

Note

Coherent Capital Structure Policy: Between Bailouts and the Interest Deduction

Jeff Gordon[†]

The Federal Reserve’s recent, unprecedented corporate debt purchases will further reduce the cost of corporate debt relative to equity. Given the already high degree of leverage in the corporate sector, I argue that this is a dangerous policy choice. However, the best solution is not to outlaw the Fed’s crisis actions, but to reform other federal laws that create a debt bias in aggregate. I show how limiting the corporate interest deduction to those firms with a responsible debt-equity ratio would harmonize the goals of tax policy and bailout policy, establishing a coherent “capital structure policy” for the first time.

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[†] Yale Law School, J.D. 2021.

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Introduction

In the spring of 2020, the Federal Reserve announced its plans to purchase several hundred billion dollars of corporate debt as part of an effort to stem the nation’s economic collapse in the wake of the COVID-19 pandemic. This unprecedented move has occasioned a vibrant debate, mainly centering on whether the Fed had the legal authority and political legitimacy to intervene so directly in the non-financial economy (usually, the Fed lends only to banks, not to other firms).¹ Those debates are important, but they are not the only important policy implications of the Fed’s actions. In this Note, I take the Fed’s corporate debt programs as a given—as part of the “new normal” response we can expect in an economic crisis—and ask how this should inform all the *other* law and policy that bears on corporate debt. The principle guiding my analysis is that law should, at the least, be neutral with respect to corporate capital structure, or better yet should encourage more equity finance and less debt finance relative to prevailing conditions in 2020. And yet, in several important respects, law does the opposite.

Perhaps the most important one, and the focus of this Note, is the corporate tax law’s favorable treatment of debt—a corporation’s interest payments on its debt are tax-deductible, up to a limit.² That feature of the tax law has been hotly debated for decades. Wherever one stands on that debate, even if one thinks the law achieved capital structure neutrality as of February 2020, it is hard to argue that is still the case after the Fed’s intervention, which revealed an implicit government subsidy for all corporate debt, similar to the widely-acknowledged implicit subsidy for bank debt.³ And while the Fed’s intervention undoubtedly boosted the equity markets as well, I argue that the benefit will accrue disproportionately to bondholders. The combined effect of federal policy—tax, financial regulatory, and macroeconomic—is that the

1. See Lev Menand, *Unappropriated Dollars: The Fed’s Ad Hoc Lending Facilities and the Rules That Govern Them*, (European Corp. Governance Inst., Law Working Paper No. 518/2020, 2020).
2. See 26 U.S.C. 163(j).
3. See Section II.C *infra*.

government now encourages corporations to fund themselves with debt over equity. By late May of 2020, U.S. corporations had reached \$1 trillion in debt issuance for the year, by far the fastest that milestone had ever been reached.⁴ Given the risks of too much debt—from distress and bankruptcy at the individual firm level to serial defaults and the possibility of deflationary deleveraging at the macroeconomic level—this is not the right balance for policy to strike. If effective, the Fed’s interventions may make these dangerous possibilities less likely in the short term. But by increasing the incentive to take on debt, the Fed risks inducing an even more painful debt-driven crisis in the future.

I argue that tax policy should level the playing field, either by ending corporate debt’s deductibility or by conditioning deductibility on a target debt-equity ratio. In this latter proposal, the federal government would counterbalance its pro-debt bailout policies by reducing tax benefits for the most indebted corporations. A key pillar of this argument is that the government can more effectively limit corporate debt through the tax code than in the terms of its lending programs themselves. Under the status quo, the Coronavirus Aid, Relief, and Economic Security (CARES) Act takes the opposite approach. The Act requires that corporations make several commitments before receiving government loans, including restrictions on dividends, share buybacks, and executive compensation as well as commitments to maintain employment levels. While these requirements may be appropriate and sensible demands, it is important to note that the vast majority of firms that benefit from the Fed’s new programs will not be subject to them. This is because, as I discuss at greater length, the Fed’s new lending facilities had major effect even before any money was disbursed, and will likely continue to generate an *implicit* subsidy even for the majority of corporations that never borrow from them.⁵ Therefore, any federal debt limitation conditioned on actually receiving a loan will be limited relative to the total capital market intervention.

In order to reach the whole universe of corporate borrowers, the government would need to extend its debt limitation to some area of federal law that every firm already must interact with. Tax law fits the bill. The interest deduction, modified as I propose, could help offset the pro-debt slant of the federal government’s new open-ended lending arrangement with corporate America. This arrangement would reflect a novel integration of tax policy, financial regulatory policy, and macroeconomic policy, insofar as they all bear on corporate capital structure.

4. Ben Winck, *U.S. Corporate Bond Sales Surge Past the \$1 Trillion Threshold at the Fastest Pace Ever*, BUS. INSIDER (May 28, 2020), <https://markets.businessinsider.com/news/stocks/corporate-bond-sales-reach-trillion-fastest-pace-ever-debt-market-2020-5-1029258342> [<https://perma.cc/4YBY-EA6A>].

5. See Section II.B *infra*.

Of course, it is common for tax policy to serve various non-tax aims, but proposals for enlisting the tax system to prevent macroeconomic crises and spur economic recoveries have only just begun to be discussed in recent years.⁶ And still, up to this point, legal scholars have analyzed the policies that influence corporate borrowing in separate silos. Corporate tax scholars regularly discuss the influence of the interest deduction on corporate debt issuance.⁷ Observers of emergency economic rescue programs have noted the effect of bailout packages, and the ongoing expectation thereof, on interest rates, though there the discussion has been mainly limited to banks.⁸ Beyond bailouts, much discussion of the Dodd-Frank Act has pertained to the capital requirements in that law and related proposals for regulating bank capital structure.⁹ And bankruptcy scholars have observed that creditors' expectations of recovering their claims in the bankruptcy system will influence interest rates and, in turn, firms' capital structure.¹⁰ It is perfectly reasonable to analyze a given area of law with an eye toward its effect on corporate capital structure, effectively holding all other areas of law constant. But my argument here is that we can do better by taking into account those parallel areas of law that may be duplicating or undermining each individual intervention. The goal is a coherent "capital structure policy"—a policy regulating firms' choices between debt and equity—across all relevant areas of federal law.

Before proceeding, it is worth asking: why take the Fed's recent actions as the "new normal" and move to put other policies in equilibrium, rather than argue against the Fed's corporate lending on the grounds that it throws pre-existing policies (here, capital structure neutrality) out of balance? First, an economic crisis is the most important time for the government to support the private sector (for example, by subsidizing debt).¹¹ And with only a bit of hindsight, the Fed's programs seem to have worked, at least on their own terms: corporate interest spreads tightened and borrowing surged in the weeks and months after their

6. See, e.g., YAIR LISTOKIN, LAW AND MACROECONOMICS: LEGAL REMEDIES TO RECESSIONS (2019); Brian Galle & Jonathan Klick, *Recessions and the Social Safety Net: The Alternative Minimum Tax as a Countercyclical Fiscal Stabilizer*, 63 STAN. L. REV. 187 (2010); Yair Listokin, *Equity, Efficiency, and Stability: The Importance of Macroeconomics for Evaluating Income Tax Policy*, 29 YALE J. ON REG. 45 (2012).

7. See Section III.B *infra*.

8. See Section II.C *infra*.

9. See, e.g., Jeremy Bulow & Paul Klemperer, *Equity Recourse Notes: Creating Countercyclical Bank Capital*, 125 ECON. J. F131 (2015); John C. Coffee, Jr., *Systemic Risk after Dodd-Frank: Contingent Capital and the Need for Regulatory Strategies Beyond Oversight*, 111 COLUM. L. REV. 795 (2011); Prasad Krishnamurthy, *Regulating Capital*, 4 HARV. BUS. L. REV. 1 (2014).

10. See Alan Schwartz, *A Normative Theory of Business Bankruptcy*, 91 VA. L. REV. 1199 (2005); Anthony J. Casey, *The Creditors' Bargain and Option-Preservation Priority in Chapter 11*, 78 U. CHI. L. REV. 759 (2011).

11. See generally LISTOKIN, *supra* note 6.

announcement.¹² Even for those who believe that Congress and the Fed should *not* have intervened in bond markets, it is practically very difficult to tie the government's hands from doing something similar in the future.¹³ In an economic crisis, it seems that all bets are off and legal restrictions once thought firm (such as that the Fed may only lend against steady collateral) suddenly become flimsy. It is comparatively easier to adjust policy in "normal" times to account for likely deviations in a crisis than to prevent those deviations from occurring. This may be one of the signal principles of "law and macroeconomics," and policymakers would be wise to acknowledge it and make the necessary adjustments to achieve their goals (for example, capital structure neutrality) in aggregate across the business cycle. In this light, it should be clear that there is nothing pejorative in my use of the term "bailout." My analysis may overlap with those who see "moral hazard" in the Fed's lending programs, but without any of the condemnation that term carries. Bailouts can be useful, and in any case, are likely to recur, and so it is more productive to focus on the other aspects of federal law that duplicate bailouts' effect on debt.

This Note will proceed as follows. Part I presents background on the corporate debt market. Part II introduces Congress and the Federal Reserve's recent actions to support the corporate debt market. Evidence from corporate finance suggests that the Fed's implicit guarantee will reduce the cost of debt, even for firms that do not actually use the new lending facilities. I argue that the Fed targeted debt primarily for legal and institutional reasons rather than as a matter of encouraging a particular capital structure. In other words, the reduced cost of debt in relation to equity is a collateral consequence rather than the intended goal of these actions. And so, while an alternative reform might enable the Fed to buy equity in a crisis, I suggest that doing so would be too discordant with the Fed's accustomed institutional role. It is therefore crucial to minimize the collateral harms of it buying debt. Part III turns to the tax law. Tax scholars have articulated many reasons why corporate debt should not be tax deductible, including: capital structure neutrality, macroeconomic risk, misallocation of corporate investment, and deadweight loss in litigating the arguably untenable distinction between debt and equity. I show that even those who are not convinced by these arguments should acknowledge that, even if the tax law is internally capital structure neutral, the whole of federal law and policy no longer is. In Part IV, I discuss options for reforming the interest deduction. Fully eliminating the distinction between debt and equity for tax purposes should be on the table, as scholars have argued for years. But legislative proposals in several recent Congresses

12. See Section II.B *infra*.

13. Todd A. Gormley, Simon Johnson, & Changyong Rhee, *Ending "Too Big To Fail": Government Promises vs. Investor Perceptions* (Nat'l Bureau of Econ. Research, Working Paper No. 17518, 2011) (showing that investors expect governments to bail out failing banks, even when governments state that they will refrain from doing so).

suggest that Republicans would only be interested in eliminating the interest deduction in exchange for something worse (full expensing). As a more politically achievable and targeted alternative, I propose conditioning interest deductibility on capital structure: specifically, on meeting a target debt-to-equity ratio. Part V concludes, mentioning several other areas of law that should adjust to acknowledge the “new normal” of the federal government’s debt backstop.

I. Corporate Debt and Macroeconomic Risk

In this Part, I review the reasons why corporate debt may pose a danger to the economy, and why the benefits of corporate debt do not outweigh those risks. Highly leveraged firms have a procyclical effect on the economy. Historical analysis indicates that economic expansions marked by high credit growth in the private sector have been associated with relatively more severe ensuing recessions.¹⁴ This is because highly indebted firms tend to reduce investment more than less leveraged peers in the midst of a downturn.¹⁵ In other words, just when the economy needs new investment to create jobs, leveraged firms are forced to spend a large share of their cash flow on debt service and are unable to contribute to a recovery. This general historical pattern may be exacerbated by the breakneck lending practices of the 2010s. At the beginning of 2019, there was \$9.3 trillion in outstanding U.S. corporate debt instruments.¹⁶ Corporate borrowing surged in the recovery from the 2008 financial crisis. Non-financial corporate debt climbed to 47% of gross domestic product (GDP) compared to 43% of GDP in 2010.¹⁷ The median ratio of debt to earnings before interest, taxes, depreciation, and amortization (EBITDA) ratio for nonfinancial firms increased from 2.8 to 3.2 from 2009 to 2018.¹⁸

14. Oscar Jordà et al., *When Credit Bites Back: Leverage, Business Cycles, and Crises*, (Nat’l Bureau of Econ. Research, Working Paper No. 17621, 2011) (“[A] legacy of higher excess credit from the previous expansion creates an ever more painful post-peak trajectory.”).

15. Sebnem Kalemlı-Ozcan et al., *Debt Overhang, Rollover Risk, and Corporate Investment: Evidence from the European Crisis* (Ctr. for Econ. & Policy Research, Discussion Paper 12881, 2018); Ben Bernanke, Mark Gertler & Simon Gilchrist, *The Financial Accelerator and the Flight to Quality* (Nat’l Bureau of Econ. Research, Working Paper No. 4789, 1994).

16. *U.S. Corporate Debt Market: The State of Play In 2019*, S&P GLOBAL (May 17, 2019), <https://www.spglobal.com/en/research-insights/articles/u-s-corporate-debt-market-the-state-of-play-in-2019> [https://perma.cc/STQ8-RJTM].

17. *Corporate Bonds and Loans Are at the Centre of a New Financial Scare*, ECONOMIST (Mar. 12, 2020), <https://www.economist.com/finance-and-economics/2020/03/12/corporate-bonds-and-loans-are-at-the-centre-of-a-new-financial-scare> [https://perma.cc/ZG6E-2Y3X].

18. *Next Debt Crisis: Will Liquidity Hold?*, S&P GLOBAL (Mar. 12, 2019), https://www.spglobal.com/_assets/documents/corporate/global-debt_will-liquidity-hold-v11mar2019.pdf [https://perma.cc/E7SN-N34P].

For every dollar of revenue growth over the past decade, Fortune 500 companies added almost a dollar of debt.¹⁹

In analyzing the relationship between leverage and macroeconomic risk, it is useful to distinguish between excessive debt that sparks an economic crisis—as in the case of the 2008 financial crisis—and excessive debt that worsens a recession caused by a constellation of other factors. While the prospect of a debt-driven financial crisis gives stronger reason to reduce corporate leverage, both scenarios pose long-lasting harm to employment and economic growth and should be taken seriously as the cost of a pro-debt policy regime.

A. Leverage and Financial Crisis

The first and more devastating, if somewhat more remote, possibility is that recent corporate lending practices could trigger a financial crisis. Many market observers have noted that if corporate debt were to trigger a financial crisis, the most likely mechanism would be through “leveraged loans,” particularly those packaged through collateralized loan obligations (CLOs).²⁰ Because of their centrality to projections of possible financial instability, it is worth examining leveraged loans and CLOs in some detail.²¹ Leveraged loans are loans to corporations with some combination of high debt levels, low credit ratings, and high spreads. The idea behind a CLO is to bundle many leveraged loans whose default risks are (hopefully) uncorrelated, issue bonds backed by that bundle of loans, and then use the cash flow from the loans to pay off the CLO bonds, keeping the difference as profit for the CLO manager. In December 2019, the Financial Stability Board released a report warning about CLOs as a potential threat to

19. Antoine Gara & Nathan Vardi, *Inside the \$2.5 Trillion Debt Binge That Has Taken S&P 500 Titans Including Boeing and AT&T from Blue Chips to Near Junk*, FORBES (May 21, 2020), <https://www.forbes.com/sites/antoinegara/2020/05/21/inside-the-25-trillion-debt-binge-that-has-taken-sp-500-titans-including-boeing-and-att-from-blue-chips-to-near-junk/#69beb1c67a1f> [<https://perma.cc/7U7V-5KFU>].

