

The Law of Two Prices: Regulatory Arbitrage, Revisited

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In contrast to financial arbitrage, which causes prices of economically equivalent transactions to converge in the direction of one price, regulatory arbitrage does not lead to such price convergence. In contrast, regulatory arbitrage tends to produce two different prices for economically equivalent transactions that are subject to different regulatory costs: this is what I call the “law of two prices.” The key insight here is that regulatory costs can persist as a “wedge” between the prices of economically equivalent transactions that are subject to differing regulatory costs. Unlike the price gap that financial arbitrage reduces or eliminates, this regulatory cost wedge will persist as long as the relevant regulatory cost differential persists.

The persistence of the regulatory arbitrage wedge raises important and interesting policy concerns that the literature has not previously addressed. Specifically, the analysis here suggests that scholars should no longer describe regulatory arbitrage as “perfectly legal.” Instead, the persistent gap between the prices of transactions subject to differential regulatory costs warrants a more nuanced approach to the analysis of regulatory arbitrage. With respect to the normative analysis of the efficiency and fairness of the regulatory arbitrage wedge, scholars should consider, among other factors, the intentions and expectations of the decisionmakers engaging in regulatory arbitrage to determine whether they reasonably believe certain transactions should receive favorable regulatory treatment. Scholars should consider the law of two prices when addressing questions related to regulatory arbitrage.

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INTRODUCTION

The “law of one price” states that identical goods must have identical prices.¹ If identical goods do not have identical prices, there will be pressure from financial arbitrage—simultaneous buying at a low price and selling at a high price—until the prices of the goods converge. Thus, financial arbitrage is the key mechanism in the adjustment process that leads to identical goods having identical prices. The law of one price and the phenomenon of financial arbitrage are perhaps the two most important concepts in the modern theory of finance and financial markets.²

The law of one price is most likely to hold in competitive markets with low transaction costs and barriers to trade. Deviations from the law of one price occur when these conditions are not met.³ The empirical literature documents apparent violations of the law of one price in various contexts, as well as spirited defenses that the law of one price continues to hold.⁴ For decades, economists have theorized that economically equivalent goods and services can have different prices in different settings.⁵ To the extent that prices of economically equivalent goods or services differ, that difference can be interpreted in two ways: (1) the goods or services are not in fact equivalent, or (2) the goods or services are equivalent but differently priced.

1. See Owen A. Lamont & Richard H. Thaler, *Anomalies: The Law of One Price in Financial Markets*, 17 J. ECON. PERSP. 191, 191 (2003).

2. See *id.* at 201 (“The law of one price is the basic building block of most of financial economic theorizing.”).

3. See *id.* at 192; see also, e.g., NINA BOYARCHENKO ET AL., FED. RES. BANK OF N.Y., BANK-INTERMEDIATED ARBITRAGE: STAFF REPORT NO. 858, at 4–6 (2018), https://www.newyorkfed.org/medialibrary/media/research/staff_reports/sr858.pdf (surveying studies of the violation of the law of one price assumption in various markets).

4. See James E. Pesando & Pauline M. Shum, *The Law of One Price, Noise, and “Irrational Exuberance” : The Auction Market for Picasso Prints*, 31 J. CULTURAL ECON. 263, 263 (2007); Frank Partnoy, *Strange New Math of Palm Inc.*, N.Y. TIMES, Mar. 15, 2000, at 23; see also Alon Brav, J.B. Heaton & Si Li, *The Limits of the Limits of Arbitrage*, 14 REV. FIN. 157, 157 (2010).

5. See, e.g., Hal R. Varian, *A Model of Sales*, 70 AM. ECON. REV. 651, 651 (1980) (exploring a model where retailers price discriminate between informed and uninformed customers).

The question explored here is whether the analysis of the law of one price and arbitrage should differ when the identical goods or services are differently priced due to “regulatory arbitrage”⁶ rather than financial arbitrage. Regulatory arbitrage targets the gap between the economic substance of a transaction and its legal or regulatory treatment. Scholars have applied the idea of regulatory arbitrage in various settings since 1997, but the literature lacks a general normative perspective.⁷

The difference between the effects of financial and regulatory arbitrage is illustrated by shares that are subject to a regulatory cost. Someone who wants to buy a share of stock might instead enter into a “derivative” position⁸ that is economically equivalent to the share but is not subject to the regulatory cost.⁹ The overall cost of the share would include the price of the share plus the regulatory cost, whereas the overall cost of the economically equivalent derivative would not include the regulatory cost. The difference between the price of the share and the price of the derivative would be a “wedge” that would persist as long as the difference in regulatory cost persisted—hence, the “law of two prices.” In contrast, if there were no regulatory cost and the derivative initially were more expensive than the share, one would expect market participants to buy the share and sell the derivative until their prices were the same—hence, the law of one price.

The type of example described above occurs in various settings, including equity, fixed income, foreign exchange, and other financial markets. For example, a regulatory restriction or fee levied on domestic transactions in foreign currency creates a wedge between the domestic price and the price outside of the domestic market.¹⁰ The result is the persistence of two prices: one price for currency traded in the domestic market, and a different price for currency traded offshore. To the extent offshore parties can use financial engineering, including derivatives, to access the domestic market, they can achieve a benefit from any net reduction in costs.¹¹

6. Frank Partnoy, *Financial Derivatives and the Costs of Regulatory Arbitrage*, 22 J. CORP. L. 211, 227 (1997) (defining “regulatory arbitrage” as “those financial transactions designed specifically to reduce costs or capture profit opportunities created by differential regulations or laws”).

7. *See id.* at 216–27.

8. *See id.* at 217–20. For example, a holder of shares might enter into an equity swap transaction in which she agreed to pay the total return on the underlying share position and to receive some fixed payment for a set period of time. Alternatively, a holder of shares might enter into a long put option position and a short call option position, both with exercise prices equal to the price of the shares. Such derivative positions would be economically equivalent to a “short against the box” transaction, in which the holder posts her shares as collateral for a short position, or—more simply—a sale of those shares.

9. *See id.* at 231; *see also* FRANK PARTNOY, *INFECTIOUS GREED: HOW DECEIT AND RISK CORRUPTED THE FINANCIAL MARKETS* 294–347 (2003) (providing a general discussion of equity derivative transactions and related regulatory responses to the taxation of appreciated stock positions).

10. *See* Partnoy, *supra* note 6, at 228–29.

11. The price difference or “wedge” that arises from differential regulation has persisted, even in deep and liquid markets such as the onshore versus offshore foreign currency markets where the volume of transactions and the pressure for convergence from financial arbitrage is high. *See* Yin-Wong Cheung & Dagfinn Rime, *The Offshore Renminbi Exchange Rate: Microstructure and Links to the Onshore Market*, 49 J. INT’L MONEY & FIN. 170, 171 (2014).

Accordingly, there is a real and useful distinction between the operation of regulatory arbitrage and financial arbitrage. This distinction contributes to the scholarly understanding of assumptions about the law of one price, particularly in markets where economically equivalent transactions are subject to different regulatory costs. The crux of the distinction between the law of one price and the law of two prices is that financial arbitrage applies greater pressure to move the prices of economically equivalent goods toward the same level. So long as the relevant regulation is in place and some market participants continue to trade the regulated good, a price difference between a regulated and unregulated good is likely to persist.

With respect to financial arbitrage, when the law of one price does not hold, two-sided buying and selling by market participants pressures prices toward convergence. If one good is priced at one dollar and another economically equivalent good is priced at two dollars, market participants will buy the one-dollar good and sell the two-dollar good until the goods' prices are close enough that the profits from arbitrage fall below the costs of engaging in arbitrage. If arbitrage is costless, that convergence will lead to the law of one price holding; if arbitrage is costly, a difference in the prices of economically equivalent goods can persist due to transaction costs.¹²

In contrast, with respect to regulatory arbitrage, arbitrage pressure from trading by market participants is unlikely to lead to similar price convergence. Suppose that due to regulatory differences, one good is priced at one dollar and another economically equivalent good is priced at two dollars. The difference in price may be attributed to, for example, a tax or subsidy of one dollar for certain goods but not for other economically equivalent goods, or because there are restrictions or fees imposed on trading outside a domestic market.¹³ In such a scenario, market participants will buy for one dollar and sell for two dollars, but the pressure of buying and selling will not lead to the convergence of the two prices. The pressure will instead move prices toward an equivalent regulated value of both goods, meaning that the one-dollar price difference between the goods will persist as long as the differential regulatory treatment persists.¹⁴ For the regulatory cost to

12. There is always likely to be some cost associated with arbitrage, and therefore a small gap in prices, even for economically equivalent goods in liquid markets. For example, bid-ask spreads persist for financial assets so that non-market makers typically cannot buy and sell at precisely the same price.

