Designing Regulation for Mobile Financial Markets

Ilya Beylin*

Prior scholarship advocates for international harmonization of financial regulation as a solution to the problem of cross-border regulatory arbitrage. The scholarship is theoretical and rests on the contention that financial institutions can simply depart from an unfavorable regulatory regime. This Paper contributes an empirical foundation to the concern that financial institutions relocate following regulation, while also deeply qualifying claims that effective regulation requires international harmonization.

Using experience from swap markets following the Dodd-Frank Act, this Article provides the first empirical evidence that financial institutions migrate in response to derivatives regulation. This Article shows that U.S. banks substantially shifted inter-bank swap trading offshore while the delivery of swaps to U.S. customers did not decline.

Building on this case study, the Article develops theory for what policy goals are more susceptible to subversion through migration. Policy goals concerned with regulating relationships between financial institutions and their customers (e.g., goals of customer protection) are less vulnerable to relocation than policy goals concerned with inter-relationships between financial institutions (e.g., reduction of systemic risk). This distinction reflects well-informed priors on the relative costs and benefits of cross-border arbitrage to providers of financial services and their customers.

In exploring how relocation skirted some regulations and alternative regulatory designs for achieving the same policy goals, the Article solves a longstanding puzzle for international regulation. The claim that financial institutions can avoid territorially bounded regulation appears, on its face, suspect. If an institution truly removes its operations, what legitimate interest does a jurisdiction retain in regulating that institution? Through examining how operations may be restructured across borders, the Article shows that a lack of

* Associate Professor at Seton Hall Law School, J.D. from The University of Chicago, B.A.S. from Stanford University. I am grateful for comments to Daniel Awrey, Douglas Baird, Ryan Bubb, Emiliano Catan, Patrick Corrigan, John Coffee, Andreas Engert, Aitan Goelman, Yuliya Guseva, Kevin Haeberle, Rich Hynes, Marcel Kahan, Mitchel Kane, Joshua Macey, Paul Mahoney, Anup Malani, William Moon, Saule Omarova, Alex Raskolnikov, Gabriel Rauterberg, Ed Rock, Andrew Verstein, David Zaring and participants at the 2018 Midwestern Law & Economics Conference, 2018 Canadian Law and Economics Conference, and 2018 Conference of Empirical Legal Studies. Andrew McCall and Ana Rivera provided invaluable research assistance. Daniel Awrey's thoughtfulness and grace when we met were exemplary. I am grateful for constructive criticism, in advance, and all errors are my own.

harmonization: (a) does not affect whether a jurisdiction can unilaterally implement its policy goals, but (b) does narrow the range of regulatory designs available to achieve policy goals. Absent harmonization, jurisdictions may be limited to regulatory designs that are more difficult to implement, for instance, due to politics, administrative costs or other frictions affecting efficacious lawmaking, supervision, or enforcement.

INTRODUCTION

A combination of sovereignty and mobility implies that private parties will be able to select between legal regimes.[1] Where jurisdictions differ in how they regulate an activity, migration allows private parties to avoid regulation.[2] Following the financial crisis, nations have sought to harmonize regulation of their financial institutions. A key premise to calls for international financial regulation has been the assertion that the mobility of financial institutions can undermine policy goals

1. *See* Charles M. Tiebout, *A Pure Theory of Local Expenditures*, 64 J. POL. ECON. 416 (1956).

2. *See, e.g.*, Erin A. O'Hara & Larry E. Ribstein, *From Politics to Efficiency in Choice of Law*, 67 U. CHI. L. REV. 1151, 1163 (2000) ("Individuals and firms who have an incentive to minimize their transaction and information costs and an ability to choose legal regimes that accomplish this goal over time may cause the law to move toward efficiency, if only because inefficient regimes end up governing fewer and fewer people and transactions."); Anup Malani, *Valuing Laws as Local Amenities*, 121 HARV. L. REV. 1273, 1274 (2008) (proposing to measure value of laws through their impact on housing prices and wages).

carried out unilaterally.[3] Proponents of this view frequently refer to jurisdictional selection as regulatory arbitrage.[4] This Article both supports and challenges the conventional view, observing that financial institutions *have* undermined the current regime through relocation while explaining how the risks from offshore activity could be reduced through redesign of U.S. regulation.

Scholars have theorized that jurisdictional selection occurs in response to a variety of legal regimes, including financial regulation.[5] Scholars have also empirically studied jurisdictional selection in tax,[6] corporate governance,[7] and securities law.[8] This Article is the first to empirically study jurisdictional selection in

3. *See* William Moon, *Regulating Offshore Finance*, 72 VAND. L. REV. 1 (2019); ERIC A. POSNER, LAST RESORT: THE FINANCIAL CRISIS AND THE FUTURE OF BAILOUTS (2018); Yuliya Guseva, *The SEC and Foreign Private Issuers: A Path to Optimal Public Enforcement*, 59 B.C. L. REV. 2055 (2018); Kathryn Judge, *The First Year: The Role of a Modern Lender of Last Resort*, 116 COLUM. L. REV. 843, 845 (2016); John C. Coffee, Jr., *Extraterritorial Financial Regulation: Why E.T. Can't Come Home*, 99 CORNELL L. REV. 1259, 1270 (2014); Pierre-Hugues Verdier, *The Political Economy of International Financial Regulation*, 88 IND. L.J. 1405, 1437 (2013); Chis Brummer, *How International Financial Law Works (and How It Doesn't)*, 99 GEO. L.J. 257, 267 (2011); Victor Fleischer, *Regulatory Arbitrage*, 89 TEX. L. REV. 227 (2010); Yesha Yadav, *Specter of Sisyphus: Re-Making International Financial Regulation after the Global Financial Crisis*, 24 EMORY INT'L L. REV. 83, 85–86 (2010); Jonathan Rodden & Susan Rose-Ackerman, *Does Federalism Preserve Markets?*, 83 VA. L. REV. 1521 (1997); Frank Partnoy, *Financial Derivatives and the Costs of Regulatory Arbitrage*, 22 J. CORP. L. 211, 227 (1997).

4. *See* Securities Industry and Financial Markets Association v. CFTC, 67 F. Supp. 3d 373, 435–36 (D.D.C. 2014) [hereinafter SIFMA v. CFTC].

5. Bruce G. Carruthers & Naomi R. Lamoreaux, *Regulatory Races: The Effects of Jurisdictional Competition on Regulatory Standards*, 54 J. ECON. LITERATURE 52 (2016) (reviewing literature).

6. Eric L. Talley, *Corporate Inversions and the Unbundling of Regulatory Competition*, 101 VA. L. REV. 1649 (2015); Mitchell A. Kane & Edward B. Rock, *Corporate Taxation and International Charter Competition*, 106 MICH. L. REV. 1229 (2008).

7. Lucian Arye Bebchuk, *Federalism and the Corporation: The Desirable Limits on State Competition in Corporate Law*, 105 HARV. L. REV. 1435, 1441 (1992); Roberta Romano, *Law as a Product: Some Pieces of the Incorporation Puzzle*, I J.L. ECON. & ORG. 225, 280–081 (1985); Ralph K. Winter, Jr., *State Law, Shareholder Protection, and the Theory of the Corporation*, 6 J. LEGAL STUD. 251 (1977); William L. Cary, *Federalism and Corporate Law: Reflections upon Delaware*, 83 YALE L.J. 663 (1974).

8. Scholarship in securities regulation supports that jurisdictional competition may create a race to the top. Starting with John Coffee, legal scholars have argued that some foreign firms list in the United States to "bond" themselves to heightened disclosure and liability standards. John C. Coffee, Jr., *The Future as History: The Prospects for Global Convergence in Corporate Governance and Its Implications*, 93 NW. U. L. REV. 641 (1999). Bonding allows foreign firms with high-quality governance that exceeds minimum standards applicable in its home jurisdiction to credibly signal and commit to maintaining that heightened standard of governance. Empirical assessments of the bonding hypothesis have generally found supporting evidence. René M. Stulz, *Globalization, Corporate Finance, and the Cost of Capital*, 12 J. APP. CORP. FIN. 8 (1999); John C. Coffee, Jr., *Racing Towards the Top?: The Impact of Cross-Listings and Stock Market Competition on International Corporate Governance*, (Columbia Law School Center for Law and Economic Studies, Working Paper No. 205, 2002); William A. Reese, Jr. & Michael S. Weisbach, *Protection of Minority Shareholder Interests, Cross-Listings in the United States, and Subsequent Equity Offerings*, 66 J. FIN. ECON. 65 (2002) (obtaining empirical results supporting the bonding hypothesis); Craig Doidge, *U.S. Cross-Listings and the Private Benefits of Control: Evidence from Dual Class Firms*, 72 J. FIN. ECON. 519, (2004) (obtaining empirical results supporting the bonding hypothesis); Craig Doidge, G. Andrew Karolyi, & René M. Stulz, *Why Are Foreign Firms Listed in the U.S. Worth More?*, 71 J. FIN. ECON. 205 (2004) (obtaining empirical results supporting the bonding

response to derivatives regulation and provides strong evidence that financial institutions massively relocated operations following regulation.[9] This evidence substantiates that unilateral regulation may be ineffectual due to the mobility of financial institutions.[10] However, this Paper also identifies that the ability of

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hypothesis); John C. Coffee, Jr., *Law and the Market: The Impact of Enforcement*, 156 U. PA. L. REV. 230, 284–4292 (2007) (reviewing evidence of the bonding hypothesis); C. Fritz Foley, Paul Goldsmith-Pinkham, Jonathan Greenstein & Eric Zwick, *Opting Out of Good Governance*, 46 J. EMP. FIN. 93 (2018); Leyuan You, Janet D. Payne & Steve Wen-Jen Lin, *Do Multiple Foreign Listings Create Value for Firms?*, 69 Q. REV. ECON. FIN. 134 (2018). Across scholarship looking at government response to private responsiveness, conclusions differ on whether there is a race-to-the-top, a race-to-the-bottom, or simply meandering among jurisdictions in these areas. Carruthers & Lamoreaux, *supra* note 5 (surveying a broad set of academic studies and finding that "dire predictions of those who assert that more stringent regulation of business will produce divestment and flight have seldom been realized in practice"); *see* Emiliano M. Catan & Marcel Kahan, *The Law and Finance of Antitakeover Statutes*, 68 STAN. L. REV. 629, 632 (2016) (finding inter-state variations on some anti-takeover statutory provisions having little impact on firm performance contrary to prior findings); Stephen J. Choi & Andrew T. Guzman, *Portable Reciprocity: Rethinking the International Reach of Securities Regulation*, 71 S. CAL. L. REV. 903 (1997) (building on the "law as product" model to argue that issuers should be able to select the jurisdiction whose regime governs their securities issuances, thus enabling jurisdictions to create specialized regimes and issuers to sort between them). *See generally* Edward J. Kane, *Accelerating Inflation, Technological Innovation, and the Decreasing Effectiveness of Banking Regulation*, 36 J. FIN. 355 (1981) (explaining how through private adaptation and re-regulation, markets and the government engage in a Hegelian dialectic moving society through "an endless series of conflicts between economic and political power").

9. This Article does not take a strong position on whether U.S. banks' migration of swap activity to foreign subsidiaries is undesirable. As other scholars have observed, jurisdictional selection in response to regulatory change can be desirable or not depending on the quality of those regulations. Fleischer, *supra* note 3, at 234 (2010) ("Whether a particular regulatory arbitrage technique is good or bad necessarily depends on a prior question of whether a particular regulation enhances social welfare."). Whether swap regulations adopted under the Dodd Frank Act are on net socially desirable is a subject beyond the scope of this Article. Other scholars have described those regulations as desirable—and from this point of view, the flight of swap activity observed in this Article represents undesirable regulatory arbitrage. *See* Coffee, *supra* note 3, at 1270; Verdier, *supra* note 3, at 1445 (reviewing the theory that "some countries have incentives to maintain inefficiently low standards [of financial regulation] because the costs are borne by others"); SIFMA v. CFTC, 67 F. Supp. 3d at 431 (referring to "immeasurable" benefits of preventing future financial crises). Irrespective of whether the regulations embody socially desirable policy, adaptation to regulation creates deadweight loss. Louis Kaplow, *Optimal Taxation with Costly Enforcement and Evasion*, 43 J. PUB. ECON. 221, 221 (1990) ("The literature on optimal taxation considers how revenue can be raised in a manner that minimizes the distortion of behavior."). *See generally* Dhammika Dharmapala, THE ECONOMICS OF TAX AVOIDANCE AND EVASION (2017).

10. For background on the architecture of international financial regulation, see Chris Brummer, SOFT LAW AND THE GLOBAL FINANCIAL SYSTEM: RULE MAKING IN THE 21ST CENTURY (2012); DANIEL K. TARULLO, BANKING ON BASEL, THE FUTURE OF INTERNATIONAL FINANCIAL REGULATION (2008); ANNE-MARIE SLAUGHTER, A NEW WORLD ORDER (2004); *see also* JACK L. GOLDSMITH & ERIC A. POSNER, THE LIMITS OF INTERNATIONAL LAW (2005); Edward F. Greene & Joshua L. Boehm, *The Limits of "Name-and-Shame" in International Financial Regulation*, 97 CORNELL L. REV. 1083 (2012); Chris Brummer, *Territoriality As a Regulatory Technique: Notes from the Financial Crisis*, 79 U. CIN. L. REV. 499, 515 (2011) (arguing that globalization has undermined regulatory capacities); Eric J. Pan, *Challenge of International Cooperation and Institutional Design in Financial Supervision: Beyond Transgovernmental Networks*, 11 CHI. J. INT'L L. 243 (2010); Douglas W. Arner & Michael W. Taylor, *The Global Financial Crisis and the Financial Stability Board: Hardening*

financial institutions to subvert policy goals through relocation depends also on the regulatory objective in question and the regulatory devices used to achieve it. Based on observation of financial services mobility and refinement to the conventional theory of regulatory arbitrage, this Paper identifies policy goals more and less likely to be subverted through migration and proposes means for more effective unilateral regulation.

