FAILING CITIES AND THE RED QUEEN PHENOMENON

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Abstract: Cities and counties are failing. Unfunded liabilities for retirees' healthcare benefits aggregate to more than $1 trillion. Pension systems are underfunded by as much as $4.4 trillion. Many local government capital structures ensure rising costs and declining revenues, the precursors to service-delivery insolvency. These governments are experiencing the Red Queen phenomenon. They have tried a dizzying number of remedies, but their dire situation persists unchanged. State legislatures have failed to respond. More specifically, many states have refused to implement meaningful debt restructuring mechanisms for local governments. They argue that giving cities and counties the power to potentially impair bond obligations will lead to a doomsday scenario: credit markets will respond by dramatically raising interest rates on new municipal and state bond issuances. This argument—which we term the "paralysis justification"—has been employed widely to support state inaction. The paralysis justification, however, is anecdotal and untested. This Article attempts to fill a significant gap in the literature by reporting the results of an unprecedented empirical study. Our study aggregated data for every fixed-rate general obligation, municipal bond issued in the United States from January 1, 2004 to December 31, 2014. It included over eight hundred thousand issuances in total. By employing multivariate regression analysis, we conclude that the paralysis justification is a false narrative. Municipalities located in states that offer meaningful debt restructuring options enjoy the lowest borrowing costs, all other things equal. This Article removes one of the largest obstacles to financial relief for many cities and counties. We hope to encourage recalcitrant state legislatures to enact the structural changes their local governments need desperately.

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INTRODUCTION

The atomic bomb had its genesis in the city of Chicago. In 1942, the experiment producing the first controlled, self-sustaining nuclear chain reaction occurred at Stagg Field.[1] The primitive reactor was too weak to power even a single light bulb but proved that the power of the atom could be unleashed and controlled.[2] This nascent event was emblematic of the type of innovation for which the city was known during the early twentieth century. Chicago was "the pace–maker of the world."[3] The city's trajectory since these halcyon days, however, has been disappointing.

In May of 2015, Moody's Investor's Service dropped Chicago's bond rating to junk status, the only major city in the United States to enjoy this ignominy.[4] The downgrade was a result of the city's almost $9 billion in bond debt coupled with the fact that its four primary pension plans had a combined underfunding of nearly $27 billion.[5] The aggregate, unfunded public-worker pension liability per Chicago resident is almost $20,000.[6] As a point of comparison, the same liability per Detroit resident shortly before that city filed for bankruptcy was less than $5000.[7] Without some sort of radical intervention, the city has no chance of servicing this debt. Chicago is home to a financial atomic bomb, and it is not alone.

So how does one dismantle an atomic bomb? Well, as the proverb instructs: do not build it in the first place. Unfortunately, path dependence is ush-

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[1] *See* MICHAEL F. L'ANNUNZIATA, RADIOACTIVITY: INTRODUCTION AND HISTORY, FROM THE QUANTUM TO QUARKS 151 (2d ed. 2016).

[2] *See id.* Some of the scientists who conducted this revolutionary experiment would go on to join the Manhattan Project and develop the atomic bomb. *Id.*

[3] Newton Dent, *The Romance of Chicago*, MUNSEY'S MAG., Apr. 1907, at 2, 20.

[4] *See Moody's Downgrades Chicago, IL to Ba1, Affecting $8.9B of GO, Sales, and Motor Fuel Tax Debt; Outlook Negative*, MOODY'S (May 12, 2015), https://www.moodys.com/research/Moodys-downgrades-Chicago-IL-to-Ba1-affecting-89B-of-GO--PR_325213 [https://perma.cc/Q9SM-ZW3P] [hereinafter *Moody's Downgrades Chicago*]. Further, in March 2016, Fitch Ratings downgraded Chicago's bond rating to ostensibly junk status. Elizabeth Campbell, *Chicago's Rating Cut by Fitch After Pension Overhaul Dashed*, BLOOMBERG (Mar. 28, 2016), http://www.bloomberg.com/news/articles/2016-03-28/chicago-s-bond-rating-lowered-to-bbb-by-fitch-after-court-loss [https://perma.cc/T3AL-XH5F].

[5] *See* Jessica Corso, *Chicago's Fiscal Future Bleak but Not Hopeless, Experts Say*, LAW360 (Oct. 26, 2015), http://www.law360.com/articles/7190099 [https://perma.cc/H6BV-MBRZ]; *Moody's Downgrades Chicago*, *supra* note 4; *see also* KRISTEN DEJONG, CHICAGO'S FISCAL STRESS: NEW TERM, SAME PROBLEMS 1–4 (2015). Note that the underfunding is most likely far greater than $20 billion due to the high discount rate that the city has used in calculating its future liabilities. *See* Robert Novy-Marx & Joshua D. Rauh, *The Liabilities and Risks of State-Sponsored Pension Plans*, 23 J. ECON. PERSP. 191, 191–92 (2009).

[6] *Rahmbo's Toughest Mission: Can Rahm Emanuel Save Chicago from Financial Calamity?*, THE ECONOMIST (Jun. 14, 2014), http://www.economist.com/news/united-states/21604165-can-rahm-emanuel-save-chicago-financial-calamity-rahmbos-toughest-mission [https://perma.cc/79EL-QXCE].

[7] *See id.*

ering municipalities[8] towards financial Armageddon.[9] States could provide municipalities the means to address their problems and potentially avoid calamity, but an unfathomable paralysis has set in. States have been disengaged from the municipal restructuring process.[10] Thirty-nine states fail to offer a meaningful restructuring process for their distressed municipalities.[11] One of the primary excuses for this high level of disengagement is the fear that borrowing costs on municipal bond issuances will increase materially if a state begins offering debt adjustment options to its cities and counties.[12]

State law has a profound impact on a municipal borrower's interaction with lenders and investors. State law is essentially a product that affects a municipali-

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[8] For purposes of this Article, the terms "municipality" and "municipalities" describe counties, cities, and certain other local governments that enjoy taxing authority.

[9] In making this statement, this Article considers the financial condition of subnational governments based predominately on a municipality's ability to fulfill its "financial obligations to creditors, consumers, employees, taxpayers, suppliers, constituents, and others as they become due" and to satisfy its service-delivery obligations to its current and future residents. *See* Martin Ives, *Financial Management Implications of "Service Delivery Insolvency,"* MUN. FIN. J., Summer 2015, at 45, 45–47 (quoting Robert Berne from the Governmental Accounting Standards Board).

[10] *See* Samir D. Parikh, *A New Fulcrum Point for City Survival*, 57 WM. & MARY L. REV. 221, 238 (2015); *see also* James K. Conant et al., *State Budgeting in the Aftermath of the Great Recession: A Comparative Perspective*, MUN. FIN. J., Summer 2012, at 1, 31–33 (concluding after a study of six states during the post-Great Recession period that none of the states took meaningful action to address municipal turmoil); Gregory Lipitz, Stephen Fehr, Thomas Neff & William Kannel, *State Oversight, Bankruptcies, and Recovery*, MUN. FIN. J., Winter 2015, at 55, 55–57 (2015) (concluding that only a few states are "aggressively involved" in their municipalities' fiscal health).

[11] *See infra* notes 90–109 and accompanying text (creating a taxonomy for all fifty states and the District of Columbia based off of the level of support and the options they provide to their municipalities that are under financial stress). The thirty-nine states that fail to provide a meaningful restructuring process for their municipalities are Alabama, Alaska, Arizona, Arkansas, California, Colorado, Connecticut, Delaware, Georgia, Hawaii, Idaho, Illinois, Iowa, Indiana, Kansas, Louisiana, Maryland, Massachusetts, Minnesota, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Mexico, North Dakota, Oklahoma, Oregon, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, and Wyoming.

[12] *See* Wenli Yan, *Revenue Diversification and State Credit Risk*, MUN. FIN. J., Winter 2011, at 41, 45–48 (2011); Martin Bricketto, *Atlantic City Bankruptcy Would Hurt Other Towns, Mayor Says*, LAW360 (May 15, 2015), http://www.law360.com/articles/656664 [https://perma.cc/5WZC-L4J3]; Peter Coy, *The Case for Allowing U.S. States to Declare Bankruptcy*, BLOOMBERG (Jan. 25, 2016), https://www.bloomberg.com/news/articles/2016-01-21/the-case-for-allowing-u-s-states-to-declare-bankruptcy [https://perma.cc/AV3U-59PP]; Kelly Nolan, *Detroit Bankruptcy Plan Called Unfair to Bondholders*, WALL STREET J. (Jul. 18, 2013), https://www.wsj.com/articles/SB10001424127887324448104578614501316630488 [https://perma.cc/2A2A-S9U4]; Mary Williams Walsh, *Woes of Detroit Hurt Borrowing by Its Neighbors*, N.Y. TIMES (Aug. 8, 2013), https://dealbook.nytimes.com/2013/08/08/detroit-blocks-other-cities-from-bond-market/?_r=0 [https://perma.cc/M8HC-2QG5]; *State of Pay: What Do the Woes of Detroit Mean for Muni Bonds?*, THE ECONOMIST (Jun 22, 2013), http://www.economist.com/news/finance-and-economics/21579861-what-do-woes-detroit-mean-muni-bonds-state-pay [https://perma.cc/A9QD-T4F5] [hereinafter *State of Pay*].

ty's risk profile, credit rating, and borrowing costs.[13] Indeed, credit markets have historically punished debt issuances by municipalities subject to state laws that fail to protect bondholders in a manner commensurate with market expectations.[14] Subnational governments are dependent on borrowing to fill budgetary gaps and fund capital projects.[15] Consequently, they seek to avoid legislation that they believe will diminish their credit rating or displease credit markets.[16] Many states have refused to implement meaningful debt adjustment options for local governments because these options could provide a municipality the ability to impair[17] bond obligations.[18] State legislators and policymakers are concerned that increased impairment risk would prompt municipal credit markets to demand above-market interest rates on new issuances.[19] Increased borrowing costs could cripple municipalities and negatively affect states.[20] This argument—which we refer to as the "paralysis justification"—has been advanced to stifle the implementation of meaningful debt adjustment mechanisms, including the one recently proposed by Professor Samir D. Parikh.[21]

The paralysis justification, however, is purely anecdotal. State legislators and policymakers seem content to be the wardens of municipal demise based

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[13] *See generally* Roberta Romano, *Law as a Product: Some Pieces of the Incorporation Puzzle*, 1 J.L. ECON & ORG. 225 (1985) (outlining the theory that state laws can effectively be viewed as products in certain situations and examining this theory in relation to state incorporation laws).

[14] This punishment invariably comes in the form of a demand for an above-market interest rate on issuances.

[15] *See* Clayton P. Gillette, *Fiscal Federalism, Political Will, and Strategic Use of Municipal Bankruptcy*, 79 U. CHI. L. REV. 281, 312 (2012).

[16] PEW CHARITABLE TRS., THE STATE ROLE IN LOCAL GOVERNMENT FINANCIAL DISTRESS 12 (2013) [hereinafter STATE ROLE IN LOCAL GOVERNMENT]; Gillette, *supra* note 15, at 291–92, 305 ("[C]entralized governments that intervene in the face of municipal fiscal distress are motivated largely by a perception of contagion risk."); Steven L. Schwarcz, *A Minimalist Approach to State "Bankruptcy,"* 59 UCLA L. REV. 322, 333 (2011).

[17] The impairment would typically come in the form of deferred interest payments or an interest rate adjustment.

[18] *See* Yan, *supra* note 12, at 45–48; Bricketto, *supra* note 12; Coy, *supra* note 12; Nolan, *supra* note 12; Walsh, *supra* note 12; *State of Pay*, *supra* note 12.

[19] *See* Coy, *supra* note 12 ("State governments said they didn't want to be eligible for bankruptcy, fearing that the very possibility would spook investors in municipal bonds and drive up their borrowing costs."); *see also* Yan, *supra* note 12, at 45–48; Bricketto, *supra* note 12; Nolan, *supra* note 12; Walsh, *supra* note 12; *State of Pay*, *supra* note 12. *But see* David A. Skeel, Jr., *Is Bankruptcy the Answer for Troubled Cities and States?*, 50 HOUS. L. REV. 1063, 1069 (2013) (concluding that the states that haven chosen to enact municipal bankruptcy laws have not subsequently experienced crippling increases in bond costs); David A. Skeel, Jr., *States of Bankruptcy*, 79 U. CHI. L. REV. 677, 717–22 (2012).

[20] *See* Parikh, *supra* note 10, at 258. States have historically acted as implicit guarantors of municipal debts and service delivery. *See id.* at 259.

[21] *See id.* at 221 (proposing a comprehensive, fiscal monitoring system that identifies and then directs distressed municipalities into a dynamic negotiation model supported by the option to file for federal bankruptcy).

on an untested argument. Indeed, as far as the authors of this Article are aware, no scholarly study has examined, in a statistically meaningful manner, how a municipality's borrowing costs are affected by its state and federal debt restructuring options.