20. See Peter Brennan, *CLOs Could Pose Systemic Risk if Economy Goes Bad*, FSB Says, S&P GLOBAL (Dec. 19, 2019), <https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/56213653> [<https://perma.cc/QNW4-5T47>]; Frank Partnoy, *The Looming Bank Collapse*, ATLANTIC (July/Aug. 2020), <https://www.theatlantic.com/magazine/archive/2020/07/coronavirus-banks-collapse/612247/> [<https://perma.cc/CE75-FKSD>]. For a skeptical response to Partnoy, see Nathan Tankus, *Is There Really A “Looming Bank Collapse?”*, NOTES ON THE CRISES (Jun. 11, 2020), <https://nathantankus.substack.com/p/is-there-really-a-looming-bank-collapse> [<https://perma.cc/CNG2-TNS7>].

21. See generally Matt Wirz & Nick Timiraos, *The Next Coronavirus Financial Crisis: Record Piles of Risky Corporate Debt*, WALL ST. J. (Mar. 19, 2020), https://www.wsj.com/articles/the-next-coronavirus-financial-crisis-record-piles-of-risky-corporate-debt-11584627925?mod=itp_wsj&ru=yahoo [<https://perma.cc/26GE-6L6Q>].

financial system stability.²² Some of the most concerning practices are worsening underwriting standards for leveraged loans, speculative accounting adjustments, and concentrated exposure to the same companies across CLOs.²³ The fundamental concern is that leveraged loan defaults could be amplified through CLOs and thereby lead to broader financial system turmoil.

One major reason why some observers are concerned about CLOs is that they appear similar to the collateralized debt obligations (CDOs) that played an instrumental role in the 2008 financial crisis. CDOs are financial instruments that pool together risky financial assets—in particular, during the pre-crisis years, the lower-rated tranches of mortgage-backed securities. Based on the logic of pooling and diversification, CDO managers were able to convince the ratings agencies that a basket of low-rated mortgage-backed security tranches (say, rated BBB each) could deserve an AA rating once combined together.²⁴ But the scale of mortgage defaults eventually overwhelmed the supposed diversification of these CDOs. In the meantime, investors had piled on even more leverage through instruments known as synthetic CDOs. Synthetic CDOs did not contain any actual mortgage-backed securities, but were paper bets on the performance of other mortgage-backed securities. Essentially, they were bets on whether the borrowers would pay their mortgages.²⁵ This meant that when borrowers defaulted en masse, more investors had something to lose—all the more so because the same mortgage-backed securities were referenced again and again in many different synthetic CDOs.²⁶ Finally, the most destructive element of the CDO machine was the use of credit default swaps (CDS). CDSs were insurance-like contracts that promised to pay investors if the reference security, typically a particular tranche of a CDO, were to default. This insurance-like feature made CDOs more attractive to purchase. But whereas regulated insurance companies must set aside a reserve to pay claims, credit default swaps went unregulated and their issuers (in particular, AIG) were unprepared to pay out claims on the massive scale that became necessary.²⁷ Synthetic CDOs and credit default swaps can both be seen as ways of piling more risk onto the mortgage

22. *Vulnerabilities Associated with Leveraged Loans and Collateralised Loan Obligations*, FIN. STABILITY BOARD (Dec. 19, 2019), <https://www.fsb.org/wp-content/uploads/P191219.pdf> [https://perma.cc/NQ36-M5HK].

23. It is estimated that “more than 80% of US CLOs have exposures to the top five borrowers.” *Id.*

24. *Final Report of the National Commission on the Causes of the Financial and Economic Crisis in the United States*, 127-29 GOV'T PRINTING OFFICE, <https://www.govinfo.gov/content/pkg/GPO-FCIC/pdf/GPO-FCIC.pdf> [https://perma.cc/R7B5-W8PP].

25. *Id.* at 142.

26. *Id.* at 145.

27. *Id.* at 140-41.

lending system, that is, above and beyond the default risk of mortgage-backed securities and CDOs themselves.

The growth of CLOs has mirrored the cautionary tale of CDOs in several respects, but CLOs are widely considered to pose a lesser threat to the financial system.²⁸ Consider the differences between CLOs and CDOs. First, the CLO market is not yet as large as the mortgage-backed security or CDO markets were before the crisis.²⁹ Second, CLOs typically hold corporate loans diversified across many industries, meaning that defaults would need to be pervasive across the economy in order for CLOs themselves to fail. At that level of business default, CLOs might be the least of the macroeconomic problems. Third, while CDOs were two layers of financial engineering removed from the underlying mortgages (that is, mortgage to mortgage-backed security to CDO), CLOs are only one layer removed from the underlying corporate loans. This difference means less opportunity to amplify risk by repackaging the same loans into multiple synthetic products. Fourth, the use of credit default swaps peaked in 2007 and the notional amount of outstanding CDS contracts has plummeted to just 15% of the pre-crisis high.³⁰ And while credit default swaps written against corporate loans (known as Collateralized Synthetic Obligations, or CSOs) have been rising since 2014, post-crisis CDS are thought to be safer because (a) ratings agencies no longer rate these instruments and (b) banks no longer hold them on their balance sheets. “Post-crisis bank regulations have either prohibited or made uneconomic the ownership, trading, and warehouse financing of CSO risk.”³¹ Nonetheless, a recent report by Guggenheim Investments concludes that while CSOs do not yet appear as dangerous as the credit default swaps that amplified the financial crisis, their basic structure similarly “reflects the procyclical nature of synthetic financial products.”³² The nature of these products is to amplify losses, and so any string of loan defaults would be exacerbated by CSOs.

28. See, e.g., Michael R. Roberts & Michael Schwert, *Why CLOs Will Not Cause the Next Financial Crisis*, KNOWLEDGE @ WHARTON (Aug. 10, 2020), <https://knowledge.wharton.upenn.edu/article/clos-will-not-cause-next-financial-crisis/> [<https://perma.cc/654V-9YCQ>]; *CLOs Are Not CDOs: Why They Likely Aren't a Major Risk to Banks*, CHARLES SCHWAB INVESTMENT MGMT. (Jun. 29, 2020), <https://www.schwabfunds.com/content/clos-are-not-cdos-why-they-arent-likely-to-topple-banking-system> [<https://perma.cc/V8JM-WGBY>].

29. One estimate puts the CLO market at \$675 billion in 2020, while mortgage-backed security market was \$1.3 trillion in 2007. Yves Smith, *Wall Street's Useful Idiot: Financial Times Shills for CLOs . . . as Fed Hasn't Bailed Them Out*, NAKED CAPITALISM (May 15, 2020), <https://www.nakedcapitalism.com/2020/05/wall-streets-useful-idiot-financial-times-shills-for-clos-as-fed-hasnt-bailed-them-out.html> [<https://perma.cc/4JR3-GHS5>].

30. *The Rise of Collateralized Synthetic Obligations: Beware the Rhyme of History*, GUGGENHEIM INVESTMENTS (Mar. 3, 2020), <https://www.guggenheiminvestments.com/perspectives/portfolio-strategy/the-rise-of-collateralized-synthetic-obligations> [<https://perma.cc/K7FY-5M3S>].

31. *Id.*

32. *Id.*

The most important similarity between CDOs and CLOs may be that in both cases, by securitizing loans, the original lender does not remain on the hook for default risk, and therefore has less reason to be cautious when making the loan in the first place. Histories of the financial crisis have termed this the “originate to distribute” model of mortgage lending, and the same phenomenon has taken hold in corporate lending. “In the mid-1990s, U.S. and foreign banks funded more than 70 percent of institutional leveraged loans. By the first half of 2019, they funded less than 11 percent.”³³ Large banks still arrange 93% of those leveraged loans, but they pass on the risk to other investors through CLOs.³⁴ From one perspective, this may be good news for financial system stability, since bank failures are regulators’ greatest fear, at least in the Dodd-Frank regulatory paradigm. But from a different perspective, one should fear the proliferation of poor-quality loans as banks maximize their origination fees and then hand off the risk to other investors.³⁵ It may be that leveraged loans and CLOs do not pose a systemic risk *to banks* but do augur danger ahead for borrower companies. The 2008 analogy would be that even if credit default swaps had not crippled AIG and Lehman, the underlying aggressive lending would still have produced the mortgage crisis that pushed millions of people out of their homes.

B. The Risk of Deflationary Deleveraging

Indeed, even absent a *financial* crisis, a credit boom followed by a deflationary deleveraging period is a serious macroeconomic threat that our economic policies should seek to avoid. Excessive corporate debt could exacerbate a recession caused at least in part by other factors. This was the view of the Congressional Joint Economic Committee, which wrote in late 2019 that, “[h]igh levels of corporate debt likely won’t cause an economic downturn, but they may accelerate one as highly leveraged companies fail, forcing layoffs, decreasing aggregate demand and creating a downward spiral of bankruptcies and further layoffs.”³⁶ Similarly, in its latest report

33. Fed. Deposit Insurance Corp., *Leveraged Lending and Corporate Borrowing: Increased Reliance on Capital Markets, with Important Bank Links*, 13 FDIC Q. No. 4, at 45 (2019).

34. *Id.* at 46.

35. Even after securitizing such loans, banks are typically still exposed to borrower companies by way of revolving credit lines, which might come under more pressure if the borrowers struggle with debt service on the leveraged loans. Evidence from the financial crisis shows that concentrated drawdowns on these credit lines can result in credit crunches for banks. Adonis Antoniadou, *Liquidity Risk and the Credit Crunch of 2007-2008: Evidence from Micro-Level Data on Mortgage Loan Applications* (Bank for Int’l Settlements, Working Paper No. 473, 2014).

36. JOINT ECON. COMM. 116TH CONG., *THE RISK OF RISING CORPORATE DEBT* (Comm. Print 2019), https://www.jec.senate.gov/public/_cache/files/4925780d-4177-448d-afc0-d24e1cfe8019/background-on-corporate-debt-10.2.19-final.pdf [<https://perma.cc/7WHE-J7FN>].

on global financial stability, the International Monetary Fund warned that while “vulnerabilities in the world’s households” were much lower than at the time of the financial crisis, corporate debt would “amplify” any economic downturn through bankruptcies and defaults.³⁷ This concern does not just apply to uniquely risky securitization structures like the collateralized loan obligations discussed above, but more broadly to the complete universes of corporate debt. From that wide-angle view, the concerning trend is the higher share of “junk” or high-yield bonds (relative to investment grade) issued in recent years relative to the previous two economic booms.³⁸ As of 2019, investment-grade companies made up only 43% of issuers, although they issue more debt per capita than high yield issuers.³⁹ The most common rating among outstanding bonds was BBB (the lowest tier of investment grade), at 40.8% of the total. This means that a large portion of corporate debt was perched on the precipice of falling into the “junk” category. If these ratings are accurate, they suggest a large universe of corporate borrowers that might be unable to make interest payments if overall economic conditions worsened; or, that by prioritizing interest payments, might cut back on other spending and worsen a recession. In the worst-case scenario, problems servicing corporate debt could cause (or exacerbate) an economic crisis in which debt-to-income ratios rise at the same time that economic activity falls.⁴⁰ Businesses might implement their version of austerity and cut spending, which would be disastrous for employment. Macro investing guru Ray Dalio refers to this set of circumstances as an “ugly deflationary deleveraging.” Examples include the U.S. Great Depression from 1930-1932, Japan from 1990 to the present, and the U.S. from July 2008 to February 2009 (prior to the start of quantitative easing).⁴¹

C. The Benefits of Corporate Debt Do Not Outweigh the Risks at the Current Level

After listing this litany of dangers associated with excessive leverage, it is important to consider the benefits of corporate debt and ask whether those benefits might outweigh the potential harms. It goes without saying that firms take on debt because they expect it to help (e.g. to help finance

37. Chris Giles, *Corporate Debt Levels Risk Amplifying Economic Fragility, Says IMF*, FIN. TIMES (Apr. 10, 2019), <https://www.ft.com/content/9be23506-5b64-11e9-9dde-7aedca0a081a> [<https://perma.cc/43X6-U76U>].

38. Akur Barua & Patricia Buckley, *Mounting Corporate Debt and the Risks Ahead*, DELOITTE RISK & COMPLIANCE J. (Jun. 3, 2019), <https://deloitte.wsj.com/riskandcompliance/2019/06/03/mounting-corporate-debt-and-the-risks-ahead/> [<https://perma.cc/2RG7-RP66>].

39. *U.S. Corporate Debt Market*, *supra* note 16.

40. Ray Dalio, *An In-Depth Look at Deleveragings*, BRIDGEWATER ASSOCIATES (Feb. 2012), <https://alapblog.hu/wp-content/uploads/2012/03/an-in-depth-look-at-deleveragings--ray-dalio-bridgewater.pdf> [<https://perma.cc/8N7L-XA5T>].

41. *Id.* at 4.

investments, or to take advantage of low interest rates and funnel the proceeds to shareholders). In light of the centrality of debt to corporate financial practices, I make no claim that debt is categorically harmful. Instead, my claim is only that at recent levels, the risks of taking out a marginal dollar of debt have probably exceeded the benefits, from a public policy perspective. That claim contains three important qualifications that deserve explanation: first, we are evaluating the marginal dollar of debt, not all debt; second, we are concerned with the benefits and harms of debt *to the public*, not only to a firm or its shareholders; and third, my evaluation cannot go further than “probable” because there is no consensus on the socially optimal level of aggregate corporate borrowing.

It is important to distinguish between the benefits of firms being able to take on *some* debt and the benefits of debt at the margin. There is no doubt that debt financing has been and will continue to be very important to American businesses. The importance of debt should be noted against the background fact that internal financing (that is, financing from retained earnings) makes up the majority of real investment.⁴² But within the category of external financing, debt predominates over equity, at least on net. In many recent years, net stock issuance has been negative (that is, more shares are subsumed in acquisitions and buybacks than created).⁴³ As noted above, in 2019 there was over \$9 trillion in corporate debt outstanding. Debt financing is not going anywhere. The pertinent question is whether, given current debt levels, federal policy should encourage or discourage the marginal loan. In the preceding sections, I have presented evidence attesting that the level of debt reached in the long recovery from the 2008 financial crisis has reached a dangerous level. If one agrees with that analysis, it follows that any policy meant to solve the problem need not act to discourage debt under all circumstances, but only when some threshold is reached (whether indexed to macroeconomic or individual firm-level conditions). Indeed, my proposal for a modified corporate interest deduction in Part IV would not discourage all debt, but only debt taken on above a target debt-equity ratio.⁴⁴

A substantial literature examines the circumstances under which taking on debt is beneficial for firms.⁴⁵ This literature operates against the backdrop of the Modigliani-Miller theorem, which states that the choice between debt and equity has no effect on the value of the firm, assuming

42. See Stewart C. Myers, *Capital Structure*, 15 J. ECON. PERSP. 81, 82 (2001).

43. *Id.* at 82; see also J.W. Mason, *Acquisitions as Corporate Money Hose*, J.W. MASON BLOG (Sep. 26, 2018), <https://jwmason.org/slackwire/acquisitions-as-corporate-money-hose/> [<https://perma.cc/R4C4-YEKC>] (noting that “net equity issued by US corporations average[ed] around negative 2 percent of GDP” between 1998 and 2018).

