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Tax and the Boundaries of the Firm

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ABSTRACT

One of the most fundamental questions of economics is how firms decide what to produce themselves (“make”) and what to purchase from other firms (“buy”). We analyze how income taxes distort firms’ decisions along this and related dimensions. Three main effects emerge.

First, intrafirm transactions allow firms to reduce their tax burdens, such as by shifting their income to lower-tax jurisdictions. This effect is inherent to an income tax. It makes firms bigger, encouraging them to “make” more and “buy” less. Second, implementing an income tax entails enacting many additional rules, none of which is inherent to an income tax. Many of these rules affect the boundary of the firm. Some expand it; others contract it. However, these expansions and contractions generally operate along different dimensions, and thus do not offset each other. Finally, income taxes encourage regulatory arbitrage transactions, which enable firms to achieve their desired tax treatment without changing the economic boundary of the firm. These transactions preserve the boundary of the firm, but also create complexity, opacity, and inefficiency.

Our analysis provides insight into many important and timely tax policy questions, including the relative value of corporate income taxes and VATs, the merits of the Tax Cuts and Jobs Act of 2017, and the OECD’s ongoing Base Erosion and Profit Shifting Project.

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I. INTRODUCTION

How does the income tax shape the boundaries of the firm? This Article goes back to foundational ground—Ronald Coase’s Nobel Prize-winning work on the nature of the firm—to gain some traction on this elementary question.

In some instances, the entire process of production, from raw materials to finished product, takes place within a single firm. Other times, firms rely on numerous suppliers for essential production components—and these suppliers may themselves rely on other suppliers. Many more industries fall somewhere in between these two extremes, relying partly on external suppliers and partly on internal production.

Economists have long sought to discern what causes companies to concentrate production internally or acquire inputs from other firms. This question is often referred to as the “make or buy” decision, as firms can either make an input themselves or buy it from an external supplier. Most famously, in *The Nature of the Firm*, Ronald Coase posited that the key to the “make or buy” question depended on the relative advantages of making a product inside the firm compared to the costs of purchasing inputs outside the firm.¹

Purchasing inputs from outside the firm enables the firm to take advantage of the invisible hand of the marketplace.² Competition among potential suppliers can help the firm acquire inputs at the lowest cost.³

¹ Ronald H. Coase, *The Nature of the Firm*, 4 *ECONOMICA* 386 (1937).

² *Id.*

³ *Id.*

Moreover, easily visible market prices make it easier for the firm to allocate economic resources in an efficient way.⁴

The chief disadvantage of purchasing inputs from outside the firm is that doing so introduces the costs we now call “transaction costs.” These include the cost of finding suitable suppliers, the cost of acquiring and processing information, the costs of negotiating and enforcing contracts, and the costs of hold-up, moral hazard, and other strategic behavior.⁵ The boundaries of the firm are set where transaction costs outweigh the benefits of the market; in those circumstances, the entrepreneur will choose to make the production input in question rather than buy it in the marketplace.⁶

A vast literature in transaction cost economics has expanded on this Coasean approach to understanding why firms exist and how they are organized. Scholars have examined how various factors affect the make or buy decision and alter the boundaries of firms.⁷ However, no one has examined how the income tax, a ubiquitous feature of modern economies,⁸ affects the boundaries of the firm.

Of course, tax scholarship has considered some related questions. The academic literature, especially in law reviews, has focused primarily on how tax distorts the ways that companies fund themselves. An extensive literature considers how tax affects the decision to finance marginal investments with debt, equity, or retained earnings⁹—that is, the right-hand side of the balance sheet.¹⁰

⁴ *Id.*

⁵ See Jordan M. Barry, John William Hatfield & Scott Duke Kominers, *Voluntary Transactions Costs*.

⁶ Coase, *supra* note 1.

⁷ See, e.g., Armen A. Alchian & Harold Demsetz, *Production, Information Costs, and Economic Organization*, 62 AM. ECON. REV. 777 (1972); Sanford Grossman & Oliver Hart, *The Costs and Benefits of Ownership: A Theory of Lateral and Vertical Integration*, 94 J. POL. ECON. 691 (1986); Oliver Hart & John Moore, *Property Rights and the Nature of the Firm*, 98 J. POL. ECON. 1119 (1990); Michael C. Jensen & William H. Meckling, *Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure*, 3 J. FIN. ECON. 305 (1976); OLIVER E. WILLIAMSON, *THE ECONOMIC INSTITUTIONS OF CAPITALISM: FIRMS, MARKETS, RELATIONAL CONTRACTING* (1985); Luigi Zingales, *In Search of New Foundations*, 55 J. FIN. 1623, 1624 (2000).

⁸ See, e.g., *Tax on Personal Income*, OECD DATA, <https://data.oecd.org/tax/tax-on-personal-income.htm>; *Tax on Corporate Profits*, OECD DATA, <https://data.oecd.org/tax/tax-on-corporate-profits.htm#indicator-chart>.

⁹ For example, there is a “new view” and “old view” on how the income tax affects companies’ dividend policies.

¹⁰ The right-hand side of the balance sheet consists of liabilities and equity, also referred to as the capital structure of the firm. See, e.g., IVO WELCH, *CORPORATE FINANCE* (5th ed. 2022).

Reading this literature, one might get the sense that the left hand side of the balance sheet¹¹—what a firm does, where, and with whom—should be taken as a given, as if it were somehow determined in a world without taxes.¹² The literature has not explored how the income tax distorts “real” (non-financial) management decisions, such as how to organize a firm, whether to “make” or “buy” key aspects of production, where to locate assets and production functions within the firm, and how and where to reinvest profits.

We fill this gap in the literature by returning to a Coasean perspective, which refocuses the inquiry on these important questions. We start with the conceptual insight that an income tax distorts the boundaries of the firm because it distinguishes between market and nonmarket transactions: All modern income taxes measure income based on market transactions which occur outside the boundaries of the firm and thus are more visible to taxing authorities. Intrafirm transactions create opportunities to shift income within the firm in advantageous ways—for example, to shift income to lower-tax jurisdictions, or to defer recognition of income until a later date.¹³ This effect, inherent to an income tax, encourages firms to “make” more and “buy” less than they would otherwise.

For example, consider a hypothetical U.S.-headquartered firm that sells clothing worldwide. Assume the firm has a choice between either (1) building a new clothing factory in Cambodia or (2) contracting with an unrelated Cambodian clothing manufacturer. By expanding its boundaries into Cambodia, the U.S.-headquartered company may be able to shift profits to Cambodia, a lower-tax jurisdiction.¹⁴ By contrast, simply contracting with a foreign manufacturer would not offer the same opportunity. Thus, in this instance, the U.S. income tax favors “make” over “buy,” expanding the boundary of the firm at the margin.

Our income tax regime also affects the boundary of the firm in many other ways. These effects are not intrinsic parts of an income tax. Instead, they represent separate choices that policymakers have made. For instance, consider the tax treatment of losses. Taxpayers reporting net annual losses

¹¹ The left-hand side of the balance sheet consists of the assets of the firm.

¹² There are exceptions. See, e.g., Li Liu, *Do Taxes Distort Corporations’ Investment Policy? Evidence from Industry-Level Data* (unpublished paper, Oct. 2011) (finding that the U.S. corporate income tax distorts the allocation of capital investment).

¹³ Of course, various tax rules, such as the transfer pricing rules, try to police against income shifting. But such rules have proven difficult to design and enforce, leading to low effective tax rates for many multinational corporations. See notes 188-**Error! Bookmark not defined.** and accompanying text.

¹⁴ Cambodia has a corporate tax but offers exemptions for many foreign direct investment projects. See Manuk Ghazanchyan, Alexander D. Klemm & Yong Sarah Zhou, *Tax Incentives in Cambodia*, IMF Working Paper 1871 (2018), available at <https://www.elibrary.imf.org/view/journals/001/2018/071/001.2018.issue-071-en.xml>

generally are not entitled to collect payments from the government. Instead, they must wait until they have taxable income, at which point they can deduct their losses from that income.¹⁵ There are also rules that make it difficult for a company with losses to transfer those losses to a separately owned business that could (presumably) put them to use.¹⁶ However, within a firm, losses from one line of business can be used immediately to offset income from another. Taken together, these rules advantage larger, combined enterprises, expanding the boundary of the firm at the margin.

There are also many rules in the tax code that give advantages to small businesses of various types.¹⁷ These provisions are a heterogeneous group: Some bestow benefits to the companies directly,¹⁸ while others provide benefits to investors in small businesses.¹⁹ Some are driven by a policy choice to encourage and reward small businesses, while others are driven by administrative or compliance concerns.²⁰ Their definitions of small business vary significantly.²¹ But despite their differences, all of these provisions encourage breaking enterprises into smaller pieces, shrinking the boundary of the firm at the margin.²²

There are many other ways in which the tax code's (understandable) differential treatment of intra- and inter-firm transactions can affect the boundary of the firm, and we give additional examples later in this Article.²³ Some of these provisions expand the boundary of the firm; others contract it. But a key observation is that the expansions and contractions operate along different dimensions. Thus, they generally do not offset each other, rendering each distortion problematic; two wrongs are unlikely to make a right in this instance.

¹⁵ 26 U.S.C. § 172.

¹⁶ 26 U.S.C. § 382.

¹⁷ See, e.g., 26 U.S.C. §§ 41(b)(3)(D), 1202, 1244, 1045; Mirit Eyal-Cohen, *Down-Sizing the "Little Guy" Myth in Legal Definitions*, 98 IOWA L. REV. 1041, 1062 (2012).

¹⁸ See, e.g., 26 U.S.C. § 474 (allowing simplified dollar-value inventory pricing for small companies using LIFO).

¹⁹ See, e.g., 26 U.S.C. § 1045 (allowing taxpayers to defer gains from certain sales of the stock of small businesses if they reinvest in other small businesses); 26 U.S.C. § 1202 (partially excluding from income gain from certain sales of the stock of small businesses); 26 U.S.C. § 1244 (converting capital losses to ordinary losses when they arise from the sale of stock in a small business).

²⁰ See Eyal-Cohen, *supra* note 17.

²¹ See, e.g., 26 U.S.C. § 474 (defining "small" as having less than \$5,000,000 annual gross receipts over the previous three years); 26 U.S.C. §§ 1045, 1202 (defining "small" as having less than \$50,000,000 in assets); 26 U.S.C. § 1244 (defining "small" as a corporation that has raised \$1,000,000 in equity capital or less).

²² A provision does not need to be explicitly limited to small businesses to advantage small businesses, thereby shrinking the boundary of the firm at the margin. For example, consider a corporate income tax that was highly progressive with steeply climbing rates. We discuss other provisions that have this effect later.

²³ See *infra* Part III.B.

In other instances, firms adopt legal structures that enable them to obtain the same favorable tax treatment without significantly changing their business activities. This technique, known as regulatory arbitrage,²⁴ enables economic activity to continue more or less as it would in a world without taxes. The primary effect of tax under these conditions is not a real distortion of economic activity, but rather an increase in transaction costs both within and outside the firm. Firms become more complex, less transparent, and more costly to do business with.²⁵ Some of these tax-planning techniques have recently been in the public eye, with Congressional inquiries into Apple, Microsoft, and Hewlett-Packard and with press coverage of Google, Starbucks, and other high-profile companies. Politicians express outrage at the byzantine structures concocted to avoid tax yet fail to fully understand the ways that the tax code encourages this complexity.

Accordingly, our analysis yields both a theoretical contribution and some new insights into current policy debates. The theoretical contribution is that the income tax can introduce an additional economic distortion—and therefore inefficiency—by pushing firms to make different decisions about what they produce internally and what they purchase externally than they would absent taxes. This source of inefficiency adds a new theory-based argument for eschewing or minimizing a corporate income tax, as well as other tax instruments that have similar distortionary effects.²⁶

This analysis also provides additional insights into a slew of ongoing major policy debates. For example, consider the statutory corporate income tax rate, which was reduced from 35% to 21% by the Tax Cuts and Jobs Act (“TCJA”) in 2017. There is a surprising amount of bipartisan support for keeping this rate low.²⁷ The inefficiency effects that we identify in this Article provide a new reason to keep a low rate: the degree to which the corporate income tax distorts the boundary of the firm varies with the size

²⁴ See Victor Fleischer, *Regulatory Arbitrage*, 89 TEXAS L. REV. 227 (2010); see also Jordan M. Barry, *On Regulatory Arbitrage*, TEXAS L. REV. SEE ALSO (2011).

²⁵ See Fleischer, *supra* note 24; Leigh Osofsky, *Who’s Naughty and Who’s Nice? Frictions, Screening, and Tax Law Design*, 61 BUFF. L. REV. 1057 (2013).

²⁶ To be clear, there are many other arguments for and against a corporate income tax, and the issue we raise need not be dispositive, or even the most important. It should be considered, however.

²⁷ The Biden Administration proposed raising the corporate rate to 28% in its 2021 Greenbook; the Build Back Better Act was expected to settle at 25%. After Senator Sinema (D-Arizona) announced she would oppose any corporate rate increases, the Build Back Better Act proposed a 21% rate. See, e.g., Seung Min Kim & Ashley Parker, *Sinema’s Silence on Spending Bill Vexes Many Democrats*, WASH. POST, Oct. 23, 2021; see also Jordan M. Barry, *The Emerging Consensus for Cutting the Corporate Income Tax Rate*, 18 CHAPMAN L. REV. 19 (2014).

of the tax imposed. Reducing the corporate income tax rate thus reduces the distortive effects we identify.

In the international tax context, our analysis helps explain the increasing complexity in multinational corporate organizations, a complexity that is primarily tax-driven.²⁸ It also provides support for the main pillars of the OCED's Base Erosion and Profit Shifting ("BEPS") Project. The BEPS Project is an ongoing project to transform the international tax system. It has been underway for more than a decade and has garnered participation from over 130 countries.²⁹ The BEPS Project seeks to reduce multinationals' incentive and ability to shift profits between jurisdictions.³⁰ Our analysis supports these efforts; if successful, they would reduce the distortive effects of the corporate income tax that we identify.³¹

The remainder of this Article is organized as follows. Part II revisits the literature on Coase and the boundaries of the firm, setting the stage for a discussion of how transaction cost economics can inform tax policy. Part III explores some of the ways in which the income tax distorts the boundary of the firm. In doing so, it provides numerous examples of provisions that can grow or shrink firms at the margin or alter the relative size of their components. It also discusses how firms can respond to income tax law incentives without significantly changing their economic behavior by engaging in regulatory arbitrage. Part IV discusses the implications of our analysis for a number of tax policy questions and Part V concludes.

