.

12. *See* PROJECT FIN. INT'L, LEAGUE TABLES 48 (2016) [hereinafter LEAGUE TABLES 2015], http://www.pfie.com/Journals/2016/01/26/c/b/y/PFI-Financial-League-Tables-2015.pdf [https://perma.cc/RM3N-GMNC] ("In 2015, the global project finance loan market saw volumes reach new highs, up 6.8% at US$277.7bn from last year, when volumes hit US$260bn.").

13. *See, e.g.*, MOODY'S INV'R SERV., DEFAULT AND RECOVERY RATES FOR PROJECT FINANCE BANK LOANS, 1983-2015, at 2–4 (2017), http://www.globalinfrafacility.org/sites/gif/files/Moody%27s-Project%20Finance%20Default%20Study%20%281983-2015%29.pdf [https://perma.cc/UTW4-KXFW] (finding that recovery rates on defaulted project finance loans between 1983 and 2015 were around 80%).

14. *See infra* Part I.

tutional investors in project finance. Part I introduces the current state of project finance and discusses the idiosyncratic growth of the project bond market and institutional investment. Part II argues that the rise of institutional investors in project finance may increase financial and governance risks at the individual-project level, mostly because of such investors' active involvement in the project bond market. Finally, Part III argues that institutional investors' elevated role in project finance may correspond to an increase in systemic risks in the global financial system. It contends that institutional investors encourage migration of risks away from the highly regulated banking sector and increase complexity and interconnectedness in the financial markets.

I. The Rise of Institutional Investors in Project Finance

The project bond market developed in the early 1990s following important changes in federal securities laws.[15] Since then, the project finance industry has evolved, adapting to new technologies and financial innovations.[16] It has expanded and contracted commensurate with debt capital market demands and the relative competitiveness of banks in project finance.[17] As the industry continues to fund global infrastructure and energy projects, many of the key players have changed as well.[18] Commercial banks or a syndicate of banks, while still important, are no longer the sole project lenders.[19] Institutional investors are establishing their stronghold in project finance, primarily through project bonds.[20] The various institutional participants of project finance include pension funds, insurance companies, specialist infrastructure funds, hedge funds, sovereign wealth funds, and private

15. *See* Tom Siebens & David Gasperow, *Documentation of Project Bonds*, *in* International Project Finance paras. 9.01, 9.04 (John Dewar ed., 2011); Latham & Watkins LLP, Client Alert: Why Project Bonds Now? 1–2 (2009) [hereinafter Latham & Watkins Client Alert], https://www.lw.com/thoughtLeadership/why-project-bonds-now [https://perma.cc/ET6L-4XKE] (discussing the development of project bonds as a long-term funding source for infrastructure projects). The first use of bonds to finance infrastructure projects in the United States can be traced back to the 1800s. Siebens & Gasperow, *supra*, paras. 9.01, 9.04.

16. *See* Phillip Fletcher, *Approaching Legal Issues in a Project Finance Transaction*, *in* International Project Finance, *supra* note 15, paras. 1.01–1.05 (describing the "expansion of project finance into new industries" and the related legal issues that "have become increasingly complex" and challenging).

17. *See* Siebens & Gasperow, *supra* note 15, para. 9.01.

18. *See* David Carter, *The Growing Role of Institutional Investors in Infrastructure Finance*, Financier Worldwide (Jan. 2016), https://www.financierworldwide.com/the-growing-role-of-institutional-investors-in-infrastructure-finance/ [https://perma.cc/H5MX-9PCB].

19. *See id.*

20. *See* Michael Wilkins, Standard & Poor's: RatingsDirect, Out of the Shadows: The Rise of Alternative Financing in Infrastructure 2 (2013) (on file with the *Michigan Law Review*) ("In the U.S., about one-quarter of all project lending [in 2012] came directly from alternative sources and institutional investors . . . with Europe, Middle East, and Africa, along with Asia Pacific, following a similar pattern."); *see also infra* Section I.B.

investment funds.[21] These entities are not a unitary class of investors; they do not necessarily share the same skill sets or investment strategies with each other.[22] Importantly, institutional investors have traditionally approached project finance differently from banks.[23]

Project bonds provide an alternative to the traditional debt financing method of bank loans.[24] These bonds often fund single-asset projects on limited recourse or nonrecourse terms.[25] There are certain private placement restrictions on who can hold project bonds,[26] but a wide variety of institutional investors typically invest in project bonds, including pension funds and insurance companies.[27] The Sections below explore the recent revival of the project bond market and the rise of institutional investors in project finance.

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21. Wilkins, *supra* note 20, at 3; Ass'n. for Fin. Mkt. in Eur. & Int'l Capital Mkt. Ass'n, Guide to Infrastructure Financing 27 (2015) [hereinafter AFME & ICMA Guide], https://www.afme.eu/globalassets/downloads/publications/afme_guide_to_infrastructure_financing2.pdf [https://perma.cc/86BC-BCKE].

22. *See* AFME & ICMA Guide, *supra* note 21, at 27.

23. *See infra* Part I. Although banks could be considered "institutional investors" in other contexts, for purposes of this Comment, the definition precludes banks because their activities and investment strategies are sufficiently different in project finance. *See infra* Section I.B. Note, however, the distinction between banks and institutional investors is becoming blurred in project finance. *See infra* notes 68–72, 103–105 and accompanying text.

24. Project bonds typically refer to private issuance of notes either through section 4(2) of the 1933 Securities Act or Rule 144A or Regulation S. *See* Robert N. Freedman et al., *Prepping for Project Bonds*, Law360 (Aug. 28, 2013, 11:54 AM), https://www.law360.com/articles/467505/prepping-for-project-bonds (on file with the *Michigan Law Review*). Section 4(2) bonds are "generally offered to a small number of targeted investors who are familiar with the project bond market." *Id.* In contrast, most cross-border project bonds are issued under Rule 144A and Regulation S, marketed to a broader group of qualified institutional buyers. *Id.* Investors of these bonds are generally more passive than those investing in 4(2) private placements, heavily relying on the offering document and expecting that the underwriting banks will have performed a due diligence exercise. *Id.* There are other alternative sources of project financing, such as floating rate notes, commercial paper, and funding from export credit agencies and multilateral development banks. John M. Niehuss, International Project Finance in a Nutshell 195–97 (2d ed. 2015).

25. Tianze Ma, Note, *Basel III and the Future of Project Finance Funding*, 6 Mich. Bus. & Entrepreneurial L. Rev. 109, 109 (2016); Cathleen McLaughlin & Dorina Yessios, *Why Project Bonds? Why Now?*, Latin Law. (May 2011), https://latinlawyer.com/article/1091013/why-project-bonds-why-now (on file with the *Michigan Law Review*).

26. *See* Freedman et al., *supra* note 24. The SEC requires, among other things, (i) investors of private placement securities to meet the requisite degree of qualifications for sophistication; (ii) restricted number of investors; (iii) "the absence of any general solicitation or advertisement;" (iv) "access . . . to [certain] relevant information concerning the issuer;" and (v) "restrictions on resale." *Id.*; Mark A. Kantor, *Asian Project Finance: Capital Market Offerings Under Rule 144A*, E. Asian Executive Rep., Sept. 15, 1994, at 6, 6.

27. *See* AFME & ICMA Guide, *supra* note 21, at 27; Ma, *supra* note 25, at 123–24.

A. *Revival of the Project Bond Market*

Historically, global economic conditions and the natural competition between the banks and the debt capital market controlled the ebb and flow of the demand for project bonds. Bank loans tend to surge when the financial markets are liquid and robust,[28] and project bond activity increases to fill the void when banks are less active.[29] For example, the international project bond market developed in the 1990s largely because banks were unable to meet the global demand for expansive privatization of infrastructure projects.[30] Banks responded by offering commercially competitive, long-term project loans after the Asian financial crisis in the early 2000s, which correlated with a brief contraction of the project bond market.[31] And before the recent Financial Crisis, investors seeking high-yield investments in a global liquidity crunch environment were purchasing project bonds in droves.[32]

The demand for project bonds also tends to surge when the financial markets become more knowledgeable about the characteristics and risks associated with certain projects or regions.[33] In the early 1990s, for example, the U.S. power market experienced a spike in project bond activity.[34] Banks previously dominated the U.S. power market, and the project bond market hesitated to venture into this unfamiliar market.[35] Eventually, project participants acquired the requisite knowledge and skills to analyze large power projects.[36] With increased market confidence in project participants' ability to structure bond offerings in the U.S. power market, investors flocked to-

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28. See NIEHUSS, *supra* note 24, at 194.

29. *Cf.* Silvio Contessi et al., *Bank vs. Bond Financing over the Business Cycle*, ECON. SYNOPSES, No. 31, Nov. 15, 2013, https://files.stlouisfed.org/files/htdocs/publications/es/13/ES_31_2013-11-15.pdf [https://perma.cc/KQ4N-X4TN] (comparing the divergent business cycles of bank loans and corporate bonds during economic downturns).

30. *See* Juliet D'Souza & William L. Megginson, *The Financial and Operating Performance of Privatized Firms During the 1990s*, 54 J. FIN. 1397, 1397 (1998); Mansoor Dailami & Danny Leipziger, *Infrastructure Project Finance and Capital Flows: A New Perspective*, 26 WORLD DEV. 1283, 1284 (1999); Mansoor Dailami & Robert Hauswald, *The Emerging Project Bond Market: Covenant Provisions and Credit Spreads* 4 (World Bank Pol'y Research, Working Paper No. 3095, 2003).

31. *See* Leigland & Russel, *supra* note 10, at 1; LATHAM & WATKINS CLIENT ALERT, *supra* note 15, at 2, 4.

32. *See* LATHAM & WATKINS CLIENT ALERT, *supra* note 15, at 2, 4.

33. *See* Siebens & Gasperow, *supra* note 15, para. 9.01 (noting that the demand for project bonds depends, in part, on "the willingness of the sponsors to undertake the additional effort to incorporate a bond offering into a project's capital structure and the relative difficulty of implementing a bond financing at any given stage of a project's development").

34. Freedman et al., *supra* note 24.

35. *See id.*

36. *Id.*

ward the seemingly long-term, safe, and predictable revenue streams of project bonds.[37]

But the Financial Crisis was no ordinary event. Catastrophic market failures stymied project lending activities.[38] Banks had historically emerged triumphant in the project finance market during recessionary periods.[39] After the Financial Crisis, however, banks approached project lending cautiously. They hesitated to act as sole underwriters and demanded terms unfavorable to project sponsors.[40] Project bonds also became riskier and less attractive because certain industries, such as monoline insurance companies, were no longer providing important services.[41] Many investors lacked the appetite to dip into the volatile project bond market. To make matters worse, governments mired in economic doldrums and hamstrung by fiscal constraints stalled public spending on infrastructure projects.[42] The need for infrastructure and other special projects remained high,[43] and in response, global regulators and policymakers took extraordinary steps to buoy up the project finance market while also curbing risky financial activities.[44] Their actions ultimately revived the project bond market.[45]

First, in an attempt to mitigate financial risks identified during the Financial Crisis, global regulators[46] developed a series of rules that indirectly increased the demand for project bonds. Chief among them are the Basel III rules, adopted to recalibrate the existing financial regulatory framework and

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37. *See id.* (finding that project bond activity spikes when there is a critical mass of projects with "stable creditworthy customers using proven, reliable technology and providing a fundamental service").