44. See Section IV.E *infra*.

45. For a review, see Myers *supra* note 42.

frictionless financial markets.⁴⁶ In reality, the “imperfections” (or, more accurately, legal and social realities) of financial markets have led scholars to observe three primary reasons why firms might prefer raising debt to equity, at least under certain conditions. Before examining each reason, it is crucial to note that all three represent theories of why debt is beneficial from the perspective of managers and/or shareholders. Without further analysis, there is no reason to assume that the benefits of debt for shareholders equate to benefits for the public. They might instead represent transfers from managers to shareholders, or transfers from the public itself. Alternatively, taking on extra debt might lead to positive-sum outcomes for both private and public parties. I will therefore inspect each theory of why firms take on debt and ask whether it suggests a policy rationale for encouraging more debt on the margin.

The following three theories are not mutually exclusive; empirical work has produced results consistent with each.⁴⁷ The first reason that debt is sometimes considered superior to equity is the fact that interest payments on corporate debt are tax-deductible. This feature is known as debt’s “tax shield” in the corporate finance literature. Explaining exactly how the tax shield leads firms to favor debt is the purpose of Part III, below. For now, the key point is that while the tax shield may or may not be justified as a policy choice (I argue that it is not, see Section III.B), the fact that firms save money on their taxes is not an independent reason for public policy to encourage more debt. This benefit falls strictly in the category of private benefits; from the public’s perspective, it should probably be viewed as a cost, as the public fisc subsidizes the use of debt.

The second theory, known as the “pecking order theory,” is rooted in the logical inferences that investors may make about managers’ decisions to issue particular securities. The core idea is that managers who think the market undervalues the firm will issue debt, while managers who think the firm is overvalued will issue shares (or at least investors will interpret the decision to issue shares in this way).⁴⁸ The intuition is that an optimistic manager will choose debt because, after paying the fixed interest costs,

46. Franco Modigliani & Merton H. Miller, *The Cost of Capital, Corporate Finance, and the Theory of Investment*, 48 AM. ECON. REV. 261 (1958). The intuition connecting “frictionless capital markets” to this result is that if some investors were willing to pay extra for the securities of a firm with an “optimal” debt ratio (different from the firm’s actual existing ratio), the firm would just issue those securities (whether more debt or more equity) until the optimal ratio was met. “Thus, the supply of debt adjusts until the value added for the marginal investor is essentially zero.” Myers *supra* note 42, at 86.

47. See, e.g., Carmen Cotei & Joseph B. Farhat, *The Trade-off Theory and the Pecking Order Theory: Are They Mutually Exclusive?* (Social Science Research Network, Working Paper 1404576, 2009); Lakshmi Shyam-Sunder & Stewart C. Myers, *Testing Static Tradeoff Against Pecking Order Models of Capital Structure*, 51 J. FIN. ECON. 219 (1999).

48. Stewart C. Myers & Nicholas S. Majluf, *Corporate Financing and Investment Decisions When Firms Have Information That Investors Do Not Have*, 13 J. FIN. ECON. 187 (1984).

existing shareholders will get to claim all the upside from the firm's growth (and managers are assumed to be working for the benefit of existing shareholders). Empirically, announcements of stock issuance tend to drive down share price.⁴⁹ The pecking order theory is fundamentally about investor confidence, but it is more that investors grow *less* confident when the firm raises equity rather than that they grow more confident when the firm raises debt. Proponents of the pecking order theory are clear that investing with retained earnings should be preferred most of all.⁵⁰ Following the logic of the theory, if lawmakers were to make debt more expensive (e.g. through the tax code), firms would raise marginally more equity and at lower share prices. This would be bad for pre-existing shareholders and good for new shareholders. The only way this could be macroeconomically problematic would be if firms were unable to raise enough capital for their investments due to the lowered share prices. But this would be an extreme outcome relative to the status quo, where net equity issuance is negative (that is, firms raise more than their investments require from retained earnings and debt). Otherwise, the theory merely predicts that more equity issuance will depress the value of existing equity holdings. It is difficult to interpret the pecking order theory as a reason for why the government should keep debt cheap.

The third theory holds that debt is superior for existing shareholders because interest payments force discipline on managers, preventing them from indulging in over-investment, and/or forcing them to sell off under-utilized assets. This is known as the "free cash flow" theory, and is often cited as the motivating force behind the leveraged buyout boom of the 1980s.⁵¹ This story of debt's appeal probably does not hold for all or even most firms; in general, investors view capital investments as good news, so the allegation of over-investment must only apply to a subset of firms.⁵² Even for those where the theory holds, it is not clear that disciplining managers for the benefit of shareholders is necessarily in the interest of public policy. So-called overinvestment, even if unprofitable, builds up capital stock that successor firms can use productively, even if it does not benefit the current firm's shareholders. Moreover, overinvestment creates jobs and stimulates economic activity. This appears to be a case where, even if debt serves the interests of current shareholders, it probably does not serve the societal interest at large.

49. Paul Asquith & David W. Mullins Jr., *Equity Issues and Offering Dilution*, 15 J. FIN. ECON. 61 (1986).

50. Myers *supra* note 42, at 92.

51. Michael C. Jensen, *Agency Costs of Free Cash Flow, Corporate Finance, and Takeovers*, 76 AM. ECON. REV. 323 (1986).

52. John J. McConnell & Chris Muscarella, *Corporate Capital Expenditure Decisions and the Value of the Firm*, 14 J. FIN. ECON. 399 (1985).

Drawing out these distinctions between the reasons for managers to choose debt and reasons for the government to subsidize debt should make clear why the literature on optimal capital structure is not much help in determining whether firms currently have too much or too little debt from a policy perspective. That literature seeks to empirically model the relationship between leverage and market value in order to estimate the “optimal” capital structure for specific firms and industries.⁵³ But as the preceding paragraphs demonstrate, a measure of optimality based in stock market values does not adequately capture the considerations relevant to public policy. This is both because the benefits of leverage are measured from shareholders’ perspective and because the costs are limited to those internalized within the firm. But financial distress also harms a firm’s customers and suppliers.⁵⁴ Employees are harmed by the prospect of unemployment brought on by distress or bankruptcy. And, of course, there are the risks to the financial system and the growth rate discussed in Sections I.A and I.B above.

* * *

The prevailing high corporate debt levels seem a risk to be taken seriously, even if that level of debt is rational from shareholders’ perspective. U.S. policymakers should question a legal environment that allows and indeed encourages corporate borrowers to take on such high levels of debt. At the same time, that environment may help explain why, as financial markets began to plummet in March 2020, Congress and the Federal Reserve understood the risk of default and turned first to backstop corporate debt.

II. The Fed’s Debt Market Interventions

In late March 2020, the Federal Reserve announced several lending facilities to support the money market, the asset-backed securities market, the commercial paper market, and the corporate debt market. A few days later, Congress blessed the corporate debt program by allocating several hundred billion dollars to serve as an equity cushion for the Fed’s unprecedented corporate lending. Specifically, Section 4003 of the CARES Act appropriated \$500 billion to the Department of Treasury’s Exchange Stabilization Fund (ESF) in order to make loans, loan guarantees, and other investments in eligible business and government entities.⁵⁵ In total, the corporate lending facilities could support up to \$1.45 trillion in lending, or approximately 15% of the total U.S. corporate debt market. The total could grow even larger if the Treasury were to allocate

53. See, e.g., Arthur Korteweg, *The Net Benefits to Leverage*, 65 J. FIN. 2137 (2010).

54. See Sheridan Titman & Roberto Wessels, *The Determinants of Capital Structure Choice*, 43 J. FIN. 1 (1988).

55. Coronavirus Aid, Relief, and Economic Security Act, Pub. L. No. 116-136, 134 Stat. 281 (2020).

the yet-unused half of its ESF funds to the cause. In this Part, I will make three main points. First, these lending facilities began to “work” even before they disbursed any money. Second, corporate finance theory suggests that the existence of these programs—and belief that the Fed would do something similar in the next crisis—will probably have a long-lasting impact on firms’ cost of debt capital. Third, and related, while Congress and the Fed did not act with any intent to reduce the cost of debt capital *relative to* equity capital, this will be the result.

A. The Fed’s Programs Had an Immediate Effect—Before Any Money Went Out the Door

By early April 2020, even before the Fed expanded its corporate credit facilities to cover high-yield debt, investment-grade borrowing reached record levels relative to the same point in prior years.⁵⁶ And once the Fed softened its eligibility criteria, more junk bonds were issued than in any month over the prior three years.⁵⁷ The secondary market shared in the optimism: two popular high-yield ETFs enjoyed more than \$6 billion in inflows over the month of April.⁵⁸ An index that tracks “fallen angels,” or corporate bonds recently downgraded from corporate to junk status, rose sharply on the Fed’s announcements, up 6.3% since the Fed’s April 8th announcement and 25.8% since original announcement of the corporate credit facilities on March 23rd.⁵⁹ Credit spreads, which had reached a peak in mid-March, declined after the Fed’s announcements. Approximately half of the credit spread changes upon the Fed’s March 23rd announcement can be attributed to decreased default risk.⁶⁰ At Berkshire Hathaway’s annual shareholder meeting on May 2nd, Warren Buffett remarked, “Every one of those people that issued bonds in late March and April ought to send a thank-you letter to the Fed.”⁶¹

56. Joy Wiltermuth, *How the Fed’s Historic Leap into Buying Corporate Debt is Working Even Before the Purchases Formally Start*, MARKETWATCH (Apr. 3, 2020), <https://www.marketwatch.com/story/how-the-feds-historic-leap-into-buying-corporate-debt-is-working-even-before-the-purchases-formally-start-2020-04-03> [<https://perma.cc/DUM4-G8JG>].

57. Joe Rennison & Eric Platt, *Junk Bonds Fly off the Shelves After Federal Reserve Boost*, FIN. TIMES (May 1, 2020), <https://www.ft.com/content/bf954b18-302f-4c97-94a7-fc3f0b2a76f9> [<https://perma.cc/L2UJ-6DML>].

58. *Id.*

59. *iShares Fallen Angels USD Bond ETF*, MARKETWATCH, <https://www.marketwatch.com/investing/fund/faln> [<https://perma.cc/LGR9-GXGS>].

60. Yoshio Nozawa & Yancheng Qiu, *The Corporate Bond Market Reaction to Quantitative Easing During the COVID-19 Pandemic*, J. BANKING & FIN. (forthcoming 2021).

61. Antoine Gara & Nathan Vardi, *Inside the \$2.5 Trillion Debt Binge That Has Taken S&P 500 Titans Including Boeing and AT&T from Blue Chips to Near Junk*, FORBES (May 21, 2020), <https://www.forbes.com/sites/antoinegara/2020/05/21/inside-the-25-trillion-debt-binge-that-has-taken-sp-500-titans-including-boeing-and-att-from-blue-chips-to-near-junk/#69beb1c67a1f> [<https://perma.cc/G99A-D923>].

And yet, all of this activity took place before the Fed bought a single corporate bond or ETF share.⁶² The immediate payoff from the Fed's announcements suggests that bond investors mainly needed the confidence that the Fed was prepared to stand behind the market, more than its actual participation. This makes sense if one understands the Fed as alleviating a certain portion of interest rate risk associated with the possibility of sudden downgrades or defaults for the companies worst affected by the COVID-19 crisis. A group of researchers associated with the Federal Reserve Bank of Chicago hypothesize that "the main factor driving the reaction to the announcements might be the elimination of "disaster risk" for eligible issuers, that is, the drastic reduction in the likelihood of an abrupt credit crunch, at least in the near term."⁶³ In other words, the Fed has at least partially assumed the portion of each firm's credit risk that is attributable to major macroeconomic shocks. With the Fed's assurance behind them, private financiers were willing to step in and resume lending. And when bond yields begin to spike upon news of the next financial crisis, investors will expect the Fed to swoop in and purchase ETF shares and bond participations, and to make new loans available. Following the example of the current crisis, yields might not even spike very much in the first place given investors' new understanding that the Fed would act if they did.

B. The Fed's New Precedent Will Likely Have a Long-Term Effect on Interest Rates

Research in corporate finance validates the notion that the looming presence of a government guarantee reduces the cost of debt in normal times. Until recently, this benefit was thought to apply uniquely to large banks, which enjoy a widely acknowledged "too big to fail" guarantee. Empirical work finds that credit spreads for large banks are relatively insensitive to changes in those banks' risk profiles, indicating that creditors do not take the risk of bank failure seriously.⁶⁴ These effects are enduring.

62. The first ETF purchases began on May 12th, with bond purchases promised to follow soon after. Jeanna Smialek, *Fed Makes Initial Purchases in Its First Corporate Debt Buying Program*, N.Y. TIMES (May 12, 2020), <https://www.nytimes.com/2020/05/12/business/economy/fed-corporate-debt-coronavirus.html> [<https://perma.cc/KQQ5-9L5H>]. It is worth noting that corporate issuers may have been simultaneously influenced by the European Central Bank, which announced its own corporate lending program several days prior to the Fed and later agreed to accept "fallen angel" bonds as well. Martin Arnold, *ECB to Launch €750bn Bond-Buying Programme*, FIN. TIMES (Mar. 19, 2020), <https://www.ft.com/content/711c5df2-695e-11ea-800d-da70cff6e4d3> [<https://perma.cc/3HMC-855G>].

63. Stefania D'Amico et al., *Impacts of the Fed Corporate Credit Facilities Through the Lenses of ETFs and CDX 3* (Fed. Reserve Bank Chi., Working Paper No. 2020-14, 2020), <http://dx.doi.org/10.2139/ssrn.3605723> [<https://perma.cc/8TEH-7DH6>].

64. Viral Acharya et al., *The End of Market Discipline? Investor Expectations of Implicit Government Guarantees* (MPRA, Paper No. 79700, 2016), https://mpra.ub.uni-muenchen.de/79700/1/MPRA_paper_79700.pdf [<https://perma.cc/S67S-3GRG>]. This subsidy has been estimated at between 22 and 100 basis points. See P. Gandhi & H. Lustig, *Size Anomalies in*

They exist so long as investors believe the government guarantee hangs in the background as a possibility. In the aftermath of the 2020 economic crisis, it will be difficult to convince investors otherwise. The Fed has revealed a powerful new tool in its arsenal, and without an act of Congress it would be impossible to make a credible commitment that the Fed will not use it again.