II. THEORY OF THE FIRM LITERATURE

To understand how tax affects the boundaries of firms, one must understand the theory of the firm. There is a voluminous literature on this topic, but the seminal work in the field is Ronald Coase's *The Nature of the Firm*, in which Coase posited that transaction costs define the boundaries of the firm.³² We begin with a discussion of Coase's theory before turning to how subsequent work within the fields of economics, finance, law, and tax have expanded upon that theory.

²⁸ Again, from a theory perspective, a consumption tax would minimize distortions of the boundaries of the firm; in particular, the best instrument would be a destination-based VAT. In the short term, however, worldwide consolidation at a lower rate seems somewhat more plausible. See *infra* Part IV.A.

²⁹ See OECD, *138 Countries and Jurisdictions Agree Historic Milestone to Implement Global Tax Deal*, July 12, 2023, available at <https://www.oecd.org/tax/beps/138-countries-and-jurisdictions-agree-historic-milestone-to-implement-global-tax-deal.htm>.

³⁰ *Id.*

³¹ The Biden Administration has made some broadly similar proposals to change U.S. tax law; our analysis supports them for similar reasons. See note 195, *infra*, and accompanying text.

³² Coase, *supra* note 1.

A. The Coasean Framework

In the Coasean framework, an entrepreneur or manager decides whether to make or to buy the inputs she will need to produce goods or services.³³ If the entrepreneur chooses to buy the inputs, the firm will engage in market transactions with other, unrelated firms that produce those inputs.³⁴ This enables the entrepreneur to take advantage of market prices and competitive forces—sometimes called the invisible hand—to help her allocate her resources to maximum effect.³⁵

At the same time, contractual dealings with unrelated parties raise challenges for the entrepreneur. Suppliers may have better information than the entrepreneur and may seek to use this to their advantage. Suppliers may engage in various types of opportunistic behavior, or defraud the entrepreneur. The entrepreneur must design its supply contracts with these issues in mind. Even so, negotiating and enforcing contracts is costly, and contracts are likely to prove an incomplete solution to these problems. Thus, some transaction costs (“market transaction costs”) will persist.

Alternatively, the entrepreneur could decide to make the inputs she needs herself, shifting production from outside suppliers into the firm itself. In doing so, the entrepreneur substitutes a hierarchy of managers and employees in place of market transactions with unrelated parties. This can reduce the transaction costs described above; after all, the entrepreneur does not need to worry that she will take advantage of herself.

On the other hand, organizing production within the firm carries its own transaction costs (“intrafirm transaction costs”).³⁶ Employees may shirk their duties. Managers may make self-interested decisions. Even if managers allocate resources with the entrepreneur’s interest in mind, they will be making decisions based on their knowledge of events within the firm, rather than market prices. Deprived of market pricing information, managers may sometimes allocate rewards or resources within the firm in an inefficient way.

For example, if a car company buys all of the parts for its engines, then assembles them, it is easy to see the cost the car company incurs from each component. On the other hand, if the car company manufacturers all

³³ *Id.*

³⁴ *Id.*

³⁵ *Id.*

³⁶ This terminology is common, *see, e.g.*, Dan L. Burk & Brett H. McDonnell, *The Goldilocks Hypothesis: Balancing Intellectual Property Rights at the Boundary of the Firm*, 2007 U. ILL. L. REV. 575 (2007), though it can be somewhat confusing.

of those parts itself, it may be harder to break out the individual cost of production for each. That makes it harder to tell whether the car company is doing better or worse at manufacturing specific engine components than others in the industry. Without that knowledge, managers may be unable to build upon strengths or shore up weaknesses.

Coase posited that the boundaries of the firm are set at the point at which overall transaction costs are minimized.³⁷ Production takes place within a firm when the costs of transacting in the marketplace are higher than the costs of producing the same goods or services within the firm. When market transaction costs are low, the entrepreneur buys inputs from the market. When market transaction costs are high, the firm produces goods and services within the firm. The boundary of the firm is where the two sets of costs—the costs of transacting in the marketplace and the costs of directing production inside the firm—are equal.³⁸

It is worthwhile to ground this theorizing with a simple illustrative example. Consider a power plant that generates electricity by burning coal. For simplicity, assume that coal is the only input in the plant's production process. One could imagine several ways in which this production process could be organized. One possibility is that the plant could purchase its coal from one or more external and unrelated coal mines—that is, it could buy its coal on the open market. Another would be for the plant itself to own and operate a coal mine, and to use the coal it mines in its generating process—that is, it could make its own coal.

In some instances, buying coal from unrelated mines might make the most sense. The knowledge and training involved in mining coal differ from those required to operate a power plant, and managers experienced in one field might not be well-equipped to oversee the other. If the power plant purchases its coal on the open market, it will not have to concern itself with the operation of the coal mine. All it needs to do is agree to contract terms with a coal supplier. This may be an attractive option if the plant can count on strong competition among sellers of coal, which is most likely when there are many available suppliers selling interchangeable coal. In these circumstances, the plant can rely on market prices to help it allocate resources efficiently.

There are also scenarios in which it might make more sense for the power plant to own and operate its own coal mine. For example, suppose that coal mined from different locations has different properties, and that it is worthwhile to modify the power plant so that it is more efficient at burning

³⁷ Coase, *supra* note 1. The specificity of assets used in production and institutional constraints on opportunistic behavior are both relevant factors.

³⁸ *Id.*

a particular type of coal.³⁹ The power plant could simply identify a particular unrelated coal mine that it plans to purchase from, and then modify its plant accordingly. However, these modifications would make it difficult for the plant to shift to burning coal from another source. Knowing that the plant is relying on it, and therefore vulnerable, the coal mine might take advantage of the situation by charging a supra-competitive price for its coal.

There is a third option in addition to make vs. buy: relational contracting. The power plant might negotiate a long-term contract with the coal mine before it makes any modifications to its plant. A long-term contract would lock in a price and protect the plant from price-gouging for years to come. However, negotiating such contracts can be challenging, as they need to account for all manner of unexpected events.⁴⁰

If relational contracting proves difficult, the power plant might return to the “make” approach and buy the coal mine, thereby solving the strategic behavior problem. The downside of this approach is that the power plant would now be in the coal mining business as well as the power-generating business, and the power plant may lack the expertise to operate a coal mine efficiently. Moreover, it may be difficult for the power plant to determine what its costs are from mining the coal that it uses. Without a clear price for the coal it burns, it will be more difficult to tell how well the power-generating business is doing. In the Coasean framework, the decision whether to make or buy depends on how these intrafirm transaction costs stack up against market transaction costs like strategic behavior.⁴¹

In the decades following *The Nature of the Firm*, many economic scholars have expanded on Coase’s framework. This literature is substantial, and a complete review is beyond the scope of this Article. Scholars have developed different branches of the theory of the firm literature, including

³⁹ One can also construct many other examples of this type. For example, the plant may need to build a railroad line to a coal mine to bring in coal. The railroad represents an asset-specific investment that cannot be easily recouped, nor can the plant easily switch suppliers.

⁴⁰ See, e.g., *ALCOA v. Essex Group*, 499 F. Supp. 53 (W. Dist. Pa. 1980).

⁴¹ Coase, *supra* note 1.

team production,⁴² agency costs,⁴³ property rights,⁴⁴ and new institutional economics.⁴⁵ Recent work on the theory of the firm emphasizes how globalization and technological advancement have made the boundaries of the firm more fluid,⁴⁶ and have made firms more collaborative.⁴⁷

⁴² See Alchain & Demsetz, *supra* note 7. In this view, firms exist because team production increases output, but makes it difficult to match (or “meter”) rewards to productivity. Incentivizing close monitoring is therefore critical, and it is often efficient to give the residual earnings of the firm to the monitor herself. The boundaries of the firm are set at the point at which the marginal benefits of team production equal the marginal costs of monitoring behavior inside the firm.

⁴³ Jensen & Meckling, *supra* note 7. Agency cost theories of the firm emphasize the importance of the firm as a centralized monitor. Locating production inside the firm creates principal-agent problems, as the managers who direct production are often different from the principals who own the firm. The boundaries of the firm are set where the agency costs—the monitoring costs, bonding costs, and residual loss—become so high that it is cheaper to contract in the market.

⁴⁴ Property rights theories of the firm focus on the problem of incomplete contracting. See, e.g., Grossman & Hart, *supra* note 7; Hart & Moore, *supra* note 7. Because parties have imperfect information, and because information is costly to obtain, contracts are necessarily incomplete and cannot contemplate every contingency that might arise. Property rights fill these gaps; the boundaries of the firm are set at the point where the benefits of owning more property equal the costs associated with holding that property. Property rights can also facilitate information exchange among potential users of innovation. See Kenneth J. Arrow, *Vertical Integration and Communication*, 6 BELL J. ECON. (1975).

⁴⁵ The New Institutional Economics literature on theory of the firm is perhaps closest to the spirit of Coase’s original paper. This literature highlights the importance of the firm as a governance structure that can address the problem of ex post opportunism. See WILLIAMSON, *supra* note 7. This approach shows that the make or buy decision, often framed as a binary choice, can also be thought of as falling more on a spectrum, with relational contracting filling the gap between these two poles. Relational contracting allows for governance structures that constrain opportunism without imposing hierarchical control.

⁴⁶ Zingales has argued that the extant theory of the firm literature envisions an asset-intensive and vertically integrated firm with tight hierarchical control over its employees. Zingales, *supra* note 7, at 1624. Human capital, not physical assets, increasingly determine the boundaries and success of the firm. If the firm’s critical assets can walk out the door whenever they like, the hierarchical model of internal control becomes questionable. *Id.* at 1644 (“The new challenge is to explain what happens when there are no physical assets involved or when these assets are simple commodities and, hence, easily replaceable. This is tantamount to explaining how a third party can have control over human capital in a world where labor has been liberated not only from slavery but also from the modern form of indenture represented by the uniqueness of the assets that labor specialized to.”).

⁴⁷ Zingales argues that firms have increasingly shifted away from direct control over suppliers in favor of loose collaborations. Thus, power, control, and rents are distributed throughout the firm, and the boundaries of the firm are in constant flux. Gilson, Sabel & Scott argue that the boundaries of the firm have become more fluid in order to optimize collaborative innovation. Ronald J. Gilson, Charles F. Sabel & Robert E. Scott, *Contracting for Innovation: Vertical Disintegration and Interfirm Collaboration*, 109 COLUM. L. REV. 431 (2009). They describe the braiding of formal (legally enforceable) and informal (legally unenforceable) contracts among firms as “contracting for innovation.” *Id.* at 435.

While theories of the firm vary in important ways, the income tax creates distortions under any of these theories. Thus, we need not adopt any particular theory of the firm here. We also note that, while public finance economists study how tax affects markets and firms, the effect of tax on the boundaries of the firm has, to our knowledge, been left unexplored. Theory of the firm scholars operate in a world free of tax. This is not true of finance scholarship, to which we now turn.

B. Finance and Accounting Literature: Tax Matters

Much of the finance and accounting literature is infused, implicitly or explicitly, with insights from the theory of the firm literature.⁴⁸ While a comprehensive review is beyond the scope of this paper, it is useful to observe that scholars have focused almost exclusively on the right-hand side of the balance sheet (i.e., liabilities and equity).

The obvious place to start is Modigliani & Miller.⁴⁹ Modigliani and Miller's famous paper established that in a world without transaction costs or taxes (among other assumptions), a firm's capital structure does not affect its value.⁵⁰ Financing the firm with mostly debt, or mostly equity, or different types of debt or equity, makes no difference. By showing that aspects of capital structure do not affect value, Modigliani and Miller also shed light on how—through their assumptions about transaction costs and taxes—capital structure *can* affect value. This approach, known as “reverse M&M,” understands capital structure decisions as methods of economizing on transaction costs and taxes.⁵¹ A great deal of public finance scholarship has been devoted to how tax considerations can distort capital structure,⁵² but few papers investigate how tax affects the size of firms or how it affects the make or buy decision.⁵³

⁴⁸ Zingales, *supra* note 7.

⁴⁹ Franco Modigliani & Merton H. Miller, *The Cost of Capital, Corporation Finance and the Theory of Investment*, 48 AM. ECON. REV. 261 (1958) [hereafter M&M]; *see also* Merton H. Miller, *The Modigliani-Miller Propositions After Thirty Years*, 2 J. ECON. PERSP. 99, 99 (1988); Franco Modigliani & Merton H. Miller, *Corporate Income Taxes and the Cost of Capital: A Correction*, 53 AM. ECON. REV. 433 (1963).

⁵⁰ In addition to assumptions about transaction costs and regulations, they assume perfect markets and that the firm's capital structure does not affect its decisions regarding what projects to pursue. M&M, *supra* note 49.

⁵¹ *See* Michael S. Knoll, *The Modigliani-Miller Theorem at 60: The Long-Overlooked Legal Applications of Finance's Foundational Theorem*, YALE J. REG. BULL. (Nov. 8, 2019).

⁵² *See, e.g.*, [long string cite] debt equity Donald Bruce, John Deskins & William F. Fox, *On the Extent, Growth, and Efficiency Consequences of State Business Tax Planning*, in TAXING CORPORATE INCOME IN THE 21ST CENTURY (Alan J. Auerbach, James R. Hines, Jr. & Joel Slemrod, eds. 2009).

⁵³ Perhaps closest to the spirit of this paper, Desai and Hines studied how the enactment of the Tax Reform Act of 1986 affected international joint ventures. That law rendered international joint ventures with low-tax affiliates less attractive. Following the tax change, Desai and Hines found that more multinationals opted to have majority-owned affiliates—

International tax is one area where finance and accounting scholars have made some headway on a related question: the international tax system's effects on corporate decision-making. For example, Edwards, Kravet, and Wilson found that our pre-TCJA tax on repatriated earnings, which induced some firms to keep high levels of cash “trapped” abroad, led those firms to make less profitable acquisitions of foreign targets.⁵⁴ Similarly, Hanlon, Lester & Verdi find that trapped cash is associated with a higher likelihood of foreign (but not domestic) acquisitions, and that the market views those deals as less value-enhancing than deals by firms with low tax costs.⁵⁵ An extensive literature looks at how taxes affect profit-shifting behavior by multinationals.