This Article addresses this significant gap in municipal literature by reporting the results of an unprecedented empirical study designed to test the paralysis justification. The study aggregated data for every fixed-rate general obligation, municipal bond issued in the United States from January 1, 2004 to December 31, 2014 (the "Observation Period").[22] It does not rely on a sample of bond issuances or survey results to estimate key features of our dataset. Rather, the study meticulously reviews the entire universe of actual issuances during the Observation Period, over eight hundred thousand issuances in total. Overall, the study's breadth and depth are unparalleled.

The data show that there is no empirical basis for the paralysis justification. Other things being equal, a municipality's borrowing costs do not increase based on the fact that its home state provides meaningful debt restructuring options. In fact, after controlling for eighteen independent variables—including economic conditions and political affiliations—and drawing data from myriad sources, we conclude that that municipalities with the lowest borrowing costs are those located in states that offer meaningful out-of-court debt adjustment options. Our results establish that the paralysis justification is a false narrative and challenge conventional wisdom in this area.[23] Further, by extrapolating the data, we posit that municipalities located in states that adopt Professor Parikh's proposed debt adjustment mechanism would have the lowest borrowing costs of any group.[24]

In delineating these exciting results, this Article proceeds as follows: Part I addresses the challenges facing subnational governments and explores the contours of the Red Queen phenomenon[25] and the paralysis justification.[26]

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[22] *See infra* notes 90–126 and accompanying text (performing an empirical analysis of these bond issuances and how differences in state bankruptcy law affected these issuances).

[23] *See infra* notes 90–126 and accompanying text.

[24] *See infra* notes 117–125 and accompanying text (extrapolating the results of this empirical analysis to evaluate a hypothetical municipality that chose to adopt Professor Parikh's proposal). Keep in mind that a local government financial manager's primary goal in debt issuance is to minimize the cost of capital. *See* Justin Marlowe, GASB 34's Information Relevance: Evidence from New Issue Local Government Debt 6 (Apr. 14, 2010) (unpublished manuscript), http://ssrn.com/abstract=1589343 [https://perma.cc/FW43-DFKN]. As one scholar has pointed out, because local government debt issuances are invariably long-term fixed coupon securities, "a few basis point difference in interest costs on those securities can have multi-million dollar implications for overall cost of capital." *Id.*

[25] *Definition of Red Queen*, FIN. TIMES LEXICON, http://lexicon.ft.com/Term?term=Red%20Queen [https://perma.cc/E69C-BZDM]. The Red Queen phenomenon is named after the eponymous

Municipal distress is a well-known phenomenon, but the overlooked facet is the reluctance of state officials and policymakers to address the problem. This recalcitrance leaves many municipalities with few options to avoid service-delivery insolvency. Part II presents our empirical study and methodology.[27] Part II also details our dataset's composition and high quality and explains the regression analysis used as well as the chosen dependent and independent variables. Conventional wisdom posits that municipalities located in states that do not offer meaningful debt adjustment options and restrict access to Chapter 9—a group we refer to as no-option states—should enjoy the lowest borrowing costs.[28] The rationale for this argument is that noteholders would not want their municipal borrowers to have any means to modify debt payments. However, we observed that municipalities in no-option states had some of the highest borrowing costs. Part III explains how the phenomenon we observed can be reconciled with accepted financial restructuring principles.[29]

Part IV explores the dramatic implications of this Article's findings.[30] Many states have been content to allow their municipalities to deteriorate based on a false narrative. Our findings transform the debate in this area by demonstrating that key constituencies benefit when a municipality is afforded meaningful debt restructuring options. Scholars and policymakers have disagreed about whether the optimal approach for distressed municipalities can be found at the state or federal level, or if inaction is the best course. Our results unify the diverse arguments by demonstrating empirically that states should offer their municipalities meaningful debt restructuring options at the state and federal level.[31]

Ultimately, our study reveals that credit markets do not punish municipalities that possess meaningful debt restructuring options under state or federal laws. In fact, the opposite is true. We believe that the reason for this is that an orderly process for debt adjustment extracts proportional concessions from both employee unions and noteholders. This shared-pain dynamic increases the

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character from Lewis Carol's *Through the Looking-Glass*, who tells Alice, "[I]t takes all the running you can do, to keep in the same place." *Id.*

[26] *See infra* notes 81–89 and accompanying text.

[27] *See infra* notes 90–126 and accompanying text.

[28] The borrowing cost assessments found in this article are generally subject to the "all other things being equal" qualifier.

[29] *See infra* notes 127–147 and accompanying text.

[30] *See infra* notes 148–163 and accompanying text.

[31] At the state law level, states should monitor their municipalities and offer a debt adjustment mechanism that facilitates negotiation with creditor constituencies and meaningful debt restructuring. *See* Parikh, *supra* note 10, at 284–94. At the federal law level, states should authorize their municipalities to seek relief under Chapter 9 of the Federal Bankruptcy Code in the event these negotiations fail. *See id.* at 257–58. The Federal Bankruptcy Code requires state authorization for a municipality to file. 11 U.S.C. § 109(c)(2) (2012).

odds of sustainable viability for the municipality and is instrumental in avoiding a wholesale payment default. A delineated mechanism engenders certainty, which reduces the risk of holdouts and free riding. Not surprisingly, creditors have responded well to the implementation of debt restructuring processes in other contexts.[32] Many state officials have overlooked this fact. State inaction based on unfounded fears will continue to decimate the interests of all local government constituencies, including employees, noteholders, residents, and even the home state itself. At a macro level, systemic municipal failure has ripple effects, imposing significant economic costs on state and national economies.[33]

This Article seeks to remove one of the largest obstacles to implementation of meaningful municipal debt restructuring options. Our findings support the conclusion that reluctant states should begin the process of enacting legislation that will allow municipalities to restructure their obligations and address their fiscal deficiencies at an earlier stage of deterioration; in essence, dismantling a financial atomic bomb before it is built.

I. THE DESOLATE MUNICIPAL LANDSCAPE

A. An Overview of Decline

The national economy is recovering from the Great Recession, but subnational governments are unable to participate in this rebirth. [34] In fact, the dark-

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[32] *See* Michael Bradley, James D. Cox & Mitu Gulati, *The Market Reaction to Legal Shocks and Their Antidotes: Lessons from the Sovereign Debt Market*, 39 J. LEGAL STUD. 289, 295–98 (2010) (finding that the addition of collective action clauses—which enable supermajority voting to change payment terms—in sovereign bond indentures did not increase sovereign borrowing costs); Anne O. Krueger, First Deputy Managing Director, Int'l Monetary Fund, Sovereign Debt Restructuring Mechanism—One Year Later (Dec. 10, 2002) (explaining that the creation of a sovereign debt restructuring mechanism could in fact reduce country borrowing costs).

[33] *See* Robert D. Ebel, John E. Petersen & Ha T.T. Vu, *The Great Recession: Impacts and Outlook for U.S. State and Local Finance*, MUN. FIN. J., Spring 2013, at 33, 35 ("There is a high national interest in what happens to the state and local sector. The 50 states and their nearly 90,000 local governments represent 11.9% of the national product. That is one-and-a-half times the size of the federal sector with national defense spending included, and four-and-a-half times the federal government when one considers only federal non-defense spending. Furthermore, taken together, the states and localities employ about one out of every eight workers and provide the bulk of all basic governmental services consumed by individuals and firms, such as education, public safety, and public works. State and local governments also act as agents in the delivery of many federal services, including the passing on of many federal transfer payments from places to people."); *see also* STATE BUDGET CRISIS TASK FORCE, REPORT OF THE STATE BUDGET CRISIS TASK FORCE 2 (2012).

[34] Municipal deterioration has been thoroughly chronicled, and a variety of articles ably handle the articulation of this phenomenon. *See, e.g.*, Michelle Wilde Anderson, *The New Minimal Cities*, 123 YALE L.J. 1118, 1130 (2014); Christine Sgarlata Chung, *Zombieland / The Detroit Bankruptcy: Why Debts Associated with Pensions, Benefits, and Municipal Securities Never Die . . . and How They Are Killing Cities Like Detroit*, 41 FORDHAM URB. L.J. 771, 778 (2014); Parikh, *supra* note 10, at

est days lay ahead. A critical mass of municipalities is suffering from capital structures that ensure rising costs and declining revenues, undermining basic service delivery.[35]

Costs are fueled by a torrent of employee salaries, wages, pensions, health care, and other related expenses.[36] Municipalities have attempted to curtail salaries and other benefits, but savings have been nominal.[37] Further, mandatory pension contributions and health care costs are the most significant debt drivers, and these costs will continue to rise for the foreseeable future.[38] In fact, the amounts that municipalities are currently setting aside to satisfy these long-term obligations are woefully insufficient. Unfunded liabilities for state and municipal retirees' healthcare benefits exceed $1 trillion.[39] Depending on the discount rate, pension systems are underfunded by as much as $4.4 trillion.[40]

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238. A full exploration of this issue is beyond this Article's scope but a general overview is instructive.

[35] *See* STATE BUDGET CRISIS TASK FORCE, *supra* note 33, at 2–4 (summarizing the myriad of problems that many municipalities have in their financial capital structures); Ives, *supra* note 9, at 46 (describing how the financial degeneration of municipalities undermines basic service delivery).

[36] *See* STATE BUDGET CRISIS TASK FORCE, *supra* note 33, at 2–4. States have also contributed to this cost torrent by imposing unfunded mandates. For example, a state will pass a law requiring local governments to install signs that provide that cellphone use while driving is prohibited in school zones but fail to provide the funding for the signs. *See* J.J. Smith, *New Texas Law Prohibits Drivers from Using Cell Phones While Driving in School Zones*, ROCKWALL NEWS (Tex.) (Aug. 26, 2013), http://myrockwallnews.com/new-texas-law-prohibits-drivers-from-using-cell-phones-while-driving-in-school-zones/ [https://perma.cc/56FV-ME94] (noting that the responsibility for posting state-mandated traffic signs fell on local governments in Texas).

[37] *See* Parikh, *supra* note 10, at 235. Municipalities spend more than 35% of their budget on salaries and wages. *See* STATE BUDGET CRISIS TASK FORCE, *supra* note 33, at 12. Collective bargaining agreements severely limit adjustments to employee headcount and benefits. *See* Parikh, *supra* note 10, at 235. Municipalities invariably wind up making minor reductions in headcount that produce minimal cost savings. *See* STATE BUDGET CRISIS TASK FORCE, *supra* note 33, at 36. Hiring freezes are most frequently invoked but similarly futile. *See* Michael A. Pagano & Christiana McFarland, *City Fiscal Conditions in 2013*, MO. MUN. REV., Nov. 2013, at 12, 13–14. Through a combination of layoffs, attribution, hiring freezes, and furloughs, municipalities are able to reduce their workforce. These cuts, however, offer only marginal relief, and have accounted for only a 3.4% reduction in workforce between September 2008 and December 2011. *See* LIZ GROSS ET AL., PEW CHARITABLE TRS., THE LOCAL SQUEEZE: FALLING REVENUES AND GROWING DEMAND FOR SERVICES CHALLENGE CITIES, COUNTIES, AND SCHOOL DISTRICTS 13 (2012). Collective bargaining agreements also restrict attempts to reduce health care and pension benefits.

[38] *See* STATE BUDGET CRISIS TASK FORCE, *supra* note 33, at 14 (illustrating graphically how the rapid growth of health care costs poses the greatest threat to state and municipal budgets). The report from the State Budget Crisis Task Force also details how pension costs for state and local governments are underfunded by almost $3 trillion. *See id.* at 2.

[39] *See id.* at 3.

[40] *See* Stuart Buck, *The Legal Ramifications of Public Pension Reform*, 17 TEX. REV. L. & POL. 25, 27 (2012); Jean Burson et al., *Do Public Pension Obligations Affect State Funding Costs?*, MUN. FIN. J., Summer 2014, at 17, 17; *see also* Robert Novy-Marx & Joshua Rauh, *The Crisis in Local Government Pensions in the United States*, *in* GROWING OLD: PAYING FOR RETIREMENT AND INSTITUTIONAL MONEY MANAGEMENT AFTER THE FINANCIAL CRISIS 47, 48 (Yasuyuki Fuchita et al. eds.,

For example, Chicago's retiree pension plans are only 39% funded. The state and its municipalities face a $165 billion liability, but have funded less than $65 billion.[41] Additionally, the underfunding is swelling. The funded ratio has declined every year since 2011.[42]

Debt service further undermines this situation. Municipalities have overgrazed at the debt commons, relying on bond debt to fund choices and fill budgetary gaps.[43] States have attempted to limit their municipalities' debt load, but municipalities have successfully circumvented these obstacles.[44] Large municipalities have embraced a model dependent on borrowing. Approximately 44,000 subnational governments issue debt.[45] The municipal bond market approaches four trillion dollars in principal and is comprised of over one million different municipal bonds.[46] As a point of comparison, there are fewer than fifty thousand different corporate bonds.[47] Debt service is a fixed cost that can undermine optimal resource allocation.