38. *See* Leigland & Russell, *supra* note 10, at 2–4.

39. *See id.* at 1–2 (using the Asian financial crisis as an example of banks leveraging the market condition and greater bargaining position to obtain favorable lending terms).

40. *See* PwC Report, *supra* note 5, at 10. Project sponsors are often equity investors who organize a certain project and seek funding for it.

41. *See id.* at 8. The monoline insurance industry was nearly wiped out after the Financial Crisis and could no longer provide guarantees or credit enhancements (or "wraps") that would have transformed project bonds into investment grade securities. See *id.* and *infra* note 160 and accompanying text regarding the decline of monoline insurance companies.

42. *See* PwC Report, *supra* note 5, at 4.

43. *See* Richard Dobbs et al., McKinsey Glob. Inst., Infrastructure Productivity: How to Save $1 Trillion a Year 1 (2013), https://www.mckinsey.com/~/media/McKinsey/Industries/Capital%20Projects%20and%20Infrastructure/Our%20Insights/Infrastructure%20productivity/MGI%20Infrastructure_Full%20report_Jan%202013.ashx [https://perma.cc/L3BE-AVXW] (estimating that "$57 trillion in infrastructure investment will be required between [2013] and 2030 . . . to keep up with projected global GDP growth,", which is "nearly 60 percent more than the $36 trillion spent globally on infrastructure over the past 18 years").

44. *See infra* Section I.A.

45. *See infra* Section I.A.

46. The Basel Committee on Banking Supervision—a committee of banking supervisory authorities created for cooperation of bank supervisory issues—consists of 45 global regulators, including central banks and other bank regulators, from 28 jurisdictions. *Basel Committee Membership*, Bank for Int'l Settlements, https://www.bis.org/bcbs/membership.htm [https://perma.cc/APD5-YUBK] (last updated Dec. 30, 2016).

ensure that the financial markets are better able to withstand future economic shocks.[47] The Basel III rules have had a significant impact on project lending, namely through the ramping up of Tier 1 capital requirements and the introduction of short- and long-term liquidity coverage ratios.[48] Although these rules are not yet fully implemented,[49] many contend that they have resulted in increased bank funding costs, shortened project loan terms, increased assumption of refinancing risk by project sponsors, and reduced willingness of banks to provide project-related letters of credit.[50] And several banks seeking to offload long-term, riskier assets have been selling off existing project loans.[51] U.S. financial regulators widely believe that these rules have made the traditional banking sector safer since the Financial Crisis.[52] But the rules have also made project bank lending more costly and alternative sources of funding—such as project bonds—more attractive.[53]

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47. *See* Ma, *supra* note 25, at 110–16; Enzo Scannella, *Project Finance in the Energy Industry: New Debt-Based Financing Models*, INT'L BUS. RES., Feb. 2012, at 83, 88.

48. *See* NIEHUSS, *supra* note 24, at 207; *Project Bonds: An Alternative Source of Financing Infrastructure Projects*, DELOITTE, https://www2.deloitte.com/za/en/pages/finance/articles/project-bonds-an-alternative-to-financing-infrastructure-projects.html [https://perma.cc/KDG8-3JG2] ("[T]he implementation of Basel III regulations requires stricter monitoring and disclosures, ultimately leading to higher costs and higher capital requirements."). The rules governing Tier 1 Capital (i.e., the highest quality capital a bank must hold against its risk-weighted assets) were significantly enhanced after the Financial Crisis, accounting for counterparty credit risk, strengthening the standards for margin and collateral management, and creating higher capital requirements for over-the-counter derivative instruments. *See* ACCENTURE, BASEL III HANDBOOK 8 (2011), https://fitc-ng.com/vlearning/fvltest/BCAM%20Demo/story_content/external_files/Accenture-Basel-III-Handbook1.pdf [https://perma.cc/8N68-G7KQ]. Basel III also mandates member countries to adopt a Liquidity Coverage Ratio (designed to require banks to hold sufficient liquid assets and safeguard them from a financial stress event) and a Net Stable Funding Ratio (designed to incentivize banks to fund its activities using more stable funding sources). *Id.* at 9; *see also* Ma, *supra* note 25, at 116 (arguing that the Liquidity Coverage Ratio and Net Stable Funding Ratio "are arguably the most significant addition to the Basel III framework and are likely to have the most far-reaching impact on global project finance industry").

49. *See* SULLIVAN & CROMWELL LLP, BANK CAPITAL REQUIREMENTS (2017), https://sullcrom.com/siteFiles/Publications/SC_Publication_Bank_Capital_Requirements_12192017.pdf [https://perma.cc/K57Z-SSPA].

50. *See* NIEHUSS, *supra* note 24, at 207–08; Ma, *supra* note 25, at 119–20.

51. *Regulatory Changes Aim to Plug Capital Hole*, EUR. CEO (Oct. 9, 2013), https://www.europeanceo.com/finance/regulatory-changes-aim-to-plug-capital-hole/ [https://perma.cc/T5SU-HBT9] (stating that many banks, such RBS and the Bank of Ireland, have sold bundles of project finance debt).

52. *See, e.g.*, Peter Olson & David Wessel, *Fed's Tarullo on Financial Stability: We're Safer, but Are We Safe Enough?*, BROOKINGS (Nov. 19, 2015), https://www.brookings.edu/blog/up-front/2015/11/19/feds-tarullo-on-financial-stability-were-safer-but-are-we-safe-enough/ [https://perma.cc/JSJ4-ZXZJ] (summarizing the remarks by then–Federal Reserve Governor Daniel Tarullo, who oversaw supervisory and regulatory matters at the Federal Reserve).

53. *See* NIEHUSS, *supra* note 24, at 207–08.

Second, other forms of policymaking and government intervention are shoring up the demand for project bonds. Instead of relying on market forces to fill the void in project finance, various governments and international organizations have introduced guarantees and other credit enhancement programs.[54] For example, the European Commission, in conjunction with the European Investment Bank (EIB), launched the Europe 2020 Project Bond Initiative to incentivize investment in the project bond market for large-scale infrastructure projects in various sectors.[55] The EIB provides credit enhancement of project bonds in lieu of monoline insurance by lending on a subordinated basis and bearing first-loss liability on a portfolio of transactions worth more than 4 billion euros.[56] In 2012, the United Kingdom piloted a similar initiative, the UK Guarantee Scheme, to spur the project bond market and fund infrastructure projects.[57]

Against this backdrop, project bond issuance has been steadily increasing since the Financial Crisis, both in terms of dollar amount and as a percentage of total financing.[58] This growth is expected to continue, with many practitioners speculating that project bonds may eventually eclipse bank loans as the main source of project finance.[59] That said, there is little evi-

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54. Emma Lindsay, *Infrastructure Debt Funds—Still a Lot to Prove*, Project Fin., Apr. 2013. Other than the EU-EIB Project Bond Initiative and the UK Guarantee Scheme, these credit enhancement programs include (i) the various export credit agency programs, including guarantees and political risk insurance; (ii) the Islamic Development Bank that facilitates Islamic sukuk bond issuance for infrastructure and energy projects; (iii) the World Bank's Global Infrastructure Facility to "help mobilize and leverage funding from institutional investors for investment in infrastructure"; and (iv) the Asian Development Bank's initiative to support credit enhancing project bonds seeking to mitigate commercial and political risks. *See* Niehuss, *supra* note 24, at 209–10; Craig Nethercott et al., *Introduction* to Project Finance Report 2 (2017), https://www.lw.com/admin/Upload/Documents/IFLR-PF2017-Full-Guide.pdf [https://perma.cc/NAR7-XM6R].

55. European Inv. Bank, An Outline Guide to Project Bonds Credit Enhancement and the Project Bond Initiative 4 (2012) [hereinafter EIB Guide], http://www.eib.org/attachments/documents/project_bonds_guide_en.pdf [https://perma.cc/8XXH-BDPE].

56. *Id.* at 4–5.

57. UK Nat'l Audit Off., Guarantees Scheme for Infrastructure 7 (2015), https://www.nao.org.uk/wp-content/uploads/2015/01/UK-Guarantees-scheme-for-infrastructure.pdf [https://perma.cc/6TPN-ZV2V]. Three years later, the United Kingdom signed seven guarantees that provided around 40 billion pounds of maximum value of support under the Scheme, the longest of which would provide a guarantee for over 40 years. *Id.* at 4.

58. Sean Johnson et al., White & Case LLP, Unraveling Four Common Myths About Project Bonds 4 (2015), https://www.whitecase.com/sites/whitecase/files/files/download/publications/projectbonds-myths.pdf [https://perma.cc/A85P-X98T] ("The number of developments financed through project bonds—and the dollar amounts involved—continue to gain traction."). While the project loan volumes contracted slightly to $236.4 billion in 2016 from the previous year, project bond issuance increased by $8.3 billion to $43.6 billion. Thompson Reuters Project Fin. Int'l, League Tables 50 (2017), http://www.pfie.com/Journals/2017/01/24/r/x/q/PFILeagueTables2016.pdf [https://perma.cc/5L4X-K73A].

59. *See, e.g.*, Latham & Watkins Client Alert, *supra* note 15, at 1–2. While the project bond market is growing, the trajectory is not linear and consistent. For example, project bond issuance dropped by around $15 billion in 2015 from its previous year. League Tables

dence indicating that project participants suddenly gained the requisite skills and knowledge to understand the risks associated with the markets traditionally dominated by banks.[60]

B. *Increased Role of Institutional Investors in Project Finance*

Institutional investors engage in credit intermediation and participate in the project finance market primarily through project bonds. Nonbank institutional investors have increasingly filled the void left by banks' retreat from the project lending market, gradually chipping away at the importance of banks in project finance.[61] As banks eschew long-term projects, fixed-income institutional investors seek potentially riskier investments with high yields in the current low-interest-rate environment.[62] To that end, project bonds, which now promise higher returns than corporate and sovereign debt, are attractive investments for entities such as pension funds and insurance companies.[63] Project bondholders must rely on the "high degree of disclosure," and these bonds are difficult to "renegotiate or restructure because they involve so many different ultimate investors."[64] Regardless, project bonds offer diversified investment vehicles for various institutional

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2015, *supra* note 12, at 28. Regardless, the project bond market appears to be growing, according to recent data. *See* PROJECT FIN. INT'L, *Introduction* to 1H 2017 LEAGUE TABLES 52 (2018), http://www.pfie.com/Journals/2017/07/19/m/h/t/PFILeagueMidYearTables2017.pdf [https://perma.cc/GR7X-VX77].

60. *Cf.* Michael Dunning, *How the Infrastructure Debt Market Is Evolving to Accommodate a Growing Institutional Appetite*, INFRANEWS (Jan. 3, 2013, 12:36 PM) (on file with the *Michigan Law Review*) (statement of Steve Rankine, Executive Director, Infrastructure Debt at Hastings Management Fund) ("[I]t doesn't make a lot of sense [for institutional investors] to have their own project finance teams—it's too expensive and the analysis in project finance is much more complex than corporate deals."); David Carter, *Institutional Investors and Project Finance: Problems and Solutions*, NORTON ROSE FULBRIGHT (Mar. 2015), http://www.nortonrosefulbright.com/knowledge/publications/127025/institutional-investors-and-project-finance-problems-and-solutions [https://perma.cc/MN24-MCF8] (describing potential solutions for project bondholders' lack of project expertise compared to banks, such as appointing decisionmakers).