Because of the nature of the literature in finance and accounting, the papers tend to focus on discrete questions susceptible to empirical testing. By contrast, our inquiry moves up a level of abstraction, thereby generating insight on broad questions of tax policy.

C. Legal Scholarship: The Splintering of the Firm

Turning finally to legal scholarship, most papers referencing the theory of the firm literature have been concentrated in corporate law.⁵⁶ The corporate literature has largely focused on the relationship between shareholders and managers, and debates about the proper goals of corporate governance.⁵⁷ Relatively few legal scholars have devoted significant attention to hybrid forms of organization, like relationships with outsourcing firms.⁵⁸

which more people would consider to be inside the boundaries of the firm—as compared to minority-owned joint ventures—conventionally considered outside the boundaries of the firm. They conclude that the organization of international business “is very sensitive to its tax treatment.” Mihir A. Desai & James R. Hines, Jr., “Basket Cases”: *Tax Incentives and International Joint Venture Participation by American Multinational Firms*, 71 J. PUB. ECON. 379, 400 (1999); see also Mihir A. Desai, C. Fritz Foley & James R. Hines, Jr., *The Costs of Shared Ownership: Evidence from International Joint Ventures*, 73 J. FIN. ECON. 323 (2004).

⁵⁴ Alexander Edwards, Todd Kravet & Ryan Wilson, *Trapped Cash and the Profitability of Foreign Acquisitions*, 33 Contemp. Accounting Research 44 (2016).

⁵⁵ Michelle Hanlon, Rebecca Lester & Rodrigo Verdi, *The Effect of Repatriation Tax Costs on U.S. Multinational Investment*, 116 J. Fin. Econ. 179 (2015).

⁵⁶ See Jason Scott Johnston, *The Influence of the Nature of the Firm on the Theory of Corporate Law*, 18 J. CORP. L. 213 (1993) (providing literature review).

⁵⁷ See, e.g., D. Gordon Smith, *The Critical Resource Theory of Fiduciary Duty*, 55 VAND. L. REV. 1399, 1444-47 (2002). The takeover literature incorporates tax to the extent that it recognizes the debt-equity distortions described in the finance literature. See, e.g., Robert P. Bartlett III, *Taking Finance Seriously: How Debt Financing Distorts Bidding Outcomes in Corporate Takeovers*, 76 FORDHAM L. REV. 1975 (2008); Gilson & Scholes.

⁵⁸ George S. Geis, *The Space Between Markets and Hierarchies*, 95 VA. L. REV. 99, 121-26 (2009) (offering a theoretical justification for hybrid organizational contracting); George S. Geis, *An Empirical Examination of Business Outsourcing Transactions*, 96 VA. L. REV. 241 (2010).

More recently, legal scholars outside of corporate law have begun to examine how specific doctrinal areas of law affect the boundaries of the firm. For example, a number of scholars have drawn on the property rights theory of the firm literature to make normative arguments about intellectual property law.⁵⁹ In addition, legal scholars have begun to consider the distinction between the economic and legal boundaries of the firm.⁶⁰ Iacobucci & Triantis argue that legal partitions within an economically integrated firm, such as subsidiaries, may be explained as an efficient method of obtaining asset-specific or industry-specific financing.⁶¹ But Iacobucci and Triantis do not consider tax as an explanation for partitions within the firm, nor do they address how tax policy affects hybrid vehicles like special purpose entities used in project finance or securitizations.⁶² Most practitioners would readily acknowledge the first-order importance of tax in this context.

Tax law scholars have focused on doctrinal distortions, like the corporate “double” tax on earnings and how tax distorts economic behavior. For example, legal scholars have examined how the presence of the corporate tax distorts economic behavior,⁶³ and how corporate managers benefit from the retained earnings trap, creating political opposition or ambivalence towards corporate integration.⁶⁴ International tax scholarship again comes closest to our present endeavor, investigating,

⁵⁹ See Burk & McDonnell, *supra* note 36; Dan L. Burk & Brett H. McDonnell, *Patents, Tax Shelters, and the Firm*, 26 VA. TAX REV. 981 (2007); Dan L. Burk & Brett H. McDonnell, *Trademarks and the Boundaries of the Firm*, 51 WM. & MARY L. REV. 345 (2009); Dan L. Burk, *Intellectual Property and the Firm*, 71 U. CHI. L. REV. 3 (2004); Edmund W. Kitch, *The Nature and Function of the Patent System*, 20 J.L. ECON. 265 (1977); Oren Bar-Gill & Gideon Parchomovsky, *Intellectual Property Law and the Boundaries of Technology-Intensive Firms*, 157 U. PA. L. REV. 1649 (2009); David McGowan, *Legal Implications of Open Source Software*, 2001 U. ILL. L. REV. 241; [add cite to Robert Merges]

⁶⁰ Scott E. Masten, *A Legal Basis for the Firm*, 4 J.L. ECON. & ORG. 181, 185-94 (1988) (arguing that legal agency relationships in employment are central to the theory of the firm). Eric W. Orts, *Shirking and Sharking: A Legal Theory of the Firm*, 16 YALE L. & POL'Y REV. 265, 291 (1998) (“Firms are creatures of law as well as transaction costs.”).

⁶¹ Edward M. Iacobucci & George G. Triantis, *Economic and Legal Boundaries of Firms*, 93 VA. L. REV. 515, 521 (2007) (describing tradeoff between economic integration and tailoring capital structure to specific asset types).

⁶² Frank Partnoy uses a Coasean framework to examine “shapeshifting” transactions, such as going private transactions, private equity sponsor IPOs, and the use of special purpose entities, finding regulatory arbitrage as one important reason for changes in legal form. He does not consider how tax, in particular, affects the boundaries of the firm. See Frank Partnoy, *Shapeshifting Corporations*, 76 U. CHI. L. REV. 261 (2009).

⁶³ Shaviri book, Schlunk, Weisbach, Steven A. Bank, *A Capital Lock-In Theory of the Corporate Income Tax*, 94 GEO. L.J. 889 (2005-2006).

⁶⁴ Jennifer Arlen & Deborah M. Weiss, *A Political Theory of Corporate Taxation*, 105 YALE L. J. 325 (1995); But see Michael Doran, *Managers, Shareholders, and the Corporate Double Tax*, 95 VA. L. REV. 517 (2009).

for example, how firms choose where to incorporate⁶⁵ and how firms exploit cross-border planning techniques to reduce both U.S. and global tax rates.⁶⁶

Alex Raskolnikov's work on relational tax planning is also relevant to our inquiry here. Raskolnikov examines how firms may substitute counterparty risk in place of market risk or business risk to sidestep tax risk-based rules.⁶⁷ Relational contracting thus opens up opportunities for relational tax planning, where firms rely on incentives, relationships, and norms to overcome frictions that would otherwise constrain tax planning.⁶⁸

III. THEORETICAL FRAMEWORK

Having laid out the relevant background and context regarding the extant literature on the theory of the firm, we now turn to the effects of the income tax on the boundary of the firm. In doing so, we cluster them into three groups.

The first group, “intrinsic distortions,” are the effects that arise as a consequence of imposing an income tax: Income taxes rely on arm's-length transactions, and the observable prices they provide, to calculate income. Non-arm's length transactions, in contrast, provide parties with opportunities to reduce their income tax liability. This effect is intrinsic to the modern income tax, and thus flows from the decision to impose an income tax. It makes firms larger at the margin, encouraging them to “make” rather than “buy.”

The second group, which we term “doctrinal distortions,” arise from choices in the design of U.S. income tax laws. This is a large group and we break it into several subgroups. For example, the Code does not integrate corporate and shareholder-level taxes; it restricts the transfer of tax credits and net operating losses; and it accords tax benefits to small businesses. Unlike intrinsic distortions, none of these choices is necessary to an income tax; other income tax systems make different choices. Some of these distortions make firms bigger at the margin, and some make them smaller. The key observation is that these distortions generally operate along

⁶⁵ See Susan C. Morse, *Startup Ltd.: Tax Planning and Initial Incorporation Location*, 14 FLA. TAX REV. 319 (2013).

⁶⁶ See, e.g., Edward D. Kleinbard, *Stateless Income*, 11 FLA. TAX REV. 699 (2011); Edward D. Kleinbard, *The Lessons of Stateless Income*, 65 TAX L. REV. 99 (2011); Kim Clausing, *The Effect of Profit Shifting on the Corporate Tax Base in the United States and Beyond*, 69 NAT'L TAX J. 905 (2016); Ruth Mason, *The Transformation of International Tax*, 114 AM. J. INT'L L. 353 (2020). Roger Gordon & John D. Wilson, *An Examination of Multijurisdictional Corporate Income Taxation Under Formula Apportionment*, 54 ECONOMETRICA 1357 (1986).

⁶⁷ Alex Raskolnikov, *Relational Tax Planning under Risk-Based Rules*, 156 U. PENN. L. REV. 1181 (2008).

⁶⁸ *Id.*

different decision margins and thus do not offset; each distortion is therefore problematic.⁶⁹

Finally, the income tax also leads to regulatory arbitrage responses. In many instances, firms can gain the tax benefits they desire without having to make significant changes to their real economic activities. From a normative perspective, this category is a mixed bag. On the one hand, regulatory arbitrage responses avoid the economic inefficiencies that would arise from shifting the economic boundary of the firm. On the other hand, regulatory arbitrage responses raise a variety of efficiency and equity concerns.

A. Intrinsic Distortions

Our income tax system, like other modern income tax systems, is based on realization. Taxpayers do not owe tax merely because their wealth increases; a homeowner whose house appreciates in value does not face an income tax bill. Tax liabilities generally are not triggered until the taxpayer realizes gains, such as by selling an asset for a profit.

Realization has a number of well-known problems. Nonetheless, it persists and is a central feature of income tax laws throughout the world simply because the problems entailed with getting rid of it—such as by switching to a regime of mark-to-market taxation—are generally considered to be worse.

Because of its dependence on realization, the tax code relies on market transactions to measure the timing and amounts of tax liabilities.⁷⁰ In a true arm's length negotiation, the counterparties have adverse goals and each will pursue its own interests. If a pizza parlor buys flour from an unrelated supplier, it will have every incentive to pay as little as possible. Conversely, the flour seller will try to negotiate the highest price that it can. Given each side's opposing goals, the IRS can generally count on the negotiated price to accurately reflect market values, and therefore profits and losses on both sides.

However, when two businesses are under common control, this logic breaks down. To an investor with an ownership stake in both businesses, the overriding question is how much money they make combined; it matters little which business actually earned the profits. If the pizza parlor and the flour supplier are owned by the same individual, she will care little about

⁶⁹ To be clear, this is not to say that these are bad or wrong choices—they may, and often do, have other benefits. We merely flag this firm-boundary distortion as a problem and a cost that has been overlooked to date.

⁷⁰ Notable exceptions include the original issue discount rules, constructive receipt rules.

how much the pizza parlor pays for flour—changing the price shifts money from one business to another, but she is entitled to their total combined profits, and that amount remains unaffected. Which unit earns the profits is of little more importance than whether she places her money in her left or right pocket.⁷¹

Because the companies are under common ownership and control, the joint enterprise's goal is likely to be focused on lowering its tax liability; paying taxes reduces what the shareholder will keep for herself. If the enterprise can reduce taxes through internal transactions, such as by having one unit pay higher or lower prices to a related unit than it would pay to an arm's-length counterparty, it will do so. This renders internal prices unreliable absent outside constraints.

To be sure, the Internal Revenue Code attempts to address this problem. Section 482 of the Internal Revenue Code gives the IRS the authority to reallocate income, deductions, credits or allowances between related corporations in order to more accurately reflect income.⁷² Under the traditional approach, the ideal is an arm's length price, i.e., the price that would be reached if the buyer and seller had a straightforward market relationship.⁷³

In practice, it is often difficult to determine the arm's length price. There are differences in quality, quantity, timing of sales, long-term relationships, custom-designed items, and intellectual property.⁷⁴ While the IRS often negotiates advanced pricing agreements, wiggle room in the system allows taxpayers to engage in a significant amount of gamesmanship.

The difficulties of enforcing the arms-length standard give firms a reason to expand the firm and engage in more intrafirm transactions. Firms put tax collectors at a severe information disadvantage when they move economic activity inside the firm, thereby enabling firms to reduce their tax liabilities in a variety of ways.

⁷¹ This is an oversimplification; agency costs, incentive comp, transparency and opacity can all affect this calculus.

⁷² 26 U.S.C. § 482.

⁷³ From a Coasean perspective, the use of comparable market transactions to determine the appropriate transfer price is questionable. The firm incurs an increase in intrafirm transaction costs precisely because there are higher costs (search costs, negotiation costs, holdup risk, etc.) associated with comparable market transactions. The use of market transactions to set the transfer price understates the true cost of buying those inputs from the market. All else equal, accurate enforcement of an arms-length standard (but one that excludes transaction costs) by an omniscient tax collector would discourage intrafirm transactions.

⁷⁴ Evidence of a correct transfer price may be inferred from resale prices (less appropriate markups for distribution and value added), or a "cost-plus" method that estimates the value added by the subsidiary.

Perhaps the clearest example arises with respect to national borders. Suppose that it is economically efficient to manufacture a product in a low-tax jurisdiction (e.g., a developing country) and sell it in a high-tax jurisdiction (i.e., a developed country). Assume further that each jurisdiction only imposes tax on income generated within its national borders, as many nations do.⁷⁵ By changing the price that the business's retail sales unit pays the manufacturing unit, a corporation can shift the location of its profits between the two units. The company can therefore move profits out of the higher-taxed sales unit and into the lower-taxed manufacturing unit, thereby lowering its overall tax bill.

Firms can use similar approaches to shift deductions from low-tax jurisdictions to high-tax jurisdictions. Firms can finance subsidiaries by overpaying for goods, or repatriate funds by underpaying for them. Variations on these techniques are common and well-documented. The tax advantages of multinational tax planning more than offset the increase in intrafirm transaction costs. The income tax thus favors expansion of the firm across borders.⁷⁶

The income tax's reliance on arm's length transactions expands the boundary of the firm even when all activities take place within one jurisdiction. Income is generally only triggered by a sale to a third party. Thus, increases in value along the chain of production within a firm do not trigger tax. Deferring tax liability is valuable, because of the time value of money.⁷⁷ The income tax favors, and therefore encourages, a larger, more vertically integrated firm.