13. For example, suppose that a financial institution that owns one share of stock priced at \$100 is required to maintain additional capital equal to a fixed percentage of the value of that stock, at a cost in present value terms of 1% per share. Accordingly, the cost of holding that one share of that stock would be, in aggregate, \$101, including capital-related costs. If instead that same institution enters into an economically equivalent derivative position that is subject to an additional capital charge of just 0.5% per share equivalent of value, then the cost of holding the derivative position that is economically equivalent to one share would be, in aggregate, just \$100.50. The economic position of one share of stock would effectively have two prices: \$101 for the more highly-regulated share position and \$100.50 for the less-regulated derivative position.

14. Alternatively, one might view the two goods as not being economically equivalent because one has a tax or subsidy and the other does not. For a reader who prefers this view, the key distinction argued for here is between the impact of trading by market participants on observed prices when the differential

be eliminated, the regulation would need to be changed by a political process rather than from trading.

There is a distinction between the effects of financial arbitrage versus regulatory arbitrage. In a competitive market with low transaction costs and low barriers to trade, *financial* arbitrage will lead to equivalent goods having the same price and the law of one price will hold, but *regulatory* arbitrage will not generate the same result in a competitive market with low transaction costs and barriers to trade. Instead, one group of goods will continue to enjoy the benefits associated with regulation, whereas the other economically equivalent group of goods will continue to incur regulatory costs. The *aggregate* price of each type of good—including regulatory costs—might converge, but the price of the two goods will differ, separated by the wedge of regulatory costs. Rational market participants will engage in regulatory arbitrage until its expected costs outweigh expected benefits, but the expected benefits do not necessarily dissipate because of price convergence. Instead, the regulatory benefits persist.

This conception of a persistent price wedge in the presence of regulation and regulatory arbitrage will be referred to as the law of two prices.¹⁵ The two prices differ by the expected regulatory cost associated with buying or selling one economically equivalent good or service versus the other. The law of two prices states that the observed prices of identical goods will differ when they are subject to different regulatory costs.

This analysis shows how scholarly discussions of regulatory arbitrage should be revisited, in terms of both framing the problems and of potential solutions. It also seeks to add to the financial literature on arbitrage by examining how the arbitrage mechanisms differ for regulatory arbitrage versus financial arbitrage.

This Article proceeds as follows. Part I assesses the gaps in current regulatory arbitrage scholarship, noting that the literature has not advanced a general normative framework to assess regulatory arbitrage beyond the assumption that it is perfectly legal and yet can have deleterious consequences. Part II offers a framework for reassessing regulatory arbitrage, beginning in section II.A with an analysis of the limits to regulatory arbitrage. Section II.B considers several issues related to the timing of regulatory arbitrage transactions and the expectations of the transacting parties, analyzing how normative assessments of regulatory arbitrage might include such factors. Section II.C revisits some concerns raised by Paul Volcker related to regulatory arbitrage. The main conclusion is that scholars

regulatory treatment persists versus when there is no regulatory tax or subsidy. The gap between the two prices will be less than the full difference in regulatory costs.

15. A handful of papers in economics have referred to the notion of the law of two prices. See, e.g., Peter Carr, Dilip B. Madan & Juan Jose Vicente Alvarez, *Markets, Profits, Capital, Leverage and Return*, 14 J. RISK 95 (2011); Elisabeth Curtis & Randall Wright, *Price Setting, Price Dispersion, and the Value of Money: Or, the Law of Two Prices*, 51 J. MONETARY ECON. 1599, 1600 (2004); Miklós Koren, *The Law of Two Prices: Trade Costs and Relative Price Variability* 3 (Hung. Acad. of Sci. Inst. of Econ., Discussion Paper No. 2004-22, 2004) (delivering a good or service to various locations can result in a price differential for an otherwise identical good or service).

should consider the concept of the law of two prices when addressing legal and policy issues related to regulatory arbitrage.

I. THE GAPS IN REGULATORY ARBITRAGE SCHOLARSHIP

Scholars have contributed numerous useful insights into understanding the practice of regulatory arbitrage. Nevertheless, significant gaps in the regulatory arbitrage literature remain. Section I.A details some of the advances and limitations in the literature, including the lack of an overarching normative framework for assessing regulatory arbitrage overall. Section II.B discusses how insights from Professor Donald Langevoort's work might be incorporated into regulatory arbitrage scholarship, particularly various aspects of culture that might be used to assess which policies related to regulatory arbitrage are socially optimal.

A. SCHOLARLY ASSESSMENT OF REGULATORY ARBITRAGE

Since 1997, regulatory arbitrage scholarship has developed in response to empirical observations about specific categories of market transactions designed at least in part to evade regulation. My initial regulatory arbitrage article focused on financial innovation involving the use of derivatives.¹⁶ Victor Fleischer developed the concept of regulatory arbitrage that focused on corporate deals and tax-motivated transactions.¹⁷ Other securities regulation scholars have addressed transactions designed to take advantage of different jurisdictional approaches to the rules governing the issuing and trading of securities.¹⁸ Scholars and regulators have focused on regulatory arbitrage by banks since the financial crisis, including avoiding minimum capital requirements and disclosures related to complex financial transactions.¹⁹

The various examples of regulatory arbitrage support the law of two prices. In each instance, market participants locate costly regulation and innovate in ways

16. See Partnoy, *supra* note 6, at 227–28 (describing various categories of financial derivatives transactions).

17. See Victor Fleischer, *Regulatory Arbitrage*, 89 TEX. L. REV. 227 (2010); see also Jordan Barry, Response, *On Regulatory Arbitrage*, 89 TEX. L. REV. 69, 73 (2010) (adopting Professor Fleischer's definition of regulatory arbitrage as "the manipulation of the structure of a deal to take advantage of a gap between the economic substance of a transaction and its regulatory treatment" and noting that "[i]f there is no gap to take advantage of, there is no risk of regulatory arbitrage").

18. For example, Amir Licht described regulatory arbitrage challenges involving transactions designed to avoid international securities regulation. Amir N. Licht, *Regulatory Arbitrage for Real: International Securities Regulation in a World of Interacting Securities Markets*, 38 VA. J. INT'L L. 563 (1998). Hossein Nabilou has addressed transactions by hedge funds to avoid regulation, proposing a shift to indirect regulation of hedge funds through their counterparties, creditors, and investors. Hossein Nabilou, *Regulatory Arbitrage and Hedge Fund Regulation: The Need for a Transnational Response*, 22 FORDHAM J. CORP. & FIN. L. 557 (2017). Langevoort has also written that "securities regulation is hampered by arbitrary jurisdictional lines." DONALD C. LANGEVOORT, SELLING HOPE, SELLING RISK: CORPORATIONS, WALL STREET, AND THE DILEMMAS OF INVESTOR PROTECTION 29 (2016). Langevoort describes financial engineering as one of the ways in which securities regulation resembles chasing a greased pig—an image that aptly describes the phenomenon of regulatory arbitrage. See *id.*

19. See Nicole M. Boyson, Rüdiger Fahlenbrach & René M. Stulz, *Why Don't All Banks Practice Regulatory Arbitrage? Evidence from Usage of Trust-Preferred Securities*, 29 REV. FIN. STUD. 1821, 1821–22 (2016).

that reduce or avoid regulatory costs. Their actions generate some informational benefit: assuming the regulatory arbitrage transactions are rational, they signal that regulatory costs are sufficiently high to warrant the expenditure of resources to avoid the regulation. The various instances of regulatory arbitrage illustrate how economically equivalent financial transactions have different regulatory treatment. The result is that economically equivalent financial transactions have different observed prices—hence, the law of two prices.

For example, recent regulatory arbitrage scholarship has centered on bank regulatory requirements and the sprawling “shadow banking” system. Economists have estimated that increasing regulatory burdens on banks accounts for more than half of the recent growth in the shadow banking system, and a wide range of related regulatory arbitrage techniques.²⁰ Saule Omarova has written about the pernicious effects of regulatory arbitrage, including increased risk at financial conglomerates that take advantage of regulators’ jurisdictional silos.²¹ Scholars also have addressed the widespread phenomenon of banks using credit default swaps to free up regulatory capital.²² Nicole Boyson, Rüdiger Fahlenbrach, and René M. Stulz have explored the variation in banks’ issuance of trust-preferred securities.²³ They have found that banks that are constrained by capital requirements—and therefore are seeking to take on more risk—engage in more regulatory arbitrage than banks that are not constrained by capital requirements.²⁴ Repurchase transactions also continue to pose significant regulatory arbitrage challenges.²⁵

Although scholars often focus on modern instances of regulatory arbitrage, the practice is not new.²⁶ For example, Michael Knoll has described in detail how financiers in ancient Israel used put-call parity to avoid the prohibition on charging

20. See, e.g., Greg Buchak et al., *Fintech, Regulatory Arbitrage, and the Rise of Shadow Banks* (Nat’l Bureau of Econ. Research, Working Paper No. 23288, 2017), <https://www.nber.org/papers/w23288> [<https://perma.cc/QA24-RWDZ>].