61. *See* Louise Bowman, *Institutional Buyers Jostle for Position in New Infrastructure Debt Market*, EUROMONEY (Jan. 29, 2013), https://www.euromoney.com/article/b12kjwcll11hcd/institutional-buyers-jostle-for-position-in-new-infrastructure-debt-market (on file with the *Michigan Law Review*); McLaughlin & Yessios, *supra* note 25 ("Pension funds and life insurance companies are increasingly considering investments in projects through capital markets.").

62. *See* NIEHUSS, *supra* note 24, at 196 (stating that interest rates are generally higher for project bonds than other sources of project finance funding); Emil Arca, *The Future of Project Bonds in Latin America*, 3 HARV. BUS. L. REV. ONLINE 187, 188 (2013).

63. *See* Bowman, *supra* note 61; David Oakley & Patrick Jenkins, *BlackRock Eyes Infrastructure Debt Market*, FIN. TIMES (Nov. 25, 2012), https://www.ft.com/content/4c9ad99e-33ed-11e2-9ae7-00144feabdc0 (on file with the *Michigan Law Review*) (noting that project bonds offered around three percentage points higher yield than U.S. Treasury Bonds).

64. NIEHUSS, *supra* note 24, at 195–96.

participants that seek long-term investments and whose passive, "buy-and-hold" strategy is compatible with the minimal-oversight terms of project bonds.[65] Accordingly, institutional investment in project bonds grew significantly in recent years.[66] In fact, institutional investment in even non-investment-grade project bonds surged, and investors are expected to increase their portfolio exposure to infrastructure transactions.[67]

Institutional activity in project finance is not limited to project bonds.[68] Institutional investors are gradually displacing banks by engaging in certain bank-like activities. For example, institutional investors indirectly lend to projects by purchasing project bank loans in the secondary debt market.[69] Further, certain banks now originate and sell their loans directly to these investors.[70] This allows banks to maintain their origination capabilities while keeping long-term liabilities off their balance sheets.[71] More notably, institutional investors now lend directly to projects.[72] Direct lending, traditionally the province of banks, is an increasingly viable and profitable venture for institutional investors during the construction and operational phases of a project.[73]

Thoughtful government policies can make the financial markets safer, more vibrant, and equitable, but policymaking can also have unintended

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65. *See id.* at 208 (noting that institutional investors, such as insurance companies and pension funds, have predictable long-term liabilities); McLaughlin & Yessios, *supra* note 25; Marco Sindaco, Standard & Poor's RatingsDirect, Investing in Infrastructure: Are Insurers Ready to Fill the Funding Gap? 4–6 (2014), http://www.biztositasiszemle.hu/files/201407/sp_investing_in_infrastructure-are_insurers_ready_to_fill_the_funding_gap.pdf [https://perma.cc/E94M-MUAP] ("Life insurers are long-term investors able to hold assets for long periods, and typically face less short-term liquidity strains than banks.").

66. *See* Ma, *supra* note 25, at 122–23.

67. *See Regulatory Changes Aim to Plug Capital Hole*, *supra* note 51 (noting that institutional investors allocated less than one percent of their resources to infrastructure deals in 2013, but that this figure is expected to jump to five percent).

68. *See* Dunning, *supra* note 60 ("Over time, a great deal of debt will go to the bond markets. But they will not be the full solution by any means.").

69. *See* Lindsay, *supra* note 54 (explaining that institutional investors purchased non-performing project loans at a discount from the Bank of Ireland, Royal Bank of Scotland, Banco Espirito Santo, among others). Institutional investors are purchasing both non-performing, distressed project loans and, more recently, more normalized loans from banks. *Id.*; Dunning, *supra* note 60.

70. *See* Bowman, *supra* note 61 (describing the Natixis-Ageas loan purchase arrangement).

71. *Id.*; Carter, *supra* note 18.

72. Philip Dawes & Deborah Zurkow, *Infrastructure Senior Debt: A Growing Opportunity*, Update, March 2013, at 18, 22, http://www.updatemagazineonline.com/sites/default/files/downloads/update-2013-1-en-infrastructure.pdf [https://perma.cc/KG64-Z8GY] (noting that, instead of seeking project bonds or loan in the secondary market, institutional investors may engage in direct lending "structured to investment grade quality from the outset"); Dunning, *supra* note 60 (statement of Steve Rankine, Executive Director, Infrastructure Debt at Hastings Fund Management) ("You are seeing institutions going direct . . . .").

73. *See* Dawes & Zurkow, *supra* note 72; Dunning, *supra* note 60.

consequences.[74] Public responses to the Financial Crisis (like the Europe 2020 Project Bond Initiative) were necessary to stimulate funding for global infrastructure projects. And rules like Basel III, implemented to prevent future economic calamities, arguably made the financial sector safer.[75] But no meaningful effort has been made to examine the potential risks posed by increased institutional activity in project finance. Before prematurely celebrating the revival of the project finance market, global financial regulators should study the unintended consequences of the various public responses to the Financial Crisis.

II. Project-Level Risks

There is a consensus that project finance achieves efficient financial and governance structure.[76] Project finance presents structural advantages for efficient allocation of risk, leverage, and value.[77] Project bonds, for instance, typically offer stable returns at higher rates than similarly structured corporate or sovereign bonds.[78] But research fails to address the recent rise of institutional activity in project finance. The outdated understanding of the structural advantages and risks of project finance must be updated.

This Part focuses on two types of project-level risks: financial and governance.[79] The rise of institutional investors in project finance and the prevalence of project bonds may increase individual projects' financial risks, despite industry awareness of these risks. The potential impact of higher

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74. *Cf.* Peter J. Wallison, *Government Housing Policy and the Financial Crisis*, 30 Cato J. 397, 399–400 (2010) (arguing that U.S. government's housing policy "had a profound effect," creating incentives that caused the market participants to create and spread financial risk).

75. *See* Janet L. Yellen, Chair, Bd. of Governors of the Fed. Reserve Sys., Speech at the Federal Reserve Bank of Kansas City Economic Symposium: Fostering a Dynamic Global Recovery (Aug. 25, 2017), https://www.bis.org/review/r170829c.pdf [https://perma.cc/NH2S-5XJT]. *But see* Simon Johnson, *Picking Up the Slack on Global Banking Rules*, N.Y. Times: Economix (Sept. 16, 2010 6:00 AM), https://economix.blogs.nytimes.com/2010/09/16/new-international-banking-rules-fall-short/ [https://perma.cc/JB89-H75G] (arguing that Basel III rules have not gone far enough to prevent future financial crises).

76. *See* Müllner, *supra* note 7, at 109 (summarizing the project finance literature, which presents "clear and consistent evidence of the benefits of [project finance] resulting from agency cost reduction, higher debt capacity, lower cost of debt, financial distress and optimized tax shields").

77. *See generally* Salman Shah & Anjan V. Thakor, *Optimal Capital Structure and Project Financing*, 42 J. Econ. Theory 209 (1987).

78. *See* Carlos Viana et al., *Why Project Bonds Are on the Rise in Latin America*, Lexology (July 28, 2015), https://www.lexology.com/library/detail.aspx?g=30c0cfc7-e496-4159-b96f-d77111dc0d3a [https://perma.cc/F5HD-MK2G].

79. For purposes of this Comment, "financial risks" is a broad term that refers to a wide range of risks associated with financial transactions, including risks of counterparty default and market inefficiencies. Financial risks are distinct from "governance risk," which refers to the potential for project failure due to mismanagement by project sponsors and other project participants directly involved in a project.

institutional activity on governance risk is lesser known. Institutional investors may increase project governance risks because they tend to undervalue governance rights, are less equipped or willing than banks to monitor projects, and are expanding the already geographically dispersed financial arrangements in project finance.

A. *Financial Risk*

Institutional investors may increase financial risks for project participants and individual projects through project bond investment. Project participants, privy to the financial risks posed by project bonds, may successfully mitigate exposure to some of these risks. The rapid increase in institution-institutional activity may nonetheless increase project-level financial risks in the aggregate, and newcomers to the market might be unaware of or apathetic to these risks.

Project bonds present inherent financial risks for bondholders and project participants. These bonds are often offered in a variety of currencies, exposing them to currency risk if held without appropriate hedging instruments.[80] Plus, most public project bonds do not have significant requirements for "collateral or security over project assets."[81] This is particularly problematic because project bonds are often issued in regions that have "ill-defined or ill-enforced property rights, and bilateral monopoly settings (dominant output buyer) that render them vulnerable to opportunistic behavior and unilateral contract renegotiation."[82] Accordingly, bondholders have limited post-default remedies.

Project bonds also carry certain financial risks for the successful operation and completion of individual projects.[83] These bonds are linked to the "great volatility associated with capital markets."[84] This creates a financial risk because the demand for project bonds could abruptly diminish, effectively closing the bond window to potential issuers for reasons unrelated to projects.[85] Also, because project bonds are inexorably linked to sovereign credit ratings, a sovereign downgrade could adversely impact an otherwise

80. *See* NIEHUSS, *supra* note 24, at 15, 195; Viana et al., *supra* note 78.

81. NIEHUSS, *supra* note 24, at 195.

82. Dailami & Hauswald, *supra* note 30, at 5.

83. *See generally infra* notes 93–96 and accompanying text. Project bonds have recently been used to finance projects during their construction stage, which was rarely done before. Carter, *supra* note 18.

84. LATHAM & WATKINS CLIENT ALERT, *supra* note 15, at 3; *see* McLaughlin & Yessios, *supra* note 25 ("What looks like a ripe opportunity for a bond issuance one day may be gone the next.").

85. *See* Mark Plenderleith, *Sources of Funding*, *in* INTERNATIONAL PROJECT FINANCE, *supra* note 15, paras. 3.01, 3.31 ("From time to time, market disruptions have resulted in project bond spreads widening and several issues being downgraded, with a number of potential bond deals being cancelled or pushed back to the bank market.").

healthy project.[86] Further, unlike corporate bonds, which are generally issued against a company's credit risk and secured by the company's various assets and cash flows, project bonds are often single-asset limited-recourse or non-recourse loans with a single source of revenue.[87] To make matters worse, project assets typically have a single function with location specificity, which limits their fungibility and flexibility.[88] If, for instance, a project's only source of cash flow suddenly dries up or the assets are impaired, a bond issuer may experience a sudden liquidity crisis and default on its bonds.

Institutional investment thus stimulates project bond financing but poses financial risks to project participants and their projects. Well-seasoned project participants may mitigate several of these risks,[89] and financial markets continue to find innovative solutions to reduce these risks.[90] But the rapid increase in institutional activity through project bonds should give the markets pause. In the aggregate, significant project bond issuance may still increase project-level financial risks, regardless of project participants' level of preparation. This is especially true if rating standards and asset quality decline during prolonged market optimism.[91] Moreover, newcomers to project finance may disregard these risks, especially if they were solely driven by the artificial demands created by regulatory arbitrage and the promise of public guarantees.