An example helps illustrate this point. Consider a car manufacturer that outsources the production of its engines to an unrelated supplier. The supplier has taxable income when it sells engines to the manufacturer, and must pay tax at that point. In contrast, if the manufacturer and supplier are parts of the same corporation, there will be no income tax liability until the finished car is sold to a customer. This happens at a later point in time, providing the firm with the advantage of deferral.

⁷⁵ This is known as a territorial tax system, as it only taxes income earned inside the country's territory. See, e.g., PWC, EVOLUTION OF TERRITORIAL TAX SYSTEMS IN THE OECD, Apr. 2, 2013, available at http://www.techcecouncil.org/clientuploads/reports/Report%20on%20Territorial%20Tax%20Systems_20130402b.pdf.

⁷⁶ The dynamics described above also apply with respect to sub-national borders. Many U.S. states impose corporate income taxes, as do numerous other sub-national jurisdictions worldwide. Analogous types of income- and deduction-shifting activities advantage multi-jurisdictional businesses and encourage businesses to expand across state borders as well as national ones.

⁷⁷ The magnitude of this benefit depends on how long the tax is deferred and firms' discount rates. But even when rates are low and the deferral is short, the effect persists.

Tax therefore exerts an effect on the margin of the “make or buy” decision. The key theoretical intuition is that managers will shape the boundaries of the firm, on the margin, to avoid market transactions if doing so reduces tax liability. This means that there will be some situations in which managers will choose an intra-firm transaction even if it would be more efficient (in a no-tax world) to use a market transaction. Firms would be smaller, and the boundaries of the firm tighter, in a world without income taxes.

This tax distortion—intrinsic to the income tax—has potentially vast implications.⁷⁸ Recall that, in a Coasean world without transaction costs, the boundary of the firm is set at the place where transaction costs outside the firm and the costs of directing production inside the firm are minimized overall.⁷⁹ This result is not only privately optimal, but socially optimal as well.⁸⁰ A realization-based tax system systematically puts market transactions at a disadvantage. The tax distortion creates private costs, as firms accept higher agency costs, shirking, information costs, and other costs within the firm as the price for reducing taxes. And the tax distortion creates social costs in the form of inefficient allocation of economic resources and reduced tax revenue.

⁷⁸ Coase explored this possibility in *The Nature of the Firm*:

Another factor that should be noted is that exchange transactions on a market and the same transactions organized within a firm are often treated differently by Governments or other bodies with regulatory powers. If we consider the operation of a sales tax, it is clear that it is a tax on market transactions and not on the same transactions organized within the firm. Now since these are alternative methods of organization—by the price mechanism or by the entrepreneur—such a regulation would bring into existence firms which otherwise would have no *raison d'être*. It would furnish a reason for the emergence of a firm in a specialized exchange economy. Of course, to the extent that firms already exist, such a measure as a sales tax would merely tend to make them larger than they would otherwise be. Similarly, quota schemes, and methods of price control which imply that there is rationing, and which do not apply to firms producing such products for themselves, by allowing advantages to those who organize within the firm and flow through the market, necessarily encourage the growth of firms. But it is difficult to believe that it is measures such as have been mentioned in this paragraph which have brought firms into existence. Such measures would, however, tend to have this result if they did not exist for other reasons.

Coase, *supra* note 1, at 391.

⁷⁹ *Id.*

⁸⁰ *Id.* This result, of course, rests on assumptions, in particular that there are no externalities (e.g., pollution) from the firm's activities.

B. Doctrinal Distortions

Tax law creates additional distortions on firms because of doctrinal choices underlying the structure of our tax code. Unlike intrinsic distortions, which follow almost inexorably from a realization-based tax system, doctrinal distortions are, in a sense, optional; they stem from intentional choices made in the construction of our tax system. There are good legal, economic, or political reasons for many of these choices, but none of them is inherent to an income tax, either in theory or in all modern instantiations of an income tax.

Doctrinal distortions cut in different directions. Some encourage firms to expand their boundaries, others to contract. Some are more subtle, encouraging firms to grow in particular areas while shrinking in others, or to change the location of their operations. But the key thing to keep in mind when considering these distortions is that they generally do not offset. Thus, each distortion listed in this subpart causes new problems that are largely distinct from the others listed. It is also worth emphasizing that this is a partial listing of some important doctrinal distortions; it is not exhaustive.

1. *The Non-Integration Distortion and Pass-Throughs*

The U.S. federal income tax regime treats C corporations and their shareholders as separate entities.⁸¹ Each is a taxpayer with its own income subject to its own tax on that income.⁸² Thus, when a corporation earns profits, it pays taxes on those profits.⁸³ When the after-tax profits are distributed to shareholders as dividends, the shareholders pay tax as well.⁸⁴

This is a well-known issue in corporate law. It is often referred to as the “double taxation problem,” on the logic that the same profits are taxed twice, first at the corporate level and then at the shareholder level.⁸⁵ This concern prompted Congress to pass new legislation taxing qualified dividends at long-term capital gains rates.⁸⁶ This meaningfully reduced, but by no means eliminated, the double taxation concern.⁸⁷

⁸¹ See, e.g., 26 U.S.C. §§ 1, 11, 61.

⁸² 26 U.S.C. §§ 1, 11.

⁸³ 26 U.S.C. § 11.

⁸⁴ 26 U.S.C. §§ 1, 61.

⁸⁵ See, e.g., Robert H. Litztenberger & James C. Van Horne, *Elimination of the Double Taxation of Dividends and Corporate Financial Policy*, 33 J. FIN. 737 (1978).

⁸⁶ Jobs and Growth Tax Relief Reconciliation Act of 2003. The double taxation problem is sometimes put forward (not necessarily convincingly) as a justification for having a lower tax rate for capital gains at all.

⁸⁷ Suppose a corporation earns \$100 of profits, pays its taxes, and then distributes the remaining profits to its shareholders as a dividend. If the corporation pays 35% income tax, it will pay shareholders a \$65 dividend (\$100 * 35% = \$35 tax liability; \$100 profit -

Taxing corporations and their shareholders separately may or may not be desirable, but it is not necessary. Opponents of the current regime have advocated for an integrated corporate tax system, in which profits are taxed once. There are many ways of implementing such a system, with varying advantages and disadvantages.⁸⁸

Regardless of its other merits or flaws, our non-integrated corporate income tax tends to expand the boundaries of the firm at the margin. If a firm reinvests earnings in a new project, those earnings are subject to one level of tax, at the corporate level. In contrast, if the corporation distributes earnings to shareholders as a dividend, those earnings will be subject to a second level of tax.⁸⁹ Moreover, because of other tax code provisions, retaining and reinvesting earnings may enable not only deferral of the shareholder-level tax, but outright elimination of it.⁹⁰ Thus, tax law encourages corporations to reinvest earnings in new ventures, thereby growing the boundaries of the firm, rather than distribute earnings out to shareholders.⁹¹

It is helpful to illustrate this point with a stylized example that resembles current U.S. law. Suppose that all investment is carried out through corporations, and that corporations can earn annual profits of 10% on their investments. Corporations pay 20% income tax, and shareholders pay 20% tax on the dividends that they receive. Consider two hypothetical corporations. Corporation 1 distributes its profits to shareholders each year. The shareholders then re-invest those profits in other companies that behave the same way. Corporation 2 retains its profits and invests them itself. How do their respective shareholders fare?

\$35 taxes paid = \$65 remaining). If the shareholders pay 40% income tax, they will owe \$26 in tax and keep \$39. ($40\% \times \$65 = \26 ; $\$65 \text{ dividend received} - \$26 \text{ tax paid} = \$39$). This creates a total tax of 61% on the original \$100 of corporate profits. On the other hand if dividend income is taxed at long-term capital gain rates—say 20% for simplicity—then shareholders only owe \$13 in tax ($20\% \times \$65 = \13). They keep \$52, and the total tax burden on the \$100 in corporate profits drops to 48%. Or, to think of it differently, keeping \$52 instead of \$39 is a 33% increase.

⁸⁸ One option is to have no tax at either the shareholder or corporate level. Another is to have a tax at both levels, but provide a deduction for dividends. Ed Kleinbard has proposed a version in which businesses get a deduction based on the amount of capital they possess, while investors have deemed income each year on the same basis.

⁸⁹ 26 U.S.C. § 61.

⁹⁰ Taxpayers do not have taxable income merely from the increase in value of an investment asset; they must realize that income for tax purposes, most commonly by selling the property. Thus, by holding the asset, the shareholder defers tax on the increased value of the stock. If a taxpayer dies, her heirs inherit her property with a fair market value basis, not a carryover one; this means that any untaxed gains on the investment disappear forever.

⁹¹ An important caveat: the existence of a corporate tax encourages entrepreneurs to avoid or defer incorporation of a business. See *infra* discussion in text accompanying footnote 107. But practical constraints lead most large firms to incorporate.

With \$1000 today, Corporation 1 would earn \$100 this year. It would owe \$20 in tax, leaving it with \$80 in profit. It would distribute that \$80 to its shareholders, who would pay \$16 in tax and keep \$64. The shareholders would invest that \$64. The following year, there would be total corporate profits of \$106.40.⁹² The corporations earning these profits would pay 20% tax, then distribute the remainder to their shareholders, who would pay 20% tax and then invest the remainder, and so on.

With \$1000 today, Corporation 2 would likewise earn \$100 this year, owe \$20 in tax, and keep \$80 in profit. But it would not distribute that profit to its shareholders, and thus the shareholders would pay no tax. Corporation 2 thus invests the full \$80, as compared to the \$64 that was invested in the prior example. The following year, there would be total corporate profits of \$108 (\$100 from the original \$1000 investment, plus \$8 from the new \$80 investment). This pattern would play out again in subsequent years.

The key difference between the two scenarios is that the first involves two layers of tax each year, while the second involves only one layer of tax each year. The effect is that the first scenario experiences a lower post-tax rate of growth than the second. The differences are small at first, but growth compounds and creates large differences over time. After 20 years, the first scenario produces annual profits of approximately \$346;⁹³ the second's annual profits exceed \$466, approximately 35% higher.⁹⁴ After 50 years, the second scenario's annual profits are more than double the first scenario's.⁹⁵

In our stylized example, Corporation 2 never makes distributions to shareholders.⁹⁶ However, the general effect holds so long as corporations

⁹² Corporation 1 again starts the year with \$1000, which again generates \$100 of income. The other corporations start with a total of \$64, which generates \$6.40 of income. $\$100 + \$6.40 = \$106.40$ total corporate profits.

⁹³ Each year, the total money invested generates profits of 10%. For every \$1 in profit, \$0.64 is re-invested, the rest goes to the government as taxes. Thus, total profits in year $t = 10\% * \$1000 * (1 + (10\% * 64\%))^t = \$100 * (1.064)^t$. For $t = 20$, this becomes $\approx \$100 * 3.4581 = \345.81 .

⁹⁴ Each year, the total money invested generates profits of 10%. For every \$1 in profit, \$0.80 is re-invested, the rest goes to the government as taxes. Thus, total profits in year $t = 10\% * \$1000 * (1 + (10\% * 80\%))^t = \$100 * (1.08)^t$. For $t = 20$, this becomes $\approx \$100 * 4.4661 = \446.61 .

⁹⁵ For scenario 1, $\$100 * (1.064)^{50} \approx 22.2$; for scenario 2, $\$100 * (1.08)^{50} \approx 46.9$.

⁹⁶ Presumably, the money is transmitted to shareholders at some point. The underlying assumption that drives the valuation of corporate stock is that corporate assets will eventually make their way to stockholders through dividends, payouts on liquidation, share buybacks, or otherwise.

reinvest more of their profits rather than distributing them to shareholders.⁹⁷ At the margin, this dynamic encourages companies to grow—to increase the size of their existing operations, to expand into new lines of business, and to spread to new geographic locations. The strength of the effect increases with the rate of return on investments, the shareholder-level tax rate, and time.

Some portions of U.S. income tax law attempt to discourage corporations from holding profits and never paying dividends, as contemplated in the second scenario above. In particular, the accumulated earnings tax and personal holding company taxes impose penalty taxes on corporations that behave in this manner.⁹⁸ Commentators have questioned how effective these taxes are in practice. But to the extent these taxes constrain corporations, they actually *exacerbate* intrinsic distortions. These taxes generally do not apply to corporations that reinvest their profits in active businesses.⁹⁹ Thus, these taxes push corporations to expand the boundary of the firm, to make more and buy less, than they would if these taxes did not exist.¹⁰⁰

The non-integration distortion also shifts the boundary of the firm in a more subtle way. When financing a firm, debt and equity are substitutes.¹⁰¹ Debt receives better tax treatment than equity; corporations get deductions for the interest payments they make to their creditors, but not for the dividend payments they make to their shareholders.¹⁰² This essentially means that profits funded by debt are only subject to one level of tax (at the creditor level), while profits funded by equity are subject to two levels of tax (at the corporate level and the shareholder level).¹⁰³ It is well-known, and widely lamented, that this differential treatment incentivizes firms to fund themselves with more debt and less equity than they otherwise would.¹⁰⁴ Due to market imperfections and transaction costs, it is often cheaper and

⁹⁷ For example, if a corporation re-invested its profits for five years then distributed them for shareholders to reinvest, shareholders would keep more than if the corporation distributed its profits every year.

⁹⁸ 26 U.S.C. §§ 531, 532, 541 et seq.

⁹⁹ See 26 U.S.C. §§ 533(a), 537; 26 C.F.R. § 1.537-2(b).

¹⁰⁰ That does not mean these taxes lack other benefits, such as constraining tax avoidance.

¹⁰¹ They may also be complements in appropriate circumstances. For example, if a company is capital-intensive and has sufficient return to scale, increased access to one type of financing may raise a firm's demand for the other.

¹⁰² See 26 U.S.C. § 163(a).

¹⁰³ See, e.g., WELCH, *supra* note 10.

¹⁰⁴ See, e.g., Roger H. Gordon, Taxation and Corporate Use of Debt: Implications for Tax Policy 63 NAT'L TAX J. (2010); Michel Keen, Alexander Klemm & Victoria Perry, *Tax and the Crisis*, 31 FISCAL STUD. 43 (2010); Miller, *supra* note 49; Jinbaek Park & Young Lee, *Corporate Income Taxes, Corporate Debt, and Household Debt*, 26 INT'L TAX & PUB. FIN. 506 (2019); WELCH, *supra* note 10.

easier for a larger business to obtain credit than a smaller one.¹⁰⁵ Thus, in practice, the non-integration distortion also expands the boundary of the firm because being larger conveys the added benefit of increased access to tax-favored debt financing.