Up to this point, I have referred to government ‘backstops,’ ‘guarantees,’ and ‘bailouts’ somewhat interchangeably. But the form in which the government supports distressed companies might matter, both in the short term for defining exactly which investors are rescued, and in the long term for incorporating the expectations of government support into the prices of particular securities. Some options include purchasing the company’s assets at an above-market price, setting a price floor for public offerings of the company’s stock, or buying that stock directly. The Bank of Japan has purchased Japanese equities (via ETFs) since 2010 in an effort to raise stock prices. Although the counterfactual is unknowable, the program does not appear to have been successful, as the price-to-earnings ratio of Japanese stocks only declined over that period.⁶⁵ One reason central bank equity purchases may not have the intended effect is that investors may be wary that the government will eventually liquidate its enormous position, driving prices back down. Bonds, on the other hand, mature over time, so there is no need for government-scale selloffs.

Over the longer term, both debt and equity benefit from banks’ too-big-to-fail status, and it is an empirical question which group benefits more.⁶⁶ With respect to the stimulus efforts of March and April 2020, it is too soon to tell exactly how the corporate lending programs will factor into the long-run prices of debt and equity. One should expect the Fed’s lending programs to boost equity prices insofar as reduced bankruptcy risk limits the downside potential for shareholders. But even as all capital holders

U.S. Bank Stock Returns, 70 J. Fin. 733 (2015); R. Gropp et al., *Competition, Risk-Shifting, and Public Bail-out Policies*, 24 REV. FIN. STUD. 2084 (2010); K. Ueda & B.W. Di Mauro, *Quantifying Structural Subsidy Values for Systemically Important Financial Institutions*, 37 J. BANKING & FIN. 3830 (2013). A complementary finding is that “living will” regulations – which credibly reduce the prospect that a bank will need to be bailed out – increase banks’ cost of capital and reduce the “too big to fail” subsidy. Nicola Cetorelli & James Traina, *Resolving “Too Big to Fail”* (Fed. Reserve Bank N.Y., Staff Report No. 859, 2018), <https://www.econstor.eu/bitstream/10419/210711/1/1026029767.pdf> [<https://perma.cc/S29G-GQZ9>].

65. Mike Bird, *Japan’s Central Bank Shows How Not to Buy Stocks*, WALL ST. J. (May 21, 2019), <https://www.wsj.com/articles/japans-central-bank-shows-how-not-to-buy-stocks-11558433503> [<https://perma.cc/FVH3-WUH8>].

66. Christopher J. Waller, *Who Exactly Benefits from Too Big to Fail?* 3 (Fed. Reserve Bank St. Louis, Paper No. 13, 2016), <https://research.stlouisfed.org/publications/economic-synopses/2016/06/27/who-exactly-benefits-from-too-big-to-fail/> [<https://perma.cc/NFZ8-YERC>] (“TBTF provides a windfall capital gain to shareholders and creditors at the time of the designation. But after that, new buyers of equities and debt are paying for that status. Consequently, determining who gets ‘bailed out’ when an institution is TBTF is a more complicated task than it appears.”).

benefit, there is reason to believe that the benefits will accrue disproportionately to debt. First, evidence from the 2008 Troubled Asset Relief Program (TARP) suggests that the gains from bailouts go primarily to debt, even though that program offered aid at various levels of the capital structure—mostly preferred and common stock, as well as commands to raise private capital.⁶⁷ In light of these various forms of intervention, it is striking that the market value of bank debt increased by \$119 billion in response to the TARP announcement while the market value of bank equity dropped by \$2.8 billion.⁶⁸ Second, the 2020 programs were targeted at debt instruments that are particularly sensitive to the possibility of default. Credit risk accounts for a larger fraction of the yield spread on high-yield bonds than on investment grade bonds.⁶⁹ By including high-yield bonds in its target universe, the Fed made a bigger contribution to reducing credit risk and thereby driving down spreads than if it had limited the program to investment grade bonds alone. Third, the financial media have reported that traditional stock investors started moving into bonds after the Fed's announcement.⁷⁰ If the benefits of bond-buying programs were expected to be shared equally across the capital structure, we would not observe this phenomenon.

C. The Fed Is Not Comfortable Holding Equity

Finally, it is worth emphasizing that there is no evidence that Congress or the Fed chose to support corporate debt, rather than take equity in struggling firms, out of a desire to bring about any of the capital structure-related consequences that this Section has predicted. In theory, an alternative path to achieving capital structure neutrality from the one

67. Under the Capital Purchase Program, for example, the Treasury purchased preferred stock in large banks. Aid to AIG under the Systemically Significant Failing Institutions program (later renamed the AIG Investment Program) changed form over time from preferred stock to common stock. Under the Asset Guarantee Program, the Treasury provided insurance to Citigroup on a \$301 billion portfolio of assets in exchange for preferred shares and warrants. The Targeted Investment Program invested in Citigroup and Bank of America in exchange for preferred stock and warrants, later converted to common stock. The Capital Assistance Program administered stress tests and gave notice to participating banks that they needed to raise private capital or, failing to do so, accept government injections of convertible preferred stock. Charles W. Calomiris & Urooj Khan, *An Assessment of TARP Assistance to Financial Institutions*, 29 J. ECON. PERSPS. 53, 58 (2015).

68. Pietro Veronesi & Luigi Zingales, *Paulson's Gift*, 97 J. FIN. ECON. 339 (2010). The authors hypothesize that the decline in equity value came from reputational harm to banks like JP Morgan that were mandated to participate in TARP even if public perception had not previously counted them as distressed. Relatedly, JP Morgan would have been in a stronger position relative to its distressed rivals in the absence of TARP.

69. Jing-Zhi Huang & Ming Huang, *How Much of the Corporate-Treasury Yield Spread Is Due to Credit Risk?*, 2 REV. ASSET PRICING STUD. 153 (2012).

70. See, e.g., Matt Wirz, *Stock Investors Buy Into Corporate Bond Surge*, WALL ST. J. (Mar. 30, 2020), <https://www.wsj.com/articles/stock-investors-buy-into-corporate-bond-surge-11585585858> [https://perma.cc/7TSY-WD4C].

pursued in this Note would be for the Fed or Treasury to support struggling companies by buying equity. That approach might bring its own virtues, especially for those who favor the federal government pursuing industrial policy as an active shareholder.⁷¹ But without significant institutional innovation (for example, the formation of a national development bank, as Robert Hockett and Saule Omarova propose), that approach is unlikely because it is inconsistent with the Fed's culture and current political role.

To that point, the most likely reasons for choosing to purchase debt have to do with the Fed's institutional comfort zone. First, the corporate debt facilities might be seen as just a few steps removed from the Commercial Paper Funding Facility (CPFF), which the Fed operated from 2008 to 2010 and which represented the first time in modern history that non-financial firms could borrow at the Fed's discount window.⁷² The CPFF stood as an institutional precedent that might have reassured Fed staff about the prospect of lending to non-financial firms on a greater scale. Second, there is every indication that the federal government does not want to hold securities in private companies any longer than necessary. New loans issued under the Primary Market Corporate Credit Facility have a maximum term of four years; loans issued under the Main Street facilities have a maximum term of five years; and bonds purchased under the Secondary Market Corporate Credit Facility can have a remaining maturity of up to five years.⁷³ Corporate equities do not come with a fixed term, and so the Fed would need to actively decide when to sell any equities it purchased back to the market. But Fed officials would presumably worry about such sales upsetting market prices—as mentioned above, some observers suspect that the Bank of Japan's stock purchases have failed to raise prices for just this reason. Third, by every indication, the federal government does not want to exercise governance rights in private companies unless absolutely necessary.⁷⁴ This militates against purchasing

71. Robert C. Hockett & Saule T. Omarova, *Public Actors in Private Markets: Toward a Developmental Finance State*, 93 WASH. U. L. REV. 103 (2015); Saule T. Omarova, *Bank Governance and Systemic Stability: The Golden Share Approach*, 68 ALA. L. REV. 1029 (2016).

72. See generally Tobias Adrian, Karin Kimbrough, & Dina Marchioni, *The Federal Reserve's Commercial Paper Funding Facility*, (Fed. Reserve Bank N.Y., Staff Report No. 423, 2010).

73. See Primary Market Corporate Credit Facility Term Sheet, Board of Governors of the Federal Reserve (July 28, 2020), <https://www.federalreserve.gov/monetarypolicy/pmccf.htm> [<https://perma.cc/V9PE-V828>]; Secondary Market Corporate Credit Facility Term Sheet; Board of Governors of the Federal Reserve (June 28, 2020), <https://www.federalreserve.gov/monetarypolicy/smccf.htm> [<https://perma.cc/BA57-9GEA>]; Main Street New Loan Facility Term Sheet Board of Governors of the Federal Reserve (De. 29, 2020), <https://www.federalreserve.gov/monetarypolicy/mainstreetlending.htm> [<https://perma.cc/V7HN-6PGP>].

74. See Steven M. Davidoff, *Uncomfortable Embrace: Federal Corporate Ownership in the Midst of the Financial Crisis*, 95 MINN. L. REV. 1733 (2010); Marcel Kahan & Edward Rock, *When the Government Is the Controlling Shareholder: Implications for Delaware*, 35 DEL. J. CORP. L. 409 (2010); J.W. Verret, *Treasury Inc.: How the Bailout Reshapes Corporate Theory and Practice*, 27 YALE J. ON REG. 283 (2010).

any instrument with voting rights, such as common stock. The Fed could theoretically participate in a private issuance of a special class of equity shares lacking voting rights, but this would require coordinating with each potential issuer and would block the possibility of making secondary market purchases (given that many issuers will not have such non-voting shares already circulating on the market). While Fed officials will likely experience some institutional discomfort holding such a large portfolio of corporate debt and ETF shares for the first time, these considerations suggest that holding an equivalent portfolio of equity would have been anathema.

In the following Parts, I proceed under the assumption that the Fed's corporate lending programs will reduce the cost of debt relative to equity. But even if this were not the case, and the programs instead reduced the cost of capital equivalently, it would still be troubling from the perspective developed in Part I—that is, that firms are currently overly leveraged. From that perspective, public policy should find opportunities to discourage leverage. We now turn to the corporate tax, the most significant policy to do just the opposite.

III. Leverage and the Corporate Interest Deduction

In this Part, I will examine the logic and consequences of the interest deduction as they stood before the Fed's recent actions. First, I will show that the interest deduction creates an incentive for firms to choose debt over equity, although this fact is not as simple or self-evident as commentators often treat it. Second, I will show that the traditional defense of the interest deduction as necessary to accurately reflect corporate income is unpersuasive. Third, I will review the strongest affirmative arguments against the interest deduction from the tax literature. And while many of those arguments treat neutrality between debt and equity as something to be achieved *inside* the tax law, I argue that achieving complete capital structure neutrality requires looking between the tax law and other areas of policy.

A. The Corporate Tax Has Historically Favored Debt and Still Does for the Majority of Investors

Prior to any of the debt market interventions of 2020, federal tax law tended to encourage the use of debt over equity in corporate finance. The exact (tax-related) favorability of debt in relation to equity is the product of several factors. The first factor is the interest deduction. Corporations may deduct interest payments on their debt, but may not deduct dividend payments on their equity. Early 20th century versions of the corporate tax included caps on the interest deduction, motivated by similar concerns

about excess leverage as commentators raise today.⁷⁵ In 2017, the Tax Cuts and Jobs Act (TCJA) returned to some of those early 20th century roots and instituted a cap on interest deductibility. Corporations may now deduct interest payments up to the sum of 30% of adjusted taxable income and any business interest income.⁷⁶ Business interest not allowed as a deduction may be carried forward to the next year (where the 30% cap remains in force).⁷⁷ In 2020, the CARES Act temporarily increased the deduction cap to 50% of adjusted taxable income.⁷⁸

But the deductibility of interest is not the only tax factor that determines the relative costs of debt and equity. Tax rates matter, as does the time value of money. A classic way to illustrate the options is to imagine an investor seeking to invest in a business venture. She can invest in four ways: (1) as an individual investment (that is, such that her personal tax rate will apply to business income), (2) in the form of debt, (3) in the form of equity with annual dividends, or (4) in the form of equity with retained earnings but no dividends. For simplicity, it is assumed that the interest rate on debt is the same as the dividend rate, and that the investments run for the same amount of time, at the end of which the investor in the fourth scenario has her stock redeemed at the capital gains rate. The payoffs in these scenarios depend on the extra layer of taxation for corporate equity; the differences in rates among the personal rate, the corporate rate, the dividend rate, and the capital gains rate; and the deferral of the shareholder's tax in the fourth scenario.⁷⁹ Under current rates, corporate equity with retained earnings is the superior option for taxable investors, while equity with dividends and debt are effectively tied.⁸⁰ Yet, the history of the Code suggests that rates fluctuate more often than the interest deduction rule. If the corporate rate and/or the dividend rate were to be

75. Those caps were lifted in 1918, primarily for the sake of offsetting the exclusion of debt from the definition of “invested capital” on top of which “excess profits” were to be measured for the wartime excess profits tax. It was considered unfair to exclude debt from invested capital, thereby handing corporations a larger excess profits bill, without at least letting them deduct interest payments. As Steven A. Bank argues, this history contradicts the notion that an interest deduction was part of the original design of the corporate tax. Steven A. Bank, *Historical Perspective on the Corporate Interest Deduction*, 18 CHAPMAN L. REV. 29, 40 (2014).

76. 26 U.S.C. 163(j). “Adjusted taxable income” is a defined term of some complexity, but not relevant for the present discussion. For more, see Daniel M. Reach, *Parsing the New Interest Expense Limitation in the Tax Cuts and Jobs Act*, AM. BAR ASS’N (Mar. 9, 2018), https://www.americanbar.org/groups/taxation/publications/abataxtimes_home/18mar/18mar-pp-reach-parsing-the-new-interest-expense-limitation/ [https://perma.cc/AA6K-4L54].

77. 26 U.S.C. 163(j)(2).

78. Coronavirus Aid, Relief, and Economic Security Act, Pub. L. No. 116-136, § 2301, 134 Stat. 281, 347 (2020).

79. This analysis is drawn from Alvin Warren, *The Relation and Integration of Individual and Corporate Income Taxes*, 94 HARV. L. REV. 717 (1981).

80. With a \$100 investment, 10% interest rate, 10% dividend payout rate, 37% personal rate, 21% corporate rate, 20% qualified dividend and capital gains rate, and ten-year investment horizon, debt investment yields \$184.22, equity with dividends yields \$184.57, and equity with retained earnings yields \$191.12. *See id.*

raised once again, debt would once again become the most tax-efficient option.