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86. *See, e.g.*, *Rating Action: Moody's Downgrades Four Venezuelan Heavy Oil Projects: Petrozuata, Cerro Negro, Sincor and Hamaca; Outlook Negative*, Moody's (Jan. 14, 2003), https://www.moodys.com/research/MOODYS-DOWNGRADES-FOUR-VENEZUELAN-HEAVY-OIL-PROJECTS-PETROZUATA-CERRO-NEGRO—PR_63498 (on file with the *Michigan Law Review*) (citing, among other things, "the continued strikes and political upheaval in Venezuela" and "the downgrade of [Venezuela's] national oil company" as reasons for downgrading the project bonds related to three heavy oil projects in Venezuela).

87. *See* Dailami & Hauswald, *supra* note 30, at 5.

88. *See id.*; Handbook of Key Global Financial Markets, Institutions, and Infrastructure 537 (Gerard Caprio Jr. et al. eds., 2013) (noting that, for example, "an oil refinery cannot function as a shopping mall").

89. For example, project bondholders may purchase hedging instruments, such as a currency swap, or seek certain credit guarantees from international financing institutions to minimize their currency risk. Wim Verdouw et al., Int'l Inst. for Sustainable Dev., Currency Risk in Project Finance 2–5 (2015), https://www.iisd.org/sites/default/files/publications/currency-risk-project-finance-discussion-paper.pdf [https://perma.cc/JS6N-8HH8].

90. Project bondholders and industry participants, for instance, have been exploring creative ways to address the "negative carry" problem associated with project bonds. *See* Tom Young, *How UK-First Project Bond Solved Negative Carry*, Int'l Fin. L. Rev. (Mar. 4, 2014), http://www.iflr.com/Article/3315510/How-UK-first-project-bond-solved-negative-carry.html (on file with the *Michigan Law Review*) (explaining the development of a deferred payment mechanism to cure the negative carry problem using the so-called "forward purchase bonds"). For more information on negative carry, see generally Plenderleith, *supra* note 85, at paras. 3.01, 3.36 and Stefano Gatti, Project Finance in Theory and Practice: Designing, Structuring, and Financing Private and Public Projects 256 (2d ed. 2013) (ebook).

91. *See infra* Section III.B.

B. *Governance Risk*

The prevalence of institutional investors in project finance will likely increase governance risk for individual projects. Large infrastructure projects already suffer from fragmented self-interest, dilution of accountability, and different risk preferences and investment horizons between project participants.[92] Significant institutional activity, especially in the project bond market, likely heightens governance risk of individual projects for several reasons.

First, institutional investors in project finance lack the incentive to exercise their governance rights. Academic research on corporate governance indicates that institutional investors "chronic[ally] undervalu[e]" governance rights.[93] The most widely accepted explanation for this observation is that institutional investors lack the incentive to manage individual companies that they control.[94] Relatedly, institutional investors operating in project finance tend to undervalue their governance rights. Their primary interest is the certainty of payment from the diverse investment portfolio and the matching of incoming and outgoing cash flow.[95] Further, there are signifi-

92. *See* Bent Flyvbjerg et al., *Delusion and Deception in Large Infrastructure Projects: Two Models for Explaining and Preventing Executive Disaster*, CAL. MGMT. REV., Winter 2009, at 170, 179–80.

93. *E.g.*, Ronald J. Gilson & Jeffrey N. Gordon, *The Agency Costs of Agency Capitalism: Activist Investors and the Revaluation of Governance Rights*, 113 COLUM. L. REV. 863, 891 (2013); *see also* Alicia J. Davis, *The Institutional Appetite for "Quack Corporate Governance*," 2015 COLUM. BUS. L. REV. 1, 2 (finding that "institutional investors, as a group, generally prefer internal governance mechanisms over external governance mechanisms"); Robert C. Pozen, *Institutional Investors: The Reluctant Activists*, HARV. BUS. REV., Jan.–Feb. 1994. *But see* Brian J. Bushee et al., *Institutional Investor Preferences for Corporate Governance Mechanisms*, 26 J. MGMT. ACCT. RES., no. 2, 2014, at 123, 125 (finding that, with certain exceptions, there is little evidence supporting any association between the quality of corporate governance and institutional ownership); Kee H. Chung & Hao Zhang, *Corporate Governance and Institutional Ownership*, 46 J. FIN. & QUANTITATIVE ANALYSIS 247 (2011) (contending that higher proportions of institutional ownership are associated with higher governance quality); Ricky W. Scott, *Do Institutional Investors Influence R&D Investment Policy in Firms with High Information Asymmetry?*, 7 INT'L BUS. RES., no. 10, 2014, at 22, 22 (arguing that increased institutional ownership is positively correlated with increased R&D investment, which tends to indicate long-term investment objectives).

94. *See, e.g.*, John C. Coffee, Jr., *Liquidity Versus Control: The Institutional Investor as Corporate Monitor*, 91 COLUM. L. REV. 1277, 1317–28 (1991) (finding that the potential costs to active governance, borne by institutional investors, are "large [and] immediate," while the expected gains from such governance are "small, deferred, and received by investors"). More specifically, (i) the diversified portfolio of institutional investors makes governance intervention of individual companies costly; (ii) institutional investors' "internal mechanisms for monitoring portfolio performance, based on benchmarking or performance relative to peers, cut against activist exercise of governance rights"; (iii) devot[ing] internal resources to the activist use of governance rights;" and (iv) "evaluation alternatives to benchmarking, based on 'absolute' returns, may push portfolio managers even further away from the granular evaluation that maps onto firm-specific activism." Gilson & Gordon, *supra* note 93, at 891–95.

95. *See* David Bickerton et al., *Launching a Successful Project Bond*, INT'L FIN. L. REV., Feb. 1999, at 15, 16.

cant agency costs associated with mobilizing project bondholders with various investment objectives and whose identities are difficult to discern.[96] Institutional investors may devalue governance rights precisely because there is no need; they might have a knack for identifying safe investments.[97] In times of inflated market confidence or rampant market abuse, however, institutional investors may not be able to accurately ascertain ex ante the risks associated with individual projects. Then, their unwillingness to manage could result in a greater number of mismanaged and failed projects.

In fact, institutional investors' indifference toward governance is making risky projects riskier. For example, non-investment-grade projects with significant institutional investment tend to lack financial maintenance covenants, which send early warning signals to creditors and bind project sponsors with certain economic restrictions.[98] Further, unlike banks, which typically lend to investment-grade borrowers, a significant number of institutional investors lend to leveraged, non-investment-grade borrowers.[99] This creates a problem. Institutional investors, which "rely on portfolio diversification and liquidity . . . to manage their exposures" often "do not demand financial maintenance covenants," while banks often do.[100] This leads to project lenders demanding financial maintenance covenant protections from investment-grade projects, but not from riskier, non-investment-grade projects. Therefore, projects that are already deemed unsafe may avoid risk-mitigation tools that ensure projects are not financially mismanaged, potentially making them even riskier.

In addition, the surge in institutional activity may be diluting the overall governance standards of project finance debt instruments. As institutional

96. *See* Leng-Fong Lai, *Bond's Return*, Int'l Fin. L. Rev., Apr. 2007, at 82, 83. In addition, institutional project bondholders "may be more numerous and diffuse . . . and may not have an active relationship with the project." Johnson et al., *supra* note 58, at 1.

97. *See, e.g.*, Davis, *supra* note 93, at 9–10 (finding that institutional investors tend to prefer investing in companies with high-quality internal corporate governance mechanisms already in place); Scott, *supra* note 93, at 33 (finding that institutional investors may have a competitive advantage in discerning long-term value of their investments); *cf.* Kathryn Judge, *Information Gaps and Shadow Banking*, 103 Va. L. Rev. 411, 438 (2017) (arguing that money claims issued in the nonbank financial sector are "structured to be sufficiently low-risk and short-term that holders need not engage in meaningful due diligence").

98. *See* S. Neal McKnight & Presley L. Warner, *Introduction: A Great Time to Be a Borrower*, to Int'l Fin. L. Rev., Cross-Border Financing Report 1, 2–3 (2017) [hereinafter Cross-Border Financing Report], https://www.sullcrom.com/files/upload/IFLR_CrossBorder_Financing_Report_2017.pdf [https://perma.cc/26CJ-LZYJ]; *cf.* Johnson et al., *supra* note 58, at 2 (noting that the "covenants for investment-grade project bonds are sometimes actually tighter than those for high-yield project bonds"). For more information about financial maintenance covenant, see generally Emeka Chinwuba & Laura Pettinelli, *Financial Covenants in Project Financing: Key Points*, Law360 (July 25, 2017, 12:05 PM), https://www.law360.com/articles/947689/financial-covenants-in-project-financing-key-points (on file with the *Michigan Law Review*).

99. Cross-Border Financing Report, *supra* note 98, at 3.

100. *Id.*

investors encroach upon the traditional realms of banking, bank loans and project bonds are beginning to converge, blurring their structural and pricing distinctions.[101] This convergence is "leading to long-term debt capital imposing far fewer constraints on borrowers than bank debt has historically" and diluting the covenant standards altogether.[102] Bank loan covenants are becoming more structurally similar to those of project bonds, forgoing waivers and consents.[103]

Second, banks that are retreating from the project finance market have a comparative advantage over institutional investors in project governance. For example, bank loans contain terms that are better-suited than alternative debt instruments for active project management.[104] Bank loans usually contain restrictive covenants for project sponsors, numerous events of default, and substantial security over all the project's assets.[105] On the other hand, project bonds' terms are usually more flexible for project sponsors, containing fewer covenants and limited consent and waiver rights.[106] Thus, project bonds grant project sponsors significant discretion to manage projects, potentially raising governance concerns. Terms in bank loans are superior to those in project bonds because the former allow projects to respond to conflicts or changing conditions swiftly.[107] Admittedly, the lack of strong governance provisions in project bonds or alternative debt instruments does not necessarily increase project-governance risk. Bank loans and project

101. *Id.* at 2 ("Institutional investor agnosticism between bank loans and bonds, when combined with high demand and limited supply, is leading towards an increasing convergence of pricing and terms between bank debt and bond debt for many credits."); Arca, *supra* note 62, at 188 (finding that "there are now mixed bank/institutional investor structures where bank loans and bonds appear in the same transaction pursuant to common terms or other intercreditor arrangements" and that "banks have increasingly become distributors of bonds, and funds (usually thought of only as bond buyers) have become investors in some types of bank loans").

102. Cross-Border Financing Report, *supra* note 98, at 2–3.

103. *Id.*; Latham & Watkins Client Alert, *supra* note 15, at 4.

104. *See* Niehuss, *supra* note 24, at 195.

105. *See id.* Project borrowers often demand "amendments, waivers and consents over the life of the loans." Latham & Watkins Client Alert, *supra* note 15, at 4.

106. *See* Niehuss, *supra* note 24, at 195; Latham & Watkins Client Alert, *supra* note 15, at 4 (finding that project bonds are usually "structured as incurrence covenants, such as debt incurrence and restricted payments covenants, that are breached only through intentional actions on the part of the borrower and the sponsors"). *But see* Johnson et al., *supra* note 58, at 1–2 (arguing that many project bonds contain some type of proxy mechanism that designates the responsibility to make certain determinations regarding project management to other creditors, technical consultants, or other third-party experts, thereby reducing the need for bondholder consent); Freedman et al., *supra* note 24 (finding that investors in 4(2) private placements often take an active role in negotiating the terms of their investment and sign an "investor letter" after performing their own due diligence).