Exacerbating this indefinite rising-cost phenomenon is the fact that municipalities have been subject to a perfect confluence of declining revenues. Intergovernmental aid has evaporated.[48] The loss of intergovernmental aid has

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2011). The PEW Charitable Trusts has found that there is a $968 billion funding gap across all state governments. This determination, however, relies on state reports, which use an entirely unrealistic expected rate of return for discounting purposes. *See* PEW CHARITABLE TRS., THE STATE PENSIONS FUNDING GAP: CHALLENGES PERSIST 1 (2015) [hereinafter FUNDING GAP]. Finance scholars agree that the underfunding is much larger than reported by state agencies. *See* Joshua Rauh, Professor of Fin., Stanford Univ. Graduate Sch. of Bus. & Senior Fellow, Hoover Inst., Stanford Univ., Financial Economics for Public Policy, Presentation at the George Mason University School of Law Law & Economics Center Workshop for Law Professors on the Economics of Public Pension Reform (Sept. 17, 2015).

[41] *See* FUNDING GAP, *supra* note 40, at 3.

[42] *See id.*

[43] *See* Gillette, *supra* note 15, at 287–88.

[44] *See, e.g.*, Ives, *supra* note 9, at 52 ("Although virtually all municipalities are required to prepare balanced budgets, many municipalities prepare budgets that are balanced in form, but not in substance."); *see also* James E. Spiotto, *The Role of the State in Supervising and Assisting Municipalities, Especially in Times of Financial Distress*, MUN. FIN. J., Spring 2013, at 1, 8.

[45] *See* Amicus Curiae Brief by the Sec. Indus. & Fin. Mkts Ass'n at 6, *In re* City of Detroit, No. 13-53846 (Bankr. E.D. Mich. May 12, 2014).

[46] *See id.* at 7.

[47] *See id.* For example, Chicago has over $9 billion in bond debt. *See Moody's Downgrades Chicago*, *supra* note 4.

[48] Intergovernmental aid includes grants, transfers, and other funds a municipality receives from federal, state, county, or other local governments through ongoing revenue-sharing agreements and one-time infusions. *See* PEW CHARITABLE TRS., AMERICA'S BIG CITIES IN VOLATILE TIMES 10 (2013) [hereinafter AMERICA'S BIG CITIES]. The American Recovery and Reinvestment Act ("ARRA") was signed in 2009 as a short-term stimulus bill seeking to infuse $787 billion into the economy. A significant portion of these funds represented direct aid to states, funds that often times went to municipalities. *See* VICE PRESIDENT JOSEPH BIDEN, ANNUAL REPORT TO THE PRESIDENT ON PROGRESS IMPLEMENTING THE AMERICAN RECOVERY AND REINVESTMENT ACT OF 2009, at 9 (2010). In fact, states have historically funded on average close to one-third of local budgets. *See* LIZ GROSS ET

been compounded by declining tax collections.[49] Primarily, property tax revenue has historically been a stalwart for municipalities during economic downturns.[50] In previous downturns, residential home prices were stable.[51] This stability—coupled with the fact that approximately 97% of property taxes go to local governments—made property tax revenue vital for municipal rehabilitation.[52] An imploding housing market, however, precipitated the Great Recession.[53] The unprecedented fall in home prices decimated county coffers.[54] Between 2007 and 2011 home prices fell almost 20% nationally.[55] Even after recent appreciation, home prices and attendant property tax revenue are still well below 2007 levels.[56] For example, housing prices in Las Vegas are still 40% below their peak.[57] This shift in the housing market continues to suppress local revenues.[58]

Municipalities have employed a staggering variety of traditional and nontraditional means to achieve fiscal stability, but most have fallen victim to the Red Queen phenomenon.[59] Distressed municipalities have shifted revenue,[60] swept fund balances,[61] and raided rainy day funds to simply maintain their cur-

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AL., *supra* note 37, at 5–6 ("Many states provide grants [to localities] for general operations; in other cases, money is set aside for certain uses, such as road repair. States also sometimes share a portion of tax revenues with cities, counties, and school districts based on factors like population, need, and the community's existing tax burden."). Funding through the ARRA helped stabilize localities for a brief period of time, but the ARRA and other measures have merely served to delay the day of reckoning. By 2010, state aid to municipalities decreased by $12.6 billion from the previous year and decreased again in 2011, 2012, and 2013. *See id.* at 4, 7.

[49] *See* GROSS ET AL., *supra* note 37, at 4 (highlighting graphically the drop in tax revenue as a result of the Great Recession).

[50] *See id.* at 1.

[51] *See id.*

[52] *See* Ebel, Peterson & Vu, *supra* note 33, at 45.

[53] *See id.* at 46.

[54] *See* GROSS ET AL., *supra* note 37, at 4.

[55] *See id.* 9–10. Home prices in metropolitan areas fell 24.7% from 2007 to 2010. *See* Ebel, Petersen & Vu, *supra* note 33, at 47 n.21.

[56] *See Daily Chart: American Housing Prices*, THE ECONOMIST (Aug. 24, 2016), http://www.economist.com/blogs/graphicdetail/2016/08/daily-chart-20 [https://perma.cc/67HQ-L27W].

[57] *See id.*

[58] *See* Ebel, Petersen & Vu, *supra* note 33, at 47. General sales tax and individual income tax revenue also declined significantly during the Great Recession, further eroding municipal finances. *See id.* at 47–53.

[59] *See supra* note 25 (providing background for the "Red Queen phenomenon" as a term used to describe situations where a great deal of effort is spent to essentially maintain the same position).

[60] *See* James K. Conant et al., *supra* note 10, at 6 (defining revenue shifting as a method by which municipalities "accelerate the collection of tax revenue or fees by moving revenue 'backward' into the current fiscal year"). An obvious downside of revenue shifting is that any revenue "shifted" is removed from the accounting of the following fiscal year. *See id.*

[61] *See id.* "Sweeping fund balances" describes the method by which municipalities transfer cash balances "from dedicated (or earmarked) funds or reserves into the general fund for the current fiscal year." *Id.* As some scholars have pointed out, "[a] cost of [sweeping fund balances] is that the capacity

rent downward trajectory.[62] Meaningful increases in tax revenue have been elusive because forty-six states severely limit their municipalities' ability to increase taxes.[63] Even without this obstacle, municipalities face significant political deterrence.[64] Further, raising taxes does not necessarily lead to increased revenue. In many cases, tax increases accelerate migration trends and can decimate a municipality's tax base.[65]

Truly desperate municipalities have attempted to sell government assets and privatize functions, including parking enforcement, park maintenance, graffiti removal, collection of delinquent taxes, and operation of public venues.[66] Unfortunately, all of these stabilization methods are characterized by short-term cash infusions that produce disproportionate future expenses or lost future revenue.[67] For example, in late 2010, Newark opted to sell and then lease back sixteen of the city's buildings, including its police and fire headquarters and symphony hall.[68] The sale yielded $74 million for the city, but leasing the buildings back will cost the city $125 million during the lease term.[69] Similarly, the city of Chicago leased its parking meter system to a con-

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to deliver products or services supported by such funds will be diminished in the upcoming fiscal year or years." *Id.*

[62] *See id.* at 6–7. *See generally* Carolyn Boudreaux & W. Bartley Hildreth, *Pullback Management: State Budgeting Under Fiscal Stress*, *in* THE OXFORD HANDBOOK OF STATE AND LOCAL GOVERNMENT FINANCE 816 (Robert D. Ebel & John E. Petersen eds., 2012) (analyzing how states' budgeting decisions are impacted by periods of significant declines in revenue). For example, Sacramento tapped cash reserves beginning in 2007. *See* AMERICA'S BIG CITIES, *supra* note 48, at 16. At that time, the reserve balance was 31% of general revenue. By 2011, the reserve was down to just 6% of general revenue. *See id.* Sacramento, as well as the vast majority of other distressed municipalities, cannot rely on its cash reserve to address future fiscal challenges.

[63] LIZ GROSS ET AL., *supra* note 37, at 11. Tax and expenditure limitations ("TELs") are the primary means for limiting local financial autonomy. Critics have argued that TELs compounded the budgetary dystopia triggered by the Great Recession. *See generally* James M. Poterba & Kim Rueben, *State Fiscal Institutions and the U.S. Municipal Bond Market*, *in* FISCAL INSTITUTIONS AND FISCAL PERFORMANCE 181 (James M. Poterba & Jürgen von Hagen eds., 1999) (focusing on the effects of fiscal policy on budget deficits within subnational governments, specifically the states within the United States).

[64] *See* PAGANO & MCFARLAND, *supra* note 37, at 6–7. Elected officials are prone to eschew tax increases in favor of less controversial revenue-generating measures, such as raising fees that are applied to city services. *See id.* These fee increases, however, often fail to generate significant funds. *See* Parikh, *supra* note 10, at 235.

[65] *See* Ebel, Petersen & Vu, *supra* note 33, at 52–53; Sally Wallace, *The Evolving Financial Architecture of State and Local Governments*, *in* THE OXFORD HANDBOOK OF STATE AND LOCAL GOVERNMENT FINANCE 156–75 (Robert D. Ebel & John E. Petersen eds., 2012).

[66] Ianthe Jeanne Dugan, *Facing Budget Gaps, Cities Sell Parking, Airports, Zoo*, WALL STREET J. (Aug. 23, 2010), http:///www.wsj.com/articles/SB10001424052748703960004575427150960867176 [https://perma.cc/GVA3-ECCU].

[67] *See* Parikh, *supra* note 10, at 235–36.

[68] *See* Anderson, *supra* note 34, at 1167–68.

[69] *See id.*

sortium led by Morgan Stanley in order to balance its budget.[70] Chicago will ultimately receive $1.16 billion from its parking meter lease, but the consortium is now expected to make more than ten times that amount over the course of the deal.[71] Further, these one-time sales temporarily fill budgetary gaps but fail to produce structural reform that improves the municipality's viability.

Municipalities are desperate for meaningful debt restructuring options, but many states have blindly embraced the paralysis justification.

B. The Paralysis Justification

The acceleration of municipal demise should have prompted state legislators and policymakers to undertake aggressive structural changes. A crippling paralysis, however, has predominated. Thirty-nine states fail to offer meaningful debt restructuring options to their municipalities.[72] Federal bankruptcy is the only option available to municipalities in many of these states, but federal bankruptcy is a deeply flawed process[73] that is designed to provide a venue for nearly terminal municipalities, like the city of Detroit in 2013. Municipalities that seek to address their eroding capital structures at an earlier stage of deterioration have few options. In light of the turmoil afflicting municipalities, the failure by state legislators and policymakers to offer meaningful debt adjustment options is bizarre. The justification for this failure is no less bizarre.

As noted in this Article, subnational governments are dependent on the credit markets to fund choices and fill budgetary gaps.[74] Borrowing costs—and, more specifically, interest rates—fluctuate based on a borrower's credit rating.[75] Consequently, states and municipalities are enormously concerned with their credit rating.[76] Even minor fluctuations in borrowing costs can be debilitating. Subnational government debt issuances are invariably long-term fixed coupon securities. Therefore, "a few basis point[77] difference in interest

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[70] *See* Darrell Preston, *Morgan Stanley Group's $11 Billion Makes Chicago Taxpayers Cry*, BLOOMBERG (Aug 8, 2010), http://www.bloomberg.com/news/2010-08-09/morgan-stanley-group-s-11-billion-from-chicago-meters-makes-taxpayers-cry.html [https://perma.cc/P6ZZ-FWH2].

[71] *See id.*

[72] *See infra* notes 101–102 and accompanying text (creating a taxonomy for all fifty states and the District of Columbia based off of the level of financial support the state provides to its municipalities).

[73] *See* Parikh, *supra* note 10, at 242–48 (explaining the systemic deficiencies of Chapter 9 of the Bankruptcy Code).

[74] *See* Gillette, *supra* note 15, at 287–88.

[75] *See, e.g.*, Yan, *supra* note 12, at 45–48.

[76] *See* STATE ROLE IN LOCAL GOVERNMENT, *supra* note 16, at 12; Gillette, *supra* note 15, at 291–92 ("[C]entralized governments that intervene in the face of municipal fiscal distress are motivated largely by a perception of contagion risk."); Schwarcz, *supra* note 16, at 333.

[77] A basis point is a common unit of measure for interest rates. One hundred basis points equates to one percent.

costs on those securities can have multi-million dollar implications for overall cost of capital."[78]

Subnational governments must operate against this backdrop and the understanding that their laws and legal structures affect their risk profile. State and municipal action can have a profound impact on how lenders and investors perceive a municipal borrower. State law is essentially a product that affects a municipality's risk profile, credit rating, and borrowing costs.[79] Municipalities will often enjoy reduced borrowing costs if the state undertakes action that is perceived as protecting bondholder rights or otherwise strengthening a municipal issuer's financial position.[80] Conversely, credit markets have historically punished debt issuances by municipalities subject to state laws that fail to protect bondholders in a manner commensurate with market expectations.[81]

States acknowledge that their municipalities need meaningful debt adjustment options.[82] As noted above, however, subnational governments are dependent on the credit markets. States believe that enacting such options could negatively impact borrowing costs.[83] The fear is that a meaningful debt adjustment mechanism will increase the likelihood that a distressed municipality will seek to restructure their debts. This option could lead to a heightened impairment risk for bondholders.[84] State legislators and policymakers have accepted the argument that this risk would compel bondholders to demand higher interest rates or additional protections.[85] A contagion risk is in-

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[78] Marlowe, *supra* note 24, at 6.