Swap market reform following the financial crisis serves as the setting for this case study of the vulnerability of regulation to relocation. The Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010 (the "Dodd-Frank Act") initiated comprehensive regulation of the swaps market. Regulations adopted under Title VII of the Dodd-Frank Act not only impose substantial obligations[11] on swap market participants but also provide public data on all U.S. swap transactions. Although regulation of swaps markets under the Dodd-Frank Act was based on an international framework, the United States has in some key areas gone beyond the European Union and other jurisdictions in restricting swap activity.[12] Since data on outstanding swaps became available in late 2013, the U.S. swaps market imploded.[13] As shown in Figure I.A, the volume of interest rate swap transactions[14] has declined by over a third[15] since data became available:

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the Soft Law of International Financial Regulation?, 32 U. NEW S. WALES L.J. 488 (2009); Joel P. Trachtman, *International Regulatory Competition, Externalization, and Jurisdiction*, 34 HARV. INT'L L.J. 47 (1993).

11. *See infra* Part I.

12. Members of the Group of 20 nations ("G-20") endorsed a multi-dimensional regulatory framework for over the counter ("OTC") derivatives markets. FIN. STABILITY BD., OTC DERIVATIVES REFORMS PROGRESS: REPORT FROM THE FSB CHAIRMAN FOR THE G20 LEADERS' SUMMIT 1 (2013). Notwithstanding general commitments to a shared framework, members of the G-20 have implemented varying regimes. This Article does not purport to identify all the material discrepancies across G-20 regimes. *See also infra* notes 23 and 60 and surrounding text (discussing material differences in pre-trade regulation). Although perhaps of limited social import, from a scholarly perspective, the European Union's relative lack of publicly reported granular data on swap transactions is another noticeable gap between the regimes.

13. As discussed further throughout this Article, notional amounts are used to track changes in levels of swap activity. This is a standard within the industry, and U.S. and foreign regulators follow swap market activity based on outstanding notional amounts. *See, e.g.*, OFFICE OF THE COMPTROLLER OF THE CURRENCY, QUARTERLY REPORT ON BANK TRADING AND DERIVATIVES ACTIVITIES 13 (2017 Q1) (explaining "[c]hanges in notional amounts are generally reasonable reflections of business activity and can provide insight into potential revenue and operational issues").

14. The empirical results of this paper are based on the interest rate swap market, which is the largest swap market. Generally speaking, the same regulatory scheme applies to interest rate swaps, foreign currency swaps, equity swaps, credit default swaps, energy, metal, agricultural, weather, health, and other swaps. As discussed below, the Securities and Exchange Commission authored many of the rules governing the small fraction of swaps based on a single company's performance or the performance of a small number of companies (including single name credit default swaps). *See* Stephen J. Lubben & Rajesh P. Narayanan, *CDS and the Resolution of Financial Distress*, 24 J. APPLIED CORP. FIN. 129, 131 (2012) (discussing single name credit default swap market).

15. For ease of review, CFTC data is smoothed based on a four-week running window and presented in trillions of U.S. dollars. Except where specified otherwise, the CFTC data is on fixed-to-floating interest rate swaps across all currencies.

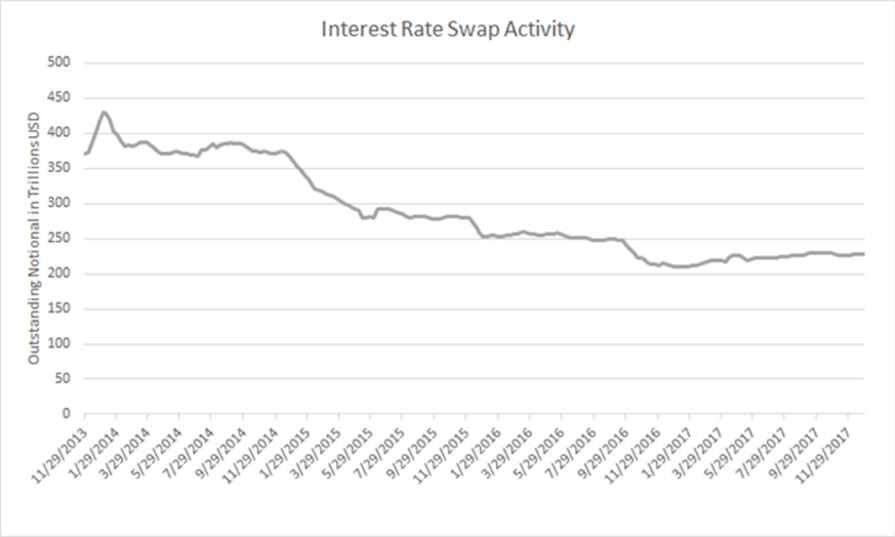

Figure I.A: U.S. Swap Market Activity

As is the case with many other industries, swaps are provided through a combination of two markets—a market between providers and consumers, and a wholesale market serving providers. This Paper exploits data on three distinct market segments to identify an exodus of swap activity offshore. Comprehensive data on U.S. swap market activity from the Commodity Futures Trading Commission (CFTC) shows that customer usage of swaps has only increased subsequent to regulation.[16] In contrast, CFTC data on U.S. wholesale markets shows a decline of nearly fifty percent. This contrast creates a puzzle, how could the consumption of a product increase while the wholesale markets enabling the delivery of that product massively decline? Data from the Office of the Comptroller of the Currency (OCC) on the worldwide interest rate swap activity of U.S. banks and their subsidiaries unlocks that puzzle.[17] While wholesale swap markets in the United States have imploded, the global participation of U.S. banks in wholesale markets remains constant. Financial institutions continue to provide U.S. customers with swaps to the same or greater extent as they have prior to the implementation of regulations, while they have moved inter-bank wholesale swap activity offshore.

16. CFTC data is taken from the weekly swaps report available here: https://www.cftc.gov/MarketReports/SwapsReports/Archive/index.htm [https://perma.cc/L85Y-4W5Y] (last visited Nov. 11, 2019).

17. OCC data is taken from what is now Graph 11 in the Quarterly Reports on Bank Trading and Derivatives Activities. An archive of the reports is available here: https://www.occ.gov/topics/capital-markets/financial-markets/derivatives/derivatives-quarterly-report.html [https://perma.cc/RGX4-FQ46] (last visited Nov. 18, 2019). Except where otherwise specified, the OCC data is on all interest rate contracts across all currencies.

These trends strongly support that the industry providing swaps reorganized in a manner that decreases the regulatory burdens of the Dodd-Frank Act.[18]

The swap market experience enables testing and refinement of theory for when international harmonization is necessary for achieving policy objectives. Goals of customer protection, or more broadly the regulation of markets between financial services providers and their customers, are relatively immune to regulatory arbitrage through relocation. Although prior work has looked at the mobility of financial institutions as the constraint on unilateral regulation, the mobility of financial institutions alone is insufficient to avoid regulatory objectives governing provision of financial services. Under conventional territorial norms, regulatory obligations attach not only based on the location of the service provider but also the location of the customer. These norms are reflected in the international reach of U.S. financial regulations generally and in the reach of swap market regulations specifically. As a result, it is insufficient for a financial institution to relocate for its services to escape regulatory ambit. The customer must also relocate operations to enable avoidance. The swap market experience supports that customers generally do not relocate. The balance of benefits and costs to relocation tends to make migration unattractive for customers, particularly where the regulation has customer protection as an objective and is competently designed and implemented. As a result, markets between financial institutions and their customers are relatively immune to regulatory arbitrage through relocation. This Paper develops a framework for understanding why customers generally do not collude with financial services providers in reducing regulatory burdens and when they may do so. In contrast, markets between financial services providers are more mobile based on the empirical observations and theory developed in this Paper. International harmonization may substantially further objectives relating to intra-financial institution markets such as the containment of systemic risk.

This Article not only identifies the migration of systemic risk beyond the ambit of U.S. regulations but also explains ways the United States may unilaterally address this threat. The exodus of swap trading to less-regulated offshore subsidiaries need not threaten the health of the U.S. financial system. Instead of preventing activities that increase risk at the foreign subsidiary level, domestic regulators can stem the flow of risk from foreign subsidiaries to their U.S. parents. Yet, adopting these protections requires both coordination between governmental bodies and discipline not to abandon them during market distress. Effective unilateral regulation to prevent the influx of systemic risk from foreign subsidiaries requires cooperation between the CFTC, SEC, and banking regulators that has yet

18. Ian Acker, *Strength in Transparency: Migrating Systemic Risk Through Harmonization of Reporting Requirements for OTC Derivatives*, 49 GEO. WASH. INT'L. REV. 947, 962–63 (2017) (discussing regulatory arbitrage); John Welling, *In Defense of the Dealers: Why the SEC Should Allow Substituted Compliance with the European Union for Security-Based Swap Dealers*, 85 FORDHAM L. REV. 909, 927 (2016) (discussing regulatory arbitrage); Christina Parajon Skinner, *Whistleblowers and Financial Innovation*, 94 N.C. L. REV. 861, 915 (2016) (discussing inter-jurisdictional regulatory arbitrage).

to manifest. Moreover, ex ante prevention of risk accumulation may be more effective than its ex post containment through installing regulatory sandbags between U.S. banking entities and their foreign subsidiaries.

Seen in light of alternatives for achieving regulatory priorities on a unilateral basis, international harmonization becomes a helpful means to regulation rather than a necessary predicate. International harmonization eases the difficult problems of regulatory design created when regulated domestic activity interacts with unregulated (or differently regulated) foreign activity. International harmonization may be especially desirable where institutional problems impair unilateral lawmaking, such as the challenges of coordination between independent financial agencies (and Congressional committees). But international harmonization is generally not strictly necessary for preventing private mobility from undermining a range of policy goals. Scholarship concerned with regulatory arbitrage through relocation not only exaggerates its threat to policymaking but fails to acknowledge cases in which the threat evolves from a combination of private re-ordering and public bodies' failure in designing or implementing unilateral regulations.[19]

This view also resolves an ostensible paradox in the traditional criticisms of regulatory avoidance through relocation. The conventional view is that financial service providers can undermine regulatory priorities through relocation. Yet, if the lawmaker does not err[20] towards an unrealistically narrow definition of location, relocation not only exempts financial activity from regulation but also vitiates the regulatory interests in the activity as its locus and consequences on counterparties no longer touch the relevant jurisdiction.[21] On first pass, relocation changes the substance of activity in a manner that should be respected in an international order built on territorial deference. Relocation can, nevertheless, pose a challenge to regulation—even modest regulation that does not have extraterritorial aspiration. As introduced above and explored in this Article, lack of harmonization limits the scope of tools available for achieving national priorities. As one example, prior to

19. A more troubling motive for encouraging other jurisdictions to conform to domestic regulation is the political interest of jurisdictions in retaining their financial firms rather than see them move abroad. Exploring the protectionist undertones of the calls for harmonization, as well as the legitimate policy interests in minimizing social losses due directly to relocation (i.e., deadweight loss), are left for further work.

20. If the lawmaker does err in adopting an overly narrow definition, "exploitation" of the definition should be expected, and it is easy to sympathize with the lawyer providing guidance on how to accurately albeit conveniently construe the provision. Naturally, language may be purposefully or inadvertently ambiguous (and while those two cases are significantly different, they oftentimes cannot be distinguished in the context of multi-member institutions such as Congress). For purposes of this discussion, exploitation of inadvertent ambiguity in the geographic scope of regulatory regimes is neglected.

21. It is worth repeating that financial services are just that, services, and thus flow under contracts between identifiable parties. Thus, the direct consequences of financial services are largely isolated to the financial service provider and recipient, as opposed to, for example, environmental concerns such as pollution where weather patterns or currents can lead to harms beyond the jurisdictions of parties involved in the commercial transactions.

Dodd-Frank, concerns arose that swap dealers were charging customers higher prices than dealers were charging each other. This was seen as a potential manifestation of anti-competitive behavior. Rather than rely on traditional antitrust tools, Congress imposed a requirement that dealers trade on open, multi-lateral platforms where dealers would not control whether the price they offered was taken by another dealer or a customer.[22] This was a creative, market-based method for addressing a potential antitrust problem. Through relocation to the United Kingdom and other jurisdictions that did not impose the platform execution requirement, dealers were able to skirt this novel remedy to concerns with oligopolistic prices.[23] This is just one example of how relocation may subvert means of achieving regulatory priorities, leaving states with more limited arsenals to accomplish policy goals.

Through detailed attention to market structure, regulation, and data on financial activity, this Paper supports and elaborates conventional theory on the limitations of unilateral financial regulation. Part I of this Article provides an introduction to swaps, the markets in which they trade, and their regulation under Title VII of the Dodd-Frank Act. Part II of this Article presents the trends on which the findings of massive migration in the wholesale market are based on. Part III considers the implications of the swap market experience for unilateral regulatory efforts. A brief conclusion follows.

I. SWAP TRANSACTIONS AND THE STRUCTURE OF SWAP MARKETS

Swaps are the dominant form of derivatives contracts used by parties to exchange risk in financial markets. This Part introduces the swap instrument, explains how swaps are used and traded, and then covers the extensive regulation of swap markets pursuant to rules promulgated under the Dodd-Frank Act.

A. What Is a Swap?

The term "swap" has ambiguous contours but some definite and frequently encountered instantiations. A practical definition of "swap" can take the following form: "a bilateral agreement to exchange future cash flows based on some agreed formula."[24] An example is a floating-for-fixed interest rate swap, which calls for (a) payments by one party based on the product of a floating interest rate and a fixed

22. *See Dissenting Statement of Commissioner Dan M. Berkovitz*, U.S. COMMODITY FUTURES TRADING COMM'N (Nov. 5, 2018), https://www.cftc.gov/PressRoom/SpeechesTestimony/berkovitzstatement110518a [https://perma.cc/N88T-KJG3] (last visited Nov. 18, 2019).