21. See Saule T. Omarova, *The Dodd-Frank Act: A New Deal for a New Age?*, 15 N.C. BANKING INST. 83, 88 (2011); see also Saule T. Omarova, *The New Crisis for the New Century: Some Observations on the “Big-Picture” Lessons of the Global Financial Crisis of 2008*, 13 N.C. BANKING INST. 157, 161 (2009) (addressing the impact on the 2008 financial crisis of national regulators’ inability to oversee risk at the global systemic level).

22. See Tanju Yorulmazer, *Has Financial Innovation Made the World Riskier? CDS, Regulatory Arbitrage and Systemic Risk* (Fed. Res. Bank of N.Y., Working Paper, 2013), <https://ssrn.com/abstract=2176493> [<https://perma.cc/9RW6-XFGQ>].

23. Boyson, Fahlenbrach & Stulz, *supra* note 19, at 1821–22.

24. In particular, they find that banks’ use of one form of regulatory arbitrage, trust-preferred securities, is correlated with their use of other forms of regulatory arbitrage. *Id.* at 1855.

25. See generally Benjamin Munyan, *Regulatory Arbitrage in Repo Markets* (Office of Fin. Research, Working Paper No. 15-22, 2015), https://www.financialresearch.gov/working-papers/files/OFRwp-2015-22_Repo-Arbitrage.pdf [<https://perma.cc/2KLP-FZQS>] (finding that subsidiaries of foreign banks use repurchase agreements to window-dress 170 million dollars of assets each quarter).

26. See, e.g., EDWARD J. SWAN, *BUILDING THE GLOBAL MARKET: A 4000 YEAR HISTORY OF DERIVATIVES* (1999).

interest.²⁷ Fleischer has described regulatory arbitrage techniques as dating back thousands of years to ancient Rome.²⁸

The various discussions of regulatory arbitrage have been useful, helpful, and interesting. In many ways, they have run parallel to scholarship about compliance, focusing on financial institutions and complex transactions. However, this scholarship has not led to the creation of any overarching normative framework for assessing regulatory arbitrage overall. Instead, perhaps because of the complexity of transactions in particular areas, scholars have for the most part wrestled with institutional and regulatory details, and have attempted to articulate how to address particular problems in particular contexts.

A few scholars have recently taken a broader perspective regarding how innovation and technology interact with regulation, and their discussions have included regulatory arbitrage. In a book-length critique of financial innovation, Cristie Ford has argued for a dampening of enthusiasm about innovation, particularly when it is focused on avoiding regulation.²⁹ She also sets forth a framework for regulators to consider in assessing innovation, and expresses a fair amount of skepticism about financial innovation.³⁰ Likewise, Chris Brummer has noted that “innovations may have appeal or be popular precisely because of their ability to engage, undermine, or elide existing regulatory and market systems.”³¹ Brummer has argued persuasively that technology enables regulatory arbitrage.³² In similar ways, scholars have described how regulatory arbitrage concepts have played an important role in our understanding of technology and entrepreneurship.³³

These general discussions have provided valuable context for assessing innovation. The focus of this strand of scholarship is more on the costs and benefits of technology and innovation and their interplay with regulation, and less on the role of regulatory arbitrage. In other words, regulatory arbitrage supports these arguments but does not warrant freestanding treatment.

In a separate vein, some scholars have considered various procedural methods to create frictions that might deter regulatory arbitrage; this scholarship also has not undertaken a broader assessment of the normative aspects of regulatory

27. The idea of put–call parity is, in its simplest terms, that one can replicate an ownership position with a combination of borrowing, buying a call option, and selling a put option. See Michael S. Knoll, *The Ancient Roots of Modern Financial Innovation: The Early History of Regulatory Arbitrage*, 87 OR. L. REV. 93, 111–13 (2008).

28. Fleischer, *supra* note 17, at 229 n.9.

29. CRISTIE FORD, *INNOVATION AND THE STATE: FINANCE, REGULATION, AND JUSTICE* (2017).

30. See *id.*

31. Chris Brummer, *Disruptive Technology and Securities Regulation*, 84 FORDHAM L. REV. 977, 980 (2015).

32. See *id.* at 1020; see also *id.* at 980 (noting that “technology can create opportunities for market participants to do things that they were never able to do before, or to do things better (or faster) than before, and in the process, challenge or arbitrage established regulatory architectures”).

33. See, e.g., Orly Lobel, *The Law of the Platform*, 101 MINN. L. REV. 87, 92 (2016) (discussing “the ways in which digital platform-based businesses challenge the internal logic of regulated industries”); Elizabeth Pollman & Jordan M. Barry, *Regulatory Entrepreneurship*, 90 S. CAL. L. REV. 383, 383 (2017) (discussing a manner of doing business where “changing the law is a significant part of the business plan”).

arbitrage. For example, Annelise Riles has shown that one weakness of regulatory harmonization is that it competes with regulatory arbitrage.³⁴ For Riles, increasing the cost of regulatory arbitrage transactions that arise from different regulatory regimes with different rules should be an important part of any solution to the competition between harmonization and arbitrage.³⁵ Riles argues against the notion “that regulatory arbitrage can be counteracted only if the rules across all legal systems are harmonized,” in part because regulators are one or more steps behind financial market actors.³⁶ Likewise, Katharina Pistor has argued that conflicts doctrine is available to serve as a “safety valve” for stopping or slowing inappropriate capital flows.³⁷

The conflict of laws approach presents an interesting alternative to other methods of addressing the drawbacks of regulatory arbitrage. But the approach does not consider what is motivating regulatory arbitrage and the circumstances under which various policy initiatives related to regulatory arbitrage might be socially optimal. And perhaps because regulatory arbitrage is a relatively new and a somewhat neglected area of inquiry, scholars have not approached regulatory arbitrage in an interdisciplinary way, by focusing on behavioral economics, psychology, and sociology or on the perspective of individual and group market participants, to better understand their incentives and thought processes.³⁸

To the contrary, some scholars writing about regulatory arbitrage often assume away many of the most interesting questions. For example, Fleischer has described regulatory arbitrage as a “perfectly legal planning technique.”³⁹ As Fleischer describes it, regulatory arbitrage takes advantage of “the legal system’s intrinsically limited ability to attach formal labels that track the economics of transactions with sufficient precision.”⁴⁰ This description is accurate in a sense: it describes one widely held perspective about many regulatory arbitrage transactions, particularly in the tax area, where the consensus view is often that a particular form of transaction that is economically equivalent to a transaction with higher regulatory costs is “perfectly legal.” But this perspective also leaves many interesting and important questions unanswered. This Article next addresses some of these questions.

34. Annelise Riles, *Managing Regulatory Arbitrage: A Conflict of Laws Approach*, 47 CORNELL INT’L L.J. 63, 83 (2014); see also Anna Gelpern, *Exhausting Regulatory Arbitrage*, JOTWELL (Oct. 29, 2014), <http://corp.jotwell.com/exhausting-regulatory-arbitrage/> [<https://perma.cc/EP59-V3WG>] (reviewing Riles, *supra*).

35. Riles, *supra* note 34, at 97.

36. *Id.* at 65.

37. Katharina Pistor, *A Legal Theory of Finance*, 41 J. COMP. ECON. 315, 329 (2013).

38. An example of how such approaches might be applied in the context of regulatory arbitrage is the work of Lauren Edelman, who has analyzed and emphasized the interrelationships between organizations and their legal environments. LAUREN B. EDELMAN, *WORKING LAW: COURTS, CORPORATIONS, AND SYMBOLIC CIVIL RIGHTS* (2016).

39. Fleischer, *supra* note 17, at 229.

40. *Id.*

B. INCORPORATING LANGEVOORT'S INSIGHTS ABOUT CULTURE

One limitation to framing the regulatory arbitrage as being about transactions that are “perfectly legal” is that it removes from the discussion questions about the perceptions and incentives of market participants with respect to the legality of the transactions. In practice, there is a wide range of such potential perceptions and incentives among those who engage in regulatory arbitrage, including variation in the extent to which transactions are perceived as perfectly legal. Framed in Langevoort’s language, the perception of whether a regulatory arbitrage transaction is perfectly legal depends on culture.⁴¹

Indeed, some of Langevoort’s work illustrates the gaps in regulatory arbitrage scholarship. For example, in a masterful 2004 article, Langevoort argued that technological evolution played an important and underappreciated role in the wave of financial reporting scandals involving Enron, WorldCom, Tyco, Global Crossing, and others.⁴² According to Langevoort, the contemporaneous timing of technological innovation and these scandals was not a coincidence. Rather, “the rapid pace of innovation at a number of levels offered motive, opportunity, and rationalization for a downshift in financial reporting norms, which in turn made outright fraud more probable.”⁴³

It is worth reconsidering Langevoort’s argument in the context of regulatory arbitrage, particularly given the technological advances during the fourteen years since publication of his prescient article. Although the term “regulatory arbitrage” does not appear in Langevoort’s 2004 article, it is a term he has used in his later writings,⁴⁴ and related concepts played an important part in his arguments about technology. Moreover, there are parallels between Langevoort’s descriptions of technological advances and the ways in which financial market participants have employed technology to engineer transactions that might have complied with the letter of legal rules and regulation, but perhaps not their spirit.⁴⁵ A central idea of regulatory arbitrage is that—consistent with Langevoort’s argument in 2004—the rapid pace of innovation offers “motive, opportunity, and rationalization” for the creation of new transactions that are economically similar to regulated transactions but are, at least potentially, not subject to the costs or restrictions associated with those regulated transactions.