107. *See* Johnson et al., *supra* note 58, at 1 (finding that project bondholders "may need more time to get up to speed on a consent or waiver issue and often charge a fee for consents and waivers").

bonds, for example, are often *pari passu*,[108] and project bondholders thus reap the benefit of more restrictive covenants through a common terms agreement, common security agreement, or inter-creditor agreement.[109] Accordingly, project bonds' less restrictive covenants should not, in theory, pose significant governance risk for projects under normal conditions. But institutional investors' growing prominence in project finance may degrade overall governance standards of project debt instruments, including bank loans,[110] and devalue other project participants' governance rights.

Moreover, institutional project bondholders lack the expertise to monitor projects. Banks, which have operated in project finance for many years, have built institutional knowledge to assess project risks and to structure loans with project-specific terms.[111] To the contrary, institutional investors with broad investment portfolios rarely possess the expertise of banks to actively manage a project—such as the ability to understand various project finance ratings and risk analysis and to comply with fiduciary and regulatory requirements.[112] Therefore, many projects that lack bank financing would fail to realize the comparative advantage of banks' governance expertise. In addition, the dominance of project bond financing could render banks, which would contribute smaller amounts, to lose important bargaining power against project sponsors to include restrictive covenants.

The heightened governance risk due to the decreased role of banks' governance expertise and increased institutional activity may especially manifest in projects during their construction stage. Despite the lack of expertise and incentive to manage projects, institutional investors are exploring innovative, albeit riskier, ways to invest in the earlier stages of projects. Traditionally, project bonds funded "brownfield" projects (i.e., operating projects) and were rarely issued to finance "greenfield" projects (i.e., projects in construction phase) because they were deemed too risky.[113] But, with increased insti-

108. In other words, the two instruments receive equal treatment and have same rights and obligations. *See pari passu*, BLACK'S LAW DICTIONARY (10th ed. 2014).

109. LATHAM & WATKINS CLIENT ALERT, *supra* note 15, at 4. However, banks and project bondholders do not always play nice with each other. *See* Steven L. Schwarcz & Gregory M. Sergi, *Bond Defaults and the Dilemma of the Indenture Trustee*, 59 ALA. L. REV. 1037, 1042 (2008) (noting the "increasingly sophisticated post-default behavior of lenders" against bondholders).

110. *See supra* notes 98–103 and accompanying text.

111. *See* NIEHUSS, *supra* note 24, at 194.

112. *See id.* at 208; Arca, *supra* note 62, at 190. But some contend that, if bond buyers eventually displace bank lenders as the controlling shareholders of the project bond market, "a corresponding shift in experience could be expected to occur as well." *E.g.*, *id.*

113. *See* Dunning, *supra* note 60. Project bonds were often used in operating projects to refinance bank loans nearing maturity and fund expansions, capital expenditures, and other operating activities, but not usually to take on construction risks. *See id.*; NIEHUSS, *supra* note 24, at 195; *see also* LATHAM & WATKINS CLIENT ALERT, *supra* note 15, at 2–3 (arguing that project bond issuance was rarely used in financing constructions "because it was considered difficult to structure bonds with the flexibility needed to fund the construction phase of a project

tutional activity, projects bonds are more frequently used to finance greenfield projects.[114] Industry experts are sanguine about this recent trend.[115] Institutional investors, they argue, could "become more sophisticated in understanding and pricing construction risk" and more "willing to assume construction risk, with or without completion guarantees, in return for appropriate pricing."[116]

Projects in their construction phase, however, have not become more secure investments. The main difference now is that the traditional sources of greenfield project funding (i.e., bank loans) have dried up, and there is a greater need for alternative sources of funding such as project bonds.[117] Meanwhile, institutional investors still lack the requisite expertise to oversee greenfield projects.[118] Swift communication channels and continued coordination among the debt providers and project sponsors are particularly paramount during a project's construction stage.[119] But mobilizing institutional investors to quickly respond to the projects' changing needs may be impractical and costly.[120] If institutional project bondholders are less willing to bargain with project sponsors over contract terms and oversee the construction of a project through completion, the project's construction risk will likely increase.

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and because the project bond market was thought to have limited appetite for construction risk").

114. *See* Toni Baini, *Using Project Bonds to Finance Construction Risk*, LATIN FIN., Jan. 17, 2018, http://www.latinfinance.com/magazine/2018/january-february-2018/using-project-bonds-to-finance-construction-risk (on file with the *Michigan Law Review*); LATHAM & WATKINS CLIENT ALERT, *supra* note 15, at 3 (listing RasGas Company Limited, Nakilat Inc., and several power projects in the United States. as examples of project bond issuance for greenfield projects). *But see* Dunning, *supra* note 60 (arguing that only "a small number" of institutional investors "have an appetite for greenfield and construction risk, and the associated higher returns" despite the huge costs of construction risks and delay, while most others "focus on refinancing existing assets, or financing acquisitions by infrastructure funds"). Many of these bonds were backed by completion guarantees or other forms of completion support (such as "turnkey" engineering, which places construction risks on the contractors) to protect bondholders. LATHAM & WATKINS CLIENT ALERT, *supra* note 15, at 3.

115. *See, e.g.*, LATHAM & WATKINS CLIENT ALERT, *supra* note 15, at 3.

116. *Id.*

117. *See supra* Part I.

118. *See supra* notes 111–112 and accompanying text.

119. *Cf.* Anita Ceric, *Communication Risk in Construction Projects: Application of Principal-Agent Theory*, 4 ORG. TECH. & MGMT. CONSTRUCTION 522, 522, 524–26 (2012) ("In construction projects, the principal–agent problem is even more pronounced than is usually the case because of their short-term employment relationship."). *See generally* John Dewar & Oliver Irwin, *Project Risks*, *in* INTERNATIONAL PROJECT FINANCE, *supra* note 15 (discussing the importance of timely construction and the ramifications of delays).

120. *Cf.* McLaughlin & Yessios, *supra* note 25 (finding that project bonds make any request for an amendment or a waiver difficult to coordinate because "[bond] issuer cannot contact bondholders individually for support" and "as more passive investors, many bondholders take less interest than banks in amendments and waivers").

Third, increased institutional project bond activity expands among project participants the already-dispersed financial arrangements, which likely increases governance risks. Research indicates that wide geographic distance between investors stymies the formation and internal functioning of enterprises.[121] Wide geographic distance has some benefits in the project finance context, such as mitigating political risks (e.g., host government opportunism) or eliminating certain limitations and risks of cross-border bank lending.[122] Several scholars, however, contend that greater geographic distance between corporate partners is associated with information asymmetry, difficulty in forming mutual alliances, and inefficient allocation of assets.[123] And projects in greater-risk regions tend to encourage more geographically distant partnerships.[124] This means that projects already associated with significant risks will likely use debt instruments such as project bonds to disperse the creditor base further. Greater geographic distance between project

121. *See generally* Roberto Ragozzino & Jeffrey J. Reuer, *Geographic Distance and Corporate Acquisitions: Signals from IPO Firms*, 32 STRATEGIC MGMT. J. 876, 888 (2011) (finding that geographically distant companies are less likely to be acquired without certain factors, such as venture capitalist backing and the reputation of the target's lead underwriter). Note that these two studies focused on the equity side (i.e., not the debtor side) of investments, and the findings thus might not have direct relevance to project bond financing; Jeffrey J. Reuer & Nandini Lahiri, *Searching for Alliance Partners: Effects of Geographic Distance on the Formation of R&D Collaborations*, 25 ORG. SCI. 283 (2014) (discussing the chilling effect of geographic distance on collaborations).

122. *See, e.g.*, Sinziana Dorobantu & Jakob Müllner, *Debt-Side Governance and the Geography of Project Finance Syndicates*, J. CORP. FIN. (forthcoming Dec. 2018) (manuscript at 2) (on file with the *Michigan Law Review*) (finding that projects with large cross-border creditor base may mitigate political risks or prevent host governments from engaging in opportunistic behavior by "pool[ing] non-redundant sources of political, social and economic leverage" and "leverag[ing] the implicit coercive power of lending markets and the threat of withdrawing future funding if opportunistic behavior occurs").

123. *See generally* Joshua D. Coval & Tobias J. Moskowitz, *Home Bias at Home: Local Equity Preference in Domestic Portfolios*, 54 J. FIN. 2045 (1999) (finding that investors generally prefer to make geographically proximate investments due to information asymmetry between local and non-local investors); Dorobantu & Müllner, *supra* note 122 (finding that "[g]eographically proximate banks are more likely to share common cultures, legal frameworks, loan portfolios and stakeholders"); Ranjay Gulati, *Social Structure and Alliance Formation Patterns: A Longitudinal Analysis*, 40 ADMIN. SCI. Q. 619, 637, 642 (1995) (concluding that geographically less-distant firms tend to have more commonalities and are more likely to seek alliances); Atif Mian, *Distance Constraints: The Limits of Foreign Lending in Poor Economies*, 61 J. FIN. 1465 (2006) (noting that cultural and geographical distance impedes multinational banks' cross-border lending, including the ability to bilaterally renegotiate and successfully recover from defaults). *But see* Mitchell A. Petersen & Raghuram G. Rajan, *Does Distance Still Matter? The Information Revolution in Small Business Lending*, 57 J. FIN. 2533, 2535, 2566 (2002) (arguing—before the Financial Crisis—that information asymmetry linked to geographic distance is overstated and financial institutions have engaged in more distant lending "without making poorer decisions").

124. *See* Dorobantu & Müllner, *supra* note 122, at 2–3. The authors, however, argue that this is due to the ability of geographically dispersed partnerships' ability to mitigate high local risks. *Id.* at 7–9.

participants may thus hamper the proper operation of these high-risk projects.

In sum, despite the optimism shared by many scholars,[125] modern projects with significant institutional investment do not necessarily provide optimal structure for managing financial and governance risks. A sudden rush of neophytes into the project finance market could increase project-level financial risks. Institutional investors, which are often geographically dispersed, lack proper incentives and tools to actively manage projects. Accordingly, significant institutional investment might render a project more likely to fail. Certain specialized institutional investors have recently emerged with the "depth of experience necessary" to understand project risks and actively manage projects internally, and many more may follow suit.[126] Nonetheless, most institutional investors, especially newcomers, are unlikely to have the skills and experience to manage immensely complicated projects.[127] Of course, risk management can be outsourced to specialized firms, but, as illustrated in Part III, this could make the global financial system riskier as a whole.

III. Systemic Risk in the Global Financial System

The Financial Crisis wreaked havoc not only on the financial markets but on all participants in the global economy.[128] In the aftermath, global financial regulators agreed that it was necessary to view financial risks from a new perspective.[129] Instead of just addressing risks at individual-company or financial-sector levels, they developed the so-called macroprudential framework to examine systemic risk across financial markets.[130] Global financial regulators carefully studied the Financial Crisis and determined that, among

125. *See supra* notes 115–116 and accompanying text.