This stylized analysis has so far assumed that corporate financing decisions are made strictly according to maximizing investors' after-tax return, and that investors are taxable.⁸¹ In reality, one must account for the fact that three quarters of equity investors in U.S. public companies are not taxable.⁸² These non-taxable investors include pension funds, insurance companies, foreign residents, nonprofits, and individuals investing through IRAs. These investors get no benefit when corporations retain earnings, unless the corporation can reinvest those earnings at a higher rate of return than the market at large. But on the standard corporate finance assumption that above-market returns are not durable, these non-taxable investors would rather receive immediate payouts. To the extent that this majority of investors is able to influence firms' dividend policy, the choice that managers realistically face is: raise equity and pay dividends, or issue debt and deduct interest payments. Managers have clear reason to favor the latter option. Deducting interest increases the firm's after-tax earnings, leaving more money inside the firm for managers to spend.⁸³ We should therefore expect managers to favor debt across tax rate regimes. Finally, the interest deduction creates an especially powerful reason for firms to prefer debt when the *lender* is tax-exempt. In this situation, interest payments are deductible for the borrower and not taxed to the lender; the result is that money escapes the economy entirely tax-free. The CBO has estimated that about 33% of interest payments made by corporations are received by tax-favored retirement plans and therefore never taxed.⁸⁴ Given the attractiveness of this situation for everyone involved (except the public fisc), we should expect tax-exempt lenders to offer lower interest rates and induce corporations to choose debt.

B. Arguments Against the Interest Deduction

81. In reality, managers have their own motivations for choosing one form of finance over the other. See generally Walter Novaes, *Capital Structure Choice When Managers Are in Control: Entrenchment versus Efficiency*, 76 J. BUS. 49 (2003).

82. Steven M. Rosenthal & Lydia S. Austin, *The Dwindling Taxable Share of U.S. Corporate Stock*, TAX NOTES (May 16, 2016), <https://www.taxpolicycenter.org/sites/default/files/alfresco/publication-pdfs/2000790-The-Dwindling-Taxable-Share-of-U.S.-Corporate-Stock.pdf> [<https://perma.cc/3SW5-X6LF>].

83. See Ilan Benshalom, *How to Live with a Tax Code with Which You Disagree: Doctrine, Optimal Tax, Common Sense, and the Debt-Equity Distribution*, 88 N.C. L. REV. 1217, 1231 (2010).

84. *Taxing Capital Income: Effective Marginal Tax Rates Under 2014 Law and Selected Policy Options*, CONG. BUDGET OFFICE 24 (Dec. 2014), <https://www.cbo.gov/sites/default/files/113th-congress-2013-2014/reports/49817-taxingcapitalincome0.pdf> [<https://perma.cc/92LJ-MFMV>].

Before proceeding to affirmative arguments against the interest deduction, it is important to see why the traditional case *for* the deduction does not hold water. That argument generally goes like this: interest payments are a cost of producing corporate income, and should be deducted like any other cost, such as wages paid to employees. But this statement begs the question; why are payments to creditors treated as a cost but payments to shareholders are not? As Alvin Warren showed many decades ago, how to treat interest payments depends on how one defines the boundaries of the corporation for the purposes of taxation.⁸⁵ There are four options. First, the corporation could be defined as the aggregation of all parties participating in production. This would include workers, suppliers of material, and suppliers of capital. Corporate income would be defined as the aggregate receipts of that agglomeration, with no deductions permitted for payments between the members. Second, the corporation could be defined as corporate capital. Here, payments to managers, workers, and suppliers would be deducted, but payments to capital (whether debt or equity) would not. Third, the corporation could be defined as equity capital. Payments to workers, suppliers, and creditors would be deducted, but dividends paid to equity would not. And fourth, the corporation could be defined as what remains after payments are made to all participants, including equity capital. Here, a tax would be assessed only on undistributed earnings. Our familiar status quo corresponds to the third option. But it is not self-evident that this is the “right” way to define the firm.⁸⁶ The appeal of the second and fourth options is that they recognize an equivalence between the forms of corporate capital, both of which involve an obligation on the part of the corporation to someone else (whether creditor or shareholder).⁸⁷

Beyond the fact that the interest deduction cannot be justified as a means of calculating a corporation’s net income, many tax scholars oppose

85. Alvin C. Warren, Jr., *The Corporate Interest Deduction: A Policy Evaluation*, 83 YALE L.J. 1585 (1974).

86. Some might answer “income to shareholders” on the view that shareholders “own” the firm. There are two problems with this view. First, recent work in corporate theory convincingly demonstrates that shareholders do not own the firm or its assets. Second, even if shareholders did in some sense own the firm, it would not necessarily follow that they alone should bear the tax on corporate income. Corporations are different from individuals, and one should not unthinkingly generalize from one domain to the other. See generally David A. Ciepley, *The Anglo-American Misconception of Stockholders As ‘Owners’ and ‘Members’: Its Origins and Consequences*, 16 J. INSTITUTIONALIST ECON. 2020), 623; David A. Ciepley, *Beyond Public and Private: Toward a Political Theory of the Corporation*, 107 AM. POL. SCI. REV. 139 (2013); Henry Hansmann & Reinier Kraakman, *The Essential Role of Organizational Law*, 110 YALE L.J. 387 (2000).

87. Warren, *The Corporate Interest Deduction*, at 1590. The fourth option would correspond to certain forms of “integration” that turn the corporate tax into a one-level tax, while the second option would retain the two-level tax and assess the second-level tax on all payments to capital, whether debt or equity.

it on prudential and policy grounds.⁸⁸ I will review the three main categories of critique: first, that the debt-equity distinction is untenable in practice; second, that the Code should be neutral between debt and equity; and third, that the Code's debt bias is dangerous for macroeconomic and other reasons.

First, while the interest deduction requires distinguishing between debt and equity, that distinction does not hold up in practice. Congress has provided only vague instructions for the hard task of distinguishing debt from equity, and courts have been left to work out the distinction on a case-by-case basis.⁸⁹ Scholars have criticized the resulting body of case law for its "convoluted mix of factors and inconsistent outcomes."⁹⁰ Further, financial engineers can design instruments with the telltale legal characteristics of debt but that will tend to bear the same risk and return as equity.⁹¹ Given that there is no clean line to be drawn between debt and equity, and that any attempt will be expensive to enforce, some commentators advocate for dropping the distinction entirely (whether by making interest includible or dividends deductible, options to be discussed at greater length below).⁹²

Next, some scholars argue that the Code should be neutral between debt and equity as a matter of efficiency and fairness. Herwig Schlunk defines this objective as "capital structure neutrality," which is achieved when corporate managers cannot design capital structures that systematically alter the amount of taxes collected.⁹³ Schlunk argues for capital structure neutrality on three grounds. First, the ability to reduce one's taxes by manipulating capital structure reduces federal revenue. Second, the process of that manipulation involves various inefficiencies

88. See, e.g., Bank, *supra* note 75, at 40 (2014); Herwig J. Schlunk, *The Zen of Corporate Capital Structure Neutrality*, 99 MICH. L. REV. 410 (2000).

89. See I.R.C. § 385.

90. Benshalom, *supra* note 83, at 1236; see also David A. Weisbach, *Line Drawing, Doctrine, and Efficiency in the Tax Law*, 84 CORNELL L. REV. 1627, 1637-39 (1999) (criticizing the arbitrariness of the case law distinguishing debt from equity for tax purposes).

91. See, e.g., Rev. Rul. 83-98, 1983-2 C.B. 40 (dealing with a hybrid instrument known as adjustable rate convertible notes, or ARCNS, that paid interest and were set to redeem after a fixed term, but that would most likely convert into equity, depending on the price of common stock). For this reason, some commentators have suggested abandoning the multi-factor test and substituting a more objective financial analysis to determine whether the instrument bears risk like that of debt or equity. See Ted Gkoo, *Finance Theory Meets Tax Law: How a Risk-Based Rule Can Rationalize the Debt Versus Equity Distinction*, 9 CONTEMP. TAX J. 6 (2020). But even if that approach prevailed, distinguishing between debt and equity would remain an expensive, fiercely litigated matter. The battleground would shift from debating the multi-factor test to contesting experts' calculation of beta, the financial risk factor, which observers of appraisal litigation know is rarely objective or easily-settled. See, e.g., *Manichean Capital, LLC v. SourceHOV Holdings, Inc.*, 2020 Del. Ch. LEXIS 38, 2020 WL 496606 (Jan. 30, 2020) (noting that "the most consequential point of disagreement" concerned how to calculate beta).

92. Joseph B. Allen, *Seeking True Financial Reform: Ending the Debt-Equality Distinction*, 3 WM. & MARY BUS. L. REV. 243 (2012).

93. Schlunk, *supra* note 88.

and transaction costs. Third, the absence of capital structure neutrality doesn't only create a bias in favor of certain capital holders, it also creates a bias in favor of certain industries and business models. For example, businesses with volatile cash flows have more trouble issuing debt, which leaves them less able to take advantage of the interest deduction.⁹⁴ But there is no evidence that Congress intended the interest deduction to have this effect.

A third group of critics go beyond mere formal neutrality and make affirmative arguments that the Code's debt bias is bad policy. The most common version of the anti-debt argument focuses on the economic downside—in the form of distress, bankruptcy, and possibly even financial crisis—of too much debt. This argument links the tax literature's criticisms of the interest deduction with the non-tax literature's warnings about the macroeconomic risks of debt, discussed in Part I. Nearly every critique of the debt-equity distinction mentions the risk of financial distress, although usually only in passing.⁹⁵ In the wake of the 2008 financial crisis, the focus on the link between taxation and financial distress rose to the fore.⁹⁶ In particular, immediately after the 2008 crisis, most of the concern directed at over-leveraged firms was focused on banks. Accordingly, the most detailed treatment of how tax law can mitigate the macroeconomic risks of debt is Mark Roe and Michael Troge's analysis of the interest deduction (and dividend inclusion) in the banking sector specifically.⁹⁷ Roe and Troge signal their support for an economy-wide revamp of the interest deduction, but focus exclusively on banks for pragmatic reasons.⁹⁸ Roe and Troge aim for capital structure neutrality. But they reject the idea of doing so by taxing interest income, for three reasons.⁹⁹ First, they worry that ending the interest deduction would tax even unprofitable banks. But this would not be inconsistent with the normal operation of the tax law, which taxes

94. *Id.* at 419.

95. For example, Robert Pozen and Lucas Goodman opine, in a footnote, that the Code should not even be capital structure neutral, because “leverage is associated with negative externalities that suggest that, if anything, the tax code should favor equity over debt.” Robert C. Pozen & Lucas W. Goodman, *Capping the Deductibility of Corporate Interest Expense*, TAX NOTES 1214 n.44 (Dec. 10, 2012), <http://corpgov.law.harvard.edu/wp-content/uploads/2013/01/Capping-the-Deductibility-of-Corporate-Interest-Expense.pdf> [<https://perma.cc/W3PC-QGPV>]. See also Benshalom, *supra* note 83 (noting that the Code's treatment of debt may encourage excessive leverage and financial distress); Schlunk, *supra* note 88 (same); Allen, *supra* note 92 (same).

96. Martin A. Sullivan, “Deleveraging the Tax Code,” Tax Notes, Sep. 29, 2008, available at <http://www.taxhistory.org/www/features.nsf/Articles/D6775BEF8915BFC0852574D6005759BD?OpenDocument> [<https://perma.cc/4BDK-VSPA>].

97. Mark J. Roe & Michael Troge, *Containing Systemic Risk by Taxing Banks Properly*, 35 YALE J. ON REG. 181 (2018).

98. *Id.* at 196.

99. *Id.* at 198.

dividends even if the firm is unprofitable in the current period.¹⁰⁰ Second, with no interest deduction, a bank's tax would vary with interest rates. But if this is a problem, the taxable portion of interest payments could exempt the inflation rate, as they acknowledge. Third, Roe and Troge worry that ending the interest deduction only for banks could push debt elsewhere in the economy. And although the mechanism for such a dislocation is not explained, the implication of that argument would seem to be that the interest deduction should be reformed economy-wide, not just for the banking sector.¹⁰¹

C. The Interest Deduction Looks Even More Indefensible in Light of Recent Events

All of the above arguments for why the tax system should not favor debt have grown stronger in light of the Federal Reserve's recent actions. As shown in Part II, the Fed has added a new source of debt bias to the policy landscape. Even if one believes that the tax system, on its own, is properly neutral between debt and equity, the totality of federal policy no longer is. To that point, it makes more sense to evaluate a goal like capital structure neutrality across the full sweep of federal policy than cabined within tax policy alone. Insofar as we recognize a goal of encouraging or discouraging a certain behavior (for example, corporate leverage), the total magnitude of legal incentive and disincentive should be measured in aggregate across areas of law. If one *only* opposed the deduction on the grounds that distinguishing between debt and equity thwarts efficient tax administration, I grant that one might not care how other areas of law treat debt. But my argument is stronger to the extent that one opposes the interest deduction for reasons that are not limited to tax administration, for example, the concerns about excessive leverage. Many of the tax scholars I have cited do care about those macroeconomic implications. Therefore, they should not be satisfied with "deleveraging the tax code" if it does not entail deleveraging federal policy on the whole.¹⁰²

IV. Limiting the Interest Deduction

Once one is persuaded that the tax code should not incentivize corporate debt, the question becomes exactly how to equalize treatment of debt and equity (or even subsidize equity). In this Part, I consider several approaches for eliminating or modifying the corporate interest deduction.

100. Dividends can arise out of either earnings and profits accumulated during the taxable year or those accumulated historically. I.R.C. § 316.

101. Indeed, the Congressional Joint Committee on Taxation expressed concern about the interest deduction's role in bringing about distress at non-financial firms in 1989. *See* STAFF OF JOINT COMM. ON TAXATION, 101ST CONG., FED. INCOME TAX ASPECTS OF CORPORATE FIN. STRUCTURES JCS-1-89 (Joint Comm. Print 1989).

102. Sullivan, *supra* note 96.

I begin by stating the case for why a permanent change to the tax code is the right way to pursue capital structure policy (as opposed to either a temporary change or a non-tax approach such as embedding debt restrictions in the Fed's lending programs). I then summarize longstanding proposals for eliminating the interest deduction entirely and explain why these proposals have not been and probably will not be politically viable. This analysis suggests the need for a compromise position. To that end, I assess the modification made to the interest deduction in the 2017 Tax Cuts and Jobs Act, and deem it a step in the right direction but ultimately lacking for several reasons. Finally, I propose a more targeted version of the modified interest deduction: one that allows the deduction only for firms with a global debt-equity ratio below a statutory target.