23. MANAGED FUNDS ASS'N, COMPARATIVE ANALYSIS OF CFTC AND EU MIFID II/MIFIR DERIVATIVES TRADING AND TRANSPARENCY REGIMES AND MFA RECOMMENDATIONS TO FACILITATE COMPARABILITY / EQUIVALENCE 2 (Oct. 19, 2017), https://www.managedfunds.org/wp-content/uploads/2017/10/MFA-Comparative-Analysis-of-SEF-Regime-vs-EU-MiFID-II-MiFIR-Derivatives-Final.pdf. [https://perma.cc/XLL4-GHSG] (last visited Nov. 18, 2019).

24. Lawrence C. Tondel, *Introduction to Derivatives*, *in* DERIVATIVES: LEGAL PRACTICE AND STRATEGIES § 1.01[B][3], 1-1, 1-9 (Robert D. Aicher ed., Supp. 2011).

amount, called the notional, in exchange for (b) payments by the counterparty based on the product of a fixed interest rate and the same notional amount. This example illustrates the origins of the name "swap" because the instrument allows the parties to *swap* payment obligations based on two interest rates—a floating rate and a fixed rate. The example of an interest rate swap is particularly useful to illuminating swap markets because the great majority of the global swap market consists of interest rate swaps.[25] Swaps can be used to provide contingent payments based on a variety of events, ranging from changes in financial indices such as inflation, currency, and interest rates, to changes in prices of tangible commodities such as energy, metals and foodstuffs, to manifestations of tangible risks such as weather events and longevity trends.[26] Another example of a swap is a natural gas swap, which may require (a) payments by one party based on the product of the market price per unit of natural gas in a particular region and a notional amount representing units of natural gas, in exchange for (b) payments by the counterparty based on the product of a fixed per-unit price of natural gas and the notional amount.

B. How Are Swaps Used and How Are They Traded?

Having offered some definitional background on swaps, it is helpful to discuss how swap transactions are used and the markets in which swaps trade.[27] First, consider the case of a hedging natural gas producer, Party A. Party A has financed itself with floating rate bonds. To hedge risk on its floating rate bonds, Party A has entered into a fixed-for-floating interest rate swap with a large bank, Party B. Given volatility in energy markets, Party A has also hedged its exposure to the price of natural gas by entering into a floating-for-fixed swap based on an index of current natural gas prices. As a result of its natural gas production, bond issuance and the two swap trades, Party A would (a) receive payments for its natural gas that floated with market rates, (b) trade those floating rate payments for fixed amounts due under the natural gas swap, (c) use fixed amounts received under the natural gas swap to satisfy its fixed payment obligations under the interest rate swap, and (d) use the floating amounts received under the interest rate swap to make interest payments due under the bonds. Through the two swap transactions, Party A has locked in steady cash flows for its employees, vendors, investors and other stakeholders. De-risking in this stylized manner is a powerfully attractive

25. BANK FOR INTERNATIONAL SETTLEMENTS, OTC DERIVATIVES STATISTICS AT END-JUNE 2016 (2016) ("The interest rate segment continues to account for the vast majority of outstanding OTC derivatives. At end-June 2016, the notional amount of outstanding OTC interest rate derivatives contracts totaled $438 trillion, which represented 80% of the global OTC derivatives market.").

26. Kai Kaufhold, *How to Price Longevity Swaps*, 77 REINSURANCE NEWS 18 (2013).

27. *See* Jonathan R. Macey, *Derivative Instruments: Lessons for the Regulatory State*, 21 J. CORP. L. 69, 72 (1995) ("Derivatives are a means to risk management . . . . At best, the use of derivative instruments permits parties in financial transactions to shift the risks associated with such transactions to the parties that have the comparative advantage in bearing the risk.").

proposition that derivatives markets are able to offer to businesses and explains a key role of derivatives in the real economy.

In addition to hedging, derivatives may be used to speculate.[28] Given a view as to future market movements, derivatives may be used to express that view. For example, consider a hedge fund that expects the price of natural gas to go up. To express that view (i.e., to go long on natural gas), the hedge fund could enter into a fixed-for-floating swap under which it pays a fixed rate to receive the market price of natural gas.[29] Similarly, a hedge fund that expected interest rates to go down could express that view (i.e., go short interest rates) by entering into a floating-for-fixed interest rate swap under which it pays a floating interest rate to receive a fixed rate.[30]

The preceding examples of the hedging natural gas producer and the speculating hedge fund provide an introduction to how swaps are used.[31] However, the discussion leaves an important question unaddressed, namely, how do firms enter into swaps, or in other words, who supplies swaps to meet market participants' demand for swaps?[32]

When a party wants to enter into a loan to buy a house, the party typically goes to a bank or another mortgage originator. Similarly, when a party desires to enter into a swap, the party goes to one of a handful of large financial institutions that serve as "swap dealers."[33] In the example above, Party B is a swap dealer.[34] Swap

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28. *Cf.* Lynn A. Stout, *Derivatives and the Legal Origin of the 2008 Credit Crisis*, 1 HARV. BUS. L. REV. 1, 27 (2011) (arguing that the legalization of speculative over-the-counter derivatives trading under the Commodities Futures Modernization Act of 2000 led to the financial crisis); Timothy E. Lynch, *Coming Up Short: The United States' Second-Best Strategies for Corralling Purely Speculative Derivatives*, 36 CARDOZO L. REV. 545, 549 (2014) (arguing that purely speculating trades have negative externalities, destroy wealth, and are irrational). This Article uses speculation to refer to activity that is designed to profit either from market correction (i.e., arbitrage) or market growth (i.e., investment).

29. Payments would be based on a notional amount, so the fixed payment made by the hedge fund would be based on the product of a fixed rate per unit of natural gas and the notional amount of natural gas. Similarly, the floating amount due to the hedge fund would be based on the market rate per unit of natural gas multiplied by the notional amount of natural gas.

30. As with the natural gas speculator, payments are based on the notional amount of the interest rate swap. The floating amount due from the hedge fund would be the product of the floating rate and the notional amount. Conversely, the fixed amount due to the hedge fund would be the product of the market rate (e.g., three-month US LIBOR) and the notional amount.

31. *See* Stephen J. Lubben, *Subsidizing Liquidity or Subsidizing Markets? Safe Harbors, Derivatives, and Finance*, 91 AM. BANKR. L.J. 463 (2017) (discussing how swaps may be used to hedge or speculate).

32. For a succinct overview of the structure of derivatives markets, see MARK JICKLING & KATHLEEN ANN RUANE, CONG. RESEARCH SERV., R41398, THE DODD-FRANK WALL STREET REFORM AND CONSUMER PROTECTION ACT: TITLE VII, DERIVATIVES 1–5 (2010).

33. OCC, QUARTERLY REPORT ON BANK TRADING & DERIVATIVES ACTIVITIES, SECOND QUARTER (2017) ("The four banks with the most derivative activity hold 89.6 percent of all derivatives, while the largest 25 banks account for nearly 100 percent of all contracts.")

34. As of the time this Article was being written, there were approximately 100 registered swap dealers as reflected in the registry of swap dealers maintained by the National Futures Association. *SD/MSP Registry*, NAT'L FUTURES ASS'N, https://www.nfa.futures.org/registration-membership/

dealers serve as sources of liquidity to swap market participants, standing ready to meet demand from firms hedging, speculating or otherwise transacting in swaps.[35] Thus the natural gas producer[36] would likely reach out to one or more swap dealers—directly or through a broker—with a request to provide pricing for a natural gas swap that could, in part or whole, hedge its expected production of natural gas. The swap dealer would estimate the cost it would incur to hedge that natural gas swap or maintain the risk of that swap on its balance sheet (referred to as "warehousing" the risk). Then, the dealer would respond with a price that represented its cost and a premium for profit.[37] Assuming the transaction was executed, the swap dealer could then enter into an offsetting swap with another swap dealer that had itself acquired a short position, such as through transacting with the fund that was discussed above.[38]

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membership-and-directories.html#sdregistry [https://perma.cc/S3ET-G2P7] (last visited July 30, 2018).

35. Commodity Exchange Act, 7 U.S.C. § 1(a)(47) (2018); *see also* Further Definition of "Swap Dealer," "Security-Based Swap Dealer," "Major Swap Participant," "Major Security-Based Swap Participant" and "Eligible Contract Participant," 77 Fed. Reg. 30,596, 30,598–99 (May 23, 2012) (codified at 17 C.F.R. pts. 1, 240).

36. The natural gas producer in the preceding example may be referred to as a natural long for natural gas and a natural short for interest rates. That is because, vis-à-vis prices of natural gas, the firm's role as producer of natural gas gives it a long position in natural gas (i.e., the firm has natural gas to sell at market prices so that increases in prices redound to its benefit and decreases in prices reduce the firm's profits). Similarly, vis-à-vis interest rates, the firm's role as issuer of floating rate bonds gives it a short position in interest rates (i.e., the firm's profits increase as interest rates go down and decrease as interest rates go up). Conversely, the hedge fund's speculative strategies can be expressed through a short position in natural gas and a long position in interest rates. Thus, the fund may be an ideal counterparty for the natural gas producer; however, in historical swap markets, the natural gas producer and the fund would rarely, if ever, transact directly. Rather, each of the parties would transact with a swap dealer.

37. Costs reflect not only the cash flows expected to be due on offsetting transactions but a premium reflecting the credit risk of the customer. For a discussion of swap market structure including mechanisms to manage credit risk, see Ilya Beylin, *A Reassessment of the Clearing Mandate: How the Clearing Mandate Affects Swap Trading Behavior and the Consequences for Systemic Risk*, 68 RUTGERS L. REV. 1143, 1173–1189 (2015). Daniel Awrey further develops the description of swap market infrastructure and mechanisms used to manage counterparty credit risk to contrast pricing in swap markets with pricing in conventional equity markets. *See* Daniel Awrey, *The Mechanisms of Derivatives Market Efficiency*, 91 N.Y.U. L. REV. 1104 (2016).

38. Swap dealers may offset risk acquired through a series of customer transactions on a portfolio basis rather than offsetting risk on a transaction by transaction basis. *See* Tondel, *supra* note 24, § 1.01[B][3], at 1–10 ("Often, one party to a swap is a derivatives dealer and the other party is a so-called 'end user.' . . . [A] professional derivatives dealer is generally not in the business of directly speculating on interest rates (or the future prices of any other underlying assets, indices, or reference rates). Rather, in the course of conducting its business, the derivatives dealer will generally strive to maintain a balanced portfolio of derivatives positions (e.g., entering some interest rate swaps where the dealer is obligated to make payments based on a fixed rate of interest, and others where the dealer's payments are based on a floating rate of interest).").

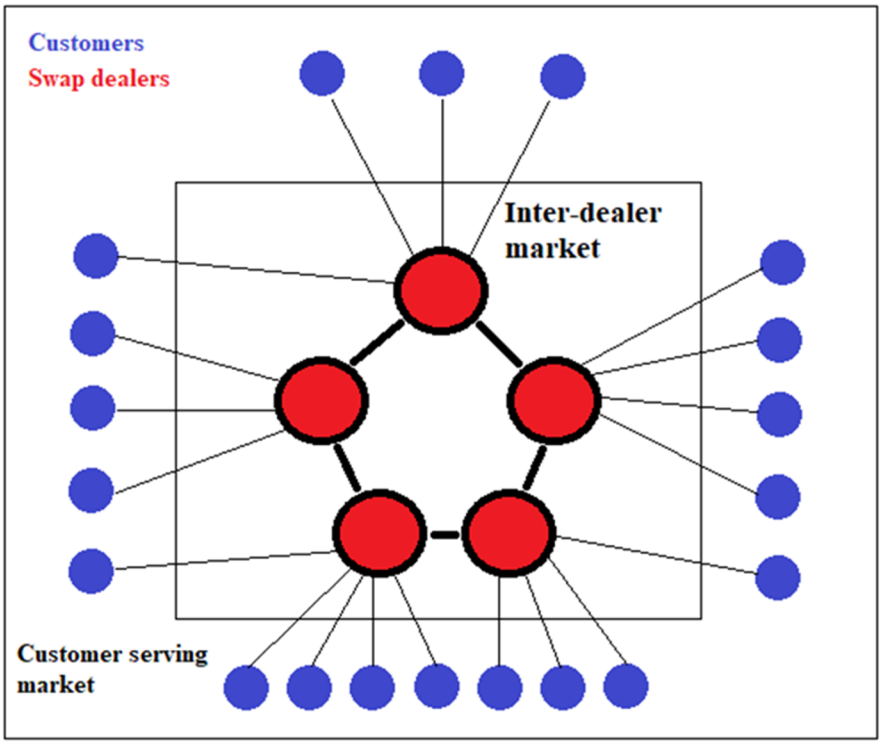

Figure II.B: The Customer Serving Market and the inter-Dealer Market

Through sets of similar transactions, swap dealers serve as intermediaries of risk. Parties desiring to go long or short approach swap dealers seeking to enter into swap transactions.[39] Swap dealers enter into these transactions and then find other parties (usually other swap dealers) to offload the risk to.[40] Through the nexus of swap dealers, natural longs eventually meet natural shorts, and speculators, such as funds, provide liquidity to other market participants. Trading between swap-dealers creates a wholesale market, which enables swap dealers to serve their customers. Figure II.B above shows the end-user serving market and the wholesale inter-dealer market involved in the delivery of swaps to customers.[41]

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39. There is some debate regarding the extent to which commercial firms actually engage in swap contracts to manage their risks. *See* Wayne Guay & S.P Kothari, *How Much Do Firms Hedge with Derivatives?*, 70 J. FIN. ECON. 423 (2003).

40. *See* Further Definition of "Swap Dealer," "Security-Based Swap Dealer," "Major Swap Participant," "Major Security-Based Swap Participant" and "Eligible Contract Participant," 77 Fed. Reg. 30,596, 30,600 (May 23, 2012) (codified at 17 C.F.R. pts. 1, 240).

41. The Volcker Rule aims to ensure that large banks only use swap transactions to hedge or intermediate risk, and do not themselves speculate through swap transactions (or other financial instruments). Dodd-Frank Wall Street Reform and Consumer Protection Act § 619, 12 U.S.C. § 5301 (2010).