[79] *See generally* Romano, *supra* note 13 (discussing law as a "product").

[80] *See generally* Cynthia Sneed, *An Examination of the Effects of Balanced Budget Laws on State Borrowing Costs*, 14 J. PUB. BUDGETING, ACCT. & FIN. MGMT. 159 (2002) (concluding that states with balanced budget laws have lower borrowing costs).

[81] This punishment invariably comes in the form of a demand for an above-market interest rate on issuances.

[82] *See, e.g.*, Jeannie O'Sullivan, *Atlantic City Chamber Pushes for Casino Stabilization Laws*, LAW360 (Nov. 5, 2015), http:///www.law360.com/articles/724003 [https://perma.cc/4SG6-CD8B] (discussing a financial stabilization bill that the Chamber of Commerce of Atlantic City, New Jersey, advocated for the New Jersey Governor to sign into law).

[83] *See* Yan, *supra* note 12, at 45–48; Bricketto, *supra* note 12; Coy, *supra* note 12 ("State governments said they didn't want to be eligible for bankruptcy, fearing that the very possibility would spook investors in municipal bonds and drive up their borrowing costs."); Nolan, *supra* note 12; Walsh, *supra* note 12; *State of Pay*, *supra* note 12; *see also* Barrie Tabin Berger, *Telling the Truth About State and Local Finance*, GOV. FIN. REV., Apr. 2011, at 79, 80 (explaining that Ray Scheppach, the executive director of the National Governors Association, told the Senate Budget Committee that the enactment of bankruptcy legislation for states would "likely increase interest rates, raise the cost of state government, and create more volatility in financial markets").

[84] *See* Coy, *supra* note 12.

[85] *See id.*; *see also* Yan, *supra* note 12, at 45–48; Berger, *supra* note 83, at 80; Bricketto, *supra* note 12; Nolan, *supra* note 12; *State of Pay*, *supra* note 12.

herent in this fear.[86] More specifically, states fear that bondholders will demand higher interest rates not just from municipalities that enjoy these options but also the states that offer them.[87] Consumed by the prospect of above-market interest rates or even complete denial of access to credit, state legislators and policymakers have refused to act.

This is the paralysis justification; a seemingly plausible argument that supports crippling inaction. As explained above, a critical mass of municipalities is eroding as their costs rise, revenues plummet, unfunded pension liabilities escalate, and debt service requires the elimination of basic service delivery. State inaction is decimating the interests of all local government constituencies, including employees, noteholders, residents, and even the home state itself. At a macro level, systemic municipal failure has ripple effects that impose significant economic costs on state and national economies.[88] Nevertheless, states argue that the alternative is worse.

The paralysis justification, however, is purely anecdotal. This high-risk approach is based on conjecture. We are unaware of any attempt to empirically analyze bond issuances to evaluate these fears. In fact, to the best of our knowledge, no scholarly study has examined, in a statistically meaningful manner, how a municipality's borrowing costs are affected by its state and federal debt restructuring options.

This Article attempts to addresses the significant gap in municipal literature. Our study used detailed data for every fixed-rate general obligation, municipal bond[89] issued in the United States from January 1, 2004 to December 1, 2014. The dataset's high quality and depth allowed for a comprehensive evalu-

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[86] *See* Gillette, *supra* note 15, at 302–08; *see also* Alex Wolf, *Christie Blasts AC Takeover Foes, Says Other Cities at Risk*, LAW360 (April 6, 2016), http://www.law360.com/articles/781310 [https://perma.cc/NK67-ZPZD].

[87] *See* Gillette, *supra* note 15, at 302–08; Coy, *supra* note 12; *see also* Yan, *supra* note 12, at 45–48; Bricketto, *supra* note 12; Nolan, *supra* note 12; Walsh, *supra* note 12; *State of Pay*, *supra* note 12.

[88] *See* STATE BUDGET CRISIS TASK FORCE, *supra* note 33, at 2; Ebel, Petersen & Vu, *supra* note 33, at 35 ("There is a high national interest in what happens to the state and local sector. The 50 states and their nearly 90,000 local governments represent 11.9% of the national product. That is one-and-a-half times the size of the federal sector with national defense spending included, and four-and-a-half times the federal government when one considers only federal non-defense spending. Furthermore, taken together, the states and localities employ about one out of every eight workers and provide the bulk of all basic governmental services consumed by individuals and firms, such as education, public safety, and public works. State and local governments also act as agents in the delivery of many federal services, including the passing on of many federal transfer payments from places to people. Moreover, due to the discipline of the municipal credit markets, state and local governments typically balance their operating budgets." (footnotes omitted)).

[89] Fixed-rate, general obligation bonds are invariably unsecured debt and represent the primary means of borrowing used by municipalities. General obligation bond interest rates are more likely to shift based on changes to the issuers' general risk profile, as compared to the revenue bond interest rates.

ation of the paralysis justification. As explained in the following Part, the findings were revelatory.

II. Our Methodology and Findings

Part I describes the current municipal landscape and the dire need for meaningful debt adjustment options at the state and federal level. It explains that the vast majority of state policymakers have refused to provide these options based in large part on the paralysis justification, a purely anecdotal argument. Part II explains the dataset used and the use of multivariate regression analysis to evaluate over eight hundred thousand actual bond issuances. Our comprehensive analysis allowed us to determine how a municipality's borrowing costs are affected by the debt restructuring options offered by its home state.

A. The Bond Issuances Studied

Extensive bond-level data were collected from the Bloomberg Terminal's municipal bond database to determine whether borrowing costs rise based upon a municipality's debt adjustment options. Specifically, data were collected for all fixed-rate general obligation municipal[90] bonds issued in the United States between January 1, 2004 and December 31, 2014 (the "Observation Period").[91] Over 800,000 issuances populated our dataset (the "Parikh-He Municipal Bond Project"). We did not rely on a sample of bond issuances during this period or survey results to estimate key features of the dataset. Bond characteristics observed in the dataset include (1) the interest rate,[92] (2) the maturity date, (3) duration until maturity, (4) whether or not the bond was callable, and, if available, (5) market prices and yields for the bond in question. Qualitative data about the purpose of the bond and its source of funding was also recorded.

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[90] As noted, for purposes of this Article, the terms "municipal," "municipality," and "municipalities" describe counties, cities, and certain other local governments that enjoy taxing authority. Note that 99% of all general obligation bonds issued during the Observation Period had a fixed-rate.

[91] We would like to note a few aspects of the bonds that populated the dataset. Primarily, almost all bonds were fixed-rate. Consequently, we decided to eliminate variable-rate bonds because they are of a different nature and were usually the result of unorthodox borrowing circumstances. Further, we did not include revenue bonds because the yield on revenue bonds is driven primarily by the estimated revenue stream from the discrete service attached to that debt. For example, a county that wishes to fund a new sewer system may issue revenue bonds, payments on which will come from fees paid by system users. The yield for this bond issuance will be driven primarily by the stability of the revenue stream from the service provided, not by the overall health or credit worthiness of the county. Inclusion of revenue bonds would have distorted our results. Note that we only considered initial bond issuances. We did not consider sales in the secondary market because reliable information on secondary market trading is unavailable.

[92] Interest rate is sometimes referred to as the "coupon rate" or "bond yield." The interest rate attached to a municipal bond is the best measure of the borrowing costs associated with that bond.

B. Dependent and Independent Variables

To contextualize our data, additional information was collected about each issuer's fiscal, socioeconomic, and political environment.[93] Data from the Census of Governments was used to establish the fiscal health of each issuer and its home state. In particular, we observe total debt outstanding, annual deficits, and cash holding for each state and its municipalities.[94] County-level data on income, education, and demographic composition was then matched to each bond according to location of the issuer and issuance date. This information allowed us to control for variances in municipal borrowers' socioeconomic status, which is considered in determining credit-worthiness. We also included state-level political affiliations as a variable.[95] The Appendix contains tables that summarize this dataset.

The variables noted above were selected because they capture the information on which credit rating agencies rely in evaluating municipal bonds. Sophisticated bond investors rely on a host of credit rating agencies[96] to evaluate the risk profile of bond issuances.[97] These agencies have formulated an evaluation process that seeks to include all variables that (1) can be measured and (2) have a material effect on an issuer's risk profile.[98] There is significant overlap across the prominent rating agencies. We believe that these variables constitute a viable starting point for our analysis.[99]

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[93] For each municipal bond, the county and state of the issuing municipality was established, as well as the quarter and year in which that bond was written.

[94] We selected these variables because we believe they capture the information on which credit rating agencies rely in evaluating municipal bonds. *See generally* STANDARD & POOR'S, TOP 10 MANAGEMENT CHARACTERISTICS OF HIGHLY RATED CREDITS IN U.S. PUBLIC FINANCE (July 2010) (providing an overview of the characteristics that Standard & Poor's uses to evaluate creditworthiness).

[95] We include this variable because it could affect state policy and borrowing costs. The variable was based on the average democratic margin of victory in the 2000, 2004, and 2008 presidential elections. For example, assume the results of a given state were as follows: in 2000, 60% of voters voted for Al Gore and 40% for George W. Bush; in 2004, 50% voted for George W. Bush and 45% for John Kerry; in 2008, 65% voted for Barack Obama and 30% for John McCain. For that state, the politics variable would be computed as the average of 20%, –5%, 35%, or 15%. Note that this variable would be negative for a state that had voted for a Republican candidate.

[96] Moody's, Standard & Poor's ("S&P"), and Fitch are the most notable agencies.

[97] *See* Yan, *supra* note 12, at 50–54.

[98] *See generally* MOODY'S, U.S. LOCAL GOVERNMENT GENERAL OBLIGATION DEBT (2014) (providing an overview of the rating criteria used by Moody's Investor Services); STANDARD & POOR'S RATINGS SERVS., U.S. LOCAL GOVERNMENTS GENERAL OBLIGATION RATINGS: METHODOLOGY AND ASSUMPTIONS (2013) (providing an overview of the rating criteria used by Standard & Poor's Ratings Services).

[99] Our study's scope and transformative conclusions have naturally attracted scrutiny. The primary critique we have received is that our study omits a measurable variable (the "Omitted Variable") that in fact causes the phenomenon we observe in Part II.B. We believe that the probability of an Omitted Variable is extremely low. Our study focuses on the response of the municipal credit markets

C. Two Policy Dimensions: Available Debt Adjustment Options and Access to Federal Bankruptcy Court

In addition to the variables noted in Section B of this Part, we considered two policy dimensions in developing our analysis. Primarily, we categorized states based on the debt adjustment options that were offered to their municipalities.[100] As has been detailed by Professor Parikh, states have failed to offer municipalities truly effective debt adjustment options.[101] In surveying state law, however, there exists a spectrum of options that supports our comparative analysis.

As captured by Table 1 below, at one end of the spectrum there are thirty-one states that have no formal municipal debt restructuring mechanism or in-

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to state laws, and, more specifically, state restructuring options vis-à-vis municipal bonds. Credit market response is premised primarily on the risk-profile of the bond issuer, and the probability of a payment default. *See* Yan, *supra* note 12, at 45. Investors have demonstrated that they believe that these two factors are evaluated accurately by credit ratings agencies, including Moody's, S&P, and Fitch. *See id.* at 45–48. Borrowing costs are largely driven by the rating given to a bond issue. *See id.* at 45. Therefore, in compiling our list of variables, we began by capturing the variables that these credit rating agencies consider in rating bond issuances. Sophisticated investors rely on these variables in pricing and evaluating bond issuances. *See id.* We then considered additional variables that we believe further enhanced our analysis, including resident education and racial composition (the "Additional Variables"). Ultimately, the bond market is a highly efficient market. We find it extremely unlikely that there is a measurable variable that could cause the phenomenon we observe—and essentially disrupt pricing in the bond market—but is unidentified by credit rating agencies or not captured by our Additional Variables.

[100] As noted throughout this Article, approximately thirty-one states lack statutes that have any material effect on restructuring or payment of debt at the municipal level (the "Debt Restructuring Statutes"). For the other nineteen states and the District of Columbia, amendments to, or enactment of, Debt Restructuring Statutes could arguably have some effect on borrowing costs. To the extent that such an amendment occurred during our Observation Period, we would likely have to account for this shift. Luckily, unlike many other statutes that affect local governments, Debt Restructuring Statutes change infrequently. The vast majority of states enacted their Debt Restructuring Statutes well before the Observation Period; a few enacted them after. For those that did make amendments to their Debt Restructuring Statutes during the Observation Period, we do not believe any have impacted borrowing costs in a material way. For example, in August 2011 the California legislature passed a bill that attempted to encourage negotiation by restricting a distressed municipality's access to Chapter 9. *See* CAL. GOV. CODE § 53760 (West 2012). The bill provided that under California state law, a bankruptcy filing is conditioned on the municipality satisfying one of two prerequisites: participating in a nonbinding negotiation for up to ninety days with interested parties holding claims of at least $5,000,000, or passing a resolution declaring a fiscal emergency. *See id.* Due in part to the ease with which municipalities can avoid having to comply with the first requirement, architects of the legislation acknowledged that the new process did not increase bondholder exposure or protection in any material way and should not impact California debt pricing. *See* Karol K. Denniston, *Neutral Evaluation in Chapter 9 Bankruptcies: Mitigating Municipal Distress*, 32 CAL. BANKR. J. 261, 286–87 (2012); *see also* STATE ROLE IN LOCAL GOVERNMENT, *supra* note 16, at 4.