It is worth noting that pass-through taxation, in which an entity's profits and losses are attributed to its owners, is an integrated system that features only one level of tax. The United States has an unusually large pass-through sector; sole proprietorships, disregarded entities, partnerships, and S-corporations are all popular structures.¹⁰⁶

The pass-through rules affect the boundary of the firm in several ways. All else equal, firms generally prefer to be organized as pass-throughs rather than C corporations;¹⁰⁷ it is better to have one level of tax than two, and tax losses generally flow through to the owners of pass-throughs but not the owners of C corporations.¹⁰⁸ However, some entities cannot be pass-through entities. In particular, domestic corporations generally cannot be taxed as pass-throughs.¹⁰⁹ Thus, some firms that, taxes aside, would be best operated as corporations will elect other forms, such as LLCs and partnerships, because of tax reasons.

This tax-driven choice of entity creates inefficiencies. Those inefficiencies may affect the boundary of the firm in multiple ways, and it is not clear what effect dominates. For instance, choosing a non-corporate entity may create agency costs that impair the business's ability to operate effectively. In that scenario, the firm will presumably locate less activity internally than it otherwise would; it will "make" less and "buy" more. On the other hand, agency costs may take the form of managerial empire-

¹⁰⁵ WELCH, *supra* note 10.

¹⁰⁶ See, e.g., Barry, *supra* note 27, at 21-22.

¹⁰⁷ To be sure, all else is not always equal. For example, nontax factors and certain tax rules, like the passive loss rules, make C Corporations the preferred vehicle for venture-backed start-ups. See Victor Fleischer, *The Rational Exuberance of Structuring Venture Capital Start-ups*, 57 TAX L. REV. 137 (2003); Eric J. Allen et al., *On the Tax Efficiency of Startup Firms*, REV. ACCT. STUD. (2022) (estimating forgone tax savings of \$43.9 billion in sample firms); Gregg Polsky, *Explaining Choice-of-Entity Decisions by Silicon Valley Start-ups*, 70 HASTINGS L.J. 409 (2018).

Moreover, post-TCJA, there is an argument for some businesses to prefer being corporations because of the 21% tax rate, but this requires a long time horizon and particular beliefs about future individual and corporate tax rates. The logic is the same as that of the text accompanying footnotes 89-97, *supra*.

¹⁰⁸ This is an oversimplification.

¹⁰⁹ S Corporations are the big exception to this rule, but eligibility restrictions make the choice impractical for many firms. For example, S corporation shares generally cannot be owned by corporations, nonresident aliens, or more than 100 people. 26 U.S.C. § 1361(b)(1).

building.¹¹⁰ If so, the firm will expand to an inefficiently large size, making more and buying less.

In addition, publicly traded entities are generally required to be taxed as corporations.¹¹¹ There are exceptions to this rule, but they generally require the entity in question to earn the overwhelming majority of its income from exploiting natural resources or from financial sources such as interest, dividends, rent, and capital gains.¹¹² Many large publicly traded companies do not meet this criterion. However, they often have business components that do. This can create pressure to spin off these qualifying assets in order to take advantage of pass-through tax treatment, thereby shrinking the size of the firm.

For example, in 2013, Phillips 66 spun off some of its businesses as a publicly traded partnership known as Phillips 66 Partners.¹¹³ This was a tax-motivated transaction that divided (and thus shrunk) the company. In 2021-22, Phillips 66 paid billions of dollars to repurchase Phillips 66 Partners, stating that recombining the two entities into one unified whole would create value for their owners.¹¹⁴

2. *Non-Transferability of Losses and Credits*

Net operating losses (“NOLs”) and credits are valuable assets for a business, as they reduce its tax liability.¹¹⁵ However, they generally are not transferable: A corporation cannot sell its NOLs to a profitable third party looking to lower its tax liability.¹¹⁶ If a company acquires a corporation with NOLs, the Code imposes significant limitations on its ability to use those

¹¹⁰ See, e.g., Ole-Kristian Hope & Wayne B. Thomas, *Managerial Empire Building and Firm Disclosure*, 46 J. ACCT’G RES. 591 (2008); Syed Shams, Sudipta Bose & Abeyratna Gunasekarage, *Does Corporate Tax Avoidance Promote Managerial Empire Building?*, 18 J. CONTEMP. ACCT’G & ECON. 100293 (2022); Pingshun Huang & Yan Zhang, *Does Enhanced Disclosure Really Reduce Agency Costs? Evidence from the Diversion of Corporate Resources*, 87 ACCT’G REV. 199 (2012).

¹¹¹ See 26 U.S.C. § 7704.

¹¹² *Id.* at (c), (d).

¹¹³ See, e.g., Aimee Duffy, *The MLP We’ve All Been Waiting For*, THE MOTLEY FOOL, July 27, 2013, <https://www.fool.com/investing/general/2013/07/27/the-mlp-weve-all-been-waiting-for.aspx>.

¹¹⁴ See, e.g., Laura Sanicola, *Phillips 66 to Buy Remaining Stake in Partnership for \$3.4 Billion*, REUTERS, Oct. 27, 2021, <https://www.reuters.com/business/energy/phillips-66-acquire-remaining-stake-partnership-34-bln-2021-10-27/>; *Phillips 66 (PSX) to Acquire Phillips 66 Partners (PSXP) for \$3.4B*, STREETINSIDER.COM, Oct. 27, 2021, <https://www.streetinsider.com/Corporate+News/Phillips+66+%28PSX%29+to+Acquire+Phillips+66+Partners+%28PSXP%29+for+%243.4B/19112023.html>.

¹¹⁵ Losses reduce a business’s income, thereby reducing its tax bill in proportion to its tax rate. Credits reduce the liability directly, often at a ratio of 1:1.

¹¹⁶ See 26 U.S.C. § 382.

NOLs, which greatly reduces their value.¹¹⁷ Nor do corporations with negative incomes receive checks from the government. To take advantage of NOLs and most credits, a business must have earnings to offset.

At the same time, a line of business that generates large losses may be in long-term trouble; it may never generate the requisite income to offset against its past losses. Even if its fortunes improve, earnings may not arrive until many years in the future, costing the firm significant lost value from the time value of money.

Having multiple lines of business ameliorates both of these problems. When a corporation operates several lines of business, losses from one of those businesses can be used to offset income from another. Just because one line of business fails, the other may not, raising the likelihood that NOLs will be usable, and quickly. Thus, the rules prohibiting the transfer of losses and credits expand the boundary of the firm at the margin.

3. *Provisions Favoring Small Business*

A number of provisions in the tax code explicitly favor small businesses.¹¹⁸ These provisions favor breaking businesses into small pieces in order to take advantage of the special treatment offered. At the margin, these provisions contract the boundary of the firm.

For example, Section 1202 allows individual taxpayers to reduce their tax liability from sales of qualified small business stock by between 50% and 100%.¹¹⁹ To qualify, the corporation issuing the stock must have less than \$50 million in assets.¹²⁰ If a corporation needs to raise equity capital and has more than \$50 million in assets, the tax code provides an incentive to split the business into pieces in order to qualify for Section 1202.

There are also many tax code provisions that favor small businesses implicitly; these provisions also contract the boundary of the firm at the margin. For example, Section 179 allows businesses to immediately deduct the cost of certain property, up to an annual cap of around \$1 million.¹²¹ If Section 179 did not apply, businesses would have to depreciate that property

¹¹⁷ *Id.*

¹¹⁸ See, e.g., 26 U.S.C. §§ 474, 1045, 1202, 1244; Jordan M. Barry, Taxation and Innovation: The Sharing Economy as a Case Study, in CAMBRIDGE HANDBOOK OF THE LAW OF THE SHARING ECONOMY (Nestor Davidson, Michèle Finck & John Infranca, eds. 2018); Eyal-Cohen, *supra* note 17.

¹¹⁹ 26 U.S.C. § 1202.

¹²⁰ 26 U.S.C. § 1202(a)(1), (d)(1).

¹²¹ In 2023, the cap was \$1.16 million. 26 U.S.C. § 179. For simplicity, we refer to the cap as \$1 million for the rest of this paragraph.

over time instead.¹²² Because of the time value of money, it is better to get deductions sooner rather than later. Thus, Section 179 benefits taxpayers. If a business is broken up across several corporate entities, each such entity will get its own \$1 million cap, increasing the amount that can be deducted under Section 179. In contrast, if the entire business is housed within the same corporate entity, it would only get to deduct \$1 million per year under Section 179.

Similarly, prior to 2018, U.S. corporate tax rates were progressive. Marginal rates began at 15%, then climbed to 25%, and then rose into the mid-30s as corporations earned more income.¹²³ Splitting profitable businesses among several corporations could result in a lower overall tax liability than combining them under the same corporate umbrella.¹²⁴ Other examples abound.¹²⁵

Of course, these effects will be small for some businesses—Apple can't practically do much to take advantage of these strategies, for instance. But for other firms—such as a relatively small family-owned firm with several distinct but related lines of business—these effects could be quite significant.

4. Consolidated Return Rules

In general, the U.S. corporate income tax treats each corporation as a separate taxpayer.¹²⁶ However, the consolidated return rules provide a huge exception to this general rule. A parent corporation and its subsidiaries can file a consolidated return, in which case they essentially pay tax based on their overall combined income.¹²⁷ This can be advantageous because it greatly ameliorates the problems described above relating to integration and the non-transferability of NOLs and most tax credits.¹²⁸ At the same time,

¹²² See 26 U.S.C. §§ 263, 263A.

¹²³ See Tax Found., *Historical U.S. Federal Corporate Income Tax Rates & Brackets, 1909-2020*, Aug. 24, 2021, <https://taxfoundation.org/data/all/federal/historical-corporate-tax-rates-brackets/>.

¹²⁴ For example, a corporation with \$50,000 of income would have been subject to tax at 15%, while a business with \$100,000 of income would have faced an average tax rate almost 50% higher (22.25%). See *id.*

¹²⁵ See, e.g., 26 U.S.C. §§ 41(h); 45E; 408(p); 3111(f).

¹²⁶ 26 U.S.C. § 11.

¹²⁷ This is a huge oversimplification. See Martin J. McMahon, Jr., *Understanding Consolidated Returns*, 12 FLA. TAX REV. 125 (2012).

¹²⁸ *Id.* at 168-76. Regarding integration, because corporations are typically treated as separate taxpayers, a subsidiary that earns income would be taxed on that income, and the parent corporation would be taxed again when it receives a dividend from the subsidiary. If there are multiple levels of corporate subsidiaries, this process would be repeated at every step in the corporate structure. This could produce confiscatory tax rates; with a 30% corporate tax rate and five levels of subsidiaries, the net tax rate would be over 88%.

it can sometimes be disadvantageous to be treated as one entity, such as with respect to provisions favoring small businesses.¹²⁹

To file a consolidated return, a corporate group must meet specific criteria. Other than the group's parent corporation, each corporation in the group must be 80% owned by other members of the group.¹³⁰ The 80% threshold is a clear line, and being on one side of this hard cutoff or the other has significant effects. This encourages firms to change their ownership structure to land on the desired side, distorting the boundaries of the firm.

For example, suppose that BuyerCo and its subsidiaries file a consolidated return. BuyerCo is contemplating acquiring 90% of JointVentureCo, a subsidiary of SellerCo. Suppose further that BuyerCo does not wish to file a consolidated return with JointVentureCo. This could push BuyerCo to acquire a lesser amount of JointVentureCo—perhaps 79%—to keep JointVentureCo outside the scope of the consolidated return rules. This significantly shifts the boundary of the firm, leaving SellerCo with over twice as much ownership in JointVentureCo as it would have had in a no-tax world.¹³¹

5. *Intrafirm Distortions*

In some instances, the tax code treats different parts of the same economic enterprise differently. This is essentially the flip side of the consolidated return rules, which treat a group of affiliated corporations as a single entity.¹³² Such rules are particularly common in international tax and other areas in which tax law considers operations across several jurisdictions. These rules encourage corporations to shift the location of their activities, either geographically or within the firm's corporate structure. They can make firms larger or smaller, depending on the circumstances.

For example, prior to the Tax Cuts and Jobs Act of 2017 ("TCJA"), U.S. firms faced a 35% tax when they transferred profits from a foreign subsidiary to a U.S. parent company.¹³³ Accounting rules generally

Beyond the consolidated return rules, U.S. law provides corporations a partial deduction for dividends they receive. 26 U.S.C. §243(a). That deduction reduces, but does not eliminate, this problem.

¹²⁹ See *supra* Part III.B.3.

¹³⁰ The 80% requirement applies to both voting power and economic value. 26 U.S.C. § 1504; see also McMahon, *supra* note 127.

¹³¹ In a no-tax world, SellerCo would retain 10% of JointVentureCo; now it owns 21%.

¹³² See *supra* Part III.B.4.

¹³³ See, e.g., Jordan M. Barry, *The Transition (Under-)Tax*.

required companies to record this future tax liability on their books.¹³⁴ Thus, a company that left \$1 billion of profits in a Cayman Islands subsidiary would report a deferred tax liability of \$350 million.¹³⁵ Companies could avoid this adverse accounting treatment, however, if the earnings were “permanently reinvested” overseas.¹³⁶ The underlying logic of this rule was that, if earnings will *never* be transferred to the U.S. parent, there will be no U.S. tax to account for.¹³⁷ The tax system therefore encouraged multinational firms to invest profits in their offshore subsidiaries, expanding the size and scope of those businesses and affecting the locations in which they were conducted. At the same time, firms may have been discouraged at the margin from growing their existing U.S.-based businesses or opening new ones.¹³⁸

Under current law, U.S. firms are taxed immediately on income earned abroad through foreign subsidiaries.¹³⁹ However, such income is taxed at half the rate applicable to domestic income, and taxpayers receive a partial credit for income taxes paid to foreign jurisdictions.¹⁴⁰ Essentially, U.S. firms must pay some U.S. tax on their foreign income, unless that income faces a minimum rate of foreign tax.

The underlying logic of these provisions is to reduce firms’ incentives to allocate income out of the United States and into low-tax jurisdictions such as the Cayman Islands or Bermuda. The idea is to ensure that U.S. multinationals’ foreign profits are taxed *somewhere*. At the same time, however, these rules create incentives to shift activity to relatively high-tax jurisdictions.