C. How Does the Dodd-Frank Act Regulate Swap Markets?

With the preceding background on the uses of swaps and market structure, we turn to the regulation of swaps. Prior to 2010, swap markets were famously unregulated.[42] Many have argued that the lack of regulation for swap markets contributed to the financial crisis and broader economic downturn of 2008.[43] The Dodd-Frank Act granted the CFTC authority to regulate the vast majority of swaps markets, with authority over swaps based on securities[44] granted to the Securities and Exchange Commission (SEC). Among other things, Title VII of the Dodd-Frank Act: (1) imposes central clearing and trade execution requirements on swaps;[45] (2) provides for the registration and comprehensive regulation of swap dealers; and (3) creates rigorous recordkeeping and real-time reporting regimes applicable to all swaps.[46] These regulations are discussed in turn.

1. Central Clearing and Platform Execution Under the Dodd-Frank Act.

When a transaction is cleared, the transaction is extinguished, and two new transactions, each identical to the initial transaction, are created. One of the new transactions is between the first party to the trade and a clearinghouse (i.e., a central counterparty), and the second transaction is between the clearinghouse and the second counterparty.[47] As a result, parties to a cleared trade pay amounts due under the trade to the clearinghouse, rather than to one another.[48] Irrespective of whether the clearinghouse receives payment due under a cleared trade from one counterparty, the clearinghouse must make an identical payment to the other counterparty. Thus, the clearinghouse insulates counterparties to the initial trade from each other's default risk.[49] Clearinghouses are subject to extensive regulation

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42. *See* Brooksley Born, *Deregulation: A Major Cause of the Financial Crisis*, 5 HARV. L. & POL'Y REV. 231 (2011). Although swaps themselves were generally not regulated, banks, bank holding companies, clearinghouses, and other financial institutions that support and use the swaps market were subject to significant regulation. In addition, industry associations helped develop standardization and best practices in the swaps market. Prior to reforms instituted by the Dodd Frank Act, swaps primarily traded in so-called "over-the-counter" or "OTC" markets. Sean J. Griffith, *Substituted Compliance and Systemic Risk: How to Make a Global Market in Derivatives Regulation*, 98 MINN. L. REV. 1291, 1298 (2014).

43. *See* Griffith, *supra* note 42, at 1304.

44. The SEC regulates swaps referencing a single security or a narrow basket of securities, so-called "security-based swaps".

45. Paolo Saguato, *The Ownership of Clearinghouses: When "Skin in the Game" Is Not Enough, the Remutualization of Clearinghouses*, 34 YALE J. REG. 601, 609 (2017) (discussing central clearing, platform execution and trade reporting requirements).

46. Further Definition of "Swap," "Security-Based Swap," and "Security-Based Swap Agreement"; Mixed Swaps; Security-Based Swap Agreement Recordkeeping, 77 Fed. Reg. 48,208, 48,209 (Aug. 13, 2012) (codified at 17 C.F.R. pts. 1, 230, 240, 241).

47. For a description contrasting bilateral trades with cleared trades, see Yesha Yadav, *The Problematic Case of Clearinghouses in Complex Markets*, 101 GEO. L.J. 387, 409–13 (2013).

48. JICKLING & RUANE, *supra* note 32, at 3–4.

49. *See* Sean J. Griffith, *Governing Systemic Risk: Towards A Governance Structure for Derivatives*

across jurisdictions. Clearinghouses mediate trades subject to a number of operating procedures and financial backstops designed to increase the likelihood that obligations to the clearinghouse under cleared trades are satisfied.[50] Only "members" of a clearinghouse may clear trades through it, and members are subject to extensive restrictions under clearinghouse and CFTC rules.

The clearing mandate forms an integral part of the Dodd-Frank Act and applies to a range of interest rate and broad-based credit default swaps.[51] Certain transactions are eligible for exceptions from the clearing mandate. A prominent exception from the clearing mandate is made for a non-financial customer that enters into a swap to mitigate commercial risk (the so called "end-user exception").[52] Additional exceptions have been promulgated for inter-affiliate swap transactions and certain swaps entered into with cooperatives.[53]

Under the Dodd-Frank Act, the clearing mandate dovetails with another element of the swaps market reform program.[54] As mentioned above, in addition to clearing standardized derivatives, Dodd-Frank provides that standardized swaps will be traded on exchanges or electronic platforms. In particular, under section 2(h)(8) of the Commodity Exchange Act, swap transactions that are subject to the

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Clearing Houses, 61 EMORY L.J. 1153, 1194–95 (2012) ("[T]he institution of clearing, if successful, effectively eliminates dealers' counterparty credit risk and, with it, the principal advantage of keeping the vast majority of derivatives trading among a small group of (supposedly) high-credit, [sic] quality dealers."). *See also* Stephen J. Lubben, *Always Crashing in the Same Car—Clearinghouse Rescue in the United States under Dodd-Frank*, 3 J. FIN. REG. 133, 135 (2017) (discussing risks that clearinghouses take on in insulating transactions from original counterparty failure).

50. CFTC regulated clearinghouses, which are called derivatives clearing organizations, must satisfy a number of core principles. Commodity Exchange Act § 5b(c)(2), 7 U.S.C. § 7(a)(1)(c)(2). These core principles include standards governing the financial resources of the derivatives clearing organization, standards governing admission and eligibility of its members, risk management standards, standards governing its own default as well as the default of its clearing members and standards specifying system safeguards. *Id.*; *see also* 17 C.F.R. § 39.1 (2015) (setting forth requirements applicable to derivatives clearing organizations); Adam J. Levitin, *Response: The Tenuous Case for Derivatives Clearinghouses*, 101 GEO. L.J. 445, 454–56 (2013).

51. 17 C.F.R. § 50.4 (2015). The CFTC has further considered clearing requirements for certain currency non-deliverable forwards. *See* Silla Brush, *U.S. CFTC Clearing Rules Eyed for Some Currency Derivatives*, BLOOMBERG (Oct. 7, 2014), http://www.bloomberg.com/news/articles/2014-10-07/u-s-clearing-rules-eyed-for-some-currency-derivative-contracts [https://perma.cc/UW36-AXLE] (last visited Nov. 18, 2019); Timothy Massad, Chairman, U.S. Commodity Futures Trading Comm'n, *in* U.S. COMMODITY FUTURES TRADING COMM'N, SPEECHES & TESTIMONY, *Statement of Chairman Timothy Massad on Expanded Interest Rate Swap Clearing Requirement Determination and Final Rulemaking* (Sept. 28, 2016), https://www.cftc.gov/PressRoom/SpeechesTestimony/massadstatement092816 [https://perma.cc/F4QW-Y4JG] (last visited Nov. 18, 2019).

52. Commodity Exchange Act § 2(h)(7), 7 U.S.C. § 2 (2018).

53. Clearing Exemption for Swaps Between Certain Affiliated Entities, 78 Fed. Reg. 21,750, 21,783 (Apr. 11, 2013) (codified at 17 C.F.R. pt. 50); Clearing Exemption for Certain Swaps Entered into by Cooperatives, 78 Fed. Reg. 52,286, 52,287 (Aug. 22, 2013) (codified at 17 C.F.R. pt. 50).

54. *See* Guido Ferrarini & Paolo Saguato, *Regulating Financial Market Infrastructures*, *in* THE OXFORD HANDBOOK OF FINANCIAL REGULATION 568 (Niamh Moloney et al. eds., 2015) (discussing the role and regulation of trading and post-trading infrastructures in the securities and derivatives market in the United States and in the European Union).

clearing mandate must also be executed on a swap execution facility (SEF) or designated contract market (DCM) if a SEF or DCM has made the swap "available to trade."[55] As background, SEFs and DCMs are trading platforms that must register with the CFTC and are regulated by it.[56] SEFs and DCMs have made a range of interest rate and credit default swaps available to trade.[57] As a result, many of the swaps that must be cleared must also be executed on a regulated trading platform.[58] SEFs and DCMs extensively police trading conduct on their platforms.[59] The supervisory and enforcement roles played by regulated platforms enhance trade integrity in the many-to-many markets mediated through SEFs and DCMs. Swap dealers continue to act as primary liquidity providers to platforms regulated as SEFs and DCMs, but as discussed below, liquidity has appreciably moved abroad.

Prior to the Dodd-Frank Act, swap dealers traded with each other through a small number of closed platforms, frequently referred to as "inter-dealer brokers."[60] It is thought that dealers offered other dealers preferential prices in entering swaps through these platforms than they offered to non-dealer customers, reflecting wholesale efficiencies or potentially oligopolistic dynamics.[61] The Dodd-Frank Act attempted to convert these platforms into open access markets to reduce opportunities for preferential inter-dealer pricing.[62] Generally, transactions that must be executed on a SEF or DCM have to go through a period of public order

55. Commodity Exchange Act § 2(h)(8), 7 U.S.C. § 2(h)(8) (2012); *see* Process for a Designated Contract Market or Swap Execution Facility to Make a Swap Available to Trade, Swap Transaction Compliance and Implementation Schedule, and Trade Execution Requirement Under the Commodity Exchange Act, 78 Fed. Reg. 33,606, 33,606 (June 4, 2013) (codified at 17 C.F.R. pts. 37, 38).

56. *See* 17 C.F.R. pt. 37 (2019) (setting forth regulations governing swap execution facilities); *id.* pt. 38 (setting forth regulations governing designated contract markets).

57. For a list of "made available to trade" swaps that have been submitted, see *Swaps Made Available to Trade Determination*, U.S. CFTC, http://sirt.cftc.gov/sirt/sirt.aspx?Topic=SwapsMadeAvailableToTradeDetermination [https://perma.cc/7U5C-FZTY] (last visited Nov. 18, 2019).

58. Execution of swaps that have been made available to trade on SEFs and DCMs can proceed via a request for quote system or through an order book. 17 C.F.R. § 37.9 (2019). A request for quote system involves the initiating party identifying three or more potential counterparties to solicit with a proposed transaction; the order of the requesting party is exposed to any contra-orders (i.e., potentially matching orders) that are sitting in the platform's order book. Core Principles and Other Requirements for Swap Execution Facilities, 78 Fed. Reg. 33,476, 33,494–4501 (June 4, 2013) (codified at 17 C.F.R. pt. 37). The order book refers to platform systems maintaining sets of orders and contra-orders with price, volume and product information so as to permit automated matching of supply and demand for products traded through the platform.

59. 17 C.F.R. §§ 37.200, 37.203, 37.206, 37.400, 37.500, 38.150, 38.153, 38.156–6159, 38.250, 38.500, 38.550, 38.600, 38.650, 38.700 (2019).

60. J. CHRISTOPHER GIANCARLO & BRUCE TUCKMAN, SWAPS REGULATION VERSION 2.0—AN ASSESSMENT OF THE CURRENT IMPLEMENTATION OF REFORM AND PROPOSALS FOR NEXT STEPS 43 (2018).

61. *See* Gregory Scopino, *Expanding the Reach of the Commodity Exchange Act's Antitrust Considerations*, 45 HOFSTRA L. REV. 573 (2016); Andrew Verstein, *Benchmark Manipulation*, 56 B.C. L. REV. 215 (2015). *See also* Marina Lao, *Search, Essential Facilities, and the Antitrust Duty to Deal*, 11 NW. J. TECH. & INTELL. PROP. 275 (2013); Marina Lao, *Networks, Access, and "Essential Facilities": From Terminal Railroad to Microsoft*, 62 SMU L. REV. 557 (2009).

62. *See* 17 C.F.R. § 37.202(a) (2019).

book exposure,[63] during which any market participant may improve on an offer initially received by the party seeking to trade. The conversion of inter-dealer markets into regulated platforms that are open to all qualified traders represents a move towards greater egalitarianism in swaps markets.[64] The relocation of swap dealers discussed further in this Article, however, has subverted the goal of creating inclusive markets.[65]

2. The Regulation of Swap Dealers Under the Dodd-Frank Act.

A significant number of trades continue to take place in one-to-many, dealer-mediated markets notwithstanding the advent of mandatory clearing and platform execution. This is partly because not all products are covered by the mandates and partly because of the exceptions from mandate requirements. Bespoke and other illiquid instruments may never be covered by the centralized clearing requirements because clearinghouses would not have adequate data for modeling risk exposure and collecting collateral.[66] An even greater set of swap transactions is expected to remain outside of the platform execution requirement because relatively fewer swaps enjoy liquidity at any point in time (e.g., while there may be substantial liquidity in five year floating-for-fixed interest rate swaps, there is likely to be little liquidity for the same swap with a term of 3.9 years). The end-user exception from the clearing and platform-execution requirements means that non-financial end-users will be able to continue entering into uncleared transactions directly with dealers of their choice.[67] The Dodd-Frank Act imposes a range of regulatory obligations that increase financial stability and market integrity in these traditional, one-to-many swap markets.

Several regulations mitigate the credit-risk parties face on swap transactions. First, those swap dealers that were not already subject to capital requirements are being subjected to capital adequacy standards.[68] These capital requirements help ensure that swap-dealer counterparties do not default on their swap obligations.

63. *See* Ilya Beylin, *Taxing Fictive Orders: How an Information-Forcing Tax Can Reduce Manipulation and Distortion in Financial Product Markets*, 85 U. CIN. L. REV. 91, 97–99 (2017) (explaining execution of transactions through order books).

64. *Cf.* Matthew Leising, *Swaps Revolution Falling Flat as Brokers Keep Grip on New Market*, BLOOMBERG BUS. (Mar. 4, 2014, 4:01 PM), http://www.bloomberg.com/news/articles/2014-03-05/swaps-revolution-falling-flat-as-brokers-keep-grip-on-new-market [https://perma.cc/258Y-7W8D] (last visited Nov. 18, 2019). Some have criticized this move as neglecting the distinction between swaps markets and financial markets for more liquid products, arguing that mandates to provide an opportunity for price improvement risk information leakage. *See* GIANCARLO & TUCKMAN, *supra* note 60, at 43–52.