A. Capital Structure Policy Is at Home in the Tax Code

In this Part, I discuss eliminating or modifying the corporate interest deduction as a means of reducing the debt bias in federal capital structure policy. A preliminary question is why the tax code is the proper locus for this effort. Given that federal lending policy, as carried out under the CARES Act, is a major cause of the debt bias (as described in Part II), perhaps debt-equity limits should be housed within the Fed's lending contracts. The CARES Act spells out a series of conditions that borrowers must meet: no dividends or buybacks for one year, maintenance of pre-pandemic employment levels, and limits on executive compensation.¹⁰³ One could easily imagine adding limits on leverage to this list, akin to the debt restrictions found in private sector debt covenants. The gist of those covenants is that in exchange for credit, the company agrees to avoid doing various things that might hurt its capacity to pay back the loan.¹⁰⁴ For the first time, the federal government is in a position to demand similar terms. And yet, as explained in Part II, the majority of firms that benefit from the Fed's programs (through lower interest rates and through emboldened private sector lenders) will not receive anything from the Fed. Which is to say, they will never enter a relationship of privity with the federal government. The tax code is a better locus for encouraging all firms—including, but not limited to, those that implicitly benefit from the Fed's programs—to reduce their debt loads. Tax is the form of regulation that touches every firm. Even though the government cannot know in advance which firms will benefit from the Fed's lending facilities, by building a target debt-equity ratio into the tax code, it can ensure that every firm nonetheless faces an incentive to maintain healthy balance sheets without

103. Coronavirus Aid, Relief, and Economic Security Act, Pub. L. No. 116-136, §§ 4003(c)(2)-(3), 134 Stat. 281, 347, 471 (2020).

104. Rod Miller, Paul Denaro & Jessica Cunningham, *Understanding High-Yield Bonds*, PEI ALTERNATIVE INSIGHT & MILBANK LLP (2014), <https://www.milbank.com/images/content/1/7/17909/HYB-Milbank-digi.pdf> [<https://perma.cc/6FHL-FHKU>].

too much debt. This is not to say that tax is the only valid policy tool for discouraging over-indebtedness; in the Conclusion, I sketch a preliminary vision of a coordinated capital structure policy across tax, bankruptcy, antitrust, and financial regulatory law.

Some critics might argue that it would actually be better to limit the corporate interest deduction only during the rare episodes when the Fed intervenes to stabilize debt markets. After all, it seems that the Fed will only repeat the Spring 2020 playbook during particularly bad times. It might seem disproportionate to make a permanent change to the tax law in response to what is likely an intermittent form of countervailing lending policy. But, for three reasons, it makes sense for the restricted interest deduction (detailed below) to persist during “normal” economic times. First, as argued in Part II, the expectation of emergency federal lending will reduce private sector interest rates even during normal times, because a subset of the credit risk built into an interest rate reflects the risk of shocks to the entire economy (that is, the circumstances under which the Fed would intervene). Second, the height of an economic crisis is not the proper time to restrict deductions, so in fact boom years are the perfect time to do so. This point represents a form of argument common to law and macroeconomics, which is that public policy should impose relatively higher costs on the private sector during an economic boom and relatively lower costs during a recession.¹⁰⁵ Third, while previously inconceivable, a bond-buying program like the present one will likely return during future recessions. One major reason the Fed has chosen to intervene this way is that the traditional monetary policy tools—that is, lowering interest rates—no longer work when the prevailing short-term rates are already at zero.¹⁰⁶ If low rates continue on the horizon, as market observers seem to expect, the Fed and Treasury will need to return to the new direct lending toolkit in the next recession.¹⁰⁷

Given the likelihood that the government will provide various accommodations to corporate debtors during a crisis—direct lending support as well as temporary adjustments to the tax code¹⁰⁸—it is all the more important that tax policy in “normal” times work to limit corporate debt in line with a healthy capital structure target.

105. See, e.g., LISTOKIN, *supra* note 6, at 178-79 (discussing the case of utility regulation, arguing that utilities should impose relatively higher prices on consumers during economic booms so as to reduce prices and thereby boost consumer spending during a recession).

106. Kenneth Rogoff, *Dealing with Monetary Paralysis at the Zero Bound*, 31 J. ECON. PERSPS. 47 (2017).

107. For example, the 10-year government bond rate has recently reached an all-time low. See Thomas Franck & Yun Li, *10-year Treasury Yield Hits New All-Time Low of 0.318% Amid Historic Flight to Bonds*, CNBC MARKETS (Mar. 8, 2020), <https://www.cnbc.com/2020/03/09/10-year-treasury-yield-plunges.html> [<https://perma.cc/U55T-YQ4L>].

108. See 26 U.S.C. § 163(j)(10), discussed below, as an example of a temporary accommodation to corporate debtors enacted during an economic crisis.

B. The Most Comprehensive Approach Is to Fully Eliminate the Interest Deduction

For decades, tax scholars and Treasury officials have promulgated proposals for eliminating the interest deduction, so there is little mystery how it could be done. At a high level, the two general options are to include interest payments in corporate income or to deduct dividends from it. The federal government's most comprehensive evaluation of these possibilities remains the Department of Treasury's 1992 report on the "Integration of the Individual and Corporate Tax Systems."¹⁰⁹ Integration is a sort of holy grail of corporate tax policy, and is thought to serve many goals including, but not limited, to capital structure neutrality.¹¹⁰ The Treasury report detailed versions of both options named above: a "dividend exclusion" prototype and a "comprehensive business income tax" (CBIT) prototype, which the authors considered the "most comprehensive" of all the corporate tax reforms considered in the report.¹¹¹ CBIT would subject both interest and dividend income to a single layer of tax assessed at the corporate level. But one need not go as far as CBIT to reduce the tax advantage of debt. Alternatively, one could simply eliminate the deductibility of interest while maintaining the two-level tax, and perhaps supplement this with various reforms to reduce the tax cost of equity, such as permitting a full 100% dividends received deduction for all intercorporate dividends.¹¹² Evidence from other countries that have integrated their corporate tax systems validates the theory that integration reduces corporate debt-equity ratios by removing the tax advantage on debt.¹¹³

C. Fully Eliminating the Interest Deduction Is Unlikely, so a Thoughtful Compromise Is Needed

The reason to develop a complicated, partial interest deduction proposal, as I do below, is that it appears unlikely that Congress will pursue

109. DEP'T OF THE TREASURY, REPORT OF THE DEPARTMENT OF THE TREASURY ON INTEGRATION OF THE INDIVIDUAL AND CORPORATE TAX SYSTEMS (Jan. 1992), <https://www.treasury.gov/resource-center/tax-policy/Documents/Report-Integration-1992.pdf> [<https://perma.cc/DD5K-WVLG>].

110. The 1992 report named the objectives of achieving neutrality between the corporate and non-corporate sectors, neutrality between debt and equity, neutrality between retaining and distributing earnings, and taxing capital income exactly once in all cases. *Id.* at 13.

111. *Id.* at 39.

112. See OFFICE OF TAX POLICY, DEP'T OF THE TREASURY, APPROACHES TO IMPROVE THE COMPETITIVENESS OF THE U.S. BUSINESS TAX SYSTEM FOR THE 21ST CENTURY 83 (2007), <https://home.treasury.gov/system/files/131/Report-Improve-Competitiveness-2007.pdf> [<https://perma.cc/39SF-EBP7>].

113. Craig Schulman, Deborah Thomas, Keith Sellers & Duane Kennedy, *Effects of Tax Integration and Capital Gains Tax on Corporate Leverage*, 49 NAT'L TAX J. 31 (1996).

either of the comprehensive forms named above, at least not in a fashion that is desirable on the whole. The first comprehensive approach, corporate integration, has made little headway since the 1992 Treasury Report, at least in any form that would end the interest deduction. The most recent Congressional activity around corporate integration came in 2016, when Senator Orrin Hatch was reported to be developing an integration proposal centered around a dividend deduction.¹¹⁴ That approach would equalize the tax treatment of debt and equity by allowing corporations to deduct payments to both; it would transform the corporate double tax into a single tax that exempts payments to capital. There is, of course, a long-running debate on the merits of the corporate double tax, and this is not the forum to rehash it.¹¹⁵ But for anyone committed to preserving the double tax, Hatch's proposal is a non-starter *qua* tax policy, even if it has merit *qua* capital structure neutrality. To satisfy those who support the double tax, we must identify a proposal that eliminates the interest deduction. At first blush, recent tax plans advanced by 2016 Presidential candidate Marco Rubio and the circa-2017 House Republicans (under the "Better Way" moniker) might seem to fit the bill. These plans proposed to eliminate the interest deduction.¹¹⁶ But in both plans, doing so went hand-in-hand with providing for immediate expensing (deduction) of all business investments. The logical relationship between these two policies is that, while some analysts believe that eliminating the interest deduction would discourage (debt-financed) investment, immediate expensing is thought to encourage investment (whether financed by debt or equity).¹¹⁷ When a business is allowed to immediately deduct the cost of its investments, it is equivalent to exempting all the returns from those investments. In other words, immediate expensing

114. Bernie Becker, *Hatch to Take a Shot at Corporate Double Tax*, POLITICO (Jan. 21, 2016), <https://www.politico.com/tipsheets/morning-tax/2016/01/hatch-to-take-a-shot-at-corporate-double-tax-brady-tax-staffer-gets-high-marks-yes-the-irs-deleted-another-key-hard-drive-212275> [<https://perma.cc/4MYB-L3KK>].

115. See, e.g., Jennifer Arlen & Deborah M. Weiss, *A Political Theory of Corporate Taxation*, 105 YALE L.J. 325 (1995); Steven A. Bank, *Corporate Managers, Agency Costs, and the Rise of Double Taxation*, 44 WM. & MARY L. REV. 167 (2002); Jeffrey L. Kwall, *The Uncertain Case Against the Double Taxation of Corporate Income*, 68 N.C. L. REV. 613 (1990).

116. Peter Eavis, *House Tax Plan May Shift Use of Corporate Debt*, N.Y. TIMES, (Apr. 5, 2017), <https://www.nytimes.com/2017/04/05/business/dealbook/congress-tax-deductions-corporate-trump.html> [<https://perma.cc/U85T-3R3E>]; Elaine Maag, Roberton Williams, Jeff Rohaly & Jim Nunns, *An Analysis of Marco Rubio's Tax Plan*, TAX POLICY CTR. (Feb. 11, 2016), <https://www.taxpolicycenter.org/sites/default/files/alfresco/publication-pdfs/2000606-an-analysis-of-marco-rubios-tax-plan.pdf> [<https://perma.cc/C2VJ-9N2V>].

117. See Erica York & Alex Muresianu, *The TCJA's Expensing Provision Alleviates the Tax Code's Bias Against Certain Investments*, TAX FOUND. (Sep. 5, 2018), <https://taxfoundation.org/tcja-expensing-provision-benefits/> [<https://perma.cc/5MFL-RDP9>]. But see Steve Wamhoff & Richard Phillips, *The Failure of Expensing and Other Depreciation Tax Breaks*, INST. ON TAXATION AND ECON. POLICY (Nov. 19, 2018), <https://itep.org/the-failure-of-expensing-and-other-depreciation-tax-breaks/> [<https://perma.cc/S485-4DUD>] (arguing that expensing does not actually encourage investment).

neuters an income tax, turning it into a consumption tax.¹¹⁸ Again, there are serious debates as between income taxes and consumption taxes, but anyone who wants to preserve the longstanding *income* tax system would oppose the Rubio and Better Way proposals as not-so-subtle attempts to end the income tax under the guise of ending the interest deduction.

As it turned out, Republican policymakers proved unwilling to go this far even when they held unified control of the government during the 115th Congress. The Tax Cuts and Jobs Act of 2017 provided for a partial version of immediate expensing: it increased the “bonus depreciation” percentage that businesses may claim for certain qualified property from 50% to 100%, for property that is placed in service through 2022 (with bonus depreciation phased down in the subsequent years).¹¹⁹ In a weak nod to the interrelationship between depreciation and the interest deduction, the Act also limited the deductibility of interest, as discussed below (“weak” in that the Act provided for complete, if temporary, expensing without completely eliminating the interest deduction). If Congressional Republicans chose not to eliminate the interest deduction under these circumstances—unified control, ability to pair it with a powerful expensing provision—when would they actually do so? Reading between the lines, it seems that the business interests behind Republican tax policy (for example, Chamber of Commerce, Business Roundtable) may not have wanted to part with the interest deduction just yet. Meanwhile, those who advocate higher business taxes would probably not choose to trade the interest deduction for permanent expensing.¹²⁰ And so Democrats do not appear a likely constituency for eliminating the interest deduction on terms that would appeal to any Republicans. Indeed, the most recent bipartisan tax reform bill introduced to Congress—by Democrat Ron Wyden and Republican Dan Coats in 2011—did not propose substantial changes to the interest deduction, but instead proposed “to disallow the part of the deduction that reflects inflation.”¹²¹ And what now that Democrats hold unified control of the government? Eliminating the corporate interest deduction did not

118. Noel B. Cunningham, *The Taxation of Capital Income and the Choice of Tax Base*, 52 TAX L. REV. 17 (1996); Alvin C. Warren, *Accelerated Capital Recovery, Debt, and Tax Arbitrage*, THE TAX LAWYER 549, 552-53 (1985).

119. I.R.C. § 168(k)

120. Because interest payments on debt used to acquire a particular investment usually amount to less than the face value of the investment, a rational businessperson would happily include interest payments in exchange for deducting the full purchase price of the investment. Of course, some businesses may borrow to fund expenses that are already deductible, with or without bonus depreciation (e.g. employee wages or services). Whether trading the interest deduction for permanent expensing would be a net revenue loser ultimately depends on the relative share of borrowing for capital investments compared to borrowing for deductible expenses in the business sector in aggregate.

121. The Wyden-Coats Bipartisan Tax Fairness & Simplification Act of 2011, Media Handout, <https://www.wyden.senate.gov/imo/media/doc/Offsets%20handout.pdf> [<https://perma.cc/TH8V-VPVK>].

appear on a wish list of twelve top “tax loopholes” to close, circulated by Senate Democrats in 2013.¹²² Democrats could conceivably come around to reducing the interest deduction, but it does not appear to be one of the top priorities for which they would be willing to risk political capital. Nor has the economic crisis brought on by the COVID-19 pandemic altered these legislative appetites. In fact, the CARES Act took a step in the opposite direction, expanding the availability of the interest deduction relative to changes made in the 2017 Tax Cuts and Jobs Act (discussed below).¹²³ Some Democratic Members criticized the Federal Reserve during the spring and summer of 2020 for channeling its bond purchases to companies that laid off workers, paid dividends during the pandemic, or have been accused of illegal conduct, but at no point did these criticisms coalesce into a critique of corporate borrowing in general or a proposal to modify the interest deduction in response.¹²⁴

No matter the opening positions that legislators may take, compromise is near-inevitable in the legislative process. If a complete repeal of the interest deduction turns out to be a political longshot—whether for the reasons I have named or the probability of compromise more generally—policymakers should craft compromise proposals that achieve as much of the potential benefit as possible while raising relatively little controversy. Insofar as we are interested in reducing excessive corporate debt, we can craft modified interest deduction proposals to pursue that goal while leaving some share of the existing deduction intact. Moreover, framing a reform of the interest deduction as a way to reduce business leverage and protect against macroeconomic risk might appeal to legislators from both parties, at least compared to framing it as closing a tax loophole, which typically appeals to Democrats but not Republicans. The value of crafting a well-targeted reform of the interest deduction becomes clear upon considering the Tax Cuts and Jobs Act of 2017, which narrowed the interest deduction in certain ways but did not tailor it to the problem of excessive leverage.