Langevoort also offers some helpful perspectives on potential policy responses to regulatory arbitrage. In an important 2017 article, Langevoort developed a comprehensive perspective on legal and regulatory compliance, and particularly

41. See Donald C. Langevoort, *Cultures of Compliance*, 54 AM. CRIM. L. REV. 933 (2017).

42. See Donald C. Langevoort, *Technological Evolution and the Devolution of Corporate Financial Reporting*, 46 WM. & MARY L. REV. 1 (2004).

43. *Id.* at 3. Cristie Ford recently has echoed much of Langevoort’s analysis in a comprehensive book on the relationship between financial innovation and regulation. FORD, *supra* note 29.

44. See, e.g., Donald C. Langevoort, *U.S. Securities Regulation and Global Competition*, 3. VA. L. & BUS. REV. 191, 196 (2008) (introducing the conference volume considering the role of competitiveness in global securities regulation and using “regulatory arbitrage” to describe some of the challenges addressed by the volume’s articles).

45. See Partnoy, *supra* note 6, at 227.

on notions of the “culture of compliance.”⁴⁶ He described and assessed a range of cultural and behavioral factors that are crucial to compliance.⁴⁷ Although he did not use the term “regulatory arbitrage” in this article or focus on it, the deep dive he took into the conditions under which compliance activities might be optimal for society, firms, and managers is as applicable to regulatory arbitrage as it is to compliance. Langevoort’s insights are the kind of analysis that has been missing from scholarship on regulatory arbitrage. Langevoort’s descriptions of compliance also help illuminate the various ways policymakers might approach regulatory arbitrage.

There is some evidence in the finance literature that regulatory arbitrage can vary depending on private perceptions and incentives in the way Langevoort’s work anticipates. For example, Boyson, Fahlenbrach, and Stulz’s study of trust-preferred securities found that regulatory arbitrage was more common when bank managers’ interests were better aligned with those of shareholders, so that managers had more skin in the game.⁴⁸ In other words, managers apparently were influenced with respect to their views of the “perfect legality” of regulatory arbitrage transactions. A culture that better aligned the incentives of managers to take on risks to maximize shareholder value could be a culture that incentivized more regulatory arbitrage.

This finding echoes a study of the widely publicized hacking of the Ashley Madison website. The study, referenced by Langevoort, found that companies with managers who were more likely to have extra-marital affairs also were more creative and inventive.⁴⁹ Many financial economists have somewhat naïvely favored regulatory arbitrage based on the presumption that the origins of regulatory arbitrage were also found in creative and innovative behaviors, traits, and cultures that otherwise have been prized. As Langevoort notes, some “research has identified creativity as a precursor to ethical line-crossing, presumably because creative people are more adept at excuse-making, to themselves and others.”⁵⁰

Thus, Langevoort offers an opportunity to infuse an interesting new set of questions and ideas into thinking about regulatory arbitrage: What are the motives of market participants who engage in these kinds of transactions? Do they rationalize them, and if so, how? Have cultural changes affected the volume and type of these transactions? And does thinking about human norms and behavior inform how policymakers should approach regulatory arbitrage?

46. Langevoort, *supra* note 41.

47. *Id.* at 944–49.

48. Boyson, Fahlenbrach & Stulz, *supra* note 19, at 1855. For a thorough analysis of regulatory arbitrage strategies directed at regulatory capital requirements, see Erik F. Gerding, *The Dialectics of Bank Capital: Regulation and Regulatory Capital Arbitrage*, 55 WASHBURN L.J. 357 (2016).

49. See Langevoort, *supra* note 41, at 936 (citing William D. Grieser et al., *Fifty Shades of Corporate Culture* (June 28, 2016) (unpublished manuscript)).

50. *Id.* at 961.

II. REVISITING REGULATORY ARBITRAGE

This Article next considers two conceptual categories that potentially address these questions and contribute to our understanding of regulatory arbitrage. The first category includes a variety of limitations on the utility of regulatory arbitrage, including the limitations Langevoort raises in his discussions of the culture of compliance. The second category includes issues related to the timing of regulatory arbitrage transactions and the expectations of the parties engaging in them.

A. THE LIMITS TO REGULATORY ARBITRAGE

This section revisits regulatory arbitrage by recalling some basic ideas about financial arbitrage. First, this section discusses some of the ways in which the analysis of financial arbitrage and regulatory arbitrage potentially differ. These differences support a conclusion that regulatory arbitrage is less likely to lead to the kind of one-price convergence associated with financial arbitrage. Second, this section discusses various aspects of culture and human agency that arguably matter to discussions of regulatory arbitrage and ways in which it might be useful and important to think of regulatory arbitrage as presenting these factors, and thus not being “perfectly legal.”

1. Regulatory Arbitrage vs. Financial Arbitrage

At the outset, it is worth noting that there are reasons to question whether financial arbitrage itself, as opposed to regulatory arbitrage, is socially beneficial. Historically, financial economists have favored arbitrage as an aspect of free trade that benefits private counterparties and generates positive externalities. In theory, arbitrage can correct misallocations of resources or mispricing of assets. Thus, the law of one price is regarded as being the result of normatively desirable financial pressures.⁵¹ For decades, the standard argument, even from economists who were skeptical of market efficiency, was that arbitrage was a powerful and useful force for good. For example, Robert Shiller, a critic of “animal spirits” in financial markets, nevertheless argued for the creation of new markets to arbitrage various forms of risk.⁵²

Even when some financial economists later demonstrated a variety of limits and barriers to arbitrage, their findings implicitly have supported the view that arbitrage should be encouraged from a policy perspective. Even skeptical scholars who demonstrated the limitations of markets nevertheless implicitly assumed that there was value in the process of arbitrage leading to efficient pricing.⁵³ For example, scholarship describing the law of two prices does not conclude that the

51. See generally Nicholas Barberis & Richard Thaler, *A Survey of Behavioral Finance*, in HANDBOOK OF THE ECONOMICS OF FINANCE 1052 (G.M. Constantinides et al., ed. 2003) (describing in detail the different economic pressures consumers encounter).

52. ROBERT J. SHILLER, *MACRO MARKETS: CREATING INSTITUTIONS FOR MANAGING SOCIETY'S LARGEST ECONOMIC RISKS* (1993).

53. See Andrei Shleifer & Robert W. Vishny, *The Limits of Arbitrage*, 52 J. FIN. 35, 35 (1997).

two resulting prices are always normatively undesirable.⁵⁴

At the same time, some scholars have brought a more fundamental critique to bear on arbitrage by adding a skepticism about the behavior to the standard financial model and an understanding of those who are trading financial assets. For example, in 2007, Glen Weyl introduced a mathematical financial model in which market distortions could lead to arbitrage having deleterious effects.⁵⁵ The model suggested that some traders could be subject to behavioral distortions and mistaken beliefs; in addition, the model accounted for information asymmetry and market segmentation. These various imperfections undermined the historical assumptions that arbitrage was an unalloyed good.

Although Weyl's model was made publicly available more than a decade ago, it has not been widely cited and remains unpublished, which suggests that there is resistance among mainstream economists to the idea that financial arbitrage might have a dark side.⁵⁶ The behavioral limitations to mathematical financial models are recognized by scholars such as Langevoort, but are difficult to incorporate into the standard approaches to mathematical finance. Moreover, although Weyl's critique is in the context of a financial model and is typically aimed at arbitrage as opposed to regulatory arbitrage specifically, the ideas in Weyl's paper dovetail nicely with some of Langevoort's arguments with respect to compliance, and therefore matter to thinking about regulatory arbitrage as well.