126. Carter, *supra* note 18, at 52.

127. *See* Arca, *supra* note 62, at 188 (noting that large projects formed by a syndicate of banks already have a large number of participants to coordinate); Dunning, *supra* note 60.

128. *See* FCIC Report, *supra* note 5, at 389–401.

129. *See* Claudio Borio, Bank for Int'l Settlements, Implementing a Macroprudential Framework 1–4 (2010), https://www.bis.org/repofficepubl/hkimr201007.12c.pdf [https://perma.cc/JXK9-MTNP].

130. *See id.* at 3; Pierre-Hugues Verdier, *The Political Economy of International Financial Regulation*, 88 Ind. L.J. 1405, 1459–60 (2013); Douglas J. Elliott et al., *The History of Cyclical Macroprudential Policy in the United States* 6 (Fed. Reserve Bd. Fin. & Econ. Discussion Ser. No. 2013-29, 2013). While macroprudential regulatory tools apply to specific institutions and types of market actions, they apply to "all relevant institutions and activities on the basis of macro indicators, regardless of whether a specific institution or activity would independently warrant application of the tool." Working Grp. on Macroprudential Policy, Grp. of Thirty, Enhancing Financial Stability and Resilience 42 (2010), http://group30.org/images/uploads/publications/G30_EnhancingFinancialStabilityResilience.pdf [https://perma.cc/N2EX-6TN4].

other things, weak financial regulation, complexity, and interconnectedness of the financial markets contributed to the catastrophic event.[131]

More than a decade after the global financial meltdown, academics and regulators are still surveying the markets for another financial crisis. One area that received little attention regarding its systemic risk potential is project finance. There are characteristics of project finance—and project bonds in particular—that render certain systemic risk considerations inapplicable. For example, project bonds likely pose low risk of fire sale, or a bank-like "run,"[132] because of certain restrictions on resale and their long-term tenor.[133] In addition, project bond issuance does not generate the same type of complexity or interconnectedness created by money market mutual funds' multiple layers of conduits and structures before the Financial Crisis.[134]

Nevertheless, the recent rise of institutional investment in project finance necessitates a closer look on an already risky and complex financial industry. This Part examines the macro-level, systemic risk implications of the proliferation of project bonds and increased institutional activity in project finance. It contends that the prominence of institutional investors in project finance shifts financial risks away from the well-regulated banking sector, undermines the existing regulatory framework, and encourages market participants to engage in regulatory avoidance. Institutional investors may render financial markets more complex and interconnected by resuscitating certain risky industries such as monoline insurance companies. Much like the residential mortgage securitization market leading up to the Financial Crisis, institutional investors are causing the project finance industry to become specialized and decentralized.

A. *Migration of Risks Outside of the Banking System*

The entrenchment of institutional investors in project finance likely increases systemic risk in the markets. Various institutional participants con-

131. *See* Verdier, *supra* note 130, at 1460 (contending that "high leverage, widespread liquidity vulnerabilities, lack of transparency of positions, inadequate risk analysis, and interconnected exposures among market participants" contributed to the Financial Crisis).

132. A fire sale or a bank-like "run" occurs when deposit-substitute lenders attempt to exit the market at once, causing haircuts and catastrophic knock-on effects to the wider financial markets. *See* Steven L. Schwarcz, *Systemic Risk*, 97 GEO. L.J. 193, 199–201 (2008) (defining "bank run" as "the inability of a bank to satisfy withdrawal-demands causes its failure, in turn causing other banks or their creditors to fail").

133. *See* Freedman et al., *supra* note 24; *cf.* Judge, *supra* note 97, at 475 (explaining that the short-tenors of other instruments makes sub-optimal behavior easy). *But see* Müllner, *supra* note 7, at 113 (finding that "all partners seek to reduce their sunk costs at the same time" when expectations of projects are not met, which can lead to "extensive cost overruns, construction delays and excessive legal costs"). Bondholders that are permitted to transfer bond ownership must, among other things, comply with the SEC's registration or exemption requirements. Freedman et al, *supra* note 24.

134. *Cf.* Judge, *supra* note 97, at 441–43.

tinue to displace banks in the project finance market through project bonds and other complex financial instruments.[135] The growing institutional activity has been spurred, in part, by active government credit enhancements,[136] but it is also motivated by growing regulatory costs and burdens in the banking sector.[137]

Institutional investors persistently engage in risky project finance transactions. Although some praise the elevated role of these investors in project finance,[138] there are reasons to be wary of their role. For one, certain institutional project participants have short-term profit motives.[139] More importantly, institutional investors often encourage market participants to engage in risky, highly leveraged transactions.[140] This is evident in the unrelenting institutional project investment activity during recent high-risk periods. Even in the current historically low-commodity-price environment, institutional investors remain a viable financing option.[141] They continue to identify alternative financing methods—such as royalty- or production-based payments, sale-leaseback transactions, and convertible debt and debt-equity swaps—to invest in projects with high financial and political risks.[142]

The risks associated with project finance remain high, but investors are shifting away from the highly regulated banking industry to escape onerous rules and requirements. For example, increased institutional activity in project finance undermines countercyclical regulation,[143] implemented to prevent future financial disasters. Shortly after the Financial Crisis, global regu-

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135. *See supra* Section I.B.

136. *See supra* notes 54–57 and accompanying text.

137. *See supra* notes 46–53 and accompanying text.

138. *Partnering for More Efficient Financing*, TRADE FIN., July 17, 2013 (on file with the *Michigan Law Review*) (contending that "more sources of funding, means more competition, more partnership, and therefore more efficient financing").

139. *See* Lynne L. Dallas, *Short-Termism, the Financial Crisis, and Corporate Governance*, 37 J. CORP. L. 265, 296, 302–06 (2012) (explaining the institutional investors' tendency to make decisions without considering an action's effects on the company's long-term value).

140. Martin Lipton, *Corporate Governance in the Age of Finance Corporatism*, 136 U. PA. L. REV. 1, 7–9 (1987) (arguing that the rise of institutional investors has led to highly leveraged corporate takeover activities aimed at achieving short-term gains).

141. *See* Sergio J. Galvis & Inosi M. Nyatta, *Alternative Financing of LATAM Projects*, PROJ. FIN. INT'L, May 2016, at 54, https://www.sullcrom.com/files/upload/ProjectFinance International_May2016.pdf [https://perma.cc/RX2X-ECYZ].

142. *Id.* (finding that actual and projected cashflows for projects in a variety of stages of development have declined due to the prolonged decline in commodity prices, making project finance a risky venture in the current environment).

143. Countercyclical regulation is a new regulatory approach designed to address (i) "the boom-and-bust nature of the credit cycle," (ii) the tendency of financial regulation to "recede[] as the credit cycle heats up and overcorrect[] when lending contracts," and (iii) "financial regulators' perennial aversion to intervention in financial markets in flush economic times." *See* Patricia A. McCoy, *Countercyclical Regulation and Its Challenges*, 47 ARIZ. ST. L.J. 1181, 1184–93 (2015).

lators realized that the then-existing regulatory framework was procyclical,[144] making the financial system vulnerable to shocks and knock-on effects.[145] Accordingly, global regulators introduced a "countercyclical buffer" that allows national authorities, at their discretion, to require certain banks to retain additional capital in times of excess capital growth.[146] This requirement, however, only applies to certain large bank holding companies.[147] As more project lending shifts from the banking sector to institutional investors, the risks associated with institutional lending will escape countercyclical regulation.[148]

Further, institutional investors are encouraging other project participants to engage in regulatory avoidance. For example, institutional investors and banks recently began using a risk-pooling and risk-shifting financial in-

144. *See id.* at 1184–85 (stating that regulatory grip tends to ease during market expansions but tighten after catastrophic financial events). Historically, regulators' aversion to intervening during market expansionary periods had contributed to financial crises. *See* BASEL COMM. ON BANKING SUPERVISION, BANK FOR INT'L SETTLEMENTS, STRENGTHENING THE RESILIENCE OF THE BANKING SECTOR 41 (2010), http://www.bis.org/publ/bcbs164.pdf [https://perma.cc/K7BL-4KBY].

145. In a procyclical financial market, losses in any financial sector could spark a vicious cycle of destabilization, whereby problems in the financial system contribute to a downturn in the real economy. *See* McCoy, *supra* note 143, at 1184.

146. *See* BASEL COMM. ON BANKING SUPERVISION, BANK FOR INT'L SETTLEMENTS, BASEL III: A GLOBAL REGULATORY FRAMEWORK FOR MORE RESILIENT BANKS AND BANKING SYSTEMS 55, 57–58 (2011), http://www.bis.org/publ/bcbs189.pdf [https://perma.cc/Q745-XPDL] (discussing the option of imposing an additional 2.5% buffer of the risk-weighted assets). Among other things, global regulators attempted (i) to rectify the "boom-and-bust nature" of the credit cycle (or the potential for the credit market to create asset bubbles and bursts) and (ii) to reverse the procyclical nature of financial regulation. McCoy, *supra* note 143, at 1183–84. The countercyclical buffer operates as a limit on asset overvaluation during economic expansion and additional loss absorbing capacity during economic downturns. MICHAEL S. BARR ET AL., FINANCIAL REGULATION: LAW AND POLICY 318–19 (2016). To learn more about the countercyclical buffer, see generally *Countercyclical Capital Buffer (CCyB)*, BANK FOR INT'L SETTLEMENTS (Feb. 13, 2018), https://www.bis.org/bcbs/ccyb/ [https://perma.cc/4GT4-GYAX].

147. *See Federal Reserve Board Approves Final Policy Statement Detailing Framework for Setting Contercyclical Capital Buffer*, BOARD GOVERNORS FED. RES. SYS. (Sept. 8, 2016, 4:00 PM), https://www.federalreserve.gov/newsevents/pressreleases/bcreg20160908b.htm [https://perma.cc/2HPS-DCK2] (stating that the U.S. countercyclical buffer requirement applies only to "advanced approaches" banks, "generally those with more than $250 billion in assets or $10 billion in on-balance-sheet foreign exposures, and to any depository institution subsidiary of such banking organizations").

148. *Cf.* Iman Anabtawi & Steven L. Schwarcz, *Regulating Systemic Risk: Towards an Analytical Framework*, 86 NOTRE DAME L. REV. 1349, 1351–52 (2011) (explaining that institutional investors' system-wide correlation may increase procyclicality of market risk and transform local project failures into a broader systemic market failure). *But see* Contessi et al., *supra* note 29, at 2 (stating that "bank loans behaved in a markedly procyclical manner (with a lag) during the recent financial crisis, while [corporate] bond markets did not").

strument called "synthetic securitization" in project finance.[149] In such a transaction, there is no sale or transfer of assets; banks merely transfer the tranched risk exposure to institutional investors, generally using credit default swaps, credit guarantees, or other derivatives contracts.[150] Synthetic securitization thus allows banks "to transfer credit and other default risks with respect to illiquid assets held on their balance sheets, improve their capital ratios and thereby free up regulatory capital to be used for additional lending."[151] The financial markets routinely seek innovative ways to navigate the existing regulatory regime, and institutional investors may encourage complex transactions that allow market participants to cut corners in project finance.