65. *See* Kevin S. Haeberle, *Discrimination Platforms*, 42 J. CORP. L. 809 (2017).

66. *See* 17 C.F.R. § 39.5(a)(3)(ii) (2019).

67. End-User Exception to the Clearing Requirement for Swaps, 77 Fed. Reg. 42,560 (July 19, 2012).

68. As of the writing of this Article, the CFTC has yet to finalize the capital requirements applicable to swap dealers that are not subject to prudential regulators' capital standards. *See* Capital Requirements of Swap Dealers and Major Swap Participants, 81 Fed. Reg. 91,252 (Dec. 16, 2016).

Thus, the capital requirements provide a measure of safety to swap dealers' counterparties. Second, some of swap dealers' swap transactions that are not cleared are subject to "margin" requirements.[69] These requirements assure that collateral is available to support payment obligations under swaps.

As collateral securing swaps trade, margin functions to separate the likelihood that the posting counterparty will satisfy its obligations from the more complex analysis of the posting counterparty's overall financial health.[70] This is because so long as the value of collateral is sufficient to satisfy the counterparty's obligations under the trade, the first priority security interest in the collateral guarantees payment of the obligations in full.[71] Mandatory collateralization increases the likelihood that swap market participants collect on obligations owed under swaps.[72] Thereby, the margin rules enhance the financial stability of one-to-many dealer-mediated markets.

In addition to enhancing financial stability of swap markets, regulations imposed on swap dealers improve market integrity. The CFTC has mandated that swap dealers follow business conduct standards designed to inform end-users of the risks they face in entering swap transactions.[73] The disclosure regime seeks to reduce information asymmetries between swap dealers and their counterparties.[74] The rules are buttressed by anti-fraud provisions, which expose swap dealers to private liability as well as regulatory and criminal sanction.

Disclosure requirements under the rules are extensive. Swap dealers are required to prepare disclosures for their counterparties that explain material information concerning the swap to allow the counterparty to assess: (1) the material risks of the swap, which may include market, credit, liquidity, foreign currency, legal,

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69. Margin requirements initially proposed under Title VII were substantially relaxed through an international harmonization process led by the Basel Committee on Banking Supervision and the International Organization of Securities Commissions. Margin Requirements for Uncleared Swaps for Swap Dealers and Major Swap Participants, 76 Fed. Reg. 23,732 (April 28, 2011) (initial proposal); Margin Requirements for Uncleared Swaps for Swap Dealers and Major Swap Participants, 79 Fed. Reg. 59,898 (Oct. 3, 2014) (modified proposal following BCBS and IOSCO recommendations); Margin Requirements for Uncleared Swaps for Swap Dealers and Major Swap Participants, 81 Fed. Reg. 636 (Jan. 6, 2016) (final rules).

70. In addition to being a source of collateral for obligations *ex post*, the obligation to post margin provides an *ex ante* constraint on a party's ability to take risky positions. *See* Margin Requirements for Uncleared Swaps for Swap Dealers and Major Swap Participants, 79 Fed. Reg. at 59,901 ("Well-designed margin systems protect both parties to a trade as well as the overall financial system. They serve both as a check on risk-taking that might exceed a party's financial capacity and as a resource that can limit losses when there is a failure by a party to meet its obligations.").

71. *See generally* LINDA J. RUSCH & STEPHEN L. SEPINUCK, PROBLEMS AND MATERIALS ON SECURED TRANSACTIONS 59–64 (3d ed. 2014).

72. Norman Menachem Feder, *Deconstructing Over-the-Counter Derivatives*, 2002 COLUM. BUS. L. REV. 677, 723–24 (2002).

73. Gregory A. Scopino, *Regulating Fairness: The Dodd Frank Act's Fair Dealing Requirement for Swap Dealers and Major Swap Participants*, 93 NEB. L. REV. 31 (2014).

74. Business Conduct Standards for Swap Dealers and Major Swap Participants with Counterparties, 77 Fed. Reg. 9734, 9743 n.125 (Feb. 17, 2012).

operational, and any other applicable risks; (2) the material characteristics of the particular swap, which include the material economic terms of the swap, the terms relating to the operation of the swap, and the rights and obligations of the parties during the term of the swap; and (3) the material incentives and conflicts of interest that the swap dealer or major swap participant may have in connection with a particular swap.[75] At the election of end-user counterparties, swap dealers are also required to prepare a scenario analysis that shows the end-user's potential exposure in connection with the swap.[76] The external business conduct rules governing swap dealers permit end-users to consult on the development of scenario analysis, thus tailoring it to their needs.[77] In addition, to help end-users value their swap positions, the rules require swap dealers to provide end-user counterparties with a daily mid-market mark of the swap.[78] Where the swap is cleared, the swap dealer may instead provide the end-user with notice that the end-user is entitled to obtain the mid-market mark from the clearinghouse where the swap was cleared.[79]

A variety of protections are afforded to end-users obtaining swaps from swap dealers. Swap dealers are prohibited from engaging in any act, practice, or course of business that is fraudulent, deceptive, or manipulative. The prohibition broadly tracks the language in Section 206(4) of the Investment Advisers Act of 1940 (Advisers Act), which does not require scienter to prove liability.[80] Swap dealers are

75. 17 C.F.R. § 23.431(a) (2019).

76. *Id.* § 23.431(b).

77. *Id.* § 23.431(b)(1).

78. *Id.* § 23.431(d).

79. In addition to disclosure obligations, swap dealers are subject to record-collecting requirements. Among other things, swap dealers are required to gather certain information from counterparties, including their true name and address and principal occupation or business. *Id.* § 23.402(c) (2019). Additional information must be gathered about any person guaranteeing the counterparty's performance and any person controlling the counterparty. *Id.* Swap dealers are required to maintain extensive records of their swap activities. This requirement goes well past information relating the terms of the trade. It includes all oral and written communications concerning quotes, bids, and other features of the trade that are made during the solicitation and negotiation phases of the transaction preceding execution. *Id.* § 23.202(a)(1) (2019). The terms of the transaction must naturally be recorded. *Id.* § 23.202(a)(2). Records of post-trade processing and events must also be maintained. *Id.* § 23.202(a)(3). Not only is the scope of information covered by recordkeeping requirements broad, but the rules anticipate a level of technological sophistication in accessing the information. Records must be searchable by transaction or counterparty. And where trade negotiations take place orally, the phone calls must be recorded and annotated to among other things, identify the timing of any quotations given on the call. Trade-related records that must be kept also include (i) daily valuations of each swap; (ii) daily current and potential future exposure of each counterparty; (iii) daily initial and variation margin required; (iv) daily valuations of collateral, with and without haircuts; and (v) a variety of other swap related information. *Id.* § 23.202(a). Additionally, swap dealers must maintain detailed records of cash and forward positions related to swaps. *Id.* § 23.202(b).

80. *See* SEC v. Steadman, 967 F.2d 636, 647 (D.C. Cir. 1992) ("[S]ection 206(4) uses the more neutral 'act, practice, or course or business' language. This is similar to [Securities Act] section 17(a)(3)'s 'transaction, practice, or course of business,' which 'quite plainly focuses upon the effect of particular conduct . . . rather than upon the culpability of the person responsible.' Accordingly, scienter is not required under section 206(4), and the SEC did not have to prove it in order to establish the appellants' liability.") (internal citations omitted).

also required to communicate with their counterparties "in a fair and balanced manner based on principles of fair dealing and good faith."[81] Swap dealers that recommend a swap or trading strategy involving swaps to an end-user must (1) undertake reasonable diligence to understand the potential risks and rewards associated with the recommendation; and (2) have a reasonable basis to believe that the recommended swap or trading strategy involving a swap is suitable for the counterparty.[82] Additional protections apply to swap dealers' counterparties that qualify as "special entities."[83] For these purposes, "special entities" are defined to include a variety of federal and state bodies, certain employee benefit plans and endowments.[84] In aggregate, the combination of regulatory requirements has profoundly reshaped U.S. swap markets.[85]

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81. 17 C.F.R. § 23.433 (2019).

82. 17 C.F.R. § 23.434(a) (2019) (recommendations to counterparties).

83. 17 C.F.R. § 23.410 (2019) (general prohibitions on fraud, manipulation and other abusive practices); § 23.440 (2019) (requirements for swap dealers acting as advisors to special entities); § 23.450 (2019) (requirements for swap dealers acting as counterparties to special entities); § 23.451(2019) (certain pay-to-play prohibitions).

84. 17 C.F.R. § 23.401(c) (2019).

85. Daniel Awrey, in writing about the reforms, has criticized the intervention for applying the securities model of regulation to derivatives. Daniel Awrey, *Split Derivatives: Inside the World's Most Misunderstood Contract*, 36 YALE J. ON REG. 495, 557 (2019) [hereinafter *Split Derivatives*] ("In the years leading up to the global financial crisis, derivatives were largely exempt from the application of federal securities laws. This laissez-faire regulatory treatment arguably reflected the prevailing political climate more than any consensus around whether derivatives should be regulated as securities. In the wake of the crisis, however, policymakers in the United States and elsewhere have been quick to extend the reach of securities laws to derivatives markets. As described in Part I.C, this has included the introduction of trade reporting and disclosure requirements broadly similar to those imposed on conventional equity and debt securities."). *Split Derivatives* draws a distinction between derivatives and securities based on the heterogeneity of the former and contractual incompleteness and relational contract mechanisms "distinguish[ing] derivatives from conventional equity and debt securities." *Id.* at 554–55. *Split Derivatives* proceeds to criticize Dodd-Frank Act regulation for failing to adequately apply prudential safeguards. *Id.* at 555–60. These criticisms misperceive the function of derivatives and the scope of swap regulation following the Dodd-Frank Act.

Derivatives like debt and, even more so, equity contracts can and do suffer from incompleteness and rely on relational mechanisms. Voting rights, fiduciary obligations, and other protections afforded to many shareholders as well as managerial reputation serve as important examples of extra-contractual mechanisms protecting equity holders from exploitation of incompleteness. This is especially true in non-listed equity markets. *See, e.g.*, Ronald J. Gilson, *Engineering a Venture Capital Market: Lessons from the American Experience*, 55 STAN. L. REV. 1067, 1085 (2003). Moreover, derivatives markets include futures and exchange traded options, which are homogenous. Instead, the key difference between conventional securities like bonds and equity on the one hand, and derivatives, on the other hand, is their function. Bonds and equity help issuers raise *capital* so, for example, new companies can begin operations and older companies can finance projects or pay returns to their investors. Derivatives, in contrast, are generally not used to obtain capital but rather to manage exposure to risks. *See supra* Part I.B. Of course, there are exceptions such as options granted to employees that reduce issuers need for capital—but the general distinction between securities and derivatives holds and informs the split in jurisdiction between the SEC and CFTC.

Because capital formation is a key interest weighed in the SEC's rules governing securities, *Split Derivatives* correctly identifies that these rules may not be well tailored to swaps. But in criticizing the expansion of securities laws to govern swaps, *Split Derivatives* overlooks that the great majority of swaps

3. The Costs of Dodd-Frank Act Swaps Regulations.

As discussed above, the Dodd-Frank Act fundamentally reshapes swap markets. The costs of these changes have been significant. As a sample, swap dealers are estimated to now commit over $1.4 trillion in margin for cleared and uncleared trades.[86] This figure reflects mandatory purchases of liquid, high-grade

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are (for this reason, among others) not regulated as securities. *See supra* note 44 and surrounding text. Furthermore, well over eight years after the Dodd-Frank Act was enacted, the SEC has not yet implemented most regulations treating the fraction of swaps within its purview as securities. *See Security-Based Swap Rules Back on Track: SEC Reopens Comment Period for Proposals*, SIDLEY AUSTIN LLP (Oct. 18, 2018), https://www.sidley.com/en/insights/newsupdates/2018/10/back-on-track-securities-and-exchange-commission-reopens-comment-period-for-key [https://perma.cc/K6WT-X442] (last visited Nov. 18, 2019). Those disclosure requirements that are imposed on swap markets differ markedly from the prospectus and periodic disclosure-based regimes conventionally applied to securities markets. *Compare Split Derivatives*, *supra* at 556 (explaining that "[f]ederal securities laws . . . [impose] 'prospectus, event-driven, and continuous disclosure requirements on issuers of securities.'), *with id.* at 556 n.79, *and* surrounding text (explaining Dodd-Frank Act disclosure requirements that are generally unrelated to the financial state of the swap dealer "issuing" the swap). The new rules governing swaps do not require dealers to provide extensive disclosure on their financial state and operations at the time of execution or subsequently. The foregoing is not to suggest that when the SEC completes its rulemakings governing security-based swaps, there will not be important impacts on some markets such as single-name CDS or total return swaps on equities.

Split Derivatives also mischaracterizes other Dodd-Frank Act regulations of swap markets. Among other things, *Split Derivatives* criticizes the new rules for failing to sufficiently address prudential concerns. But the criticism proceeds without assessing significant prudential regulations embedded in Title VII, such capital and margin requirements that reduce credit risk on swap transactions. *Split Derivatives* also casts doubt on the SEC's capacity to implement prudential oversight, without addressing the history of SEC's regulation of broker-dealers (instead, focusing on the failed supervision of "Consolidated Supervised Entities"). *Id.* at 559. In criticizing the adequacy of prudential regulation under Title VII, that paper also fails to appreciate the substantial role of banking regulators in designing capital and margin standards. *Compare id.* at 559–60 (calling into question the SEC's and CFTC's capacities to achieve prudential policy goals), *with Final Rule to Establish Margin and Capital Requirements for Covered Swap Entities* 4–45 (October 10, 2018), https://www.federalregister.gov/documents/2018/10/10/2018-22021/margin-and-capital-requirements-for-covered-swap-entities-final-rule [https://perma.cc/H6S6-B4ZQ] (last visited Nov. 18, 2019) ("For swap entities that are prudentially regulated by one of the [banking regulators], sections 731 and 764 of the Dodd-Frank Act require the [banking agencies] to adopt rules . . . imposing (i) capital requirements, and (ii) initial and variation margin requirements on [uncleared] swaps"). Inevitably, academic work must simplify and focus selectively, yet even at a high level, the critique of regulation that *Split Derivatives* offers disregards substantial features of Title VII and the markets it regulates.