To see this, consider Acme, a U.S. corporation with subsidiaries in two countries, Notaxia and Hightaxia. Notaxia has no income tax, while Hightaxia has an 80% income tax. The United States taxes Acme’s foreign

¹³⁴ See Accounting Principles Board, APB Op. 23, Accounting for Income Taxes—Special Areas (1972) [hereafter APB Op. 23].

¹³⁵ \$1 billion * 35% tax rate = \$350 million. This amount could be reduced by credits for foreign taxes already paid on the income, among other things. It could also be discounted to present value if the company planned to defer repatriation. 26 U.S.C. § 901; APB Op. 23, *supra* note 134; Jordan M. Barry & Ariel Jurow Kleiman, *Rationalizing the Arbitrary Foreign Income Tax Credit*, 75 TAX L. REV. 1 (2021).

¹³⁶ APB Op. 23, *supra* note 134.

¹³⁷ See *id.* (promulgating requirements, including that the company demonstrate that the cash is not needed in the United States). In one author’s opinion, this underlying premise was questionable. Barry, *supra* note 133.

¹³⁸ If those foreign operations were complements to U.S. businesses (for example, if there were economies of scale or scope), then these foreign operations could have encouraged firms to grow their U.S. operations. Either way, these tax laws would have altered the boundary of the firm.

¹³⁹ 26 U.S.C. § 951A.

¹⁴⁰ 26 U.S.C. §§ 951A, 960(d); see also 26 U.S.C. § 245A.

earnings to the extent they are not subject to an overall foreign tax rate of 15%.¹⁴¹ Suppose that Acme earns \$100 in Notaxia and \$0 in Hightaxia. Its foreign income faces a 0% foreign tax rate, and it is thus subject to \$10 of U.S. tax.¹⁴²

Now suppose that Acme is considering purchasing SupplyCo, a supplier based in Hightaxia. SupplyCo generates \$25 of profit annually, all of it in Hightaxia and subject to Hightaxian income tax. If Acme acquires SupplyCo, Acme's total annual foreign income will be \$125, and it will pay \$20 of foreign income tax.¹⁴³ This corresponds to a total foreign income tax burden of $\$20 / \$125 = 16\%$, which means Acme will no longer owe U.S. tax on its foreign income. The U.S. tax code thus offers a \$10 annual incentive for Acme to acquire SupplyCo.

The TCJA also created several other intrafirm distortions. For instance, it created the "Foreign-Derived Intangible Income" ("FDII") regime.¹⁴⁴ FDII (commonly pronounced "Fiddy") imposes a reduced tax rate on income that both (1) stems from U.S. exports and (2) is attributable to intangibles.¹⁴⁵ FDII is an incentive intended to induce U.S. multinationals to locate economic activity and income in the United States.¹⁴⁶

A robust academic discourse considers the pros and cons of using prescribed formulae to allocate multinational entities' income and deductions among jurisdictions.¹⁴⁷ Whatever their other merits or

¹⁴¹ This number was chosen for simplicity; under current law, the exact number is 13.125%. The U.S. corporate tax rate is 21%; GILTI imposes a tax of half that, equal to 10.5%. Foreign income taxes are currently creditable against this liability at 80 cents on the dollar; a 13.125% foreign tax credited at 80% = 10.5%.

¹⁴² More precisely, \$10.50. The U.S. corporate tax rate is 21%, half of that is 10.5%, and 10.5% of \$100 is \$10.50.

¹⁴³ The \$100 from Acme's Lowtaxian subsidiary plus the \$25 generated by SupplyCo equals \$125. There is no foreign tax on the Lowtaxian income and $80\% * \$25 = \20 on the Hightaxian income.

¹⁴⁴ See, e.g., Chris William Sanchirico, *The New U.S. Tax Preference for "Foreign-Derived Intangible Income"*, 71 TAX L. REV. 625, 629, 660 (2018).

¹⁴⁵ FDII is taxed at a rate of 13.125%. Like with GILTI, this low rate is accomplished by including FDII in income and then allowing the taxpayer to deduct a portion (37.5%) of the included amount. FDII is somewhat like a "patent box" regime, which provides for lower tax rates on income earned from patents. See, e.g., Dhammika Dharmapala, *The Consequences of the Tax Cuts and Jobs Act's International Provisions: Lessons from Existing Research*, 71 NAT'L TAX J. 707, 708 (2018); Sanchirico, *supra* note 144, at 629, 660.

¹⁴⁶ See, e.g., Sanchirico, *supra* note 144, at 657.

¹⁴⁷ See, e.g., Rosanne Altshuler & Harry Grubert, *Formula Apportionment: Is It Better Than the Current System and Are There Better Alternatives?*, 63 NAT'L TAX J. 1145 (2010); RUUD A. DE MOOIJ, LI LIU & DINAR PRIHARDINI, AN ASSESSMENT OF GLOBAL FORMULA APPORTIONMENT, IMF WORKING PAPER 2019/213; Susan C. Morse, *Revisiting Global Formulary Apportionment*, 29 VA. TAX REV. 593 (2009-2010); Reuven S. Avi-Yonah, Kimberly A. Clausing & Michael C. Durst, *Allocating Business Profits for Tax Purposes: A Proposal to Adopt a Formulary Profit Split*, 9 FLA. TAX REV. 497 (2008-2011).

detriments, such formulary apportionment regimes can encourage firms to shift the locations of their activities. For example, consider businesses with operations in multiple U.S. states, each of which has a corporate income tax. How much of the corporation's income does each state tax? Generally, states apportion corporations' income via a formula. Common inputs for that formula include the locations of the business's payroll, property, and sales.¹⁴⁸ At the margin, this encourages corporations to move their employees, facilities, and sales efforts to states with lower corporate tax rates.¹⁴⁹

Sometimes the tax code distinguishes between income that an enterprise earns from different lines of business; this can create similar distortions. For instance, Section 199A reduces the tax rate on income earned by non-corporate enterprises by 20%.¹⁵⁰ However, this reduction only applies to income earned from certain kinds of businesses; rental income qualifies, but many other businesses do not, including legal, medical, and accounting services.¹⁵¹ Consider the incentives this creates for legal, medical, and accounting practices that own their business premises: Transferring the property to a related entity, then renting the premises back to the original business, allows some of the business's income to be taxed at Section 199A's lower rate.¹⁵² Section 199A also creates incentives to sell the building to an *unrelated* party and then lease it back.¹⁵³ In that instance, the enterprise's economic activity has changed more substantially, as it has gone

¹⁴⁸ *What Is State Tax Apportionment and How Do You Calculate It?*, THOMSON REUTERS, Oct. 6, 2021, <https://tax.thomsonreuters.com/blog/state-tax-apportionment-calculate-it/>.

¹⁴⁹ See, e.g., Gordon & Wilson, *supra* note 66.

¹⁵⁰ 26 U.S.C. §199A. This is a simplification.

¹⁵¹ Consulting, performing arts, athletics, and several other services do not qualify either. 26 U.S.C. §§ 199A; 1202(e)(3)(A).

¹⁵² A stylized example: Consider a lawyer who earns \$1M annually and owns her office. She pays 40% income tax, but she would pay 32% if Section 199A applies. As is, she pays \$400,000 in tax and keeps \$600,000. If she transfers the building to an LLC she owns, then rents it back to her law practice for \$200,000 per year, her law practice has \$800,000 of income and the rental business has \$200,000. Her total tax liability is $40\% * \$800,000 + 32\% * 200,000 = \$320,000 + \$64,000 = \$384,000$. She keeps \$616,000; this is \$16,000 more per year than she kept previously. Thus, at the margin, Section 199A encourages her to separate her building ownership from her legal practice.

The Treasury Department has issued regulations intended to prevent this kind of gamesmanship. 26 C.F.R. § 1.199A-1 et seq.

¹⁵³ Returning to the example of note 152, every dollar that the law firm pays in rent would provide it with 40 cents in deductions, while generating a 32-cent tax liability for the rental business. That gap creates a fiscal incentive to structure the business this way.

from its own landlord to an arm's length tenant.¹⁵⁴ Other provisions of Section 199A create similar distortions.¹⁵⁵

6. *Tax-Free Reorganization Rules and Spinoffs*

Under certain circumstances, the tax Code permits transactions that would ordinarily trigger tax liability, such as asset sales, to proceed tax-free.¹⁵⁶ These transactions are generally known as tax-free reorganizations and spin-offs.¹⁵⁷ A number of tax rules governing reorganizations and spin-offs implicate the boundary of the firm. For example, one type of permitted reorganization involves an acquiring corporation purchasing substantially all of the target's assets.¹⁵⁸ Thus, an acquirer who wishes to take advantage of this provision must acquire almost all of the target's operations. At the margin, this encourages acquirers to engage in more lines of business than they otherwise would.¹⁵⁹

Similarly, tax-free reorganizations generally require "Continuity of Business Enterprise."¹⁶⁰ This is a facts-and-circumstances test that requires the acquirer to "continue the [target's] historic business or use a significant portion of [target's] historic business assets in a business."¹⁶¹ At the margin, this pushes acquirers to engage in more lines of business than they otherwise would. For instance, imagine a steel factory that acquires a neighboring toy factory. The acquirer's primary motivation for the acquisition may have been to acquire the toy factory's land (or intellectual property, or executives, etc.) and not to get into the toy business. However, the reorganization rules can create a significant tax incentive to remain in the toy business rather than dispose of it.¹⁶²

¹⁵⁴ For another example of the tax code treating income earned from different sources differently, consider domestic international sales corporations ("DISCs"), which impose a reduced tax burden on exports. 26 U.S.C. §§ 991-994.

¹⁵⁵ If a single trade or business has income from services that generally are not eligible for the Section 199A deduction as well as income from other activities, the full amount of income qualifies for the Section 199A deduction if the income from services is a sufficiently low share of total income. Otherwise, none of the income is eligible for the Section 199A deduction. This distorts a firm's decision of which lines of business to engage in. Moreover, the threshold share changes depending on the size of the business, which further distorts the decision. The deduction can also change depending on the amount of wages the company pays and the amount of property it owns, which can also affect make or buy choices. 26 U.S.C. § 199A.

¹⁵⁶ See 26 U.S.C. §§ 355, 368.

¹⁵⁷ See, e.g., Gregory N. Kidder, *Basics of U.S. Tax-Free Spin-Offs Under Section 355*, 5 INT'L TAX. 50 (2011), available at <https://www.steptoe.com/a/web/2630/4358.pdf>.

¹⁵⁸ This is a known as a C Reorganization; see 26 U.S.C. § 368(a)(1)(C). The same issue arises with respect to triangular mergers. 26 U.S.C. § 368(a)(2)(D), (E).

¹⁵⁹ In a Coasean sense, this means "making" more and "buying" less post-acquisition.

¹⁶⁰ Treas. Reg. 1.368-1(b).

¹⁶¹ Treas. Reg. 1.368-1(d).

¹⁶² See *id.* ex. 5.

The spin-off rules can also distort the boundaries of the firm. Those rules make it harder for companies to pass corporate earnings to their shareholders without triggering an entity-level tax.¹⁶³ Without the spin-off rules, a company could create a subsidiary, contribute cash or high-basis property to the subsidiary, and then spin the subsidiary off to the company's shareholders. The shareholders could then sell the subsidiary for cash. Shareholders would face tax liability on the sale of the spun-off subsidiary's stock, but there would be no tax at the entity level—neither the original corporation nor the spun-off entity would recognize any gain.¹⁶⁴

One of the ways that the Code seeks to defeat this bailout technique is by distinguishing between active businesses and passive investments. In order for the spin-off of the subsidiary to qualify as a reorganization (and thus defer the recognition of gain by the distributing corporation or its shareholder), the distributed subsidiary must contain a trade or business that has been active for at least five years, and the distributing corporation must also retain at least one other distinct business with its own five-year history.¹⁶⁵ This rule makes it somewhat more difficult for firms to disaggregate than to hold on to underperforming assets. The boundary of the firm analysis thus favors liberalizing this rule—for example, by reducing the active business duration to less than five years.¹⁶⁶

7. Administration and Compliance

The body of U.S. tax law is both large and complicated. This raises costs and compliance issues, which in turn creates several effects. On the whole, these effects likely encourage firms to be bigger at the margin, though it is not entirely clear.

One important effect is that there are economies of scale in tax management. Preparing the tax returns for a company that is twice the size does not take twice the work. There are also economies of scale with respect to tax planning and structuring. For example, suppose that Frank Fried is a tax lawyer. For a \$1,000,000 fee, Frank can design a tax structure that

¹⁶³ Thus, the spin-off rules, and resultant distortions, relate to the Non-Integration Distortion discussed in Part III.B.1, *supra*. Under an integrated corporate tax system, there would be no need to resist the transfer of corporate earnings and profits to shareholders.

¹⁶⁴ See, e.g., Kidder, *supra* note 157, at 441.

¹⁶⁵ 26 U.S.C. § 355(b); Paul B. Stephan III, *Disaggregation and Subchapter C: Rethinking Corporate Tax Reform*, 76 Va. L. Rev. 655, 686 (1990).

¹⁶⁶ Some have suggested elective nonrecognition, where disaggregating firms could choose to sell an active trade or business without incurring a corporate-level tax so long as cash proceeds are distributed to shareholders, triggering shareholder-level tax on gains. Stephan, *supra* note 165, at 705; AMERICAN LAW INSTITUTE, FEDERAL INCOME TAX PROJECT—ACQUISITIONS AND DISPOSITIONS (1982), at 97.

reduces a company's tax liability by five percent. A firm that pays \$100,000 per year in taxes will not want to hire Frank; it would pay Frank \$1,000,000 to save \$5,000 per year.¹⁶⁷ In contrast, hiring Frank is enormously profitable for a firm that pays \$100,000,000 in taxes per year; it would save \$5,000,000 in taxes every year. The same logic applies to other tax planning measures with relatively fixed costs.

On the other hand, larger firms generally have more complex taxes, especially if they engage in extensive structuring. This raises the cost of tax preparation and compliance.¹⁶⁸ Compared to smaller firms, larger firms are also more likely to attract the IRS' attention and thereby trigger an audit.¹⁶⁹ These effects push against having larger, more complicated firms.

At the same time, bigger firms' more complex taxes can make it harder for the IRS to detect aggressive, questionable, or incorrect positions. This has become increasingly salient over time as the IRS's resources have been stretched thinner and thinner.¹⁷⁰ The IRS has basically admitted that it lacked the resources to audit businesses with the most complicated returns.¹⁷¹ Thus, there is reason to believe that the administrative and compliance advantages of being large and complicated currently outweigh the advantages of being smaller and simpler.