B. *Complexity and Interconnectedness*

In the aftermath of the financial crisis, global financial regulators and policymakers realized that one reason the Financial Crisis was difficult to contain was the complexity and interconnectedness of the financial markets.[152] Project finance is already complicated and interconnected. International projects often involve a panoply of participants, including nonfinancial institutions (e.g., construction and development companies) and global development banks.[153] Coordinating between the various project participants, which possess diffuse incentives and rights, is difficult.[154] Moreover, the web of financial instruments used in project finance is inexorably linked

149. *See, e.g.*, Stephen Foley, Opinion, *A Synthetic Path to Green Lending that Might Just Work*, FIN. TIMES (Mar. 6, 2017), https://www.ft.com/content/7042b704-fad1-11e6-bd4e-68d53499ed71 (on file with the *Michigan Law Review*).

150. Daniel N. Budofsky, *A Resurgence of Synthetic Securitizations*, PILLSBURY WINTHROP SHAW PITTMAN LLP (June 20, 2017), https://www.pillsburylaw.com/en/news-and-insights/a-resurgence-of-synthetic-securitizations.html [https://perma.cc/EY99-SVMM].

151. *Id.*; *see also* Foley, *supra* note 149 ("Because the bank has reduced its potential exposure to defaults on the securitised loans, they can be treated by regulators as less risky assets, and less capital has to be set aside to cover losses. The freed-up capital can be redeployed to back a further round of lending."). While the use of synthetic securitizations in project finance is heralded as a positive development, the overall market implications of this risk avoidance are unclear. *See id.* (discussing the potential for synthetic securitization as a financial innovation that could encourage environmentally-friendly lending practices by banks in the future).

152. Viral V. Acharya et al., *A Bird's Eye View: The Financial Crisis of 2007–2009: Causes and Remedies*, *in* RESTORING FINANCIAL STABILITY 1–25 (Viral V. Charya & Matthew Richardson eds., 2009).

153. *See* Müllner, *supra* note 7, at 100; LATHAM & WATKINS CLIENT ALERT, *supra* note 15, at 2–3.

154. *See generally* L.M. Farrell, *Principal-Agency Risk in Project Finance*, 21 INT'L J. PROJECT MGMT. 547 (2003) (explaining the heightened principal-agency problem in project finance compared to traditional asset-based financing); Emmanouil Gkeredakis, *The Constitutive Role of Conventions in Accomplishing Coordination: Insights from a Complex Contract Award Project*, 35 ORG. STUD. 1473 (2014) (discussing inter-partner complexities among project participants).

to the local and global economy.[155] Unfortunately, increased institutional activity in project finance may further complicate the industry and interweave a far broader group of market participants. While bank project lending also often involves complex financial instruments,[156] the rise of institutional investors in project finance is likely increasing the financial markets' complexity and interconnectedness in at least two ways.

First, increased institutional activity in project finance may be reviving certain complex and risky industries and financial instruments. One such industry is monoline insurance. Before the Financial Crisis, project bondholders heavily relied on monoline insurance companies to provide financial guarantees (or "wraps") on projects' principal and interest payments if the project bond issuers defaulted on those payments.[157] Due to its risk exposure to the U.S. housing market before the Financial Crisis, the monoline insurance industry contracted drastically, facing near-extinction.[158] Nonetheless, over the last several years, monoline insurance companies have slowly begun to revive and reenter the project finance market.[159]

The financial markets will likely become more complex if increased institutional activity fully revives the monoline insurance industry. Since its

155. For example, the $2.3 trillion financial guarantees and credit enhancement of project bonds are "highly connected to the real economy and to the major banks that have large exposures to the [monoline insurance companies]." GENEVA ASS'N SYSTEMIC RISK WORKING GRP., SYSTEMIC RICK IN INSURANCE 59 (2010) [hereinafter GENEVA ASS'N REPORT], https://www.genevaassociation.org/sites/default/files/research-topics-document-type/pdf_public/ga2010-systemic_risk_in_insurance_1.pdf [https://perma.cc/D6NC-93NQ].

156. *See* NIEHUSS, *supra* note 24, at 194 (noting that banks also often use hedging instruments in project finance to offset interest rate risks, which increases transaction costs and raises counterparty risks).

157. *See* EIB GUIDE, *supra* note 55, at 4, 8; GENEVA ASS'N REPORT, *supra* note 155, at 18.

158. *See* EIB GUIDE, *supra* note 55, at 4 (finding that "monoline insurers (who previously guaranteed bonds issued by project companies) have become significantly less active"); *And Then There Was One: The Bond-Insurance Industry Struggles for Survival*, ECONOMIST (Nov. 4, 2010), http://www.economist.com/node/17420088 (on file with the *Michigan Law Review*). The vast majority of monoline insurers were downgraded from their AAA status and were forced to exit the project finance market. PwC REPORT, *supra* note 5, at 8; Agustino Fontevecchia, *Left Overs of the Financial Crisis: Last Monoline to Lose AAA-Rating*, FORBES (Oct. 25, 2010, 8:09 PM), https://www.forbes.com/sites/afontevecchia/2010/10/25/left-overs-of-the-financial-crisis-last-monoline-to-lose-aaa-rating/ (on file with the *Michigan Law Review*).

159. Gill Plimmer & Robin Wigglesworth, *Monoline Revival Could Aid Infrastructure*, FIN. TIMES (July 22, 2012), https://www.ft.com/content/9790c5c2-d27b-11e1-8700-00144feabdc0 (on file with the *Michigan Law Review*); *see also* Oliver Renick & Maria Bonello, *Bond Insurance Then & Now: The Revival of an Industry*, BOND BUYER (Apr. 30, 2014, 6:16 PM), http://www.bondbuyer.com/issues/123_83/bond-insurance-then-and-now-revival-of-industry-1062071-1.html (on file with the *Michigan Law Review*) ("With freshly upgraded ratings on Assured Guaranty and MBIA-owned National Public Finance Guarantee, the bond insurers are hoping rising interest rates will push more state and local governments this year to consider the savings that come with piggybacking on an insurer's rating.").

inception, monoline insurance was deemed riskier than other types.[160] In fact, it "played a substantial role in the Financial Crisis" by spiking investor demand in the U.S. housing market.[161] No federal regulator in the United States oversees these financial-guarantee insurers; monoline insurers are regulated at the state level.[162] Many contend that state-based insurance regulation fails to address "the regulatory demands of a national, and increasingly global, insurance market" and creates inconsistencies in enforcement and supervision.[163] So a U.S. regulatory regime that treats monoline insurance companies differently from other institutions that provide functionally similar products complicates regulatory efforts to monitor and mitigate the risks associated with monoline insurance.

Second, growing institutional activity through project bonds and other financial instruments may lead to specialization and decentralization of the industry. Project bonds, for instance, allow a wide variety of institutions and sophisticated investors to take a debt interest in risky projects.[164] And project bondholders do not necessarily force out other conventional project finance

160. Dwight M. Jaffee, *Monoline Regulations to Control the Systemic Risk Created by Investment Banks and GSEs*, 9 B.E. J. Econ. Analysis & Pol'y no. 17, 2009, at 10–11; *see* also Subcomm. on Fin. Guarantee Instrumentation of the Comm. on Devs. in Bus. Fin., *NAIC Model Act on Financial Guaranty Insurance: A Commentary*, 43 Bus. Law. 717, 718 (1988) (explaining how monoline insurers are regulated with greater scrutiny than multiline insurers). Monoline insurers are generally highly concentrated, highly leveraged, and highly sensitive to credit ratings. Geneva Ass'n Report, *supra* note 155, at 18, 60.

161. *See* Daniel Schwarcz & Steven L. Schwarcz, *Regulating Systemic Risk in Insurance*, 81 U. Chi. L. Rev. 1569, 1586–87 (2014) (explaining the risks associated with financial-guarantee insurance and the monoline companies' role in increasing the investor demand for residential mortgage-backed securities). *But see* Scott E. Harrington, *The Financial Crisis, Systemic Risk, and the Future of Insurance Regulation*, 76 J. Risk & Ins. 785, 788–89 (2009) (stating that certain regulatory requirements limited monoline insurance companies' role in the Financial Crisis).

162. *See* Schwarcz & Schwarcz, *supra* note 161, at 1578–93 (noting that post–Financial Crisis "reforms of insurance law and regulation [left] the state-based system of insurance regulation essentially unchanged for all but the small number of insurance-focused financial firms").

163. *See* Fed. Ins. Office U.S. Dep't of the Treasury, How to Modernize and Improve the System of Insurance Regulation in the United States 1, 23–45 (2013), https://www.treasury.gov/initiatives/fio/Documents/How%20to%20Modernize%20and%20Improve%20the%20System%20of%20Insurance%20Regulation%20in%20the%20US.pdf [https://perma.cc/2A2L-63GY]. Insurance companies are subject to some level of asset adequacy analysis, including liquidity management, by state regulators generally at the individual-entity level, and their financial holdings are limited to "relatively conservative investments." Tom Baker & Kyle D. Logue, Insurance Law & Policy 16 (4th ed. 2017); Geneva Ass'n Report, *supra* note 155, at 68. In addition, the insurance industry, with the exception of large insurance companies with significant non-core-insurance investments, such as credit default swaps, weathered the Financial Crisis relatively better than large bank holding companies. Baker & Logue, *supra*, at 16. But it was precisely the non-core-insurance activities that increased systemic risk leading up to the Financial Crisis. *See* Geneva Ass'n Report, *supra* note 155, at 3, 33–63 (concluding, in the aftermath of the Financial Crisis, that "only two non-core [insurance] activities have the potential to be systemically relevant")

164. *See supra* Part I.

market participants from co-investing with the bondholders.[165] Modern international projects with significant bond financing thus comprise a wide variety of project participants. Institutional investors in project finance might suggest that such broadening of the investor base makes the markets safer. Specialization of function, diversification, and allocation of risks to a broader base of investors, they would argue, defrays financial losses among many smaller financial institutions, thereby reducing the probability of market-wide failures and addressing the "too-big-to-fail" problem.[166] But the market efficiencies created by specialization and decentralization have dire consequences, especially during excessive credit growth and unbridled market optimism.[167]

The role that securitization,[168] especially of residential mortgage loans, played in the Financial Crisis illustrates the perils of specialization and decentralization of financial sectors. Securitization is a financial innovation that weaves together several gatekeepers, "including underwriters, [credit] rating agencies, bond insurers, lawyers, accountants, and so on."[169] Each gatekeeper and market participant has a specialized role. Driven by the many benefits of securitization,[170] the residential mortgage securitization market grew exponentially just before the Financial Crisis.[171] In fact, banks similarly used securitization in the project finance market, which contributed to the tremendous growth of the market before the Financial Crisis.[172]

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165. *See, e.g.*, JOHNSON ET AL., *supra* note 58, at 2, 4 (finding that export-credit agencies, which often provide project funding, "maintain control, or 'golden vetoes,' over common covenants and inter-creditor matters," but "are willing to allow [project] bonds into a capital structure and treat bondholders much as they do commercial lenders").

166. *See* Steven L. Schwarcz, *Regulating Shadow Banking: Inaugural Address for the Inaugural Symposium of the Review of Banking & Financial Law*, 31 REV. BANKING & FIN. L. 619, 627–28 (2012).