86. Hayley McDowell, *Over $1.4 Trillion in Collateral Posted by Top Swaps Dealers*, GLOBAL CUSTODIAN (Sept. 18, 2017), https://www.lch.com/sites/default/files/media/files/Best%20Practices%20in%20CCP%20Risk%20Management_3.pdf?utm_source=Global%20Custodian&utm_medium=Billboard&utm_term=ROS&utm_content=Risk%20Whitepaper&utm_campaign=Risk%20Whitepaper [https://perma.cc/X7VJ-LHJ9] (last visited Nov. 18, 2019); *see* BASEL COMM. ON BANKING SUPERVISION & BD. OF THE INT'L ORG. OF SEC. COMMS., MARGIN REQUIREMENTS FOR NON-CENTRALLY CLEARED DERIVATIVES (Feb. 2013) (expecting market participants to need an additional €700 billion in liquid collateral to meet new margin requirements); BASEL COMM. ON BANKING SUPERVISION & BD. OF THE INT'L ORG. OF SEC. COMMS., MARGIN REQUIREMENTS FOR NON-CENTRALLY CLEARED DERIVATIVES 2 (Sept. 2013) (explaining that clearing imposes costs in part due to related margin requirements and that the margin requirements imposed on uncleared transactions have to be even costlier to drive transactions towards clearing).

assets that have lower returns than alternative investments swap dealers may make.[87] Including service costs charged by clearinghouses and their members for clearing a swap, the costs of a one trillion U.S. dollar interest rate swap position with a ten-year duration held for two years is over four hundred million U.S. dollars.[88] Annual costs of clearing for a market exceeding a hundred trillion in notional amount to tens of billions of dollars.[89] Because these amounts represent the costs of risk management, which would occur in an unregulated world to some extent, the measure is an over-estimate of costs. But mandatory clearing certainly comes with costs, and the costs of entering into uncleared swaps are by regulator design even higher. In addition, the potential for end-user participation in dealer-to-dealer markets through SEFs and DCMs risks compromising any profits swap dealers receive through preferential wholesale rates in the dealer-to-dealer market. Although collateral costs and erosion of oligopolistic pricing may represent the greatest private costs motivating relocation, direct compliance costs are also present. For the fifteen largest swap dealers in the U.S., the costs of building compliance technology were estimated at approximately $5 billion.[90] Lawyers, compliance professionals, and back-office enhancements represent additional costs.

4. The Cross-border Reach of Swaps Regulations.

The cross-border reach of these new regulations was substantially uncertain until July of 2013. In July of 2013, the CFTC issued interpretive guidance explaining conditions under which regulatory obligations would attach to transactions completed partly or wholly outside of the United States.[91] A seventy-five day transition period delayed the onset of that guidance, so international swap market participants had until early to mid-October 2013 to conform to the guidance.[92] Major trade groups representing the financial industry mounted a challenge to the cross-border guidance, which they lost in September 2014.[93] While the challenge

87. ANDREW AWAD & KEVIN MCPARTLAND, GREENWICH ASSOCIATES, TOTAL COST ANALYSIS INTEREST-RATE SWAPS VS. FUTURES 13 (Mar. 9, 2015), https://www.greenwich.com/fixed-income-fx-cmds/total-cost-analysis-interest-rate-swaps-vs-futures [https://perma.cc/5P39-P56M] (last visited Nov. 18, 2019).

88. *Id.*

89. *Id.*

90. CAPGEMENI, IMPACT OF TITLE VII OF THE DODD FRANK ACT 15 (2011). The annual cost of swap regulation in the European Union was estimated at €15.5 billion. DELOITTE, OTC DERIVATIVES: THE NEW COST OF TRADING 1 (2014).

91. Interpretive Guidance and Policy Statement Regarding Compliance with Certain Swap Regulations, 78 Fed. Reg. 45,292 (July 26, 2013) [hereinafter "Cross-Border Guidance"].

92. Exemptive Order Regarding Compliance with Certain Swap Regulations, 78 Fed. Reg. 43,785, 43,793–95 (July 22, 2013).

93. SIFMA v. CFTC, 67 F. Supp. 3d at 422–23 (holding the cross-border guidance was a non-binding policy statement but recognizing that industry participants would nevertheless "see the writing on the wall" and comply with the guidance to avoid enforcement risk).

was being heard, swap dealers incurred significant costs in conforming their international operations to the dictates of Title VII.[94]

Section 2(i) of the Commodity Exchange Act limits the applicability of swap regulations under Title VII to "those activities [that] have a direct and significant connection with activities in, or effect on, commerce of the United States."[95] A highly politicized process led to the translation of this vague standard into a more definitive set of rules for market participants to use in determining whether the new swap regulations apply to their activities.[96] In what was criticized as governmental evasion, the CFTC chose not to use a notice-and-comment process or undertake cost-benefit analysis in publishing what was termed its cross-border guidance (alternately known as extraterritorial guidance, by its critics).[97] The cross-border guidance explains who qualifies as a "U.S. person" and the applicability of swap regulations to U.S. person swap-dealers, non-U.S. person swap-dealers, and others.[98]

The applicability of swap regulations is generally determined on an entity level.[99] An entity either is or is not a "U.S. person," and the applicability of swap

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94. *Id.* at 423, 435.

95. This section also permits the CFTC to promulgate rules preventing the evasion of swap regulations. *See* Stephen Kim Park, *Targeted Social Transparency as Global Corporate Strategy*, 35 NW. J. INT'L L. & BUS. 87, 105 (2014) ("Dodd Frank Act applies extraterritorial regulation in a range of areas.").

96. Krug, *infra* note 122, at 1596–698; Schan Duff, *The New Financial Stability Regulation*, 23 STAN J.L. BUS. & FIN. 46, 98 (2018) (discussing harmonization of Title VII swap regulation and the impression that the harmonization process was "viewed as adversarial, and very much not in the spirit of other international financial regulatory bodies"); SIFMA v. CFTC, 67 F. Supp. 3d at 420 ("Plaintiffs counter that the Cross-Border Action's text and the CFTC's characterization of the action are a carefully orchestrated charade intended to insulate the Cross-Border Action from judicial review.").

97. Krug, *infra* note 122, at 1598–99 (explaining how the CFTC avoided typical rulemaking procedures in adopting its cross-border guidance); Ross Pazzol & Adam J. Joines, *D.C. Judge Rules in Favor of CFTC on Cross-Border Application of Dodd Frank Rules*, BLOOMBERG (Sept. 25, 2014) available online at https://www.bloomberg.com/professional/blog/d-c-judge-rules-in-favor-of-cftc-on-cross-border-application-of-Dodd Frank-rules/ [https://perma.cc/HL3D-8A3T] (last visited on July 30, 2018).

98. *See* Cross-Border Guidance, *supra* note 91.

99. The definition of U.S. person includes "(i) any natural person who is a resident of the United States; (ii) any estate of a decedent who was a resident of the United States at the time of death; (iii) any corporation, partnership, limited liability company, business or other trust, association, joint-stock company, fund or any form of enterprise similar to any of the foregoing (other than an entity described in prongs (iv) or (v), below) (a "legal entity"), in each case that is organized or incorporated under the laws of a state or other jurisdiction in the United States or having its principal place of business in the United States; (iv) any pension plan for the employees, officers or principals of a legal entity described in prong (iii), unless the pension plan is primarily for foreign employees of such entity; (v) any trust governed by the laws of a state or other jurisdiction in the United States, if a court within the United States is able to exercise primary supervision over the administration of the trust; (vi) any commodity pool, pooled account, investment fund, or other collective investment vehicle that is not described in prong (iii) and that is majority-owned by one or more persons described in prong (i), (ii), (iii), (iv), or (v), except any commodity pool, pooled account, investment fund, or other collective investment vehicle that is publicly offered only to non-U.S. persons and not offered to U.S. persons [sic]; (vii) any

regulations turns on the involvement of U.S. persons in the relevant activity. Critically, the definition of U.S. person does not capture subsidiaries of a U.S. person, even wholly-owned subsidiaries.[100] Thus even if a U.S. bank wholly owns and controls an entity, that subsidiary will be a non-U.S. person if it has its principal place of business and is organized abroad.[101]

The entity-level approach prompts difficult line-drawing problems for applying U.S. regulation to activity between an entity and a non-U.S. counterparty.[102] At one end of the spectrum, a U.S. bank swap dealer originates, negotiates, executes, and administers a swap from its headquarters or other U.S. office. At the other end of the spectrum, a U.S. bank organizes a foreign subsidiary and ensures that all personnel and assets involved in the origination,

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legal entity (other than a limited liability company, limited liability partnership or similar entity where all of the owners of the entity have limited liability) that is directly or indirectly majority-owned by one or more persons described in prong (i), (ii), (iii), (iv), or (v) and in which such person(s) bears unlimited responsibility for the obligations and liabilities of the legal entity; and (viii) any individual account or joint account (discretionary or not) where the beneficial owner (or one of the beneficial owners in the case of a joint account) is a person described in prong (i), (ii), (iii), (iv), (v), (vi), or (vii). Cross-Border Guidance, *supra* note 91, at 45,316–617. Technically, the definition of U.S. person in the CFTC guidance is non-exclusive meaning that other entities may qualify as U.S. person notwithstanding that they do not meet any of the specified criteria. In practice, however, industry participants have relied on the specified U.S. person definition in the guidance lacking any firmer delineation of who may be a U.S. person. The CFTC has suggested that a person "seek[ing] guidance as to whether it is a U.S. person for purposes of applying the Commission swaps regulations promulgated under Title VII" may seek written advice or guidance from the CFTC under regulation 140.99. *Id.* at 45,316 n.235. It is questionable, however, whether it is practicable for industry participants to seek guidance confirming that every entity that does not meet one of the specified criteria is indeed a non-U.S. person. Subsequent CFTC rules under Title VII have incorporated the entity based approach, and although the definition of U.S. person has varied, these variations do not affect the analysis in this Article. *See* Margin Requirements for Uncleared Swaps for Swap Dealers and Major Swap Participants—Cross-Border Application of the Margin Requirements, 81 Fed. Reg. 34818, 34823 (May 31, 2016) ("The status of a legal entity as a U.S. person would not generally affect whether a separately incorporated or organized legal entity in the affiliated corporate group is a U.S. person. Therefore, an affiliate or a subsidiary of a U.S. person that is organized or incorporated in a non-U.S. jurisdiction would not be deemed a U.S. person solely by virtue of being affiliated with a U.S. person.").

100. *See* SIFMA v. CFTC, 67 F. Supp. 3d, at 422–23. Investment funds are categorized as U.S. persons based on the identity of the majority of their owners under prong (vi) of the U.S. person definition. This does not affect the analysis because the swap dealers whose drop in swap notionals motivates this paper are large banks rather than investment funds. Similarly, entities with a majority of beneficial owners that are U.S. persons with unlimited liability for the entity (such as partnerships with U.S. based general partners) are U.S. persons under prong (vii). But this too is irrelevant to the analysis of this paper because as a practical matter, unlimited liability entities are rarely if ever used by banks to organize their operations.

101. *See id.*

102. The intent here is not to criticize the entity based approach, although principled challenges to that approach are explored below. There is no reason to think that another basis for defining the reach of Title VII regulations would not have also posed difficult line drawing problems. If anything, the CFTC's approach reserved opportunity to re-characterize seemingly non-U.S. persons as U.S. persons compromising clarity and predictability for the benefit of avoiding regulatory arbitrage that takes advantage of line-drawing. *See id.*; Alex Raskolnikov, *Probabilistic Compliance*, 34 YALE J. ON REG. 491 (2017).

negotiation, execution, and administration of the swap are resident in a foreign jurisdiction. Infinite grays exist between these two poles. A major question arises as to whether and how to regulate a swap with a foreign entity when it is originated, negotiated, executed, or administered by a U.S. bank swap dealer from facilities outside of the United States.[103] This question was answered by the CFTC in providing limited relief to non-U.S. branches of U.S. banks transacting with foreign persons.[104] However, the relief was limited and created an enormous distinction between the applicability of swap regulations to a foreign subsidiary and a foreign branch in the context of trading with non-U.S. persons. If a U.S. bank operates non-U.S. facing swap activities from a non-U.S. branch,[105] those activities are subject to a far wider range of regulations than if the bank segregates them in a foreign subsidiary.[106] Among other requirements, a U.S. bank swap dealer must

103. In a working paper, Michael Greenberger claims that due to banks taking advantage of an "obscure footnote" in CFTC guidance, swap dealers were able to sidestep swap regulations while "arranging, negotiating, and executing" swaps in the United States with U.S. bank personnel. This claim as to the reach of swap regulation is inaccurate and was unfortunately disseminated through media reports. Jim Zarroli, *Big Banks are Once Again Taking Risks with Complex Financial Trades, Report Says* (June 19, 2018), https://www.npr.org/2018/06/19/621543525/big-banks-are-once-again-taking-risks-with-complex-financial-trades-report-says [https://perma.cc/X3QY-TZWT] (last visited Nov. 18, 2019); *see also* Claire Boston, *Swap Loophole Leaves U.S. Taxpayers on Hook for Trades*, BLOOMBERG (June 19, 2018), https://www.bloomberg.com/news/articles/2018-06-19/swap-loophole-leaves-u-s-taxpayers-on-hook-for-trades-report [https://perma.cc/YDC8-YW53].