C. Regulatory Arbitrage

In some cases, modern tax planning techniques allow firms to achieve their desired legal outcomes while approximating the economic arrangements that they would have had in a world without taxes.¹⁷² These techniques constitute a form of regulatory arbitrage, as they change the legal consequences that the firm faces even as the firm's underlying activities remain substantially unchanged.¹⁷³

¹⁶⁷ Paying \$1,000,000 to save \$5,000 annually is an annual return of 0.5%.

¹⁶⁸ Fleischer, *supra* note 24.

¹⁶⁹ *Id.*

¹⁷⁰ See, e.g., CTR. ON BUDGET AND POLICY PRIORITIES, CHART BOOK: THE NEED TO REBUILD THE DEPLETED IRS (2022), available at <https://www.cbpp.org/research/federal-tax/the-need-to-rebuild-the-depleted-irs>. The Inflation Reduction Act of 2022 added billions to the IRS budget, but the first bill that Republicans passed through the House of Representatives upon retaking the majority in 2023 would have reversed this; the future remains uncertain. See, e.g., Trish Turner, *House Republicans Pass Legislation Trying to Block New IRS Funding*, ABC NEWS, Jan. 9, 2023, <https://abcnews.go.com/Politics/house-republicans-set-pass-law-block-irs-funding/story?id=96319864>.

¹⁷¹ See, e.g., Testimony of IRS Commissioner Charles Rettig to the House Oversight and Reform Committee, April 2022 (stating that "a lack of resources" had compromised the IRS' ability to audit complex returns and limited the issues the IRS could review on audit).

¹⁷² Fleischer, *supra* note 24.

¹⁷³ See *id.*; Barry, *supra* note 24.

For example, firms may reduce the effect of the non-integration distortion by issuing hybrid instruments.¹⁷⁴ The payments on such instruments could be treated like interest for tax purposes—i.e., they would be deductible—but the instrument could operate like equity in other ways—for example, instrument holders could not legally compel firms to make the promised payments.¹⁷⁵ By using such an instrument, an enterprise bears only one level of tax, imposed at the investor level, while its underlying economic activity remains unchanged.

Regulatory arbitrage enables firms to secure their preferred legal treatment without making costly changes to their business models. Thus, firms will generally prefer to respond to tax-imposed distortions via regulatory arbitrage; they will reconfigure their economic activities when regulatory arbitrage is unavailable, incomplete, or inadequate. For instance, anti-abuse rules may prevent firms from engaging in regulatory arbitrage, pushing them to make substantive economic changes instead.¹⁷⁶

From a social welfare perspective, regulatory arbitrage is a mixed bag. On the one hand, it reduces the distortive effects of tax laws on the economy. If production would be organized efficiently in a no-tax world, regulatory arbitrage can create efficiency gains.

There are several countervailing negatives, however. First, even profitable regulatory arbitrage still imposes costs on the firm. Complicated structures can make firms less nimble, gumming up their operations.¹⁷⁷ Tax planning increases agency costs by reducing shareholders' ability to monitor what managers are doing.¹⁷⁸ For example, when a firm stockpiles cash in the Cayman Islands, it is unclear whether managers are doing so to reduce taxes, because they lack good investment options, because they plan to siphon off some of that cash for themselves, or some combination of all three.

In addition, even privately profitable regulatory arbitrage may be socially wasteful. Consider a firm that spends \$1 million on tax structuring to save \$5 million in taxes. The \$1 million in tax structuring simply moves money to the firm that otherwise would have gone to the government.¹⁷⁹ The expenditure makes sense from the firm's perspective—but from

¹⁷⁴ Fleischer, *supra* note 24.

¹⁷⁵ *Id.*

¹⁷⁶ *Id.*

¹⁷⁷ *Id.* (discussing the tax-effective but unwieldy horizontal double dummy structure).

¹⁷⁸ See, e.g., Shams et al., *supra* note 110.

¹⁷⁹ This is an oversimplification. The firm might make different investment choices if its effective tax rate is lower; the government might make different taxing or spending decisions; etc.

society's perspective, those resources would have been better spent elsewhere.

Regulatory arbitrage responses also raise equity concerns. Sophisticated, wealthy taxpayers are the most likely to employ complicated tax planning techniques.¹⁸⁰ This means that poorer, less sophisticated taxpayers will shoulder a relatively greater burden than they would otherwise. Beyond these distributive effects, if taxpayers believe that the system is fundamentally unfair, or that only suckers pay taxes, that reduces tax compliance.¹⁸¹ Reduced tax compliance in turn causes a bevy of problems: The IRS must expend more resources to collect the same amount of revenue. Tax laws must be written more defensively and must address more planning techniques, which adds complexity to the legislative, regulatory, and taxpayer compliance processes.

An extended stylized example helps illustrate some of these points. Suppose Apple wants to assemble phones in China, where manufacturing workers are plentiful, talented, and cheap, and sell them in the United States. Assume Chinese taxes are low and U.S. taxes are high. In a world without taxes, Apple would simply contract with a Chinese firm to manufacture its phones at a low price, then sell them in the United States. By assumption, this option is economically efficient. It is tax-inefficient, however, because much of Apple's income would be sourced and taxed in the high-tax United States.

Instead, Apple could create a new corporate subsidiary in China that manufactures iPhones and sells them to Apple at a high price. This shifts profits from Apple's U.S. parent to its lower-taxed Chinese subsidiary, reducing Apple's tax liability. Creating a Chinese manufacturing subsidiary would be a real change in the economic boundaries of the firm. By our earlier assumption, this would be less economically efficient than simply buying the phones on the market.

Alternatively, Apple could have its Chinese subsidiary contract out iPhone manufacturing to an unrelated Chinese firm. The Chinese subsidiary then sells them to Apple's U.S. parent at a higher price, effectively shifting Apple profits from the United States to China.¹⁸² Apple's overall economic activities track the no-tax scenario—it hires an unrelated Chinese

¹⁸⁰ Fleischer, *supra* note 24.

¹⁸¹ See, e.g., Jordan M. Barry, John William Hatfield & Scott Kude Kominers, *To Thine Own Self Be True? Incentive Problems in Personalized Law*, 62 IOWA L. REV. 723, 749 n.138 (2022) (collecting sources).

¹⁸² Again, this is an oversimplification. In this case, it would be necessary to transform the income from China (where it might be foreign base company sales income and subject to current inclusion under subpart F) into deferred income. Apple can also use other planning techniques (like interest stripping) to reduce both its U.S. and global effective tax rate. See Kleinbard, *Stateless Income*, *supra* note 66.

manufacturer to produce the phones at a low price, then sells them in the United States. By assumption, this is efficient.

Even so, Apple's regulatory arbitrage strategy creates other costs. For example, pre-TCJA, Apple would owe 35% U.S. tax when it transferred profits from its Chinese subsidiary to its U.S. parent.¹⁸³ To avoid this, Apple would have to keep its profits invested offshore, ideally in a tax haven.¹⁸⁴ By encouraging Apple to invest and grow its business offshore, this strategy creates new distortions.¹⁸⁵

IV. POLICY IMPLICATIONS

Having catalogued how the income tax distorts the boundaries of the firm, we now turn to the policy implications of these dynamics. As an initial matter, we note that all of the topics we discuss below are major tax policy questions; as such, they implicate multiple policy goals in complex ways. Reasonable minds can (and do) disagree on the best approach to take on each issue. The effects we discuss here are not dispositive—but they should not be ignored, either. Policymakers should weigh these effects when crafting tax law.

First, the boundaries of the firm analysis offers a new reason to rely less on the income tax, especially the corporate income tax, and more on other tax instruments that affect the boundary of the firm less. For instance, our analysis provides a new reason to fully or partially replace the corporate income tax with a destination-based tax, such as a Value-Added Tax (“VAT”). A well-crafted VAT could raise comparable amounts of revenue without distorting the make or buy decision.¹⁸⁶ Our analysis also provides a new argument for lower corporate tax rates. It thus provides support for the TCJA's significant corporate tax rate cut.

Second, the doctrinal distortions that we identify inform policy debates across a wide range of income tax issues. Given how widespread

¹⁸³ Post-TCJA, the situation changes in several respects. GILTI essentially imposes a minimum tax on foreign profits, reducing the attractiveness of this structure. On the other hand, the foreign profits can be repatriated as dividends tax-free.

¹⁸⁴ See *supra* text accompanying footnotes 133-138.

¹⁸⁵ When Apple decided to fund shareholder payouts, it issued new bonds to fund them, even though its subsidiaries held billions of dollars at the time. This approach was driven by Apple's desire to avoid the 35% repatriation tax. Barry, *supra* note 133, at 22.

¹⁸⁶ This is not to say the effects would be identical. For example, the burden of a VAT might fall differently, creating distributional consequences. Gamesmanship can also be a problem, depending on implementation. See, e.g., *Loophole Allows Uber to Avoid UK Tax, Undercut Rivals*, CNBC.COM, June 8, 2017, <https://www.cnbc.com/2017/06/08/loophole-allows-uber-to-avoid-uk-tax-undercut-rivals.html>.

boundary of the firms issues are within the income tax, a full exploration of each of those issues is beyond the scope of this article. Rather than discuss each issue in great detail, we focus our discussion on some common points that apply across many contexts.

Finally, policymakers should consider how their choices affect the regulatory arbitrage responses we identify. Tax laws and regulations are not the final word in the discussion; taxpayers react to those laws and regulations and adjust their behavior in response. Policymakers pursuing particular goals should consider these behavioral responses in advance when crafting policy.

A. Choosing Tax Instruments

Market prices help economic actors make decisions. Firms' use of market prices to allocate resources is a fundamental driver of economic efficiency. Accordingly, tax policymakers should make it a goal to maintain the integrity of the price mechanism.

Almost all taxes distort prices in some way. However, some distortions are worse than others. Public finance scholars have examined the distortionary effects of different tax instruments, but there is relatively little literature on the distortionary effects of the corporate income tax.¹⁸⁷ A large strand of the economics and finance literature argues for no taxes on capital income (and, by extension, no tax on corporate income). However, in a political environment that has decided to impose taxes on businesses, such arguments provide policymakers with little guidance. Given such an environment, policymakers should consider how tax distorts the boundary of the firm.

The basic insight is that realization-based income taxes distort the decision of where to set the boundary of the firm. Firms control the prices within their boundaries; Apple controls its subsidiaries, and can have them transact with each other on whatever terms it wishes. If a firm's tax liability depends on these firm-internal prices, there will be opportunities for tax avoidance. All else equal, then, policymakers prefer tax systems that rely on market prices, or at least prices that can be imputed from observable arms-length transactions. Our realization-based income tax, and the transfer pricing regime in particular, tries hard to address problems of non-arm's-length pricing.¹⁸⁸ Even so, the consensus is that the system has deep flaws that benefit sophisticated firms. What, then, are the viable alternative instruments?

¹⁸⁷ But see, e.g., Mihir A. Desai, Alexander Dyck & Luigi Zingales, *Theft and Taxes*, 84 J. FIN. ECON. 591 (2007); Dharmapala, *supra* note 145.

¹⁸⁸ See, e.g., 26 U.S.C. § 482.

The most obvious candidate is a VAT. A VAT is a tax imposed on the difference between the value of a firm's outputs and the value of its inputs—i.e., a tax on the value that the firm added. Both inputs and outputs are observable, and the administrative design of a VAT can incentivize accurate reporting of prices. Nearly every country on Earth, including every non-U.S. OECD country, imposes a VAT,¹⁸⁹ and many commentators have proposed that the U.S. adopt one.

The dominant strain of thought views VATs as consumption taxes that fall primarily on consumers. In contrast, most commentators perceive corporate income taxes as falling primarily on shareholders. If these views are correct, and if corporations primarily serve shareholders' interests, then firms will face less incentive to game the VAT than the corporate income tax. If so, the VAT would distort pricing mechanisms less than the corporate income tax.¹⁹⁰

An example can help illustrate these points. Assume that it is efficient for Apple to buy smartphones from an unrelated Chinese manufacturer. Might a VAT distort this decision?

Assume that a Chinese manufacturer will sell a phone to Apple for \$100, and Apple sells phones to U.S. consumers for \$500. The value of the output price is clearly \$500. Under a destination-based U.S. VAT, the input price of the phone is zero, regardless of the actual price that Apple pays.¹⁹¹ If the VAT rate was 20%, it would raise \$100 regardless of what happened overseas. There is no distortion of the boundary of the firm.¹⁹²

¹⁸⁹ See, e.g., OECD, CONSUMPTION TAX TRENDS 2022 § 1.3.1 (2022), available at https://www.oecd-ilibrary.org/sites/6525a942-en/1/3/1/index.html?itemId=/content/publication/6525a942-en&_csp_=9be05a02fe0e4dbe2c458d53fbfa33b&itemIGO=oecd&itemContentType=book#section-d1e834.

¹⁹⁰ Some firms could still face indirect pressure to avoid the VAT. If consumers bear the burden of the VAT, consumer-facing firms may be able to attract more business (thereby serving shareholder interests) by gaming the VAT. That said, informing consumers of the opportunity without drawing regulatory scrutiny may be challenging.

¹⁹¹ One might think this would encourage Apple to contract with a U.S. manufacturer, so that Apple's payment for phones would count as an input, thereby reducing Apple's VAT liability. However, the U.S. manufacturer would face the same 20% VAT as Apple, and it would need to account for that tax liability when determining what price to charge Apple for phones. To put it a different way, for each phone sold to a U.S. consumer, the total U.S. VAT collected along the supply chain will be the same regardless of whether Apple contracts with a U.S. or Chinese manufacturer.

¹⁹² The implications for overseas sales are more complicated. The U.S. VAT would not distort the location of production. It might affect Apple's choice of where to sell, however; a phone sold to a French consumer would face no U.S. VAT. That said, it is unclear what the effective U.S. tax rate on such sales is under the current system. Moreover, the French sale would trigger a French VAT liability.

Independent of whether the United States chooses to implement a VAT or similar tax, a lower corporate tax rate reduces the pricing mechanism distortion. The lower the rate, the less incentive that firms have to reduce their tax liability at the margin, and thus the less incentive they have to expand the firm to generate income-shifting opportunities. Similarly, broadening tax bases generally reduces behavioral distortions: Reducing the differences in tax treatment across different types of income reduces the incentive to shift income between forms.