Regulatory arbitrage is in many ways the flip side of compliance. As both Langevoort and Geoffrey Miller have noted, a socially optimal compliance program can be defined as what "a rational, profit-maximizing firm would establish if it faced an expected sanction equal to the social cost of violations."⁵⁷ What are the reasons why firms might not face the optimal sanction? They are numerous. The rules themselves might not have been drafted optimally, due to political pressures or conflicts of interest. Even if the rules on the books are optimal, regulators might not detect wrongdoing and will have limited resources to bring cases even if they do. Any prosecution or lawsuit will face uncertainties and procedural obstacles, as well as potentially significant resources spent in defense. Only a small fraction of cases will ultimately reach a judge. These factors matter to regulatory arbitrage as well as to compliance. Just as they might lead firms to view expected sanctions as being less than the social cost of a violation, the same

54. See, e.g., Koren, *supra* note 15 (exploring the extent to which deviations from the law of one price are due to real factors, such as transportation costs).

55. See E. Glen Weyl, *Is Arbitrage Socially Beneficial?* (Oct. 15, 2007) (unpublished manuscript), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1324423 [<https://perma.cc/6AFA-VTZK>]. On the first page of his paper, Weyl provides a bolded disclaimer: "EXTREMELY PRELIMINARY AND INCOMPLETE."

56. See MERTON H. MILLER, *MERTON MILLER ON DERIVATIVES* (1997) (praising financial innovation and derivatives and arguing that they have made the world safer notwithstanding recent fiascoes). *But see, e.g.*, PARTNOY, *supra* note 9 (disagreeing with Miller).

57. Geoffrey P. Miller, *An Economic Analysis of Effective Compliance Programs*, in *RESEARCH HANDBOOK ON CORPORATE CRIME AND FINANCIAL MISDEALING* 247, 261 (Jennifer Arlen ed., 2017).

factors might lead firms to perceive an expected positive gain associated with a regulatory arbitrage transaction, even if the transaction is not “perfectly legal.”

It is worth pausing briefly to note that the relationship between expected sanctions and the cost of compliance can vary; one might be greater than the other. For example, if regulations are poorly written, the expected sanctions might be less than the costs of compliance. Moreover, in the case of inefficient regulation, regulatory arbitrage transactions can help market participants reduce the costs of complying with suboptimal rules. For example, the rise of exchange-traded funds as a counterpart to mutual funds has partly been a response to costly mutual fund requirements that fund pricing be based on end-of-day net asset values, as well as other costs.⁵⁸ Questions about regulatory arbitrage by exchange-traded funds depend, in part, on one’s views of the efficiency of mutual fund regulation.

The decision to evade a rule is influenced by similar factors as those that influence compliance decisions. Accordingly, much of the analysis of compliance is relevant to regulatory arbitrage. Langevoort describes the optimal compliance-inducing sanction (point A in his parlance).⁵⁹ However, he recognizes that firms, for a variety of reasons, will not actually face the full cost associated with a sanction equal to the social cost of the violation.⁶⁰ Instead, a variety of factors—“limited regulatory resources, detection difficulties, legal uncertainties and procedural obstacles, conflicts of interest, political pressure”—will lead to firms facing a lower-than-optimal sanction (point B in his parlance).⁶¹ Finally, Langevoort observes that managers’ actual beliefs about wrongdoing and compliance can vary, making them either more or less likely to comply than the firm as a whole should be (point C in his parlance).⁶² His analysis, then, is about what factors might or might not lead to the value of C being greater or less than B.

One can think about regulatory arbitrage in a similar way. In the regulatory arbitrage context, suppose there are two economically equivalent transactions, *Simple* and *Complex*. *Simple* is subject to a regulatory cost of *Penalty*, but *Complex* is not. The expected return of *Simple* will be less than the expected return of *Complex* because of *Penalty* (I have assumed that the cost of implementing *Complex* is less than the cost of implementing *Penalty*; were the relationship reversed, economically rational market participants would be unlikely to engage in *Complex*).

From a policy perspective, the relationship between *Penalty* and the socially optimal regulatory cost is important to the normative analysis of both regulation and any responsive regulatory arbitrage. If regulatory costs are suboptimally high, regulatory arbitrage can be viewed as socially optimal; if regulatory costs

58. See Martin Lettau & Ananth Madhavan, *Exchange-Traded Funds 101 for Economists*, 32 J. ECON. PERSP. 135, 137–40 (2018) (contrasting mutual fund and exchange-traded fund requirement, including net asset value requirements).

59. Langevoort, *supra* note 41, at 937–40.

60. See *id.* at 937–38.

61. See *id.* at 938.

62. See *id.* at 938–39.

are high for valid social purposes (for example, to internalize the costs of externalities), regulatory arbitrage can be viewed as socially suboptimal. My contribution here is not to resolve this determination about the relationship between *Penalty* and regulatory costs, but rather to highlight its importance, recognize the relevance of inquiring into the relationship between *Simple* and *Complex*, and recognize the nature of the wedge between the prices of each.

How should one think about the differences between *Simple* and *Complex*? As noted in the introduction, there are differences between financial arbitrage and the regulatory arbitrage associated with *Complex* transactions. One perspective is that, until and unless the regulator imposes *Penalty* on all economically equivalent *Complex* transactions, parties will engage in regulatory arbitrage, shifting from *Simple* to *Complex* to capture the benefit associated with avoiding the *Penalty*. If the regulator is capable of responding to this kind of behavior, it would either impose *Penalty* on all varieties of both *Simple* and *Complex* or make a determination that *Penalty* should not apply to *Complex*. Any pressure on the price differential between *Simple* and *Complex* would arise not from market participants buying and selling, but rather from regulatory activities. Put another way, absent any action by the regulator in response to *Complex* transactions, the law of one price would not hold. Instead, there would be two prices: one for *Simple* and one for *Complex*. One could also view the difference in price as arising from regulatory costs; this view differs from the analysis of financial arbitrage, where the difference in price arises from private transaction costs.

The notion that the wedge arising from regulatory arbitrage can persist over time depends in part on institutional features and details of regulatory arbitrage that arguably do not hold for financial arbitrage, at least to the same extent. In theory, if it is cost reducing to move from *Simple* to *Complex*, then all market participants should do so, leaving no *Simple* transactions. Under such a scenario, the law of one price would hold, and there would be no regulated transactions and zero regulatory costs. Such complete convergence would be driven simply by competitive pressures to buy and sell products at the lowest price, the same forces that are present in financial arbitrage.

However, to the extent these forces differ for regulatory arbitrage versus financial arbitrage, full convergence will not occur. Why might these forces differ? One reason is that heterogeneous expectations are more prevalent and relevant in response to regulatory cost differences, given market participants' varying views about morality and future beliefs about the expected costs of noncompliance. Another is that markets are sufficiently segmented and information asymmetries are sufficiently persistent that many market participants will choose *Simple* over *Complex*, even if *Simple* is more expensive due to regulatory costs. Financial arbitrage arguably does not depend as extensively on such factors, so that buying and selling more straightforwardly leads to convergence on a single price, assuming sufficiently small transaction costs, competitive markets, and an inability to segment markets tailored to customers with different levels of information. To the extent there are *any* transactions in *Simple* (as opposed to *Complex*), the cost

of each category of transactions—after the presumably greater transaction costs associated with *Complex*—will by definition differ by the net difference in costs, including regulatory costs. This, again, is the wedge that derives from the differential regulatory treatment, less transaction costs.

To the extent the factors Langevoort mentions as limiting the regulator's capacity exist with respect to regulatory arbitrage,⁶³ the expected cost to a firm associated with the regulator's imposition of *Penalty* might be lower than the value of *Penalty*. Stated otherwise, market participants might be able to increase their expected return by undertaking the probabilistic imposition of a *Penalty* on a *Complex* substitute for *Simple*. To the extent that the regulator faces costly barriers and lacks the capacity to respond to *Complex*, one would expect a shift from *Simple* to *Complex*. This story is similar to Langevoort's story about the effect of compliance penalties on firm behavior.⁶⁴

As noted above, if *Penalty* is set at the socially optimal level, *Complex* transactions will reduce social welfare. But if *Penalty* is not set at the socially optimal level, the shift to *Complex* transactions might be socially beneficial, to the extent it leads market participants to avoid costly regulations that do not generate any net benefit. The debate about financial innovation and technology often boils down to a debate about whether *Complex* transactions are avoiding socially optimal regulation or not.⁶⁵ The regulatory arbitrage debate has often elided this fundamental question. Moreover, the optimality of *Penalty* arguably depends on the efficacy of *Complex* transactions, the notion being that regulatory arbitrage would be socially optimal only if the aggregate net benefits of *Complex*, including the increased transaction costs, are positive.

Langevoort's discussion of variable B, the point at which firms face a lower-than-optimal sanction,⁶⁶ is directed at this question about the extent of transacting in *Complex*, which in the context of regulatory arbitrage can be framed as whether various regulatory failures will lead to firms engaging in suboptimal large amounts of *Complex*. This is primarily an empirical question—one that is implicit in much regulatory arbitrage scholarship. For example, are bank capital requirements set at socially optimal levels, such that the issuing of trust-preferred securities to avoid those requirements is suboptimal? Or are bank capital requirements too high, such that the use of financial innovation and regulatory arbitrage is a socially optimal response to suboptimal regulation? The point here is not to resolve this debate or answer these questions definitively, but rather to argue that the analysis of regulatory arbitrage can be usefully situated within the framework Langevoort uses to assess compliance.