[101] *See* Parikh, *supra* note 10, at 240–41.

tervention policy at all (the "No Option States").[102] These states do not monitor meaningfully their municipalities' fiscal health or offer mechanisms for municipalities to attempt to restructure their debts. Further, nineteen of the No Option States do not allow their municipalities to seek bankruptcy protection under Chapter 9.[103] This presumably provides bondholders and other creditors significant bargaining leverage when dealing with municipalities facing a payment default.

Table 1: Spectrum of Debt Restructuring Options

	Meaningful Debt Adjustment Options	**Limited Debt Adjustment Options**	**No Debt Adjustment Options**	**Total States**
Access to Chapter 9	0	2	9	**11**
Conditional Access to Chapter 9	10	1	3	**14**
Access to Chapter 9 Prohibited	2*	5	19	**26**
Total States	**12**	**8**	**31**	
***** Includes the District of Columbia				

Moving further along the spectrum, we discovered eight states that provide limited debt adjustment options to their respective municipalities (the "Limited Option States").[104] Most of these states—including Illinois and Indiana—offer distressed municipalities general financial planning and supervision

[102] *See* JAMES E. SPIOTTO ET AL., MUNICIPALITIES IN DISTRESS?: HOW STATES AND INVESTORS DEAL WITH LOCAL GOVERNMENT FINANCIAL EMERGENCIES, at app. B (2012); *see also* STATE ROLE IN LOCAL GOVERNMENT, *supra* note 16, at 9–10. The thirty-one No-Option States are Alabama, Alaska, Arizona, Arkansas, Colorado, Connecticut, Delaware, Georgia, Hawaii, Iowa, Kansas, Louisiana, Maryland, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Mexico, North Dakota, Oklahoma, South Carolina, South Dakota, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, and Wyoming.

[103] *See* SPIOTTO ET AL., *supra* note 102, at app. B. States that do not allow their municipalities to seek bankruptcy protection under Chapter 9 are Alaska, Colorado, Delaware, Georgia, Iowa, Kansas, Maryland, Mississippi, New Hampshire, New Mexico, North Dakota, South Dakota, Utah, Vermont, Virginia, Wisconsin, Hawaii, West Virginia, and Wyoming. Georgia is the only state that has legislation that specifically forbids its municipalities from filing a Chapter 9 petition.

[104] The eight Limited Option States are California, Idaho, Illinois, Indiana, Massachusetts, Minnesota, Oregon, and Tennessee.

as well as limited financial support in the form of small cash infusions or guarantees on debt. Some Limited Option States—including California and Oregon—attempt to provide a forum in which distressed municipalities can negotiate with their creditors. These states, however, do not offer municipalities any (1) state resources or (2) additional powers under state law to adjust debts.[105]

Finally, at the other end of the spectrum, there are eleven states and the District of Columbia that offer debt restructuring mechanisms coupled with fiscal monitoring (the "Meaningful Option States").[106] None of these mechanisms are particularly sophisticated, but they provide municipalities a forum to seek adjustment of obligations owed to bondholders and unions.[107] For example, Florida requires municipalities to submit to the state a detailed financial report each year.[108] Reports that indicate significant unresolved financial issues are submitted to a state oversight committee that has the capacity to intervene or otherwise facilitate some sort of debt adjustment.[109]

Access to federal bankruptcy court was the second dimension. Consequently, within the primary dimension noted above, we further divided states based on whether they (1) unconditionally allow municipalities to file for protection under Chapter 9 of the federal bankruptcy code, (2) conditionally allow a Chapter 9 filing, or (3) preclude municipalities from filing for Chapter 9.[110]

These two dimensions allowed us to test the paralysis justification. If the justification is accurate, debt issued by municipalities located in states that offer absolutely no debt adjustment mechanism and preclude Chapter 9 filings would have the lowest yields, all other things equal; borrowing costs would rise as one progresses along the spectrum with the highest borrowing costs assessed for debt issued by municipalities that had debt adjustment options and access to Chapter 9.

Our data analysis identified a strikingly different phenomenon within the municipal credit market.

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[105] *See* Parikh, *supra* note 10, at 239–41.

[106] The eleven Meaningful Option States are Florida, Kentucky, Maine, Michigan, New Jersey, New York, Nevada, North Carolina, Ohio, Pennsylvania, and Rhode Island.

[107] *See, e.g.*, SPIOTTO ET AL., *supra* note 102, at 103–07. For example, in Florida, state agencies monitor municipalities. *See id.* The state has delineated a list of events that indicate financial distress (the "Trigger Events"). *See id.* If any agency determines that a Trigger Event has occurred and an emergency is identified, the governor has the authority to take measures to stabilize the municipality, including creating a financial control board that could negotiate with municipal creditors. *See id.*

[108] *See* FLA. STAT. § 218.39 (2016).

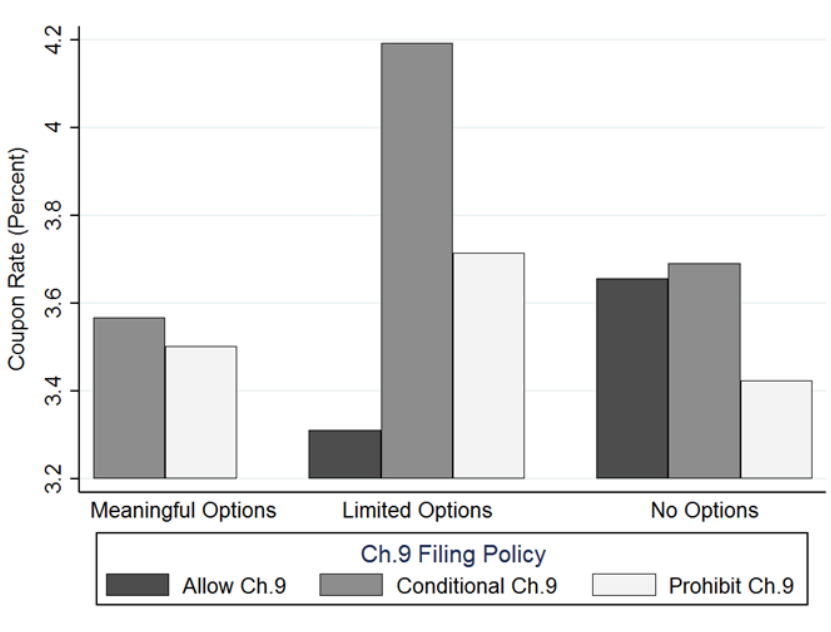
[109] *See id.* Though the Meaningful Option States offer the most impactful debt adjustment mechanisms available, these mechanisms are still woefully insufficient and fail to create a structure that offers municipalities viable debt restructuring options. *See* Parikh, supra note 10, at 237–41.

[110] Due to federalism and the separation of powers, a municipality can file for Chapter 9 only if the filing is explicitly permitted under state law. *See* 11 U.S.C. § 109(c) (2012).

D. Results

Figure 1 below presents average rates of interest for the municipal bonds in our dataset, broken down by state policy. As has been noted, two policy dimensions were considered in this study: (1) the debt adjustment options offered to a state's municipalities and (2) a municipality's right to access federal bankruptcy court.

Figure 1: Raw Averages of Municipal Borrowing Costs for Fixed-Rate General Obligation Bonds (2004–2014)



Source: Parikh-He Municipal Bond Project

This preliminary analysis indicates that municipalities with meaningful debt restructuring options have lower borrowing costs. A preliminary tallying of interest rates by state policy, however, is insufficient to establish a causal relationship between policy and borrowing costs because other factors simultaneously affect a state's attitude towards municipal debt and the interest rate on such debt. For example, imagine that XYZ state has struggled economically in the past few decades. Those woes have increased borrowing costs to XYZ's cities, and incentivized XYZ to enact legislation that provides for municipal debt restructuring. In contrast, imagine ABC state has been at the forefront of economic development. ABC maintains high levels of per capita income and education—factors correlated with lower municipal interest rates. These factors have suppressed legislative incentives to install debt adjustment options for local governments. Observing ABC without understanding its economic

status might lead one to reach the conclusion that the lack of debt adjustment options is the cause of ABC's low borrowing costs. In reality, both of these facts are attributable to the state's economic vitality.

To address this deficiency, we used multivariate regression analysis to control for a state's fiscal, economic, and political disposition, as well as a battery of other demographic and socioeconomic variables. Multivariate regression analysis allows one to measure the effects of a number of explanatory variables on an outcome variable—in this case, borrowing costs—independently from one another.[111] This process allowed us to distill the effects of confounding factors and reveal the true relationship between debt adjustment and borrowing costs.

Table 2 below presents the results of our regression analysis. For comparison, three specifications are included. The first is a naive ordinary least squares regression which includes only the dependent and independent variables of interest: (1) the coupon rate, (2) the type of debt restructuring options available, and (3) whether the municipality has access to federal bankruptcy. The coefficients in this table represent the effect on borrowing costs for the corresponding policy scenario, compared to a baseline case. For example, the coefficient in the first line implies that a bond subject to a sophisticated state-level debt adjustment policy commands an interest rate that is .342 percentage points lower than a bond issued by a municipality located in a no-option state. In contrast, the presence of a limited debt adjustment policy raises rates by 0.09 percentage points, compared to a scenario in which such policy is absent.

[111] This methodology has been used previously by other scholars. *See generally, e.g.*, Jun Qian & Philip E. Strahan, *How Laws and Institutions Shape Financial Contracts: The Case of Bank Loans*, 62 J. FIN. 2803 (2007) (using a regression analysis to evaluate how financial contracts respond to legal environments).

Table 2: Regression of Debt Restructuring Policies' Effect on Municipal Borrowing Costs (2004–2014)[112]

	(1)	(2)	(3)
	Naive OLS	Bond Lvl Ctrls	Other Ctrls
Debt Adjustment Options			
Meaningful	-0.342**	-0.228***	-0.139*
	(-2.43)	(-3.14)	(-1.79)
Limited	0.0917	0.0780	0.0311
	(0.64)	(0.90)	(0.38)
Chapter 9 Status			
Ch.9 Allowed	0.0708	-0.0121	-0.0361
	(0.47)	(-0.14)	(-0.49)
Ch.9 Conditional	0.406***	0.238***	0.0465
	(3.04)	(2.85)	(0.75)
Bond Level & Other Controls			
Callable		-0.333***	-0.178***
		(-5.03)	(-3.59)
Maturity Size		0.0106	0.00664**
		(1.46)	(2.18)
Maturity Length (Yrs)		0.110***	0.0876***
		(6.99)	(4.49)
Total Local Debt			0.00193
			(0.29)
Total State Debt			0.00284
			(0.63)
Total Local Deficit			0.0155
			(0.41)
Total State Deficit			-0.00669
			(-0.42)
Political Affiliation			0.00109
			(1.42)
Education			0.407
			(1.47)
Pct. African American			1.322***
			(3.92)
Median HH Income			-0.000992
			(-0.35)
Total Population			0.0371

[112] Probability values are indicated as follows: * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. *t* statistics are in parentheses. Standard errors are clustered at state by year level. *See generally* A. Colin Cameron, Jonah B. Gelbach & Douglas L. Miller, *Robust Inference with Multiway Clustering*, 29 J. BUS. & ECON. STAT. 238 (2012) (explaining a method of variance estimation for data sets with "cluster-robust" standard errors). Education was measured as per-capita attainment of a bachelor's degree. Political attitude was measured as mean difference in Democratic and Republican votes in the 2000, 2004, and 2008 presidential elections. Median household income is in thousands USD per year. Maturity Size is in millions USD. Column three omits years 2012–2014 due to data availability.