122. *The Senate Democrats’ List of Tax Breaks to Axe*, COMM. FOR A RESPONSIBLE FED. BUDGET (Nov. 8, 2013), <https://www.crfb.org/blogs/senate-democrats-list-tax-breaks-axe> [<https://perma.cc/GVG6-KDHN>].

123. As part of the CARES Act, Congress enacted a temporary update to the interest deduction that raises the allowable deduction from 30% of income to 50% of income for the 2019 and 2020 tax years. See I.R.C. § 163(j)(10).

124. See, e.g., *Prioritizing Wall Street: The Fed’s Corporate Bond Purchases During the Coronavirus Pandemic*, SELECT SUBCOMM. ON THE CORONAVIRUS CRISIS (Sep. 23, 2020), https://coronavirus.house.gov/sites/democrats.coronavirus.house.gov/files/Staff%20Report%20%289-23-2020%29_FINAL.pdf [<https://perma.cc/AX2T-PMU9>]; Zachary Warmbrodt, *Congress Slams Fed for Favoritism in Bond-Buying Bailout*, POLITICO (Jun. 24, 2020), <https://www.politico.com/news/2020/06/24/congress-fed-bond-bailout-338297> [<https://perma.cc/53R2-ZX6L>].

D. The Tax Cuts and Jobs Act Limits the Interest Deduction, but Is Poorly Targeted

Congress enacted the most significant change to business interest taxation in decades as part of the Tax Cuts and Jobs Act of 2017. Corporations may now only deduct interest up to 30% of the sum of their adjusted taxable income and business interest income. The new rule is a “thin capitalization rule,” as found in many foreign tax systems.¹²⁵ These rules, which limit the deductibility of interest in relation to capital structure, have been shown to effectively reduce corporate debt.¹²⁶ But the precise structure of the rule matters: for example, limits conditioned on debt-to-asset ratios reduce those ratios, while restrictions only on internal leverage (for example, subsidiary borrowing from parent) do not reduce group-wide debt.¹²⁷

Researchers have not yet been able to isolate the effect of the TCJA on corporate debt levels, but the Wharton Budget Model has estimated that about 10% of business interest expenses will be disallowed due to the new § 163(j), and that combined with a change to the corporate tax rate, the ratio of corporate capital to corporate debt will decline by 7-9% over the 2020s.¹²⁸ The question remains, however, whether the TCJA’s thin capitalization rule is designed to reduce the forms of debt that are most macroeconomically risky. To that point, there are several ways to structure a partial interest deduction, each of which serves a different purpose. It could be limited in relation to corporate income (the TCJA approach), limited in relation to the firm’s total interest expense (as Robert Pozen and Lucas Goodman propose), or limited in relation to the firm’s ratio of debt to equity (as I propose).

The TCJA’s revamped § 163(j) is less well-targeted than alternative options. Interestingly, the House Committee Report named the problem this provision meant to solve as “companies undertaking more leverage

125. For a review of recent iterations of the thin capitalization rule in Germany, the largest non-U.S. economy to have such a rule, see Martin Ruf & Dirk Schindler, *Debt Shifting and Thin-Capitalization Rules – German Experience and Alternative Approaches*, 1 NORDIC TAX J. 17 (2015).

126. Jennifer Blouin et al., *Thin Capitalization Rules and Multinational Firm Capital Structure* (Int’l Monetary Fund, Working Paper No. 14/12, 2014) (finding that interest deduction limitations indexed to an affiliate’s total debt-to-asset ratio reduced this ratio on average by 1.9%); Hermann Buslei & Martin Simmler, *The Impact of Introducing an Interest Barrier - Evidence from the German Corporation Tax Reform* (DIW Discussion Papers 1215, 2012) (estimating that German firms affected by the 2008 thin capitalization law have reduced their debt-to-asset ratios by 5.3%, an 8% reduction from the previous level).

127. *Id.*

128. *Lower Corporate Debt Projected Under the Tax Cuts and Jobs Act*, PENN WHARTON BUDGET MODEL (Nov. 2, 2018), <https://budgetmodel.wharton.upenn.edu/issues/2018/11/2/lower-corporate-debt-projected-under-the-tax-cuts-and-jobs-act> [https://perma.cc/39AU-EWBU].

than they would in the absence of the tax system.”¹²⁹ Limiting the deductibility of interest would encourage equity finance and lead to “a more efficient capital structure for firms.”¹³⁰ Given this goal, the Committee added, quite logically, that limitations on the deductibility of interest should be applied “to those businesses with the greatest levels of leverage.”¹³¹ But the enacted § 163(j) does not distinguish between companies based on their leverage level. Instead, it limits the deduction of interest beyond the sum of interest income and 30% of the taxpayer’s adjusted taxable income.¹³² Accordingly, a firm could have a reasonable debt-equity ratio but still be denied deductions if it had low profits. Conversely, a firm could finance entirely with debt so long as it brings in sufficient income that interest payments never exceed 30% of income. In the short term, this arrangement would seem to satisfy any Congressional concerns about financial distress: the firm’s income is high and its financial position appears to be strong. But, if and when conditions change and the firm’s income falls, the choice to be entirely debt-financed will suddenly appear reckless. Moreover, it is not declines in income alone that can sink heavily indebted companies. For companies with collateralized debt, declining value of that collateral can trigger margin calls and force a liquidity crisis.¹³³ This suggests that measuring debt in relation to income is insufficient to anticipate which companies will be at risk of distress.

The second problem with § 163(j), as an attempt to limit corporate leverage, is that its focus is limited to forms of debt that could be included in U.S. income in the first place. But U.S. firms can obtain leverage by borrowing offshore and taking advantage of interest deductions in non-U.S. jurisdictions.¹³⁴ Alternatively, they can borrow in the United States and lend the proceeds to an affiliated entity outside the country. In the first scenario, the firm could take an interest deduction against its income in the foreign jurisdiction (depending on the tax laws of that country). In the second scenario, the U.S. firm would necessarily generate sufficient interest income (from interest payments made to it by the non-U.S.

129. H.R. REP. NO. 115-409, at 247 (2017).

130. *Id.*

131. *Id.* at 248.

132. The limit also includes the taxpayer’s floor plan financing interest.

133. In the recent bankruptcy of Hertz Global Holdings Inc., for example, a precipitous decline in income due to the COVID-19 pandemic weakened the company, but the proximate cause of bankruptcy seems to have been margin calls on its vehicle-backed debt, triggered by the declining value of used cars. Becky Yerak, *Hertz Fleet Losing Value by the Day, Hindering Restructuring Efforts*, WALL ST. J. (May 27, 2019), https://www.wsj.com/articles/hertz-fleet-losing-value-by-the-day-hindering-restructuring-efforts-11590616785?mod=itp_wsj&ru=yahoo [<https://perma.cc/WJ84-LDCL>].

134. Robert E. Holo, Jasmine N. Hay & William J. Smolinski, *Not So Fast: 163(j), 245A, and Leverage in the Post-TCJA World*, 128 YALE L.J. 383, 389 (2018) (“Although Congress’s aim may have been to reduce incentives for using significant debt in acquisition and capital structures, post-TCJA § 163(j) may instead incentivize large multinational corporations to seek out modified capital structures that are not subject to § 163(j), such as offshore debt or debt-like instruments.”).

affiliate) to claim a full deduction for the original loan.¹³⁵ This might seem like an issue of the fundamental design of the international tax regime, that is, how to deal with arbitrage between jurisdictions with different rates, inclusions, and deductions. But one need not resolve those issues in order to design a version of § 163(j) that takes into account a corporation's entire global capital structure.

While no econometric studies have yet been able to untangle the impact of § 163(j) from other factors affecting the corporate debt market, tax journalists have reported that companies are not substantially changing their financing practices in response to the new rules. In a June 2019 article, Bloomberg Tax's Lydia O'Neal raised four reasons why companies were not moved by the modified interest deduction: that 30% of income was not a difficult limit for most companies; the possibility of carrying forward one's excess interest indefinitely to future years; exemptions for certain industries including real estate; and that even for companies that run up against the 30% ceiling, a substantial, if incomplete, deduction remains better than none.¹³⁶ As one tax advisor stated, "Why would I stop issuing debt that's limited as opposed to issuing equity that's not deductible at all?"¹³⁷ This comment suggests that in order to change firms' calculus, the law might need to forbid any interest deduction, at least for the most heavily indebted firms. Each shortcoming likewise could be addressed by careful design choices for a modified interest deduction. Nondeductible interest payments might expire after a certain number of years, or not be carried forward at all. High-debt industries (like real estate) might not be exempted from the rule entirely, but rather subjected to different limits (for example, a higher debt-equity threshold, as I propose below).¹³⁸ Most fundamentally, the 30% income limit would become irrelevant if the limitation were conditioned on capital structure, as I propose below.

E. The Interest Deduction Should Be Conditioned on Capital Structure

In my proposal, a corporation would be allowed to deduct a fixed proportion of the interest on its debt so long as its level of debt was at or below a statutory target. A firm that meets the target might be allowed to deduct all its interest, or alternatively only a fraction along the lines of the 65% number proposed by Pozen and Goodman.¹³⁹ Firms with debt levels

135. *Id.* at 390.

136. Lydia O'Neal, *Debt Still Holds Allure for Companies Despite Tax Law Restriction*, BLOOMBERG TAX (Jun. 10, 2019), <https://news.bloombergtax.com/daily-tax-report/debt-still-holds-allure-for-companies-despite-tax-law-restriction> [<https://perma.cc/93XQ-8WEH>].

137. *Id.*

138. I.R.C. § 163(j)(7) exempts utility businesses, "any electing farming business," and "any electing real property trade or business."

139. Robert C. Pozen & Lucas W. Goodman, *Capping the Deductibility of Corporate Interest Expense*, TAX NOTES (Dec. 10, 2012), <http://corpgov.law.harvard.edu/wp->

above the statutory target would be allowed to deduct only a smaller fraction of their interest, perhaps as low as zero (as suggested in Section IV.D above). The target could be formulated as a debt-to-equity ratio, as a debt-to-income (for example, debt-to-EBITDA) ratio, or as a more customized, firm-by-firm calculation of default probability (that is, akin to bond ratings). At a high level, these are three alternative ways of telling whether a firm has “too much” debt. But there is a significant choice to be made among them, as different sorts of firms will qualify under each alternative measurement. I will review each option in turn.

Conditioning deductibility on a debt-to-income ratio would be relatively more similar to the structure of § 163(j), discussed above, in that a firm with high income could afford to carry high debt and still enjoy deductibility. If income suddenly declines, that firm finds itself overburdened with debt. To see this problem in action, consider why, as part of the CARES Act, Congress enacted a temporary update to the interest deduction that raises the allowable deduction from 30% of income to 50% of income for the 2019 and 2020 tax years.¹⁴⁰ Given the expectation that many firms would lose income in 2020, a constant level of debt payments would suddenly eat up a larger percentage of taxable income. But this experience demonstrates the disadvantage of formulating interest limits as percentages of income. Any limit on deducting interest will appear counterproductive during a downturn: as incomes decline, so does the allowable deduction. In 2020, Congress was able to act, adjusting the deduction limit for the year. But there is no guarantee that Congress will be able to do the same during each subsequent macroeconomic slump, especially if the downturn is less noticeable and salient in real-time than the 2020 experience. The lesson is that Congress should formulate the interest limit in a way that applies relatively consistently across phases of the business cycle, or else it will be forced to update the provision each time incomes change while interest payments remain fixed in place.

The next alternative is to use a bespoke measure of each firm’s financial health or default probability. In theory, corporate bond ratings seem well-suited for this role; Congress could set the threshold for non-deductibility at the top of the high yield category, or those below BBB-. But many smaller firms do not have publicly rated bonds, and so equitable administration would require an objective metric calculated on the basis of financial statements. One approach would be to use a reputable bankruptcy prediction model from the finance literature, such as Altman’s Z-score.¹⁴¹ Z-scores classified as in the “grey zone” or in distress

content/uploads/2013/01/Capping-the-Deductibility-of-Corporate-Interest-Expense.pdf
[<https://perma.cc/RZ5N-Z7NK>].

140. I.R.C. § 163(j)(10).

141. The Z-score is calculated as: $1.2(\text{Net Working Capital}/\text{Total Assets}) + 1.4(\text{Retained Earnings}/\text{Total Assets}) + 3.3(\text{Earnings Before Interest and Taxes}/\text{Total Assets}) + 0.6(\text{Market}$

correspond empirically to bonds rated BB and below, suggesting that Z-scores could be used to target the equivalent of the high-yield category for the complete universe of rated and unrated bonds.¹⁴² However, a tool like the Z-score aspires to greater precision than Congress may wish to apply. While Z-scores (as well as bond ratings) are meant to help banks discriminate credit risk among individual borrowers, there is an argument that Congress should set a broad standard with respect to healthy capital structure, and not punish or reward companies for idiosyncratic circumstances, even if those circumstances really do affect default risk. After all, public policy is concerned with the possibility of mass default and attendant macroeconomic harm, not isolated individual bankruptcies. The purpose of an interest deduction limit like the one I propose is to shift corporate debt practices on a broad scale, not to accurately identify and deny a deduction to every last distressed firm. Further, as an administrative matter, it would be easier for the IRS to administer a relatively blunter measure like a debt-to-income or debt-to-equity ratio.¹⁴³

On these considerations, Congress should condition the interest deduction on firms' debt-equity ratios—the simplest measurement of whether a firm has too much debt. Additionally, this metric should be calculated based on the book value of equity rather than its market value. This is because market value of equity is subject to volatile swings based on investors' changing perceptions. A debt-equity ratio based on book values will be a more stable construct than a ratio that takes income and/or market value into account. Stability is desirable both for the firms themselves (who want to anticipate their tax obligations) and for Congress, so as to avoid having to amend the Code in response to economic downturns like in 2020. The next issue is whether to use the same target debt-equity ratio across all firms, or to vary the target by industry. It is typical for firms in asset-heavy industries to carry more debt. But the difference in median debt-equity ratios between asset-heavy and asset-light industries is small compared to the difference between the banking

Value of Equity/Book Value of Liabilities) + 1.0(Sales/Total Assets). Scores below 1.8 indicate that bankruptcy is possible. Edward I. Altman, *Predicting Financial Distress of Companies: Revisiting the Z-Score and ZETA® Models*, in HANDBOOK OF RESEARCH METHODS AND APPLICATIONS IN EMPIRICAL FINANCE (Adrian R. Bell, Chris Brooks & Marcel Prokopczuk eds., 2013).

142. Edward Altman, *50 Years of Z-Score: What Have We Learned and Where Are We in the Credit Cycle?*, CFA INDIA SOC. 10 (Feb. 6, 2019), https://financedocbox.com/Mutual_Funds/126823153-50-years-of-z-score-what-have-we-learned-and-where-are-we-in-the-credit-cycle.html [<https://perma.cc/RB8-4PWQ>].