63. See Langevoort, *supra* note 41, at 937–40.

64. See *id.*

65. For background on this debate, see Barry, *supra* note 17, Fleischer, *supra* note 17, and Partnoy *supra* note 6.

66. See *id.*

2. Adding Culture and Human Agency to the Analysis of Regulatory Arbitrage

Next, and perhaps most importantly, Langevoort adds another variable: human agency (his discussion of point C as a penalty),⁶⁷ which has not been featured in regulatory arbitrage scholarship. He argues that compliance is better understood by considering how the incentives and perspectives of human beings within firms might diverge from the incentives of the firms themselves.⁶⁸ This approach adds a set of questions to the analysis of regulatory arbitrage. What if the people who structure regulatory arbitrage transactions have a different set of preferences than their firms? Can we learn anything by thinking about this kind of financial innovation from the perspective of the human actors?

In my view, the answer should be yes. It might be the case that the financial innovators who structure regulatory arbitrage transactions are engaging in precisely those transactions that maximize firm value. However, there are two other possibilities. One is that the people who conduct these deals are influenced by a culture or psychological factors that create an aversion to engaging in regulatory arbitrage. They might look at a tax avoidance deal and say, “No, that is morally wrong,” or “This is not the kind of business I want to be involved in.” They might consider a swap or variable prepaid forward transaction as a substitute for a sale of stock and say, “No, that kind of fancy financial footwork should receive the same costly regulatory treatment as the straightforward stock sale.” The kinds of behavioral and cultural factors that would lead to this aversion include not only morality and ethics, but also reputational concerns and a generalized sense of respect for the rule of law.

A second possibility is that the humans who engage in regulatory arbitrage are influenced by a culture that creates incentives to conduct complicated transactions that are economically equivalent to regulated transactions but avoid their regulatory costs. In some sense, the cultural and psychological factors that would motivate pro-regulatory arbitrage actors are the opposite of those that would motivate averse actors. These people might have different constructions about morality and reputation, which might be justified in terms of what is rewarded within their particular group. For example, designers of regulatory arbitrage transactions might be situated within a culture that values the ability to create new structures that avoid regulation and prize such skill as a positive pro-market force for social good.⁶⁹

But something else is at play as well: financial incentives. Because regulatory arbitrage transactions can be highly profitable, if the actors who create the transactions can appropriate some of those profits from the firm for themselves, a sharp incentive culture could develop to favor such transactions, even if they were suboptimal for firms. Indeed, such financial incentives might overcome any

67. *See id.*

68. *See id.*

69. *See generally* FRANK PARTNOY, F.I.A.S.C.O.: BLOOD IN THE WATER ON WALL STREET (1997) (describing such cultures among 1990s financial actors).

individual concerns about ethics or reputation, or even reinforce concerns that actors within these groups are engaged in socially valuable activity. For example, firms that engage in more tax avoidance also might have greater agency costs, particularly to the extent the complex structures that firms use to avoid taxes make it harder to monitor managers.

The Foreign Corrupt Practices Act (FCPA)⁷⁰ exemplifies how the above two ways in which the incentives and psychology of human agents might differ from what is optimal for their firms. One study of the FCPA found that bribery is associated with projects that are valuable even when the expected costs of FCPA penalties are considered; the study used historical averages to find that FCPA sanctions would have to increase by a multiple of approximately twenty-two to make the behavior unprofitable for firms.⁷¹

But that finding alone is not the end of the analysis, at least not in Langevoort's framework. The next question is important: what do employees think about bribery?⁷² Employees might be so averse to bribery that even low regulatory penalties would be enough to reach an "optimal" level of bribes at firms. Alternatively, employees might be keener to bribe than is warranted by the firm's expected gain from bribes, perhaps because they can capture some portion of that gain. In that case, the FCPA sanction would need to increase by even more than twenty-two times to reach a socially optimal level. Either way, agency costs and individual incentives, in addition to the firm's incentives, are important to understanding whether the expected regulatory cost to the firm is socially optimal.

Discussions of regulatory arbitrage would benefit from this kind of nuanced examination of the incentives and psychology of the human beings who structure these transactions. In the same way that there is a "culture of compliance," with attendant costs and benefits, there has been a "culture of arbitrage." On one hand, a culture of arbitrage might encourage parties to trade in ways that lead to efficient pricing and distribution of resources, so that prices better reflect available information about assets. On the other hand, a culture of arbitrage might lead to price distortions, extraction of economic rents, and negative externalities.

This kind of analysis can be helpful to thinking about regulatory arbitrage. Scholars could consider the likely implications of different "cultures of regulatory arbitrage," which might vary by firms, employees, and categories of transaction. Just as Langevoort suggests that these questions are complicated and nuanced with respect to compliance,⁷³ they are also likely to present many interesting puzzles with respect to regulatory arbitrage. For example, is there a connection between cultures that emphasize regulatory arbitrage and cultures that

70. Pub. L. No. 101-429, 104 Stat. 931 (1977) (codified as amended in scattered sections of 15 U.S.C.).

71. See Jonathan M. Karpoff et al., *Foreign Bribery: Incentives and Enforcement* 35 (Apr. 7, 2017) (unpublished manuscript), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1573222 [<https://perma.cc/2DNF-N7KH>].

72. See Langevoort, *supra* note 41, at 949–54.

73. See *id.* at 945.

emphasize compensation incentives? Do particular compensation regimes incentivize regulatory arbitrage? These are empirical questions, of course, but financial institutions and technologically innovative companies could embrace both high-powered compensation incentives and regulatory arbitrage.

There are likely to be important differences between what emerges from a culture of *regulatory* arbitrage, as opposed to a culture of *financial* arbitrage. A culture of financial arbitrage fundamentally recognizes the benefits associated with the convergence on one price that results from buying and selling; these benefits have widespread support in economic theory and the powerful intuition associated with the law of one price.⁷⁴ Financial arbitrage is focused on efficiency, cost reduction, and transparency. Human beings engaged in financial arbitrage naturally might embrace these notions as part of their culture.

In contrast, regulatory arbitrage is, at its core, about avoiding regulatory costs. This avoidance benefits from opacity. It fundamentally involves avoiding the law, or at least avoiding *a* law, even if the actors frame what they are doing as “perfectly legal.” Moreover, unless the regulation at issue is itself socially deleterious, the regulatory arbitrage transaction, by definition, is reducing social value. This is the potentially undesirable aspect of the law of two prices in the regulatory arbitrage context. Human beings engaged in regulatory arbitrage might naturally embrace law avoidance as an additional aspect of their culture.

Fundamentally, a central difference between regulatory arbitrage and financial arbitrage is that regulatory arbitrage does not generate the kind of information-based pressure that potentially leads to efficient pricing through buying and selling by market participants. Instead, the regulatory cost difference between *Simple* and *Complex* persists even if there is substantial activity in both *Simple* and *Complex* transactions. As long as there are some *Simple* transactions, market participants who engage in regulatory arbitrage will observe two prices and the benefits associated with switching from *Simple* to *Complex*.

Whereas with financial arbitrage it is market participants who create price pressure, with regulatory arbitrage, the regulator is also an important part of the story. Unless the regulator responds to regulatory arbitrage by imposing additional costs on *Complex* transactions, market actors can simply extract the benefits of avoiding the regulation, without any contribution to price efficiency. Of course, one benefit associated with regulatory arbitrage is that it reveals the perceived cost of the regulation to the parties involved, but that benefit is qualitatively different and more difficult to measure than the profits associated with financial arbitrage.

Additionally, regulatory intervention, like the buying and selling in financial arbitrage, is likely to be incremental: it does not necessarily lead to instantaneous price convergence, but instead to some increase in expected costs associated with regulation for *Complex* transactions and a consequent diminution in the amount of regulatory arbitrage activity. In other words, regulatory responses do not

74. See generally Barberis & Thaler, *supra* note 51 (discussing in detail the beneficial economic pressures that one price creates).

necessarily close any expected return gap between *Simple* and *Complex* transactions; regulatory responses might not even come at all. Absent a regulatory response, the gap will remain, regardless of the volume of transactions (provided that at least some *Simple* transactions remain). This is a stark difference between financial and regulatory arbitrage. Whereas financial arbitrage can generate benefits from gains associated with price convergence, a powerful idea associated with the socially optimal law of one price, regulatory arbitrage can lead to economically equivalent categories of transactions taking place at different prices, suggesting a kind of socially suboptimal law of two prices.⁷⁵ This, again, is the wedge associated with regulatory arbitrage.