			(1.47)
Pop. Density			0.00358
			(1.57)
Observations	**874478**	**872186**	**635594**
R^2	**0.011**	**0.243**	**0.392**

The regression in the second column controls for bond-level characteristics, including duration until maturity and whether or not the bond is callable. Two important facts should be noted in this table. First, the estimated coefficients corresponding to maturity size, maturity length, and callability are all consistent with classical bond pricing theory. In particular, factors that lead to lower risk for the borrower should also lead to a lower coupon rate. This explains why callability yields a negative point estimate, while estimates for maturity size and length are both positive. Second, the inclusion of additional controls changes the estimated effects of the policy variables. More specifically, all of the policy coefficients have diminished in absolute value. In simple terms, this phenomenon implies that some of the net effects on borrowing costs previously attributed to policy differences are explained by differences in bond characteristics.[113]

The final specification adds controls for (1) the debt load, cash holdings, and yearly deficit/surplus for all municipalities located within a given state, (2) each individual state's debt load, cash holdings, yearly deficit/surplus, and political affiliation, and (3) resident demographics, education, and income. As mentioned, these factors could affect jointly state policy and borrowing costs, necessitating their inclusion in the regression. For example, median household income is a proxy for a state's economic vitality. It is a factor that lowers borrowing costs while also encouraging states to ignore calls to implement meaningful municipal debt adjustment options. If income is neglected, one might infer incorrectly that the lack of a debt adjustment policy causes lower interest rates. This is why the negative estimates in the first line of Table 2—the interest reducing effects of a sophisticated debt adjustment system—become milder with the inclusion of demographic controls. Despite the addition of these controls, however, the estimate is still negative in sign and statistically significant at the ninety percent level.[114]

Figure 2 below uses the regression results above to construct counterfactual estimates of borrowing costs for the average city under varying policy environments. More specifically, multivariate regression analysis allows the val-

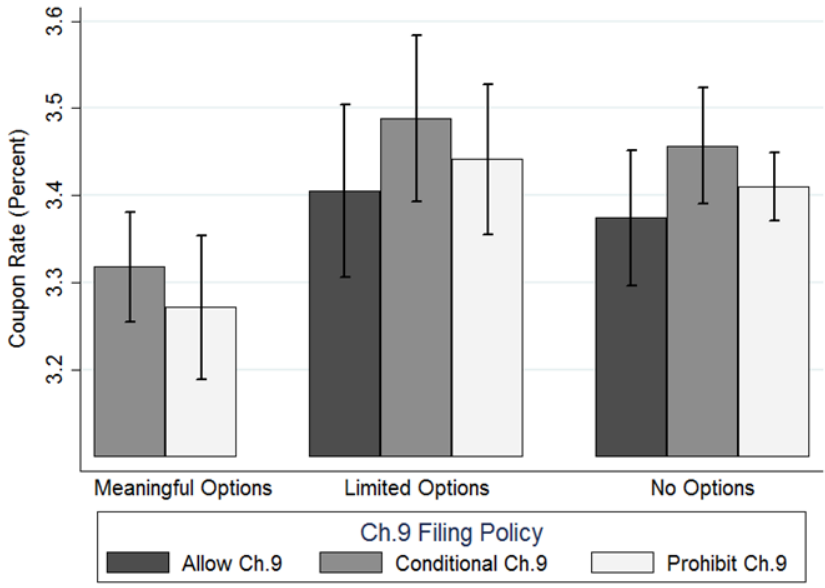
[113] *See* WILLIAM H. GREENE, ECONOMETRIC ANALYSIS 339–78 (5th ed. 2003) (explaining how multivariate regression can be used to control for the effects of observable factors, and the assumptions implicit in this methodology).

[114] The reduction in sample size in the third specification is due to the fact that data on municipal finances was not available for all years in our observation period.

ue of a given dependent variable to be expressed as a weighted sum of numerous independent variables. Based on these weights, we were able to predict the value of that dependent variable in the event the independent variables assumed values different from what they are in the sample. In this case, the dependent variable in question is the coupon rate of each bond, while the independent variables include state policies regarding debt adjustment, characteristics of the bond in question, and numerous demographic controls.[115]

Our estimates were constructed by considering a hypothetical city located in a county whose characteristics are equal to their national averages. The values in the figure reflect differences in borrowing costs by state policy for a county with an average population, average level of education, and average income, among other factors.

Figure 2: Municipal Borrowing Costs For Fixed-Rate General Obligation Bonds, All Other Things Being Equal (2004–2014)



Source: Parikh-He Municipal Bond Project

Figure 2 captures this Article's primary contribution and provides insight into a number of issues. First, borrowing costs are uniformly lower in the presence of meaningful debt adjustment options. Further, note the ninety-five percent confidence intervals on each bar. The lack of overlap between the confi-

[115] *See* GREENE, *supra* note 113, at 7–19 (providing definitions for dependent and independent variables in the context of regression models).

dence intervals[116] indicates that the variance in costs is statistically significant regardless of Chapter 9 filing status. The Chapter 9 filing dimension, however, clarifies market response. Indeed, allowing municipalities to file unconditionally for Chapter 9 further suppresses borrowing costs. For both Limited Option and No Option States, municipalities with relatively unrestricted access to Chapter 9 enjoyed lower borrowing costs.

In addition, we observe that municipalities with limited debt adjustment options and conditional access to Chapter 9 had the highest borrowing costs. As discussed further in Part III, this is not surprising. In states where municipalities have poorly formed restructuring options and their right to file for Chapter 9 is subject to the whims of the state legislature or governor, creditors may fear rent-seeking and collective action. More specifically, creditors price the risk that, in a distress scenario, a small subset of stakeholders will be able to influence the state legislature or governor to intervene and facilitate action that is most advantageous to the subset but detrimental to the creditor body as a whole. Consequently, the bond market is more receptive when a municipality has full access to Chapter 9—a process that attempts to solicit equitable concessions from all stakeholders—or no access at all.

E. Extrapolating the Data to Determine the Efficacy of the Parikh Proposal

Professor Parikh has proposed a normative debt adjustment mechanism that can be enacted at the state-law level.[117] This mechanism has five key facets. Primarily, Professor Parikh proposed that states engage in soft monitoring of municipal financial conditions within a framework that is built on identifying at-risk municipalities.[118] Verified at-risk municipalities graduate to a hard monitoring system. Thereafter, a host of financial criteria are reviewed and triggers are used to determine fiscal distress.[119] Devolution[120] is reversed for

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[116] For example, there is no overlap among the confidence intervals for municipalities with meaningful debt restructuring options and conditional access to Chapter 9 and (1) municipalities with limited debt restructuring options and conditional access to Chapter 9; and (2) municipalities with no debt restructuring options and conditional access to Chapter 9. Similarly, there is no overlap among the confidence intervals for municipalities with meaningful debt restructuring options and no access to Chapter 9 and (1) municipalities with limited debt restructuring options and no access to Chapter 9; and (2) municipalities with no debt restructuring options and no access to Chapter 9.

[117] *See* Parikh, *supra* note 10, at 277–96.

[118] Only fifteen states monitor their local government's financial condition. *See* Philip Kloha et al., *Someone to Watch Over Me: State Monitoring of Local Fiscal Conditions*, 35 AM. REV. PUB. ADMIN. 236, 240, 252 (2005).

[119] In his article *A New Fulcrum Point for City Survival*, published in the *William and Mary Law Review*, Professor Parikh stated:

> Because we are attempting to identify municipalities at an earlier stage of financial deterioration, relying exclusively on customary red flags—including payment defaults—is

fiscally distressed municipalities that face payment defaults or service delivery insolvency. A restructuring control board is appointed to manage all operational and financial matters for the local government.[121] As Professor Parikh has stated, "[t]he board's ultimate goal [is] to develop a recovery plan and new operating budget that restructures the municipality's expenses and obligations

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> ineffective; they represent symptoms of a disease that has already proliferated. States would need to formulate their own lists of financial triggers, but they should incorporate a collection from the following criteria: (1) the municipality's credit rating has been downgraded; (2) the municipality executed an intra-fund transfer that suggests a deficit somewhere in the budget; (3) the municipality failed to file timely financial reports; (4) a major employer located within the municipality has closed an office or significantly downsized its operations; (5) the municipality failed to transfer taxes withheld on employee income or employer and employee contributions for a pension, retirement, or benefit plan; (6) the municipality's mandated audit report shows funds with deficit fund balances; (7) local officials have failed to correct problems—including internal control problems—after being notified by state officials; (8) the municipality has insufficient cash to meet required payroll payments in a timely manner; (9) the municipality has violated a covenant in its credit agreements; (10) the municipality has recognized sizeable losses as a result of unnecessarily aggressive investment practices; (11) the municipality has expended restricted funds in violation of applicable terms and provisions; (12) the ending balance in the municipality's general fund has declined for two consecutive years; (13) the municipality is experiencing significant service delivery interruptions; (14) the municipality faces the likelihood of a default on debt payments or an inability to pay vendors, employees, or creditors with uncontested claims; and (15) the municipality has experienced high levels of revenue inefficiency.

Parikh, *supra* note 10, at 279–80.

[120] The term "devolution" describes a state's delegation of power and management of local affairs to municipalities and their residents. *See Devolution*, BLACK'S LAW DICTIONARY (10th ed. 2014). This practice is the foundation of the "home rule" movement, which seeks to "ensure[] that governmental power is exercised closest to the people." David J. Barron, *Reclaiming Home Rule*, 116 HARV. L. REV. 2255, 2259 (2003). For an analysis of the complex bargaining and the legal rules that characterize the power-sharing relations between all levels of government in the United States, see generally Erin Ryan, *Negotiating Federalism*, 52 B.C. L. REV. 1 (2011).

[121] Professor Parikh described the operations and goals of the control board by stating:

> [T]he board attempts to preserve local democracy by giving residents a voice through elected state and local officials who either directly participate in the board's decision-making processes or select board members who will be directing board action. A diffused decision-making structure makes the board less susceptible to capture and self-dealing . . . . [T]he board should be allowed to conduct all aspects of municipal operations through majority vote. These options include effectuating debt service, making necessary contributions to pension funds, managing tax policy, hiring and removing municipal employees, seeking additional financing, exercising the authority of local officials, and restructuring municipal offices, departments, and agencies. The board will have the discretion to formulate an optimal delegation structure. The board would be bound by state law but could request that the state legislature waive certain restrictions if such a waiver process exists under state law.

Parikh, *supra* note 10, at 282–83.

to ensure sustainable viability."[122] He has also proposed a clear negotiation structure that enables the board to seek material concessions from bondholders and current and former employees. Finally, his proposal set limited negotiation periods, after which the board must either propose a recovery plan or authorize the municipality to file a petition under Chapter 9 of the Federal Bankruptcy Code.[123]

The three key aspects of Professor Parikh's proposal are meaningful debt restructuring options, comprehensive fiscal monitoring, and unconditional access to Chapter 9.[124] We wondered how the bond market would respond to a municipal bond issuer with this profile. Consequently, we sought to estimate the borrowing costs for a hypothetical municipality located in a state that had enacted Professor Parikh's proposal (the "Parikh Proposal") at some point before January 1, 2004. This was done by extrapolating the data from the Parikh-He Municipal Bond Project. The predictions with respect to borrowing costs for a municipality with meaningful debt restructuring options, fiscal monitoring, and unconditional access to Chapter 9 were made by employing the same methodology underlying the conclusions in Figure 2.

The cross-hatched bar in Figure 3 below captures the assessment. Extrapolating the data leads to the conclusion that a hypothetical municipality located in a state that had adopted the Parikh Proposal would have the lowest possible borrowing costs, all other things being equal. We assert that our data analysis supports the Parikh Proposal's efficacy. Indeed, borrowing costs for this hypothetical municipality would be approximately twenty-four basis points lower than a municipality with limited debt adjustment options and conditional access to Chapter 9 and approximately twenty-two basis points lower than a municipality with no debt-adjustment options and conditional access to Chapter 9.

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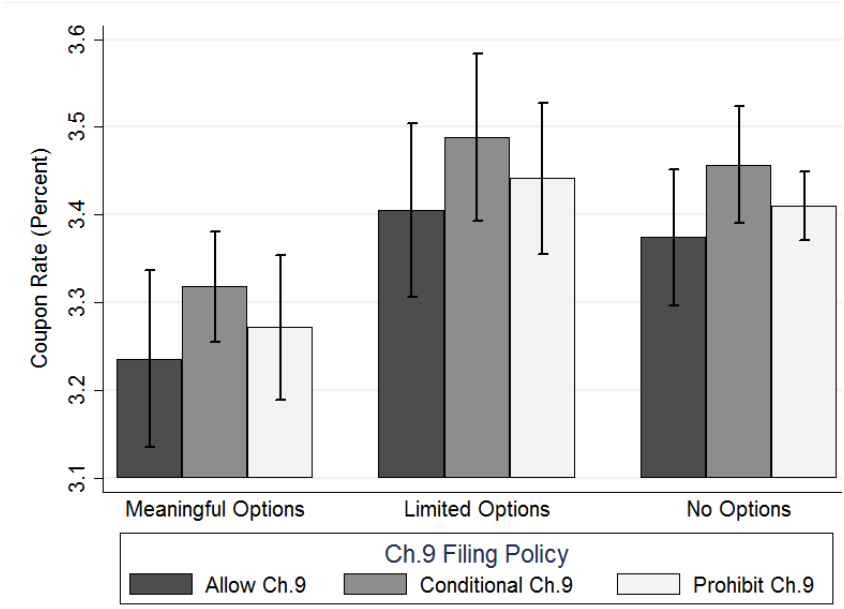
[122] *Id.* at 283.