Our analysis suggests that the TCJA's reduction of the corporate tax rate from 35% to 21% likely ameliorated the boundaries of the firm issues that we describe. The TCJA also included some base-broadening efforts, particularly with respect to foreign source income. However, as our earlier analysis demonstrates, further opportunities for improvement remain available.

Indeed, since 2013, the Base Erosion and Profit Shifting Project ("BEPS Project") has brought countries together in an attempt to revamp international tax law. The BEPS Project's main thrust is to combat tax avoidance by multinational corporations. The project remains ongoing, but in July 2023, 138 countries, representing over 90% of global GDP, signed onto a statement recognizing the progress the project has made so far.¹⁹³ The core of the BEPS Project's proposals are known as Pillar 1 and Pillar 2. Pillar 1 allocates certain income earned by multinational entities to the jurisdiction in which they sold their products, rather than the jurisdiction in which the products were made. Pillar 2 imposes a global minimum tax on certain multinational enterprises. These pillars would reduce multinationals' incentive and ability to shift profits between jurisdictions. Thus, they could potentially reduce the distortive effects of the corporate income tax that we identify. However, as noted above, they would not eliminate those effects altogether.¹⁹⁴ The Biden Administration has also proposed reforms to the U.S. international tax regime that would have similar effects.¹⁹⁵

One point worth noting about BEPS is that it shifts to a tax base based on financial statement income—essentially, the measure of income

¹⁹³ OECD, *supra* note 29.

¹⁹⁴ See text accompanying footnote 77. Moreover, the specifics of implementation matter here. For example, to the extent that these tax changes are triggered when a company meets certain numerical size thresholds, they might induce companies to buy more and make less in order to stay below those thresholds.

¹⁹⁵ The Biden administration has proposed increasing the tax rate in the GILTI regime (to oversimplify, a minimum tax on global income) to 15%, thus reducing the distortion between domestic and offshore profits. It has also proposed applying GILTI's minimum tax on a country-by-country basis, rather than a firm's non-U.S. income as a whole, which reduces the incentive to conduct activity in high-tax jurisdictions to manipulate the overall blended rate.

that companies report to their investors. In the BEPS context, this has clear appeal as a way to calculate income without having to look to more than one hundred different countries' tax laws. Domestic commentators have also proposed such a shift independently, as a way to constrain tax avoidance behavior, and indeed the Inflation Reduction Act of 2022 includes a 15% minimum tax based on a modified measure of financial statement income.

Taxing based on financial statement income has important implications for the boundaries of the firm. Accounting rules, much like the tax code, are filled with choices over how to classify different items. To the extent that these doctrinal choices now carry tax consequences, the same types of doctrinal distortions that we identified with respect to the income tax laws will once again apply. For instance, a firm's financial statements consolidate the income and losses from subsidiaries in which the firm owns sufficient interests.¹⁹⁶ Generally, the requisite ownership under U.S. GAAP is just over 50%.¹⁹⁷ Firms considering ownership near this level will have incentives to change their behavior, just as in the case of consolidated tax returns, discussed earlier.

Historically, the accounting rules governing income have been more conservative than the tax definition of income.¹⁹⁸ This stems from the underlying concerns of the two regimes; accounting rules worried that companies might overstate their income to paint a rosier picture for investors, while tax rules worried that companies might understate their income to tax authorities to reduce their tax liabilities.¹⁹⁹ To the extent that accounting rules understate income compared to tax rules, using accounting definitions of income will lower the burden of the corporate income tax and thus its distortions.

¹⁹⁶ Financial Accounting Standards Board 810-10-15-8, 810-10-15-8A [hereafter FASB]; *see also* International Financial Reporting Standards 10 (using control as the standard for when subsidiaries' returns are consolidated with a parent's).

¹⁹⁷ FASB, *supra* note 196.

¹⁹⁸ *See, e.g.,* CBIZ, GAAP VS. Tax-Basis Reporting: Choosing the Right Model for Your Business, CBIZ.COM (2022), <https://www.cbiz.com/insights/articles/article-details/gaap-vs-tax-basis-reporting-choosing-the-right-model-for-your-business> (GAAP is based on the principle of conservatism . . . [which] aims to prevent businesses from overstating profits and asset values to mislead investors and lenders. . . . Contrary to GAAP, tax law tends to favor accelerated gross income recognition and won't allow taxpayers to deduct expenses until the amounts are known and other requirements have been met.”).

¹⁹⁹ In some ways, tax rules are now more conservative than accounting rules. For example, tax rules treat payments for certain long-lived assets as immediately deductible—essentially, treating them as if the payments have been entirely consumed immediately, with no longer-lasting benefits. *See* 26 U.S.C. § 179. Accounting rules, in contrast, depreciate or amortize such assets over time, reducing the immediate costs of such assets and increasing reported income.

Some contend that accounting rules track the economic state of the firm better than current tax rules do. If this is correct, shifting to financial statement income will reduce regulatory arbitrage opportunities, with all the positive and negative consequences that entails.²⁰⁰ On the other hand, if accounting rules define income more conservatively than current income tax rules do, those rules may offer firms new opportunities to reduce their taxable income without making significant changes to their underlying economic activities—that is, there may be additional opportunities for regulatory arbitrage.²⁰¹ The specific rules implementing a financial statement tax will have a major impact on the regulatory arbitrage response, as will the ways in which regulators respond to tax avoidance behaviors over time.

B. The Boundary of the Firm and Doctrinal Debates

The boundary of the firm analysis informs policy debates over a number of doctrinal areas. For example, political debate about the U.S. corporate tax rate often focuses on its explicit cost—revenue paid by U.S. corporations to the Treasury—and vague references to the idea that a high corporate tax rate reduces U.S. competitiveness. More precision would be useful. Recently, scholars have focused some attention on the implicit cost of the corporate tax—the inefficient allocation of economic resources in response to the corporate tax.²⁰²

Expansion of the real boundaries of the firm beyond what would occur in a no-tax world is an important implicit cost of the corporate tax. The proliferation of international subsidiaries and complicated tax planning arrangements distorts real economic decisions, including requiring thousands of hours of work by tax lawyers and accountants. It makes it harder for firms to tell which of their components is thriving and which are struggling. Corporate managers hold on to underperforming divisions, pouring good money after bad, while missing out on opportunities for growth and expansion.

Distortions to the boundaries of the firm are therefore important and should be taken seriously. This point extends beyond questions regarding which tax instruments to use and at what rates, but to all of the subsidiary choices that make up a tax regime. Part III.B of this paper discusses many

²⁰⁰ This assumes that accounting rules continue to track income better than current tax rules after the accounting rules are used for tax determinations. This might not be the case; for example, political forces might distort these rules to reduce tax burdens on businesses.

²⁰¹ Firms would generally have little reason to do this to date; firms generally wish to report higher profits to their current and prospective shareholders and creditors, not lower.

²⁰² E.g., Grubert & Altshuler.

such examples, and while it is not exhaustive, it demonstrates how widespread this issue is across the tax code.

Two additional points merit mention. First, policymakers have sometimes enacted tax laws that directly respond to the types of boundary-of-the-firm issues that we catalog here.

For example, taxpayers can immediately deduct certain business expenses. In contrast, payments for long-lived assets, such as buildings, generally must be capitalized.²⁰³ That means taxpayers can only deduct a portion of the purchase price each year, in the form of depreciation.²⁰⁴ This eventually enables the full cost to be deducted, but because the process takes longer, the time value of money renders it a less desirable tax treatment than immediate expensing.

For many years, a taxpayer that acquired a long-lived asset from a third party would have to capitalize it, but a taxpayer that built the same asset in-house could deduct the costs of producing the asset, such as the salaries of the employees who produced it.²⁰⁵ The superior tax treatment accorded to in-house development gave firms a clear tax incentive to make rather than buy. Congress subsequently enacted the Uniform Capitalization Rules.²⁰⁶ These provisions impose uniform rules governing what firms can deduct and what they must capitalize, and they generally do not depend on whether the asset was created internally or purchased from a third party.²⁰⁷ Conceptually, the Uniform Capitalization Rules correct the prior doctrine's distortion of the boundary of the firm.²⁰⁸

The history of the Uniform Capitalization Rules and similar provisions shows that the political system can address the concerns we raise and produce outcomes that address them. At the same time, we note that Congress has not always demonstrated an awareness of the issues we expound here; greater attention to this issue would help bolster future policymaking.

Second, the previous Subpart discussed how reducing the corporate tax rate and broadening the tax base can reduce intrinsic distortions. The same is generally true with respect to doctrinal distortions: The non-transferability of losses and credits, provisions designed to benefit small businesses, spin-off rules, consolidation questions, and tax compliance all become less important when firms' corporate tax liability declines.

²⁰³ 26 U.S.C. §§ 263, 263A.

²⁰⁴ 26 U.S.C. §167; *see also* 26 U.S.C. §§ 197, 611.

²⁰⁵ *See, e.g.,* Encyclopaedia Britannica, Inc. v. Commissioner, 685 F.2d 212 (7th Cir. 1982).

²⁰⁶ *See* 26 U.S.C. § 263A; 26 C.F.R. § 1.263A-1 et seq.

²⁰⁷ 26 U.S.C. § 263A; *see also* 26 C.F.R. § 1.263A-1 et seq.

²⁰⁸ The rules aren't perfect, economically speaking, but they do much.

However, reducing the corporate tax rate can *exacerbate* the non-integration distortion: A lower corporate tax rate does mitigate the consequences of two levels of tax. At the same time, combining high individual income tax rates with low corporate tax rates encourages firms to reinvest earnings and expand the scope of their activities. As discussed earlier in Part III.B.1, this effect compounds on itself and can produce large effects over time.²⁰⁹

The TCJA cut corporate tax rates by 40%, thereby creating a large gap between individual and corporate income tax rates. New Section 199A mitigates this problem somewhat, at least with respect to taxpayers deciding between forming a C corporation or forming a pass-through entity. Section 199A essentially provides individuals a 20% tax cut on certain kinds of income earned through pass-through entities.²¹⁰ Section 199A has been widely derided by tax scholars; our analysis offers a partial defense of the provision. At the same time, many commentators have criticized Section 199A for affording certain types of income better treatment than others. Our analysis bolsters that critique.²¹¹

C. Responding to Regulatory Arbitrage

It is almost impossible for a legal system that covers as much ground as the U.S. income tax to accurately track economic reality in all circumstances. To the extent that tax law consequences do not perfectly match the underlying economics, taxpayers will have incentives to engage in regulatory arbitrage.

Regulatory arbitrage can be problematic, but it also produces social benefits in certain instances. Accordingly, policymakers should be circumspect when responding to it. Moreover, harsh anti-abuse rules have their uses, but also their costs; regulators should take care to ensure that the cure is not worse than the disease.

Increasing transparency is one promising avenue for reform. Currently, the effect of tax planning on firm value is often ambiguous.²¹²

²⁰⁹ See text accompanying notes 90-95, *supra*. More precisely, individual tax rates on dividends drive that specific scenario. When corporate tax rates are lower than individual rates on ordinary income, that encourages conducting business via a corporation that retains and reinvests its earnings rather than via a pass-through entity. The logic of both scenarios is quite similar.

²¹⁰ This is an oversimplification. See *supra* footnotes 150-155 and accompanying text.

²¹¹ See text accompanying notes 150-155, *supra*.

²¹² See, e.g., Bradley S. Blaylock, *Is Tax Avoidance Associated with Economically Significant Rent Extraction among U.S. Firms?*, 33 CONTEMP. ACCT'G RES. 1013 (2016); Chris Brooks et al., *Do Investors Care About Corporate Taxes?*, 38 J. CORP. FIN. 218 (2016); Desai et al, *supra* note

Shifting earnings for tax purposes creates opportunities for accounting gamesmanship.²¹³ Tax planning can make it harder for shareholders to oversee managers; for example, if managers are stockpiling cash, are they doing so to avoid taxes, or because they have no good use for the money? Greater transparency of cash flows could reduce agency costs and facilitate efficient deployment of resources.

We note that cutting tax rates helps with regulatory arbitrage issues as well: To the extent that firms engage in regulatory arbitrage to mitigate economic distortions, reducing firms' tax liabilities will also reduce their appetite for tax planning strategies. It also reduces the disparity between the tax treatment that different taxpayers experience, and therefore the resulting inequity.

V. CONCLUSION

Tax shapes the boundaries of the firm in expected and unexpected ways. Prior scholarship has deeply explored specific, discrete questions such as how the debt-equity distinction affects financing decisions, and how the international tax rules encourage profit-shifting. Our inquiry, approaching the question from a higher level of abstraction, offers some new payoffs.

First, any income tax will tend to encourage intrafirm transactions, which are more difficult for taxing authorities to observe and police, and thus create greater opportunities for tax avoidance. This distortion tends to make firms larger, more global, and more complex. It provides another reason to consider replacing or minimizing the corporate tax with a VAT or other less-distortive instrument.

Second, if one accepts the existence of the corporate income tax as a given—based on politics, history, or the recent global agreement to have a minimum level of corporate income tax—our analysis provides a new reason to view the global agreement as sensible tax policy. Pillar Two mitigates the problem of profit shifting, thus reducing the distortions caused by an income tax, and it does so at a modest 15% rate, reducing the economic distortions of the income tax compared to the higher rates that existed pre-TCJA. Our analysis also sets the stage for further research on how changing the corporate tax base from taxable income to book income might shape the boundaries of the firm.²¹⁴

187; Mihir A. Desai & Dhammika Dharmapala, *Corporate Tax Avoidance and Firm Value*, 91 REV. ECON. & STAT. 537 (2009); Mostafa Monzur Hasan, Gerald J. Lobo & Buhui Qiu, *Organizational Capital, Corporate Tax Avoidance, and Firm Value*, 70 J. CORP. FIN. 102050 (2021).

²¹³ Desai & Dharmapala, *supra* note 212.

²¹⁴ Pillar Two generally requires countries to enact a minimum tax of 15% of a corporation's financial statement income. Thus, some doctrinal distortions under an

Finally, our analysis shows how tax law's little boxes—places in which it treats economically similar things differently—impose efficiency costs in ways that are often not well understood. Some of these distortions tend to make firms larger on the margin, and others smaller. But regardless of whether firms shrink or grow, the result is generally worse than taxing activities in accordance with economic reality. While tying tax results to the underlying economics is not always possible, our analysis calls attention to economic costs that often go ignored or underestimated.

income tax base may not persist in Pillar Two-compliant regimes. Of course, new accounting-rule-based distortions may arise.

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