104. As background, international branches of banks have a complicated legal status. The CFTC has explained that a foreign branch of a U.S. person is itself a U.S. person. Cross-Border Guidance, *supra* note 91, at 45,315. In the CFTC's view, a branch does not have a legal identity separate from that of its principal entity. *Id.* The CFTC has also observed that branches are neither separately incorporated nor separately capitalized and, more generally, the rights and obligations of a branch are the rights and obligations of its principal entity (and vice versa). *Id.* Leading private practice lawyers in financial regulation have disagreed with the CFTC's characterization of bank branches. HLS Forum on Corp. Governance and Fin. Regulation, *Separate Entity Doctrine for U.S. Branches of Foreign Banks*, HARV. L. SCH. F. ON CORP. GOV. & FIN. REG. (April 30, 2012). In particular, law firms have pointed out the segregation of branch assets from other bank assets during insolvency to support the quasi-entity status of branches. *Id.*

105. For purposes of CFTC guidance, a "foreign branch" is a branch of a U.S. bank that is: (i) subject to the Federal Deposit Insurance Corporation's (FDIC's) Regulation K or the FDIC International Banking Regulation, or otherwise designated as a "foreign branch" by the U.S. bank's primary regulator, (ii) maintains accounts independently of the home office and of the accounts of other foreign branches with the profit or loss accrued at each branch determined as a separate item for each foreign branch, and (iii) subject to substantive regulation in banking or financing in the jurisdiction where it is located. Cross-Border Guidance, *supra* note 91, at 45,329.

106. CFTC Guidance provides that a swap will be viewed as entered into with a non-U.S. branch of a U.S. bank rather than the U.S. bank if: (i) the employees negotiating and agreeing to the terms of the swap (or, if the swap is executed electronically, managing the execution of the swap), other than employees with functions that are solely clerical or ministerial, are located in such foreign branch or in another foreign branch of the U.S. bank; (ii) the foreign branch or another foreign branch is the office through which the U.S. bank makes and receives payments and deliveries under the swap on behalf of the foreign branch pursuant to a master netting or similar trading agreement, and the documentation of the swap specifies that the office for the U.S. bank is such foreign branch; (iii) the swap is entered into by such foreign branch in its normal course of business; (iv) the swap is treated as a swap of the foreign branch for tax purposes; and (v) the swap is reflected in the local accounts of the

meet the following Title VII obligations when trading with a non-U.S. party even if that trading is conducted out of a non-U.S. branch (none of which would apply if that trading was done out of a non-U.S. subsidiary):

- Clearing;
- Platform execution;
- Margin requirements for uncleared swaps;
- Swap data recordkeeping;
- Swap reporting (including large swap trader reporting and real-time reporting of swap transaction data);
- Portfolio reconciliation and compression; and
- Trade confirmation.[107]

Several of these substantial requirements are eligible for "substituted compliance" if the trade is entered into from a foreign branch of the U.S. swap dealer. This relief, however, addresses inconsistency between U.S. and foreign regulations rather than the burden of those regulations.[108] For Title VII regulations to be satisfied through "substituted compliance," the CFTC must find that applicable non-U.S. regulations are "comparable with and as comprehensive as the corollary area(s) of [Title VII] regulatory obligations."[109] In other words, a foreign branch of a U.S. bank swap dealer may satisfy a Title VII obligation through complying with foreign law only if the foreign law accomplishes the same regulatory objectives as the relevant Title VII regulation.[110] Foreign branches of U.S. bank swap dealers are not given relief from the "what" of any Title VII regulations, they are only given flexibility as to "how" those obligations are satisfied.[111]

The gap in regulatory treatment of U.S. bank swap dealers and their foreign subsidiaries creates a powerful incentive for moving swap activity from U.S. swap dealers into foreign subsidiaries.[112] Part I above explained the significant costs

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foreign branch. *Id.* at 45,330.

107. *Id.* at 45,368–69.

108. Some of the most thorough and seminal treatments of inter-jurisdictional regulatory consistency and its effects for regulatory arbitrage and competitiveness come from the tax literature. To analogize to tax scholarship, substituted compliance grants U.S. businesses a credit for compliance with foreign regulation that can be used to offset the regulatory obligations of U.S. regulation. *See* Daniel Shaviro, *The Case Against Foreign Tax Credits*, 3 J. LEGAL ANALYSIS 65, 66 (2011) (describing a worldwide system of U.S. taxation that eliminates double taxation through giving offsetting credit for taxes paid to foreign jurisdictions as a common model for effective tax administration, and criticizing that model).

109. Cross-Border Guidance, *supra* note 91, at 45,342.

110. *Id.*

111. The CFTC has made determinations that certain Title VII requirements may be met through compliance with foreign regulations after detailed examination of those foreign requirements and findings that they achieve the same regulatory objectives as the relevant Title VII requirements. *See Comparability Determinations for Substituted Compliance Purposes*, U.S. COMMODITY FUTURES TRADING COMM'N, https://www.cftc.gov/LawRegulation/DoddFrankAct/CDSCP/index.htm [https://perma.cc/L75J-H236] (last visited Nov. 11, 2019).

112. The Dodd Frank Act recognizes the potential race-to-the-bottom in regulatory laxity. To deter jurisdictions from adapting permissive regimes and to protect the U.S. financial system from those

compliance with swap regulation poses to swap dealers. And there is ample anecdotal evidence that industry participants sought to cabin the reach of Title VII to U.S. shores.[113] Previous literature has proposed regulatory arbitrage may lead firms to relocate activity to minimize regulatory burdens.[114] The imposition of Title VII regulations and comprehensive data on swap market activity reviewed in this Article provides an opportunity to examine whether regulatory arbitrage in fact occurs.

II. REGULATORY CHANGES AND THE REDUCTION OF SWAP NOTIONALS

Figure I.A above shows the trend motivating this Article. Since late 2013, outstanding interest rate swap notional amounts in the United States have declined by over a third. Although difficult to measure, the value of the interest rate swap market as of the end of 2017 has been estimated to approach fifteen trillion U.S. dollars.[115] Economists believe the size of the interest rate swap market is comparable to the size of the U.S. Treasuries market (16 trillion USD), corporate bond market (12 trillion USD), mortgage market (15 trillion USD), and municipal securities market (4 trillion USD).[116] The apparent scale of the reduction in swap market activity is staggering. How would one comprehend, for example, the consequences for everyday American life of a sustained decrease in home financing

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jurisdictions, the Dodd Frank Act includes a provision permitting the CFTC or the SEC, in consultation with the Treasury, to "determine[] that the regulation of swaps or security-based swaps markets in a foreign country undermines the stability of the United States financial system . . . [and to] prohibit an entity domiciled in the foreign country from participating in the United States in any swap or security-based swap activities." Dodd-Frank Wall Street Reform and Consumer Protection Act, Pub. L. No. 111-203, 124 Stat. 1376, 1871 (2010) (codified at 15 U.S.C. § 87o), § 715.

113. *See* SIFMA v. CFTC, 67 F. Supp. 3d at 396–697.

114. Coffee, *supra* note 3, at 1278 (referring to burdens from swap regulation as substantial); Further Definition of "Swap Dealer," "Security-Based Swap Dealer," "Major Swap Participant," "Major Security-Based Swap Participant" and "Eligible Contract Participant", 77 Fed. Reg. 30,596, 30,703 (May 23, 2012) ("For entities that are not on the boundaries of the statutory definitions, but rather squarely within them or entirely outside of them, these rules will not affect the costs and benefits that result from their inclusion or exclusion. The latter group of costs and benefits are a consequence of the statutory definitions prescribed by Congress."). On the difficulties and potential misuse of quantifying the costs (and benefits) of financial regulation, see John C. Coates IV, *The Volcker Rule as Structural Law: Implications for Cost-Benefit Analysis and Administrative Law*, 10 CAP. MKTS. L. J. 447 (2015); Jeffrey N. Gordon, *The Empty Call for Benefit-Cost Analysis in Financial Regulation*, 43 J. LEGAL STUD. S351 (2014). *See also* Urska Velikonja, *Reporting Agency Performance: Behind the SEC's Enforcement Statistics*, 10 CORNELL L. REV. 901 (2016) (examining inadequacies in SEC reporting of enforcement results).

115. Rob Daly, *CFTC Looks to 'Right-Size' Swaps Market*, MARKETS MEDIA (Feb. 1, 2018), https://www.marketsmedia.com/cftc-right-size-swaps-market/ [https://perma.cc/JE64-GL2B] (last visited Nov. 18, 2019).
RICHARD HAYNES, JOHN ROBERTS, RAJIV SHARMA & BRUCE TUCKMAN, INTRODUCING ENNS: A MEASURE OF THE SIZE OF INTEREST RATE SWAP MARKETS (Jan. 2018), http://www.cftc.gov/idc/groups/public/@economicanalysis/documents/file/oce_enns0118.pdf [https://perma.cc/G638-PTAE]. (last visited Nov. 18, 2019).

116. HAYNES ET AL., *supra* note 115.

of over thirty-three percent? If the drop in U.S. swap market activity represents a real economic reduction in swap volumes, a new financial era has invisibly dawned.[117] Figure I.A suggests that corporate risk management policies have fundamentally changed over the last decade. Is this so? And what could have prompted the apparent depression in U.S. swap markets? The rest of this Part explores the impact of swaps regulation on U.S. swaps activity and explains the decline of swaps activity as a migration of swaps activity from the United States.

It is common to attribute declines in market activity to regulatory burdens.[118] The most important and potentially dis-locative swaps regulations under Title VII of the Dodd-Frank Act took effect at the end of 2012 and throughout 2013.[119] Appendix A provides a timeline of when major swaps regulations took effect. Did the initiation of a comprehensive regulatory regime over the swap market cause a massive decrease in activity? More broadly, did the new regulations cause an appreciable impact on the U.S. economy?

Data from several sources is inconsistent with the view that Title VII materially altered the U.S. economy.[120] As explained above, swap dealers intermediate transactions between customers (i.e. "end-users") that enter into swaps to hedge risk or speculate on future movements in asset prices.[121] Commonly, risk from a transaction with an end-user is mediated through a chain of multiple swap

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117. This Article focuses on Title VII, but there may be other regulations under the Dodd-Frank Act impacting swaps markets such as changes in bank capital rules and other constraints on leverage affecting dealers. For an exploration of how independent sets of regulations may serve as complements or substitutes, see Matthew C. Turk, *Overlapping Legal Rules in Financial Regulation and the Administrative State*, 54 GA. L. REV. (forthcoming 2019).

118. *See, e.g.*, Hester Peirce, *Dwindling Numbers in the Financial Industry*, BROOKINGS (May 15, 2017), https://www.brookings.edu/research/dwindling-numbers-in-the-financial-industry/ [https://perma.cc/73WS-SATG] (last visited July 30, 2018); J. Christopher Giancarlo, Acting Chairman, Commodity Futures Trading Comm'n, CFTC: A New Direction Forward (Mar. 15, 2017) (explaining the goals of project "Keep It Simple Stupid (KISS)" as reducing "excessive regulatory burdens"), https://www.cftc.gov/PressRoom/SpeechesTestimony/opagiancarlo-20 [https://perma.cc/7NE9-JENB] (last visited July 30, 2018); Daniel Awrey, *The Mechanisms of Derivatives Market Efficiency*, 91 N.Y.U. L. REV. 1104, 1173 (2016); Torsten Ehlers & Egemen Eren, *The Changing Shape of Interest Rate Derivatives Markets*, BIS QUARTERLY REVIEW (Dec. 2016), https://www.bis.org/publ/qtrpdf/r_qt1612f.htm [https://perma.cc/U8UL-RRXH] (last visited July 10, 2018) (attributing changes in interest rate markets to regulation and monetary policy); ISDA Research Note, *Cross-Border Fragmentation of Global Derivatives: End-Year 2014 Update*, ISDA, Apr. 2015, https://www.isda.org/a/nqiDE/market-fragmentation-final.pdf [https://perma.cc/SAW5-UZE7] (last visited July 30, 2018); Craig Pirrong, *The Economics of Central Clearing: Theory and Practice*, ISDA DISCUSSION PAPERS SERIES, May 2011; Peirce, *supra*; Krug, *infra* note 122, at 1618 n.320 (drawing on comment letters from industry participants potentially affected by the new regulations, Anita Krug explains the potential harm from overregulation).

119. As discussed at the end of Part I, CFTC guidance explaining the application of these regulations to activities outside the United States became effective in the fall of 2013.

120. This Article examines changes in swap activity at a high level, without relying on discretionary controls to pick up secondary effects. This Article does not rule out that regulation may have had positive or negative effects of a relatively low magnitude on levels of interest rate swap activity.

121. *See supra* Part I.B.

dealers before being offset through one or more transactions with other end-users. Thus, trades between swap dealers and customers create a "retail" market providing the last mile of risk shifting service between dealers and their customers, while intra-dealer markets serve as wholesale pipes for risk between major financial institutions. CFTC data shows that swaps usage by end-users has appreciably *increased* during the period of intense decline in the overall U.S. swaps market.[122]

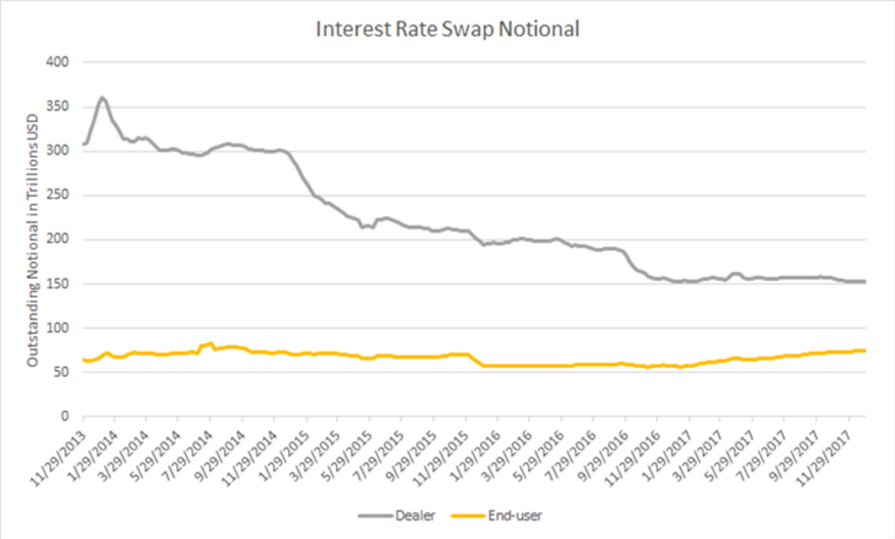

Figure III.A: IRS Notional by Market Participant Category

Figure III.A shows that while swap-dealers' outstanding interest rate swap notional declined from over 300 trillion USD to just over 150 trillion USD in an approximately four year period, end-users' outstanding notional grew from about 64 trillion USD to 75 trillion USD during the same period.[123] In other words, there is no evidence that regulation had first order deleterious effects on swaps usage in the broader economy.[124] Title VII does not appear to have appreciably interfered with end-users' swap consumption in the United States. If regulation had substantially increased the costs of providing swaps and prevailing prices were

122. *Cf.* Anita K. Krug, *Investing and Pretending*, 100 IOWA L. REV. 1559, 1565 (2015) (arguing that Title VII swap regulations burdened legitimate risk management by end-users).