These fundamental differences between financial arbitrage and regulatory arbitrage can profoundly affect the psychology of the participants. Individuals who engage in regulatory arbitrage, to the extent they think about the social value of what they are doing, likely have one of two perspectives (or, finding neither perspective palatable, they might simply avoid thinking about the issue). First, they might think the regulation they are avoiding is not socially valuable, in which case their day-to-day business activities could involve at least a partial disrespect for the rule of law.⁷⁶ Second, they might think the regulation they are targeting is socially valuable, in which case their job is to destroy social value.⁷⁷ To the extent they are aware of and consider these thoughts, they are likely to influence their culture. These factors might account for the aggressive and often unusual culture surrounding groups that engage extensively in regulatory arbitrage.

How might these two strands of thought influence activity? The answer, Langevoort's approach suggests, will depend on culture.⁷⁸ A group or individual might find these two perspectives distasteful and decide not to engage in regulatory arbitrage transactions. Either morality or reputational concerns might lead to norms against such transactions.⁷⁹ Conversely, a group of individuals might find these two perspectives unimportant relative to the financial incentives associated with the regulatory arbitrage transactions.⁸⁰ In either case, adding Langevoort's perspective to the discussion of regulatory arbitrage gives it a richer and more interesting hue. Regulatory arbitrage is not merely "perfectly legal." At worst it is illegal; at best it is *alegal*, or outside the context of legal versus illegal determination. In other words, the human reaction to the nature of the activity informs the activity itself.

B. TIMING AND EXPECTATIONS

This Article next considers two implicit assumptions in the literature regarding how market actors think about regulatory arbitrage transactions. In many, or

75. See Partnoy, *supra* note 6, at 215.

76. See Langevoort, *supra* note 41 at 954 (describing the tension between pro-social forces among employees and corruption as a slippery slope).

77. See *id.*

78. See *id.* at 949–54

79. See *id.* at 950.

80. See *id.*

perhaps most, cases, the decisionmakers involved in regulatory arbitrage transactions cannot point to a current, applicable adjudication regarding the regulatory treatment of the anticipated transaction. By its nature, financial innovation involves previously unanticipated transactions. Accordingly, both timing and expectations become central concepts that matter to the assessment of regulatory arbitrage. As with the analysis in section II.A, the analysis here suggests that the price wedge that results from regulatory arbitrage (for example, the law of two prices) is qualitatively different than the price differentials and pressures that arise from financial arbitrage. In other words, both timing and expectations differ when market participants are engaging in regulatory arbitrage as opposed to financial arbitrage.

First is timing. If at the time of the transaction, *Complex* is immediately adjudicated to be sufficiently different from *Simple* that it will not be subject to *Penalty*, then it might make sense to conclude that *Complex* is “perfectly legal.” However, in reality there typically will be a lag between the time at which a regulatory arbitrage transaction is created and the time at which market participants know that a transaction will or will not be subject to the regulatory cost. In such a circumstance, market participants would proceed, or not proceed, based on an assumption about potential future adjudication.

Second is expectations. Although the expectations of market participants might be that a transaction will not, with certainty, be subject to *Penalty*, in reality market participants often will have some degree of uncertainty with respect to the future regulatory treatment of a transaction. They might have some expectation with respect to future adjudication, perhaps either formulated in terms of risk (with probabilities) or true uncertainty (without probabilities). This notion of expectations is distinct from timing: timing relates to when the adjudication will occur, whereas expectations relate to the likelihood of any particular adjudication result.

These two factors, timing and expectations, play an important role in Langevoort’s analysis in his 2004 article.⁸¹ At the time of the financial “innovations” at Enron, WorldCom, Tyco, and Global Crossing, managers at those firms did not yet know what accounting treatment their transactions would receive or when they might receive it.⁸² Indeed, their argument in defense of their innovations was that they expected that regulators ultimately would treat their transactions differently from economically equivalent transactions.⁸³ That expectation might have been merely an unreasonable and pretextual excuse. In any event, the expectation was later proved wrong.

Were these transactions “regulatory arbitrage?” That question requires a subtler answer than scholars previously have developed. It is not sufficient simply to ask whether these transactions were “perfectly legal.” Instead, one might

81. See Langevoort, *supra* note 42, at 3.

82. See *id.* 2–7.

83. See *id.*

inquire about the perspectives of those arranging the transactions. What was the expected timing of any applicable adjudication of how the transaction would be treated?⁸⁴ For example, there is a difference between a transaction that participants believe is about to receive a regulatory pronouncement in a pending case and a transaction that regulators are not even aware of, perhaps because it is brand new. If regulators are about to adjudicate that *Complex* is not subject to regulatory cost, or if regulators already have taken such a position, then it would make more sense to characterize regulatory arbitrage involving *Complex* as “perfectly legal.” But if there is uncertainty surrounding the adjudication, then the analysis becomes more involved, and numerous other questions become relevant: Did the market participants engaging in regulatory arbitrage rely on past or contemporaneous rulings with respect to similar transactions? Was there a contemporaneous adjudication that the transactions would receive the desired regulatory treatment? Or were they looking to a future regulatory treatment without any analogous contemporaneous treatment? And what were expectations of the parties with respect to any future regulatory treatment of the transactions? How much were the parties speculating about the future? And how reasonable were these speculations?

Motive, opportunity, and rationalization are just as important to the theory of regulatory arbitrage as they were to Langevoort’s 2004 analysis of accounting fraud.⁸⁵ These issues raise questions about the reasonableness of the parties’ expectations, both with respect to the mental states of the private actors engaging in financial innovation and with respect to the capacities and predilections of regulators who ultimately decide how new financial transactions will be regulated.

Regulatory arbitrage, as a theory, should incorporate timing and expectations. It is difficult to conceptualize a transaction that is economically equivalent to an illegal transaction, but is always “perfectly legal.” *Complex* transactions that are designed to avoid the *Penalty* associated with *Simple* transactions are not necessarily “perfectly legal.” Instead, questions about legality and future regulatory treatment inevitably involve the analysis of timing and the reasonableness of the innovators’ expectations. Consider Enron’s use of special purpose entities (SPEs) to avoid accounting consolidation.⁸⁶ At the time of the transactions, there was some related authority on consolidation, but there also was uncertainty about future accounting treatment.⁸⁷ What started as regulatory arbitrage ultimately was found to have been fraud. Some scholars might respond by saying that this analysis suggests Enron’s SPEs were not, in fact, regulatory arbitrage. But the more interesting questions revolve around the extent to which the creators of the SPEs reasonably believed that future regulators would determine that they did not require consolidation.

84. See Frank Partnoy, *The Timing and Source of Regulation*, 37 SEATTLE U. L. REV. 423, 424–25 (2014).

85. See *id.* at 14–15.

86. See PARTNOY, *supra* note 9, at 294–347.

87. See Frank Partnoy, *A Revisionist View of Enron and the Sudden Death of “May,”* 48 VILL. L. REV. 1245 (2003) (addressing the legal rules related to Enron’s use of SPEs).

During the decade since the financial crisis, scholars have become increasingly skeptical of financial innovation, with good reason.⁸⁸ This skepticism should further lead scholars to revisit their theories of regulatory arbitrage. A more robust theory of regulatory arbitrage should include the following question: What would a reasonable financial innovator have expected the regulatory treatment of the new transaction to be? In other words, at the time of the transaction, would a reasonable market participant have concluded that a transaction such as *Complex* would not be subject to the same regulatory costs as a transaction such as *Simple*?⁸⁹

The normative advantages to this approach are substantial. Asking this question would require market participants to consider and internalize questions of expected future regulatory treatment. In contrast to the norms associated with a pro-financial innovation view, this new approach would incentivize new norms based on the reasonableness of the assessment of future treatment. Because this analysis would require market participants to consider not only their own views but also the views of future regulators, it would force them to internalize viewpoints other than their own. Importantly, this kind of a requirement also would empower lawyers and compliance officers to become involved in assessments of likely future regulatory treatment.

Any consideration of future regulatory treatment raises tricky questions. When is the relevant future point in time? For example, what if a financial innovator thinks that, because regulatory standards are becoming progressively stricter over time, a transaction would be adjudicated to be legal now and anytime for the next five years, but might not be adjudicated to be legal after that? Any timing inquiry would be difficult and subjective.

A reasonableness inquiry would necessarily add gray areas to regulatory arbitrage, but although private actors would enjoy less certainty in planning transactions, uncertainty can play a valuable role. By shifting the presumption about financial innovation, private actors bear more of the burden associated with the costs of avoiding regulatory requirement, including both direct costs and negative externalities.