[123] *See id.* at 294–95. Professor Parikh proposed unconditional access to Chapter 9 after an extensive negotiation period. The benefit of unconditional access to Chapter 9 after such discussions is to incentivize recalcitrant creditors to come to the negotiating table and make concessions. If a state legislature or governor is empowered to block access to Chapter 9, the holdout problem would preclude any possibility of a meaningful restructuring. *See id.* at 257 ("Under my proposal, restructuring officials have autonomy to authorize a Chapter 9 filing if the negotiations required under the system's parameters prove fruitless. This option is subject to satisfying a variety of negotiation prerequisites, but, once authorized, cannot be altered by state officials or legislatures. This aspect, coupled with the elimination of bailouts, brings holdouts to the negotiating table.").

[124] In determining whether a state had given its municipalities an unconditional right to file for Chapter 9, we considered whether the municipality had, at any point during their restructuring endeavors, an unconditional option to file for Chapter 9. For example, a state could give its municipalities a blanket right to file for Chapter 9, as Texas does. A state would also qualify for this categorization if a municipality had the right to file for Chapter 9 upon completing settlement discussions with its creditors.

Figure 3: Municipal Borrowing Costs For Municipality Located in a State That Had Enacted the Parikh Proposal (2004–2014)



Source: Parikh-He Municipal Bond Project

These borrowing spreads are significant. A local government financial manager's primary goal in debt issuance is to minimize the cost of capital.[125] As one scholar has pointed out, because local government debt issuances are invariably long-term fixed coupon securities, "a few basis point difference in interest costs on those securities can have multi-million dollar implications for overall cost of capital."[126] As detailed in Part IV, suppressed borrowing costs can have myriad benefits for a municipality and its stakeholders.

There remains, however, the question whether these results can be reconciled with inveterate principles of municipal borrowing and restructuring. We believe they can.

III. UNDERSTANDING THE PHENOMENON

Part II explains the transformative results of the study and data analysis used in this Article. More specifically, based on our dataset's depth and high quality, we are able to conclude that municipalities located in states that offer

[125] Marlowe, *supra* note 24, at 6.
[126] *Id.* Part IV presents the actual savings a municipality could realize.

meaningful debt restructuring options—through both state and federal law[127]—will enjoy lower borrowing costs on their bond issuances. Further, we extrapolated our data to conclude that municipalities located in states that adopt the Parikh Proposal[128] would realize the lowest possible borrowing costs. Our research reveals a distinct phenomenon in the municipal credit market. The idea that a lender would favor municipalities that have heightened debt impairment options may appear counterintuitive. It is not. Our conclusion aligns with accepted financial restructuring principles.[129] Recent changes to sovereign bond issuances present an insightful analogy.

Almost all developed, sovereign governments issue unsecured bonds. Attendant debt obligations are repaid pursuant to a delineated schedule. Before the 2000s, in most cases, the amount and timing of this repayment could be impaired only if all holders of a particular bond agreed to the modification.[130] Historically, this fact did not preclude debt restructurings because of the small pool of bondholders.[131] The repeat-player model encouraged cooperation and discouraged holdouts and free riding.[132] In the 1980s, however, the pool of bondholders became much larger and far less homogenous.[133] Consequently, sovereigns with unsustainable debt burdens faced especially pernicious collective action problems.[134] In response, officials from "systemically important

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[127] At the state law level, states should monitor their municipalities and offer a debt adjustment mechanism that facilitates negotiation with creditor constituencies and meaningful debt restructuring. At the federal law level, states should authorize their municipalities to seek relief under Chapter 9 of the Federal Bankruptcy Code in the event these negotiations fail.

[128] *See* Parikh, *supra* note 10, at 284–94 (proposing a comprehensive, fiscal monitoring system that identifies and then directs distressed municipalities into a dynamic negotiation model supported by the option to file for federal bankruptcy).

[129] *See, e.g.*, THOMAS H. JACKSON, THE LOGIC AND LIMITS OF BANKRUPTCY LAW 24 (1986); Thomas H. Jackson, *Bankruptcy, Non-Bankruptcy Entitlements, and the Creditors' Bargain*, 91 YALE L.J. 857, 860–65 (1982); Elizabeth Warren, *Bankruptcy Policymaking in an Imperfect World*, 92 MICH. L. REV. 336, 346 (1993).

[130] ANNE O. KRUEGER, INT'L MONETARY FUND, A NEW APPROACH TO SOVEREIGN DEBT RESTRUCTURING 6–7 (2002). This statement refers to bonds subject to New York state law. Bonds not subject to New York state law occasionally offer issuers more flexibility. These types of bonds are a fraction of the overall market, however. Bonds subject to New York law dominate the sovereign debt market. *See* Bradley, Cox & Gulati, *supra* note 32, at 295–96; Anna Gelpern & Mitu Gulati, *Public Symbol in Private Contract: A Case Study*, 84 WASH. U.L. REV. 1627, 1640 (2006) (noting that New York law bonds dominated the sovereign debt market and they accounted for over 80% of all emerging market debt outstanding in 2002).

[131] *See* KRUEGER, *supra* note 130, at 6–7.

[132] *See id.*

[133] *See id.*

[134] *See* Gelpern & Gulati, *supra* note 130, at 1693. Typical collective action problems that arise when a sovereign experiences financial distress include (1) panicked selling of bonds (also known as the "rush to the exits"); (2) preemptive litigation (the "rush to the courthouse"); (3) holding out and hoping for an oversized settlement; and (4) hoping to free ride on a restructuring agreement. *See* Barry

economies" began formulating debt-restructuring provisions that could be inserted into bond agreements.[135]

Among many competing options, the collective action clause (the "CAC") was the most compelling. The CAC involved altering the unanimity requirement for debt modification. More specifically, the bond agreement would allow a majority or supermajority of bondholders to authorize an impairment of the debt that would affect all bondholders.[136] This change was intended to address holdout and collective action problems. In 2003, Mexico tested the market by issuing twelve-year global notes that allowed the holders of seventy-five percent of the outstanding principal to amend financial terms, which marked a departure from market convention.[137]

Not surprisingly, Mexico's CAC received scrutiny and criticism. Debt impairment is extremely difficult without a provision like the CAC. Mexico's CAC diminished a significant safeguard for bondholders. As a result, many observers were certain that credit markets would demand higher interest rates on issuances.[138] That result did not materialize, however. In fact, by 2006, CACs had become virtual boilerplate in new sovereign debt agreements.[139] Further, recent empirical research established that CACs did not increase sovereign borrowing costs, all other things being equal.[140] There are a variety of reasons that explain this phenomenon, and those very same reasons explain the phenomenon we observe in the municipal credit market.

Primarily, delineated debt restructuring options offer certainty. During the underwriting process, certainty regarding a possible restructuring allows creditors to evaluate risk exposure.[141] Further, certainty and an actual restructuring mechanism can minimalize holdout risk.[142] During financial distress, informed

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Eichengreen, *Restructuring Sovereign Debt*, 17 J. ECON. PERSP. 75, 81–82 (2003); *see also* JACKSON, *supra* note 129, at 11–14.

[135] *See* GROUP OF TEN, THE RESOLUTION OF SOVEREIGN LIQUIDITY CRISES: A REPORT TO THE MINISTERS AND GOVERNORS PREPARED UNDER THE AUSPICES OF THE DEPUTIES 16 (1996); INT'L MONETARY FUND, REPORT OF THE WORKING GROUP ON INTERNATIONAL FINANCIAL CRISES 28–30 (1998).

[136] *See* GROUP OF TEN, *supra* note 135, at 16. This type of CAC was already a fixture in sovereign bonds issued in the United Kingdom, but are still only a fraction of the overall market. As noted in this Part, New York-law bonds dominate the sovereign debt market. *See* Bradley, Cox & Gulati, *supra* note 32, at 296.

[137] Gelpern & Gulati, *supra* note 130, at 1641.

[138] *See* KRUEGER, *supra* note 130, at 6–7.

[139] Gelpern & Gulati, *supra* note 130, at 1641.

[140] *See* Bradley, Cox & Gulati, *supra* note 32, at 295–98.

[141] *See* KRUEGER, *supra* note 130, at 6–7.

[142] *See* Parikh, *supra* note 10, at 254 ("A process where parameters and procedures are defined *ex ante* incentivizes municipality and creditor constituencies to engage fully. Clarity engenders certainty. Under this premise, all key constituencies have a meaningful understanding of available options. This

constituents and clear parameters increase resolution speed because debt impairment is implemented uniformly and pro rata. That principle explains this Article's finding that municipalities located in states with limited restructuring options and conditional access to Chapter 9 had the highest borrowing costs.[143] Indeed, states with delineated restructuring options offer creditors an appreciable level of certainty, as do states with no municipal restructuring options at all—though this latter type of certainty is of a vastly different flavor. States with limited restructuring options, however,—which oftentimes involve ad hoc provisions fashioned at the whim of the state legislature[144]—offer marginal certainty.[145] The bond market's response to this marginal certainty is decidedly negative.

Finally, a delineated system allows distressed borrowers to address corrupt capital structures at an earlier stage of deterioration and thereby, as one economist put it, "avoid[] the exhaustion of official reserves and unnecessarily severe economic dislocation."[146] Debt restructuring options provide a borrower with means to address its financial distress and hopefully avoid a full-scale payment default.[147]

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dynamic minimizes posturing and irrational threats. Without this certainty, the prospect of a state or federal bailout emboldens holdouts."); *see also* Skeel, *supra* note 19, at 694–701.

[143] *See infra* notes 144–156 and accompanying text.

[144] *See* Parikh, *supra* note 10, at 239 ("For example, Massachusetts offers an example of an ad hoc, reactive system. Under Massachusetts state law, legislation is passed to address municipal distress on a case-by-case basis.").

[145] *See id.* Professor Parikh has written previously on ad hoc solutions:

> Primarily, as with all ad hoc systems, intervention is at the whim of the state legislature. Procedures are not codified, which leads to crippling uncertainty and disparate treatment among municipalities. This approach undermines bargaining. Counter-parties, including bondholders and unions, believe that the state will come to the rescue, which emboldens holdouts. Local officials believe that the state will come to the rescue, which creates moral hazard. Access to credit and borrowing costs are also distorted. Reactive approaches are similarly deficient because they greatly increase the odds that the municipality will have experienced irreparable deterioration by the time the state intervenes.

Id. at 240 (footnotes omitted).

[146] KRUEGER, *supra* note 130, at 5; *see also* Parikh, *supra* note 10, at 285 ("My system is premised on a shared burden among all creditor constituencies and seeks to capture distressed municipalities at a time where less sweeping concessions will be sufficient.").

[147] To understand the severity of full-scale debt defaults see J.F. HORNBECK, CONG. RESEARCH SERV., ARGENTINA'S DEFAULTED SOVEREIGN DEBT: DEALING WITH THE "HOLDOUTS" 3 (2013) ("On December 20, 2001, President de la Rua resigned and six days later, an interim government defaulted on Argentina's sovereign debt . . . . Total public debt mushroomed . . . and the default left the Argentine government in arrears with a number of international creditors. At the time, Argentina owed private investors bonds with a face value of $81.8 billion, the Paris Club countries $6.3 billion, and the IMF $9.5 billion, among other domestic and multilateral obligations.").

The confluence of these factors harmonizes the phenomenon we observe in the municipal credit markets with financial restructuring literature. The next Part explores the implications of these findings.

IV. EXPLORING THE IMPLICATIONS

The previous Part detailed how our empirical results can be reconciled with accepted financial restructuring principles. This Part explores the implications of those results.

Empirical researchers frequently fail to understand that statistical significance does not equate to policy significance. Our results are statistically significant and support the conclusion that the paralysis justification is a false narrative. This conclusion also has profound policy significance, cutting across an array of government and debt issuance dimensions. Indeed, disengaged states should begin implementing meaningful debt adjustment mechanisms for their failing municipalities, and they should arguably consider one modeled on the Parikh Proposal.[148] The benefits could be transformative.

A. Reduced Borrowing Costs

Municipalities that gain access to a meaningful debt restructuring mechanism characterized by fiscal monitoring, creditor negotiation, and full access to Chapter 9 could enjoy a significant reduction in borrowing costs. Reduced cost of capital is the primary benefit that a municipality will enjoy. The impact of this benefit is best understood in absolute dollars. For example, from January 1, 2004 to December 31, 2014, the city of Hartford, Connecticut issued 4,355 fixed-rate, general obligation municipal bonds. If Connecticut had adopted Professor Parikh's municipal debt restructuring proposal prior to these issuances, we posit that Hartford would have enjoyed a twenty-two basis point reduction in its interest rate.[149] In any given year during the Observation Period, our research suggests that Hartford would have saved $32.93 million in interest payments. This amount represents approximately 6.2% of Hartford's yearly general fund total expenditures.[150] Over the life of the debt, Hartford would have paid approximately $336 million less in interest.

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[148] *See* Parikh, *supra* note 10, at 284–94.

[149] Note that Connecticut is a No Option State that offers its municipalities a conditional grant to file for Chapter 9.