167. *See* BARR, *supra* note 146, at 1144–56; Xiangsheng Dou & Jing Wang, *Asset Securitization and Bubbles: An Illustration of Subprime Mortgage Default Crisis*, 2 ADVANCES ECON. & BUS. 112, 114–17 (2014).

168. Broadly speaking, securitization, applicable to any type of financial assets, is the

> process of pooling and selling rights to payment and other financial assets in order to better allocate risks to parties able to understand and bear them, increase the amount and reduce the cost of funding available for consumers and businesses, facilitate specialization of functions, leverage economies of scale, and, in the case of securitizing the financial assets of a bank or other regulated financial institution, remove risks from the balance sheet of those institutions.

BARR, *supra* note 146, at 1137–38.

169. *Id.* at 1141.

170. Lowell L. Bryan, *Structured Securitized Credit: A Superior Technology for Lending*, J. APPLIED CORP. FIN., Fall 1988, at 6, 14–16 (explaining the benefits such as economies of scale to investors, issuing institutions, investment banks, guarantors of credit risk, and borrowers).

171. BARR, *supra* note 146, at 1138–39.

172. *See* Leigland & Russell, *supra* note 10, at 1.

Only in the aftermath of the Financial Crisis did regulators fully understand the systemic risk implications of securitization: the tremendous complexity and interconnectedness it added to the markets. Fraudulent conduct and systemic risk eluded detection, even by several different layers of specialized gatekeepers.[173] The mortgage securitization process weakened each gatekeeper's incentive to conduct thorough examinations of underlying risks and led to overreliance on each of the market participants, such as the credit rating agencies.[174] As a result, overall asset quality and credit rating standards decreased.[175] Subprime mortgage loans flooded the securitization market, though markets remained optimistic.[176] The U.S. housing market heavily relied on the short-term funding markets that used complicated financial structures, such as asset-backed commercial paper conduits.[177] Financial institutions purchased over-the-counter derivatives, falsely believing that they had "reduced their exposure to the mortgage markets or other large firms."[178] Unfortunately, similar trends are beginning to emerge in project finance.

Drawing comparisons between the rise of securitization and recent trends in project finance is somewhat simplistic,[179] but there are notable similarities between the two. Unlike project bank lending, project bond financing often involves an underwriter who assesses project risks and distributes bonds to the debt capital markets.[180] Institutional investors, many of whom are not themselves experts in project finance, often rely on other gatekeep-

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173. *Cf.* Andrew F. Tuch, *Multiple Gatekeepers*, 96 VA. L. REV. 1583, 1589–1604 (2010) (challenging the conception of the "unitary gatekeeper," or the perception that all gatekeepers act in unison, and discussing the disadvantages of having multiple gatekeepers in business transactions).

174. *See* BARR, *supra* note 146, at 1144–56 (finding that the fragmentation of functions and the "originate-to-distribute" model in the context of securitization has contributed misalignment of market incentives and heavy reliance on rating agencies, and overall increase in market risks); *cf.* Michael A. Heller, *The Tragedy of the Anticommons: Property in the Transition from Marx to Markets*, 111 HARV. L. REV. 621, 624 (1998) (finding that fragmentation of property rights may have adverse economic consequences, such as underuse or waste of scarce resources).

175. *See* BARR, *supra* note 146, at 1144–56.

176. FCIC REPORT, *supra* note 5, at 70 ("In 2006, $600 billion of subprime loans were originated, most of which were securitized. That year, subprime lending accounted for 23.5% of all mortgage originations.")

177. *See* BARR, *supra* note 146, at 1234–37.

178. *Id.* at 1074–75.

179. For example, project bonds currently do not operate under the "originate-to-distribute" model, where lenders make loans with the intent not to hold but to sell them to investors. Many argue that this model led to excessive competition in the mortgage loan securitization market and a downward spiral in underwriting standards. *See generally* Michael Simkovic, *Competition and Crisis in Mortgage Securitization*, 88 IND. L.J. 213, 222–25 (2013).

180. *See* Siebens & Gasperow, *supra* note 15, at 254–55.

ers—such as lawyers and accountants—to further assess project risks.[181] Importantly, obtaining credit ratings by the same agencies involved in the securitization market is "certainly a prerequisite to reach a broader base of [project] bond investors."[182] Meanwhile, banks continue to originate and distribute project loans to institutional investors.[183]

Much like the securitization market before the Financial Crisis, project finance is becoming more decentralized and functionally fragmented. Most institutional investors do not have the one-stop-shop capabilities or management incentives that banks have.[184] The prominence of institutional investors is thus giving rise to new players with specialized functions, such as monitoring advisers, in project finance. Monitoring advisers are mostly former employees of monoline insurance companies, but they do not take on any credit risk in individual projects.[185] Instead, they provide broad administrative and managerial services, such as approving project budgets and metrics and assumptions in financial models for institutional investors.[186] Due to their lack of project expertise and incentives to monitor, institutional investors are thus giving rise to specialized industries and heavily relying on them to perform significant functions.

Like the rise of securitization before the Financial Crisis, specialization and decentralization of project finance through increased institutional activity likely introduce additional complexity and interconnectedness into the global financial system. The markets are already observing the dilution of project-governance standards.[187] In times of prolonged credit expansion and market optimism, credit rating standards and project asset quality will likely decline.[188] To accommodate increased demands for risky debt instruments, financial markets tend to engineer new investment vehicles and complex derivatives.[189] Meanwhile, gatekeepers could fail to perform their assigned

181. *See id.* at 265–66 (discussing auditor's role in issuing comfort letters and lawyer's role in issuing legal opinions); Dunning, *supra* note 60; LATHAM & WATKINS CLIENT ALERT, *supra* note 15, at 3–4.

182. ORG. FOR ECON. CO-OPERATION & DEV., INFRASTRUCTURE FINANCING INSTRUMENTS AND INCENTIVES 26 (2015), http://www.oecd.org/g20/topics/financing-for-investment/Infrastructure-Financing-Instruments-and-Incentives.pdf [https://perma.cc/GT5U-2WG7]; *see also* Plenderleith, *supra* note 85, at para. 3.31 ("The depth of the market for a project bond issuance depends in large part on the credit rating given to that issuance.").

183. *See supra* notes 68–70 and accompanying text.

184. *See supra* Section II.B.

185. Carter, *supra* note 60.

186. *Id.*

187. *See supra* notes 101–103 and accompanying text.

188. *Cf.* FCIC REPORT, *supra* note 5, at 84–91 (describing the credit expansion and proliferation of subprime mortgage loans).

189. *See id.* at 45–51.

functions, and underwriters and project bond issuers could rely too heavily on credit rating agencies.[190]

Thus, the continued expansion of institutional activity in project finance may have global systemic risk implications. The migration of lending activity shifts financial risks into various institutional investors, undermining existing regulations implemented to make the markets safer.[191] Further, institutional investors render the project finance market even more complex and interconnected. By resuscitating certain risky financial industries and causing decentralization and specialization of function in project finance, institutional investors will likely make the global financial system riskier. Admittedly, this Comment is somewhat speculative, and it relies on several assumptions. For instance, the project finance industry on its own might not be sufficiently large to trigger the next global financial crisis, and institutional investors could play an insignificant role in this market in the future.[192] But project finance is a microcosm of other financial markets; institutional investors are on the rise in other sectors as well.[193] Project finance is growing,[194] and institutional investors are playing a larger role in the market.[195]

There does not appear to be a silver bullet. One solution would be to limit the mechanisms for, or the advantages of, migration of risk into various institutional investors.[196] This could mean introducing a leverage ratio and liquidity requirement for certain institutional investors or, counterintuitively, deregulating the traditional banking sector.[197] Another solution is to impose regulatory requirements on certain complex financial instruments used in project finance to make them less attractive.[198] And regulators may

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190. *Cf.* BARR, *supra* note 146, at 1144–48 (finding that specialization of function and resulted in overreliance on gatekeepers and credit rating agencies).

191. *See supra* Section III.A.

192. In addition, in the Latin American market, while the project "bond market for infrastructure projects is maturing," this market covered only "14.5% of [total] project costs in the first half of 2017." Baini, *supra* note 114.

193. *See, e.g.*, Donald C. Langevoort, *The SEC, Retail Investors, and the Institutionalization of the Securities Markets*, 95 VA. L. REV. 1025, 1026 (2009) (discussing the rise of institutional investors in the securities markets).

194. *See* LEAGUE TABLES 2015, *supra* note 12, at 48.

195. *See supra* Section I.B.

196. *See* Schwarcz, *supra* note 166, at 638 ("Therefore, if there is a regulatory solution, it lies with limiting regulatory arbitrage, the other factor giving rise to shadow banking.").

197. *Cf.* Schwarcz, *supra* note 166, at 638 (suggesting that migration of financial risks from traditional banks into shadow banks could be limited by "regulating traditional banks less"); Schwarcz, *supra* note 132, at 239–41 (finding that leverage and liquidity requirements for certain institutional investors may significantly decrease systemic risk at the expense of incurring economic efficiency costs).

198. *Cf.* Judge, *supra* note 97, at 476 (lending "support for regulations that make it costlier for market participants to create relatively more complex instruments and other reforms targeting complexity" as a way to mitigate the systemic risk in the shadow banking system).

strengthen disclosure requirements governing project participants and gatekeepers.[199]

Conclusion

Whether the rise of institutional investors in project finance will lead to the next financial calamity is difficult to predict. But the history of financial crises tends to repeat itself,[200] especially if regulators and the financial markets fail to stay vigilant. The Basel III rules and other global credit enhancement initiatives have animated institutional activity in project finance. Ultimately, public responses to the Financial Crisis produced the unintended consequences of heightening project-level risks and pumping seemingly regulated risks back into the global financial system.

Regulators and policymakers can craft sound regulations to mitigate the effects of financial crises. Public policies must be thoughtfully devised, cognizant of the potential for unintended consequences. It is true that institutional investors play an important role in project finance and the broader markets. Thus, any regulatory effort in the area must necessarily balance the need to mitigate project-level and systemic risk, while preserving the efficiency of institutional investors in project finance.

It is incumbent on scholars and financial regulators to learn more about the risks associated with increased institutional activity in project finance. We must closely examine the underlying risks of project finance to determine whether congressional action is necessary or existing laws give financial regulators appropriate authority to regulate institutional investors.[201] We must find ways to craft targeted regulation to keep the project finance market efficient while mitigating project-level and systemic risk. Most importantly, we must continue to study the financial markets so that we do not forget so easily.

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199. *Cf.* Ronald J. Gilson & Reinier Kraakman, *Market Efficiency After the Financial Crisis: It's Still a Matter of Information Costs*, 100 Va. L. Rev. 313, 351 (2014) (identifying "increased mandatory disclosure" as the "simplest response to market failure that turns on information costs" in the shadow banking system).

200. *See* Steven L. Schwarcz, *Regulating Complexity in Financial Markets*, 87 Wash. U. L. Rev. 211, 248–49 (2009) (contending that "failures are almost inevitable in complex systems," including the financial markets).

201. *Cf.* Note, *Danger Lurking in the Shadows: Why Regulators Lack the Authority to Effectively Fight Contagion in the Shadow Banking System*, 127 Harv. L. Rev. 729, 737–39 (2013) (suggesting that financial regulators lack the authority to regulate certain nonbank financial industries).