143. A related measure preferred by some analysts would be the ratio of debt to pretax operating profits. See John Lonski, *Ratio of Debt to EBITDA Is a Poor Predictor of the Default Rate*, MOODY'S ANALYTICS (Jul. 26, 2018), <https://www.moodyanalytics.com/-/media/article/2018/weekly-market-outlook-ratio-of-debt-to-ebitda-poor-predictor-of-default-rate.pdf> [<https://perma.cc/X2VV-JFUG>].

and financial services industries and all others.¹⁴⁴ Therefore, the simplest way to administer the limited interest deduction would be to use one maximum debt-equity ratio for financial services firms, and a second maximum ratio for all others. The mean debt-to-equity ratio for non-financial firms is around 1.0, while the mean ratios for money center banks and other financial services firms are 1.8 and 19.0, respectively. Ultimately, Congress should delegate to the Secretary of the Treasury to set and maintain these ratios. The Secretary might set the target ratios slightly above these observed means, effectively denying complete deductions to only a minority of firms with the largest debt loads. And by delegating the decision to the agency level, Treasury would be able to adjust the ratios every few years as prevailing leverage practices change.

Just as the rule should distinguish between industries, it should also distinguish between mature and early-stage companies. Early-stage companies tend to be highly leveraged for several reasons. Credit markets are much more developed than equity markets for small businesses, especially those operating on a local level. Nearly every town has a bank that makes loans, but very few have venture capitalists willing to take equity in a young company. Even when outside equity is available, the owners of early-stage companies may be reluctant to take outside investment in order to preserve their own equity stake and that of early employees. This preference can be viewed as an offshoot of the pecking order theory discussed in Section I.C: when managers are highly optimistic about the firm's future compared to outside investors (as is the case for many owner-operators), they prefer to issue debt over equity. One survey of new businesses started in 2004 and interviewed over the next seven years found that the average firm's financial capital consisted of 51% debt, or a debt-equity ratio of about 1.04.¹⁴⁵ A second study performed on a more comprehensive version of the same underlying survey data found that the average firm consisted of 53% debt, or a debt-equity ratio of about 1.13.¹⁴⁶ These ratios are only slightly larger than the mean for non-financial firms as a whole. Still, these firms face a different situation in that nearly all their equity is owner equity. If they seek to raise outside capital, debt may be the only realistic option. The same interest limitation that gives mature firms a viable option of using equity could unduly penalize these younger firms that need debt to grow. For this reason, small and early-stage firms should be exempt from the modified interest deduction. And because these

144. Data made available by Professor Aswath Damodaran, http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/dbtfund.htm [<https://perma.cc/3G3T-V563>].

145. Susan Coleman, Carmen Cotei & Joseph Farhat, *The Debt-Equity Financing Decisions of US Startup Firms*, 40 J. ECON. & FIN. 105, 111-12 (2016).

146. Alicia M. Robb & David T. Robinson, *The Capital Structure Decisions of New Firms*, 27 REV. FIN. STUD. 153, 164 (2014).

firms are relatively small, it is less likely that their defaults would contribute to macroeconomic risk to nearly the same degree of larger firms. This consideration provides a good reason to define the exempt category by reference to firm size rather than firm age. A convenient threshold is the Small Business Administration's definition of a small business, which varies by NAICS industry code and may be defined by either number of employees or annual receipts.¹⁴⁷ The SBA definitions provide a more fine-grained definition of small business than the exemption currently written into § 163(j)(3), which exempts businesses with average receipts under \$25 million from the 30% of taxable income limitation.¹⁴⁸ The modified interest deduction should state that any small business, defined as such under 13 C.F.R. § 121.201, shall be allowed a deduction of all interest paid or accrued within the taxable year, regardless of debt-equity ratio.

Structured this way, the rule would directly address the problem of excessive corporate debt. The hypothetical large firm with 100% debt and steady income would not be entitled to a full deduction under this rule. Nor would international tax gamesmanship present a problem. Each firm would be required to report its global debt-equity ratio, accounting for all securities issued in the U.S. and abroad. Firms would still be able to claim interest deductions in foreign jurisdictions for their foreign borrowing, but the point is that the U.S. tax system would take that borrowing into account in determining how much of a deduction to grant for U.S. debt. By distinguishing between firms based on leverage ratios, this proposal would directly address the financial distress concerns that motivated the 2017 House Committee Report to state that a limit on deductibility should be applied “to those businesses with the greatest levels of leverage.” In addition, this formulation seems likely to fall within the comfort zone of the Congressional drafters in that it resembles a debt-equity limit that the former § 163(j) used for a more limited purpose prior to the TCJA.¹⁴⁹ Limiting interest deductions on the basis of target debt-equity ratios is also a well-established practice internationally: most European companies have maintained thin capitalization rules triggered by debt-equity ratios around 3:1 or 4:1, although in most cases these rules only restrict the deductibility of interest on loans provided to the domestic company by a foreign parent or affiliate (as was the case for the pre-2017 § 163(j)).¹⁵⁰

147. 13 C.F.R. § 121.201.

148. I.R.C. § 163(j)(3); I.R.C. § 448(c). Note that the SBA uses receipts thresholds both above and below \$25 million, depending on the industry.

149. The former § 163(j) denied deductions for interest paid to a related party if no U.S. tax was imposed on the corresponding interest income (that is, interest paid to a non-U.S. related party lender). In this context, the disqualification did not apply if the U.S. corporation had a debt-to-equity ratio less than 1.5. I.R.C. § 163(j)(2)(A)(ii).

150. Thiess Buettner et al., *The Impact of Thin-Capitalization Rules on the Capital Structure of Multinational Firms*, 96 J. PUB. ECON. 930, 932 tbl. 1 (2012). The European Union

Implementing the limited interest deduction would require several additional decisions as well as ongoing enforcement infrastructure. One key design decision is whether to allow firms to carry forward nondeductible interest to future years. As discussed above, the ability to carryforward interest costs indefinitely has reportedly limited the bite of § 163(j). The German thin capitalization rule limits the use of unused interest deductions to a five-year period. Carryforwards make some sense in the context of rules like § 163(j) or the German equivalent, where taxpayers are allowed to deduct interest up to a threshold; anything above the threshold can be counted in the next year. But carryforwards make less sense under the leverage ratio rule, where no interest whatsoever is deductible for a firm above the debt target. Allowing a firm to deduct all its year-old interest in the subsequent year, so long as it squeezed below the debt target, would undermine the point of having disallowed a deduction in the original year. The rule would have a stronger incentive effect on financing decisions by allowing no workaround for firms that take on nondeductible debt.

The ongoing administration of the limited interest deduction would require annual information on each taxpayer firm's global debt equity ratio. The IRS could use a lightly modified version of Form 8926 to collect this information.¹⁵¹ Prior to 2017, Form 8926 was used to calculate taxpayers' debt-equity ratio for the purpose of policing the interest deduction between related-party borrowers and lenders and could easily be adopted for this new purpose. Form 8926 would be a mandatory annual submission for all corporations and partnerships that do not fall under the small firm exemption, discussed above. The IRS would be responsible for auditing tax returns to investigate suspicious understatements of taxpayer indebtedness, just as it audits returns for other accounting issues.

Conclusion

In this Note, I have argued that the Federal Reserve's coronavirus lending programs are the final straw that should end the long-standing debate over the deductibility of corporate debt. Tax incentive and bailout protection combine to produce a bias in favor of debt finance, at a time when American companies are already dangerously over-leveraged. The best solution would be to completely eliminate the interest deduction. If Congress is not willing to go that far, the 2017 Tax Act's reformulation of

has recently begun to implement a harmonization of these rules across its member countries as part of the Anti-Tax Avoidance Directive. See *EU Anti-Tax Avoidance Directive: Implementation of Interest Expense Limitation Rule*, DELOITTE (Feb. 2020), <https://www2.deloitte.com/content/dam/Deloitte/global/Documents/Tax/dttl-tax-eu-anti-tax-avoidance-directive-implementation-of-interest-expense-limitation-rule.pdf> [https://perma.cc/6YTX-G5MP].

151. IRS Form 8926 (Revised Dec. 2017).

§ 163(j) indicates a willingness to put a limit on the deduction. In that case, I have argued that the limit should better target the firms with the riskiest capital structures, as measured by debt-equity ratios.

Corporate debt levels are the product of many factors: firm size, profitability, interest rates, tax rules, the equity risk premium, bankruptcy rules, the market for corporate control, and institutional features of capital markets.¹⁵² Any effort to reduce overall debt levels must take all these factors into account. Scholars conventionally treat some of these factors (for example, tax) as subject to deliberate policymaking, while others are treated as emergent outcomes of private markets. The effect of expected bailouts like the Fed’s coronavirus lending programs falls somewhere in the middle of that continuum. Bailouts are a policy choice, but they are difficult to commit to (or commit to avoid) in advance. For that reason, it makes the most sense to treat bailouts as a likely but relatively uncontrollable feature of the government’s overall capital markets policy, and to adjust those policies that *can* be controlled to compensate for the resulting debt bias.

A critic might reply that, by my logic, a complete analysis of federal capital structure policy should not be limited to taxes and bailouts alone. I agree. Among other factors that bear on capital structure decisions, the one with the closest connection to federal law is undoubtedly the cost of bankruptcy. Researchers estimate that financial distress typically costs 10-20% of firm value.¹⁵³ The concept of distress costs includes both indirect costs—that is, the impaired ability to conduct business—and direct costs, or the legal and administrative costs of reorganization and/or bankruptcy proceedings.¹⁵⁴ Federal policy has a relatively tenuous connection to indirect costs, which are mostly a function of private counterparties’ willingness to deal with a distressed firm. But federal bankruptcy law has a relatively direct relationship to the direct costs of filing and proceeding through bankruptcy court. The more expensive the bankruptcy process, the less likely are firms to issue debt (for example, federal law could discourage debt by charging very high fees to use the bankruptcy system). One difficulty is that there is no obvious baseline for how expensive the bankruptcy system should “naturally” be. With due respect for the truism that no policy choice is natural, it is at least analytically simple to compare the interest deduction to a putative baseline where interest is not deductible, or to compare the Fed’s corporate debt purchases with the prior status quo where there were no such purchases. It is much less clear whether the current bankruptcy regime is more or less costly than the

152. For a review, see Raghuram G. Rajan & Luigi Zingales, *What Do We Know About Capital Structure? Some Evidence from International Data*, 50 J. FIN. 1421 (1995).

153. Gregor Andrade & Steven N. Kaplan, *How Costly is Financial (Not Economic) Distress? Evidence from Highly Leveraged Transactions that Became Distressed*, 53 J. FIN. 1443 (1988).

154. STEPHEN A. ROSS ET AL., *FUNDAMENTALS OF CORPORATE FINANCE* (2008).

manifold alternatives. Still, research on how the federal bankruptcy law affects corporate financing decisions relative to plausible alternatives would be a welcome addition to my claim that federal policy, in total, encourages debt.

Beyond tax and bankruptcy, scholars should reevaluate additional aspects of federal law and policy in light of the Fed's new debt subsidy. The overarching principle is that, as a potential creditor of distressed firms, the federal government should take an interest in mitigating such distress in the first place. In antitrust merger review, this might mean taking into account the level of debt that an acquirer takes on to finance the transaction. As discussed in Part I, the predominant use of leveraged loans is to finance acquisitions. A recent IMF report on global financial stability pointed to debt-funded M&A as a growing source of systemic financial risk.¹⁵⁵ The FTC and DOJ's merger review processes do not currently take macroeconomic risk into account among their criteria for approving a transaction, but Congress should consider adding it into the equation. It may even be possible to argue, under current law, that mergers that increase systemic risk (in the form of default risk and attendant market disruption) are harmful to competition and can be blocked as violations of the Clayton Act.¹⁵⁶ Merger review is an appropriate forum for policing excessive debt because (a) it is one of the few circumstances in which, under current law, the federal government can accept or reject proposed transaction structures, and (b) a large share of high-yield debt is assumed in the context of mergers and acquisitions in the first place.

Of course, the irregularity of merger review is not ideal for any effort to regulate corporate debt levels on an ongoing basis. The federal government might go further and institute direct capital and/or liquidity requirements on non-financial firms, analogous to those that apply to banks. Nathan Tankus poses liquidity regulation as a direct alternative to the twinned policies of raising corporate taxes during good times and bailing out corporations in crises.¹⁵⁷ He suggests that liquidity requirements can function as a compulsory savings mechanism and may meet less political resistance than corporate taxes because they are perceived as temporary and allow firms to keep assets on "their own" balance sheets. Of course, liquidity requirements and taxes need not be mutually exclusive.

155. *Global Financial Stability Report: Lower for Longer*, INT'L MONETARY FUND 28-29 (Oct. 2019), <https://www.imf.org/en/Publications/GFSR/Issues/2019/10/01/global-financial-stability-report-october-2019#FullReport> [<https://perma.cc/ZA2U-3DHM>].

156. This argument would build on recent work demonstrating that some mergers increase systemic risk to trading partners and that this is a cognizable antitrust harm under the Clayton Act. See Doni Bloomfield, *Competition and Risk* (April 2, 2020), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3566661 [<https://perma.cc/9LNG-9TBR>].

157. Nathan Tankus, *Should We Force Businesses to Save More for a Rainy Day?*, NOTES ON CRISES (Mar. 31, 2020), <https://nathantankus.substack.com/p/should-we-force-businesses-to-save> [<https://perma.cc/MMP5-5B4Q>].

As for capital regulation, one can find shadows of minimum capital requirements in the “thin capitalization” tax rules discussed in Section IV.B above, and in the common law practice of piercing the corporate veil when a firm is suspiciously under-capitalized.¹⁵⁸ But outright capital requirements for non-financial firms have not received much academic or policy attention.¹⁵⁹ Though bank capital requirements present a salient constraint for nearly all banks, which are typically funded overwhelmingly with debt, any one-size-fits-all capital requirement would likely only be relevant for a small portion of non-financial firms that come near the minimum equity ratio.¹⁶⁰ Given that industries vary greatly in their typical borrowing practices, capital requirements would probably be best pursued on a sector by sector basis.

As a matter of political institutions, a limited interest deduction would fit more neatly into the current structure of the administrative state than a capital requirement. The IRS already reviews corporate income statements, while no federal agency exists to regulate corporate assets in the manner that the Federal Reserve and the Office of the Comptroller of the Currency regulate bank assets. Institutional path dependence predicts that capital structure policy will remain a matter of tax policy. All the more important, then, for tax policy to get its conception of capital structure right.

158. See Harvey Gelb, *Piercing the Corporate Veil - The Undercapitalization Factor*, 59 CHI.-KENT L. REV. 1 (1982).

159. But see Sebastian Poledna et al, *Identifying Systemically Important Companies by Using the Credit Network of an Entire Nation*, 20 ENTROPY 792 (2018).

160. On why bank leverage is so high, see ANAT R. ADMATI & MARTIN HELLWIG, THE BANKERS' NEW CLOTHES: WHAT'S WRONG WITH BANKING AND WHAT TO DO ABOUT IT (2013). For the perspective that bank leverage is appropriately high, see Harry DeAngelo & René M. Stulz, *Why High Leverage Is Optimal for Banks*, (Nat'l Bureau of Econ. Research, Working Paper No.19139, 2013).