[150] From 2004 to 2014, Hartford's general fund total expenditures averaged approximately $535 million per year. *See Budgets and Proposals*, HARTFORD.GOV, http://www.hartford.gov/management-and-budget/budgets-and-proposals [https://perma.cc/386R-22XT] (containing a collection of Hartford's budget documents).

This benefit is not limited to relatively small cities.[151] Large counties would benefit similarly. For example, from December 1, 2004 to December 31, 2014, Fulton County, Georgia - where Atlanta is located - issued 14,296 fixed-rate general obligation municipal bonds. If Georgia had adopted the Parikh Proposal, we posit that Fulton County would have enjoyed an 18.5 basis point reduction in its interest rate.[152] In any given year during the Observation Period, our research suggests that Fulton County would have saved $19.28 million in interest payments. This amount represents approximately 3.4% of the county's yearly general fund total revenues.[153] Over the life of the debt issued during the Observation Period, Fulton County would have paid approximately $208 million less in interest.

Hartford and Fulton County are not outliers. Table 3 below lists thirty-five municipalities and the estimated interest savings they would have enjoyed if their home state had enacted the Parikh Proposal.

Expanding this analysis further, Table 4 below lists the aggregate savings for all municipalities located within the top thirty states with the largest borrowing cost savings.

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[151] *See Welcome to Hartford*, HARTFORD.GOV, http//www.hartford.gov [https://perma.cc/7KXD-ZZS6] (noting that Hartford has a population of approximately 125,000).

[152] This is especially noteworthy because Georgia is one of the few states that explicitly prohibits its municipalities from seeking protection under federal bankruptcy law.

[153] From 2004 to 2014, Fulton County's general fund total revenues averaged approximately $587 million per year (the yearly totals are as follows: $575M in 2004; $591M in 2005; $650M in 2006; $600M in 2007; $597M in 2008; $612M in 2009; $637M in 2010; $534M in 2011; $550M in 2012; $529M in 2013; $585M in 2014). *See* FULTON CTY. GA., FISCAL YEAR 2014 ADOPTED BUDGET; FULTON CTY. GA., FISCAL YEAR 2012 ADOPTED BUDGET; FULTON CTY. GA., 2008 BUDGET BOOK.

Table 3: Municipalities With the Largest Interest Savings If Their Home State Had Enacted the Parikh Proposal (2004–2014)

County	State	Savings Per Year (Millions)	Total Savings (Millions)	Bonds Out-standing (Millions)
Sacramento	California	188.0	2923	86975
Cook	Illinois	84.91	1133	54993
Los Angeles	California	54.13	863.7	27689
New York	New York	38.15	511.2	58075
Suffolk	Massachusetts	35.68	491.5	23491
Harris	Texas	34.26	526.0	32811
Hartford	Connecticut	32.93	336.0	21210
Ramsey	Minnesota	19.54	185.3	16126
Dallas	Texas	19.49	276.5	18368
Fulton	Georgia	19.28	208.4	14296
Anne Arundel	Maryland	17.08	158.6	14836
Dane	Wisconsin	16.77	181.0	12824
Honolulu	Hawaii	16.27	196.1	12951
Santa Clara	California	13.92	226.3	8401
San Diego	California	13.56	264.9	7588
Bexar	Texas	13.13	225.8	12638
Maricopa	Arizona	12.97	141.9	12485
King	Washington	11.45	142.2	11223
Tarrant	Texas	10.95	162.2	10465
Franklin	Ohio	10.87	109.9	20085
Collin	Texas	10.81	163.3	10724
Davidson	Tennessee	10.66	124.2	7035
Dauphin	Pennsylvania	10.53	119.8	16875
Alameda	California	10.49	169.9	6392
Leon	Florida	10.01	152.0	15612
Clark	Nevada	9.324	133.7	12854
Salt Lake	Utah	8.586	77.41	5657
Hennepin	Minnesota	8.208	74.69	6653
Dupage	Illinois	8.007	103.1	4793
Fairfield	Connecticut	7.950	75.55	4921
San Fran.	California	7.758	84.11	4727
Riverside	California	7.365	125.9	4006
Wake	N. Carolina	7.293	76.17	11471
Middlesex	Massachusetts	6.892	61.95	4807
E. Bat. Rouge	Louisiana	6.614	69.82	5409
TOTAL		**$794**	**$10,875**	

Table 4: Aggregate Savings for All Municipalities Within a Given State If That State Had Enacted the Parikh Proposal (2004–2014)

State	Savings Per Year (Millions)	Total Savings (Millions)	Bonds Outstanding (Millions)
Arizona	17.24	183.4	16196
California	338.1	5354	172240
Colorado	23.16	351.2	17316
Connecticut	50.11	509.2	31904
Florida	13.40	203.8	20850
Georgia	34.10	338.2	25233
Hawaii	17.70	213.1	14044
Illinois	129.0	1654	82479
Kansas	18.38	186.9	15134
Louisiana	13.75	149.8	10361
Maryland	40.52	406.7	34586
Massachusetts	58.19	695.3	38968
Michigan	20.02	252.6	31664
Minnesota	49.94	488.0	41053
Mississippi	10.25	121.7	7574
Missouri	12.69	145.7	12938
Nevada	12.59	173.3	17706
New Jersey	18.52	192.0	31636
New York	62.52	739.6	100298
North Carolina	13.68	138.5	21143
Ohio	23.91	296.6	41909
Oregon	18.17	234.3	12517
Pennsylvania	41.62	520.7	66186
South Carolina	14.06	143.0	13524
Tennessee	29.87	340.3	19831
Texas	171.5	2613	170229
Utah	13.97	132.8	9942
Virginia	28.96	309.7	23065
Washington	25.35	311.7	25723
Wisconsin	40.81	379.8	32819
Total	**1,362**	**17,087**	

Our research suggests that municipalities in Limited Option States[154] could have saved an aggregate of approximately $8.8 billion in borrowing costs over the life of all fixed-rate general obligation, municipal bonds issued during the Observation Period, and that municipalities in No Option States[155] could have saved an aggregate of $7.2 billion during that same period.[156] If used judiciously, these savings could stabilize distressed municipalities within a given state.

B. The Benefits of Stabilized Municipalities

Stabilized municipalities provide significant benefits to all constituencies. Primarily, there is an archetypical multiplier effect. As noted in this Article, credit rating agencies place significant emphasis on the fiscal health of the state's municipalities.[157] Strengthened municipalities bolster a state's credit rating, which, in turn, reduces the state's borrowing costs.[158] Stabilized municipalities are less likely to default on debt obligations or service delivery. Historically, states have acted as implicit guarantor of municipal debts and obligations.[159] Naturally, a guarantor is absolved of its burden if the primary obligor can fulfill its obligations.

Meaningful debt restructuring options assist a municipality—and its constituencies—by offering a means to address serious fiscal challenges. As detailed in Part III, delineated debt restructuring mechanisms minimize free riding, holdout risk, and collective action problems, which ultimately engenders debt restructuring and accelerates resolution speed.[160] Municipalities will also hold the option of addressing fiscal challenges at an earlier stage of financial deterioration. By doing so, they avoid depleting resources and can invariably seek less dramatic concessions from creditor constituencies.[161] This one facet

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[154] The Limited Option States are California, Idaho, Illinois, Indiana, Massachusetts, Minnesota, Oregon, and Tennessee.

[155] The No Option States are Alabama, Alaska, Arizona, Arkansas, Colorado, Connecticut, Delaware, Georgia, Hawaii, Iowa, Kansas, Louisiana, Maryland, Mississippi, Missouri, Montana, Nebraska, New Hampshire, New Mexico, North Dakota, Oklahoma, South Carolina, South Dakota, Texas, Utah, Vermont, Virginia, Washington, West Virginia, Wisconsin, and Wyoming.

[155] The 8 Limited Option States are California, Idaho, Illinois, Indiana, Massachusetts, Minnesota, Oregon, and Tennessee.

[156] These numbers do not capture any expected interest savings on bonds issued by the applicable state.

[157] *See* STANDARDS & POOR'S, *supra* at note 94, at 4 ("At the state level, we believe that local government fiscal difficulties can increase and become a funding challenge for the state."); *see also* Parikh, *supra* note 11, at 258–59.

[158] *See* STANDARDS & POOR'S, *supra* at note 94, at 4; *see also* Parikh, *supra* note 10, at 259.

[159] *See* Parikh, *supra* note 10, at 237.

[160] *See* Jackson, *supra* note 129, at 860–65; *see also* Warren, *supra* note 129, at 346.

[161] *See* KRUEGER, *supra* note 130, at 6–8; Parikh, *supra* note 10, at 285, 288.

increases materially the likelihood of a successful restructuring that establishes sustainable viability.[162] Further, states can enhance the attractiveness of municipal bonds as an asset class by injecting more certainty into the municipal bond market. This is a compelling proposition because borrowing costs oftentimes move inversely to the supply of funds in the market.[163]

Finally, and perhaps most importantly, the confluence of these factors increases the probability that a municipality would be able to provide essential services and resources to its residents.

CONCLUSION

In this Article, we employed empirical analysis to support the conclusion that municipal credit markets do not demand higher borrowing costs from municipalities that have meaningful debt restructuring options. In fact, our research establishes that these municipalities have lower borrowing costs, all other things being equal. Professor Samir D. Parikh has theorized that a municipality enjoying meaningful debt restructuring options, fiscal monitoring, and unconditional access to Chapter 9 would have the absolute lowest borrowing costs. Our results support that theory. This Article transforms the discussion in the municipal restructuring arena. States have misguidedly used the paralysis justification to block implementation of meaningful debt restructuring options vital to avoid service-delivery insolvency.[164] State legislators and policymakers should now begin the process of proposing legislation that will hopefully lead to structural solutions. Naturally, there remain obstacles to implementation, but the paralysis justification should not be one of them. Ultimately, municipal literature has produced disparate views on how distressed municipalities can achieve sustainable viability. This Article attempts to unify the diverse arguments and illuminate a path. State inaction will serve only to amplify financial distress, scaling a manageable problem to an apocalypse.

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[162] *See* Parikh, *supra* note 10, at 285, 288.

[163] *See* Aaron Kuriloff, *Muni Bonds Headed for a Rough Patch*, WALL STREET J. (Mar. 6, 2015), http://www.wsj.com/articles/muni-bond-headed-for-a-rough-patch-1425838695 [https://perma.cc/28D3-GPTB].

[164] *See, e.g.*, Coy, *supra* note 12.

APPENDIX

SUMMARY STATISTICS FROM REGRESSION

Variable	Mean	Std. Dev.	Min.	Max.	N
Coupon	3.601	1.126	0.05	15	874478
Puttable	0	0.003	0	1	874779
Callable	0.428	0.495	0	1	874779
Maturity Size	1.427	7.215	0.001	908	872452
Maturity Length (Yrs)	8.973	5.884	0.003	40.263	874779
Local Gvmt Debt	4.226	7.137	0.003	95.918	651451
State Gvmt Debt	2.614	6.024	0	64.8	651379
Local Gvmt Cash	4.029	7.5	0.06	98.684	651451
State Gvmt Cash	9.970	14.159	0	174.538	651379
Local Gvmt Deficit	0.1	0.873	-2.163	22.25	651451
State Gvmt Deficit	-0.275	1.886	-24.556	35.835	651379
Education Level	0.192	0.039	0.024	0.495	892126
Percent Black	0.1	0.065	0.006	0.564	892950
Median HH. Income	51.636	6.987	19.093	100.747	892928
Political Affiliation	-3.469	24.722	-83.400	74.467	892657
Total Pop. (Mil)	0.700	1.278	0	9.888	651451
Total Area (1000s Sq. km)	1.036	1.852	0.002	145.505	892917
Pop Dense. (1000/Sq.km)	1.272	5.074	0	70.169	651427

Source: Parikh-He Municipal Bond Project

TOP 10 USES OF FUNDS RECEIVED FROM ISSUANCE OF FIXED-RATE GENERAL OBLIGATION MUNICIPAL BONDS (2004 – 2014)

	Number of Bonds	Percent
Refunding Bonds	260,659	36.06
Public Imps.	179,711	24.86
School Imps.	148,460	20.54
Refunding Notes	41,219	5.7
Water Utility Imps.	26,034	3.6
Sewer Imps.	10,988	1.52
Univ. & College Imps.	10,361	1.43
Recreational Fac. Imps.	10,192	1.41
Crossover Refunding	5,950	0.82
Current Refunding	4,312	0.6

Source: Parikh-He Municipal Bond Project

TOP 10 FUNDING SOURCES FOR REPAYMENT OF BOND INTEREST AND PRINCIPAL (2004 – 2014)		
	Number of Bonds	**Percent**
Ad Valorem Property Tax	699,147	96.56
Special Assessment	5,793	0.8
Miscellaneous Revenue	3,832	0.53
General Fund	2,905	0.4
Miscellaneous Taxes	2,690	0.37
Water Revenue	2,292	0.32
Sales Tax Revenue	1,618	0.22
Tax Incrmt./Allctn.Rev.	1,215	0.17
Sewer Revenue	1,190	0.16
New Jobs Training	537	0.07
Source: Parikh-He Municipal Bond Project		