This approach also would shift some substantial burden to regulators because the reasonableness of a private actor's expectations depends on the regulator's capacity. If the regulator is capable of understanding the nuances of *Complex* transactions, it might be unreasonable for parties to believe that the regulator will later determine that those transactions should be treated differently than *Simple* transactions. But what if, at the time of a transaction, it was reasonable for a private actor to expect that a regulator would not have the capacity to understand or

88. See e.g., Seth C. Oranburg, *Hyperfunding: Regulating Financial Innovation*, 89 U. COLO. L. REV. 1033–99 (2018).

89. In her comments on this Article at the 2018 Institute for Law and Economic Policy conference, Urska Velikonja suggested the interesting notion of burden shifting in this context. To obtain a preferred regulatory treatment, the entity engaging in the regulatory arbitrage transaction would have the burden of showing its interpretation of the application of the relevant regulatory regime was reasonable.

appreciate differences and similarities among transactions? Regulators would need to create expectations among private actors that transactions would not ultimately receive simplistic regulatory treatment. At the same time, the culture of private actors likely would respond to the legitimacy of the regulator.

Langevoort has argued that a perception of legitimacy is key to compliance (and, conversely, that a perception of illegitimacy is key to non-compliance), and that cultures and cognitions that denigrate existing law undermine compliance.⁹⁰ The same kind of argument could be applied to regulatory arbitrage. The culture of the regulatory arbitrageurs and their perception about how the law will or should be viewed in the future is important to the ways in which regulatory arbitrage transactions attempt to avoid regulatory costs.

In sum, one might think about regulatory arbitrage from the perspective of imagining the law as a prediction of what a regulator or judge will do in a future case. Recall how Justice Oliver Wendell Holmes defined law in 1897: “The prophecies of what the courts will do in fact, and nothing more pretentious, are what I mean by the law.”⁹¹ Indeed, Langevoort has referenced this Holmesian perspective on law.⁹² This perspective might offer a useful way to assess the timing and expectations of parties engaging in regulatory arbitrage transactions: What do they (reasonably) think a future regulator or judge will say about their mental states and actions?

Scholars should not simply describe regulatory arbitrage as “perfectly legal.” Such a description begs the question of legality, which should depend on the perspective of market participants and how they perceive the likely treatment of their transaction in the future. Instead, scholars and policymakers should frame questions about regulatory arbitrage from the perspectives of those designing the transactions and, relatedly, those making regulatory determinations about them at a future time.

A corollary to this point is that the analysis of how and when regulatory arbitrage results in a persistent price wedge between economically equivalent transactions should feature more prominently in scholarly discussions of regulatory arbitrage, along with contrasts with the analysis of financial arbitrage. To reiterate, regulatory arbitrage differs from financial arbitrage in fundamental ways: Regulatory arbitrage is less likely to help move prices of economically equivalent assets to the same level. Instead, both private and regulatory behavior are more likely to result in a price wedge between regulated and unregulated assets notwithstanding that they are otherwise economically equivalent. This, again, is the notion of the law of two prices.

90. Langevoort, *supra* note 41.

91. Oliver Wendell Holmes Jr., *The Path of the Law*, 10 HARV. L. REV. 457, 461 (1897).

92. Donald C. Langevoort, *Someplace Between Philosophy and Economics: Legitimacy and Good Corporate Lawyering*, 75 FORDHAM L. REV. 1615, 1627 (2006) (“In the end, I confess, I am a Holmesian who believes that law and morality are only loosely coupled. More importantly, the business world to which I pay most of my professional attention is one in which the language of legitimacy has a much stronger pull on behavior than the language of morality.”).

Financial market participants prefer clarity and certainty. They would like to know, today, how their transactions will be treated in the future. But clarity and certainty are slippery concepts, which can prove illusory. Instead of waiting until long after a transaction has closed to determine its regulatory treatment, the parties can (and sometimes do in opinion letters) document in advance the reasonableness of their expectations about the regulators' later determination.⁹³ They might even put a probability on the likelihood of different regulatory treatments. This kind of thinking is culturally quite different from merely assuming the transaction will receive a particular treatment. Injecting a reasonableness standard into parties' thinking at the time of each transaction might lead to a shift in perspective, and perhaps culture. This is a more nuanced way of thinking about regulatory arbitrage.

C. REMEMBERING VOLCKER

Finally, for the benefit of future scholars, I offer some thoughts about financial innovation from Paul Volcker, the former Chair of the Federal Reserve under Presidents Carter and Reagan. In a December 2009 speech, Volcker denounced financial innovation. The most famous line from his speech was this: “[T]he most important financial innovation that I have seen the past 20 years is the automatic teller machine.”⁹⁴

However, the most interesting vignette in Volcker's speech involved his description of being in the audience at a conference, listening to a “very vigorous young investment banker from London who was explaining to all these older executives how their companies would be dust if they did not realize the joys of financial innovation and financial engineering, and that they had better get with it.”⁹⁵ Volcker said that at the time he was sitting next to one of the inventors of financial engineering whom he did not know (though he “knew who he was and that he had won a Nobel Prize,” so perhaps it was Merton Miller). Volcker says he:

nudged him and asked what all the financial engineering does for the economy and what it does for productivity.

Much to my surprise, he leaned over and whispered in my ear that it does nothing I asked him what it did do, and he said that it moves around the rents in the financial system—and besides that, it's a lot of intellectual fun.⁹⁶

93. See Frank Partnoy, *Synthetic Common Law*, 53 U. KAN. L. REV. 281 (2005) (proposing that parties specify the outcomes of later determinations in contracts).

94. *Paul Volcker: Think More Boldly*, WALL. ST. J. (Dec. 14, 2009) (interview with Alan Murray), <https://www.wsj.com/articles/SB10001424052748704825504574586330960597134> [https://perma.cc/2JLY-4B24].

95. *Id.*

96. *Id.*

Volcker also included in his speech an admonition about the information gap between boards of directors and the actors engaging in regulatory arbitrage. His perspective provocatively suggests that the agency cost problem within firms is an important consideration in assessing regulatory arbitrage. Volcker noted:

You want boards of directors to be informed about all of these innovative new products and to understand them, but I do not know what boards of directors you are talking about. I have been on boards of directors, and the chances that they are going to understand these products that you are dishing out, or that you are going to want to explain it to them, quite frankly, is nil.⁹⁷

With respect to the analysis of financial innovation and regulatory arbitrage, scholars should consider giving Volcker—if not the last word—an important voice in thinking about this phenomenon. Just as Langevoort teaches us about the culture of compliance and the importance of understanding behavioral social science and multiple perspectives, Volcker teaches us that the reality of financial innovation is that it can be socially harmful and ill-understood.

The main lesson from Volcker's wisdom is that policymakers and scholars should be more cautious about financial innovation. Much financial innovation is designed to avoid regulatory costs. Volcker suggests that we should be skeptical about regulatory cost avoidance and develop regulatory approaches that minimize the incentives for innovation that is designed primarily to avoid regulatory costs.

CONCLUSION

Although scholars have addressed various aspects of regulatory arbitrage since 1997, that literature has failed to incorporate one of Langevoort's central insights: that innovation creates motive, opportunity, and rationalization for a change in norms related to regulation. Scholars have assumed that the innovation of regulatory arbitrage is to create transactions that are subject to differential regulatory treatment. But they have not explored in depth the psychological and sociological factors that are potentially involved in the changes brought by innovation.

Including Langevoort's perspectives can enrich regulatory arbitrage scholarship. Thinking about regulatory arbitrage as "perfectly legal" was the first step in understanding a web of complex financial transactions and their interactions with regulation. But Langevoort's work on culture and compliance offers useful insights about behavioral social science that help explain the motives for regulatory arbitrage and illustrate why it—like compliance—presents more difficult policy questions than have previously been anticipated. As is often the case after incorporating Langevoort's scholarship, the world is revealed to be more nuanced and complex, with problems that are richer in context, but not necessarily easier to solve.

97. *Id.*

Ultimately, the choice to engage in regulatory arbitrage is a human choice, so it carries with it many of the complexities Langevoort has written about in his analysis of behavioral social science. A new, subtler examination of regulatory arbitrage should take into account not only the regulatory cost-minimization strategies advocated by some financial economists, but also the importance of market and regulatory failures and the role of human agency.

One fundamental implication of the analysis presented here is that traditional notions of arbitrage and the law of one price are susceptible to new interpretations in the presence of costly regulation. In particular, the notion of the law of two prices captures the differences between the kind of financial arbitrage activity that takes place in the absence of regulation and the kind of regulatory arbitrage activity that has been the focus of much legal scholarship.

The addition to the theories of arbitrage and the law of one price is the observation that regulatory arbitrage can lead to a price wedge between regulated and unregulated, yet economically equivalent, transactions. Like many problems related to regulatory arbitrage, it is easier to observe the law of two prices in operation than to remedy it in a way that closes the gap between the prices of financial transactions that are subject to regulatory costs and those that are not.