123. Because it is based on CFTC data, Figure III.A only shows U.S. swaps market activity.

124. It is possible that absent swaps regulation, the growth in end-user swaps usage would be even higher. That story relies on a factor *increasing* swap usage among end-users coinciding with the onset of regulation and offsetting a drop due to that regulation. There is no factor to this author's knowledge that could lead to an increase in end-user swap usage at a magnitude similar to the observed decrease in swap-dealer's swap usage. The maintenance of swap activity by U.S. banks on a consolidated basis throughout this period further corroborates that there was no major economic impetus increasing swaps usage.

competitive, Economics 101 predicts that those costs would be passed on to customers and result in lower consumption of swaps.

Figure III.A helps identify the source of the decline in U.S. swaps activity. The decline is owed to reduced notionals outstanding on contracts between swap dealers. There are approximately one hundred registered swap dealer entities, most of which are well-known banks or their affiliates.[125] Changes in behavior among this group of entities explain the observed decline of well over thirty three percent in U.S. swap activity. While the market between end-users and consumers of swaps in the U.S. has remained constant or grown, the inter-dealer market in the U.S. has cratered. The question then shifts from explaining a reduction in U.S. swap markets to a reduction in wholesale U.S. swap markets. Is it the case that swap dealers truly trade fewer swaps with one another in the post-Title VII world? Or is there something else explaining the observed decline in U.S. swaps activity?

OCC data helps answer these questions. The data aggregates quarterly Consolidated Reports of Condition and Income (Call Reports) from all U.S. banks and their subsidiaries on a global basis.[126] These banks include many of the largest interest rate swap dealers in the United States.[127] OCC data shows that on a *consolidated* basis, interest rate swap activity by U.S. bank swap dealers has not appreciably declined. The empirical results of this paper turn on a key difference in the scope of coverage between CFTC and OCC data. Transactions between a U.S. bank and an offshore counterparty are visible in both CFTC and OCC data,

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125. U.S. COMMODITY FUTURES TRADING COMM'N, DODD-FRANK ACT PROVISIONALLY REGISTERED SWAP DEALERS, https://www.cftc.gov/LawRegulation/DoddFrankAct/registerswapdealer.html [https://perma.cc/8L3P-54ZK] (last updated Sept. 30, 2019). Non-bank participation in dealing interest rate swaps has historically been negligibly low. *See* BANK OF INTERNATIONAL SETTLEMENTS, STATISTICAL RELEASE: OTC DERIVATIVES STATISTICS AT END-JUNE 2017 (Nov. 2, 2017) (explaining that bank regulators participating in the BIS derivatives survey represent approximately 96% of the over-the-counter interest rate market share). However, at least one firm has recently emerged as a non-bank provider of interest rate swaps. *Interest Rate Derivatives House of the Year: Citadel Securities*, RISK.NET (Jan. 27, 2016), https://www.risk.net/awards/2442287/interest-rate-derivatives-house-of-the-year-citadel-securities [https://perma.cc/ZZE8-JGQF] (last visited Nov. 18, 2019). An affiliate of an entity "is a person that directly, or indirectly through one or more intermediaries, controls or is controlled by, or is under common control with, the person specified," whereas a subsidiary is a person controlled by the referenced entity. *See* 17 C.F.R. § 230.405 (2019).

126. Every national bank, state member bank, insured state nonmember bank, and savings association is required to file Consolidated Reports of Condition and Income as of the close of business on the last day of each calendar quarter. FEDERAL FINANCIAL INSTITUTIONS EXAMINATION COUNCIL, CONSOLIDATED REPORTS OF CONDITION AND INCOME FOR A BANK WITH DOMESTIC AND FOREIGN OFFICES-FFIEC 031 (2018) https://www.ffiec.gov/pdf/FFIEC_forms/FFIEC031_201803_f.pdf [https://perma.cc/3AKR-V4G6] (last visited Nov. 18, 2019).

127. *In re* Interest Rate Swaps Antitrust Litigation, 261 F. Supp. 3d 430 (S.D.N.Y. 2017). The holding companies controlling major swap dealers in the U.S. are Bank of America Corp., Barclays Bank PLC, BNP Paribas, S.A., Citigroup, Inc., Credit Suisse Group AG, Deutsche Bank AG, the Goldman Sachs Group, Inc., HSBC Bank PLC, J.P. Morgan Chase & Co., Morgan Stanley, Royal Bank of Scotland PLS, and UBS AG. *Id.* at 441 n.1.

whereas transactions conducted abroad between an offshore subsidiary of a U.S. bank and an offshore counterparty are visible only in OCC data.

Figure III.B charts outstanding interest rate swaps notional for U.S. banks on a consolidated basis, which includes their U.S. and foreign subsidiaries. The chart uses the last quarter in 2013 as a baseline and presents percentage changes from that baseline over the next four years.

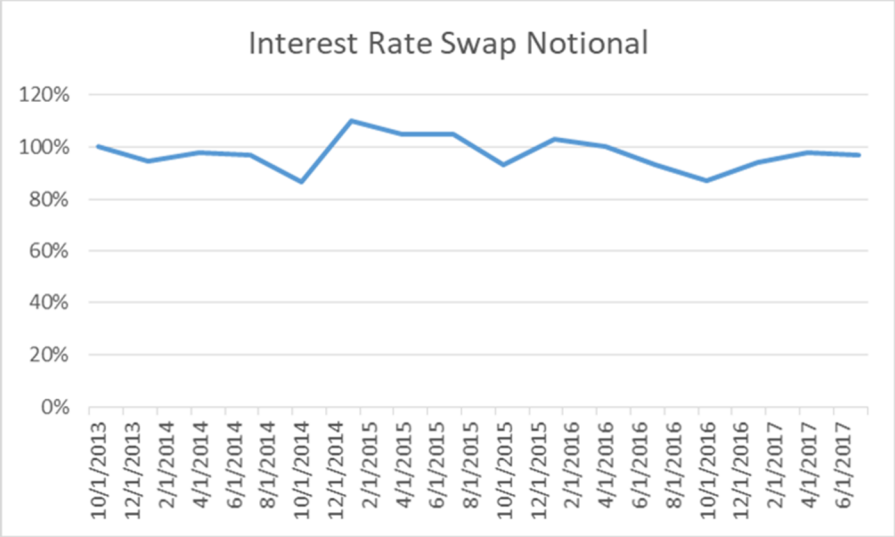

Figure III.B: Consolidated Interest Rate Swap Activity of U.S. Banks

Figure III.C highlights the discrepancy between U.S. only interest rate swaps activity by dealers and consolidated swaps activity by U.S. banks.

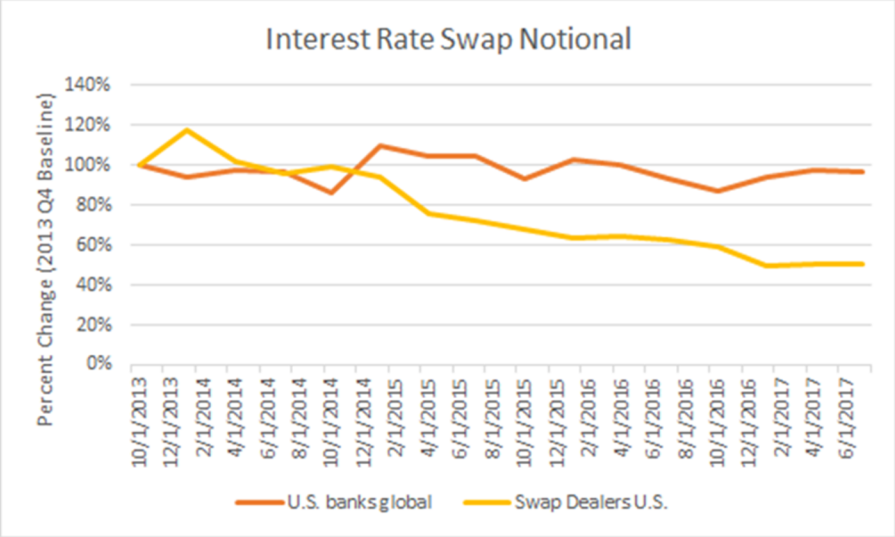

Figure III.C: Comparison of Swap Dealer U.S. Activity with Global U.S. Bank Activity

How could the U.S. activity of swap dealers have declined by over a third (and closer to a half) while the global interest rate swap activity of U.S. banks and their subsidiaries have remained constant? There are only two potential answers:

1. The decline is owed to swap-dealers that are not U.S. banks or their subsidiaries, i.e.: (a) entities unrelated to banks, (b) foreign banks and their affiliates, or (c) affiliates of U.S. banks that are not U.S. bank subsidiaries[128]; or
2. U.S. banks moved swap dealing operations to subsidiaries outside of the U.S. and beyond CFTC regulation (including reporting requirements).

It is highly unlikely that the first of these two explanations wholly motivates the observed trends. As discussed above, consumption of swaps by U.S. customers has not declined which is inconsistent with a real decline in swap activity by swap dealers (whether affiliated with U.S. banks or not). Absent the advent of immense technological or other efficiencies in delivering swaps through the wholesale market coincident with the onset of regulation, a real reduction in wholesale markets is unlikely given the sustained activity level in end-user markets.

Moreover, the swap dealing of entities other than U.S. banks and their subsidiaries cannot plausibly explain the almost fifty percent decline in inter-dealer volumes. The regions in Figure III.D identify the potential sources of declines in inter-dealer swap activity.

128. *See supra* note 125.

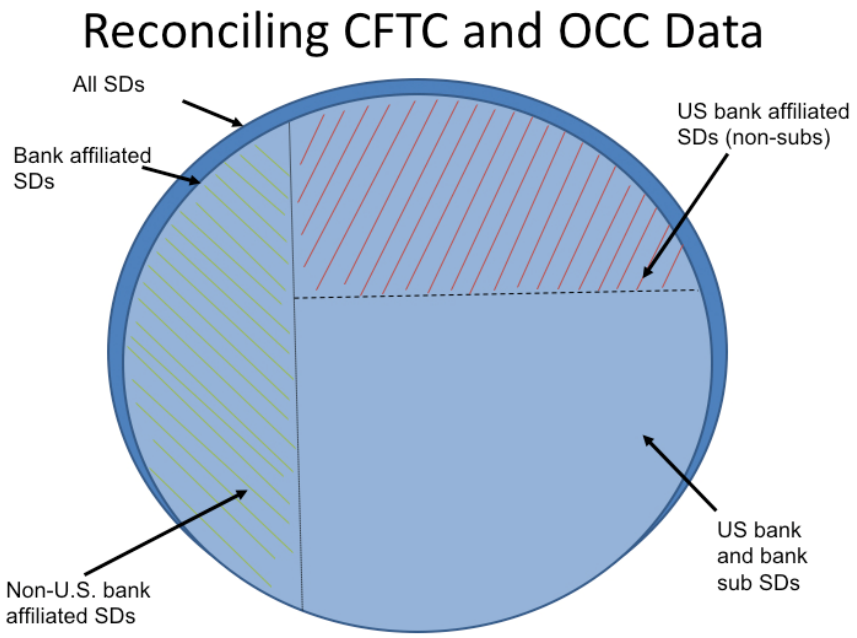

Figure III.D: Decomposition of Potential Sources of Decline

On a global level, banks and their affiliates provide approximately ninety-six percent of interest rate swaps.[129] This is shown by the relatively small gap between the larger circle representing all swap dealing and the smaller lighter circle representing bank affiliated swap dealing in Figure III.D. Thus, the behavior of entities unrelated to banks can be largely ignored for purposes of the analysis.

Although significant participation in U.S. interest rate swap markets (and declines therein) may be attributed to non-U.S. banks and their affiliates that participation likely falls well short of fifty percent (50%). As explained in more detail below, only swaps between non-U.S. entities fall outside the CFTC reporting requirements. Available public data shows neither the extent to which foreign swap dealers trade with other dealers in the U.S. nor the extent to which non-U.S. dealers discontinued or migrated operations following implementation of Title VII. But the relocation or discontinuation of these U.S. operations is insufficient to provide a likely explanation for the magnitude of the drop in swap dealer notional amounts observed in CFTC data. Aggregate swap dealer notionals declined close to a half in the relevant period. Non-U.S. bank assets represent at most about a fifth of banking

129. *See supra* note 125; Li Lin & Jay Surti, *Capital Requirements for Over-the-Counter Derivatives Central Counterparties* 9 (Int'l Monetary Fund, Working Paper 13/3, 2013) ("Systemically important banks' [sic] (SIBs) are dominant players in the [over the counter derivatives] markets."). Coffee, *supra* note 3, at 1284 (referring to banks as the largest swap dealers).

assets in the United States.[130] Although it is likely that a substantial contribution to the reduction in U.S. swap activity stems from changes in swap dealing by non-U.S. swap dealers such as Barclays, BNP Paribas, Credit Suisse, Deutsche Bank, HSBC, RBS and UBS, these changes are unlikely to be sufficient to explain the massive decline in U.S. inter-dealer trading.

U.S. banks and their affiliates explain at least a significant portion of the observed decline. Typically, holding companies that own a U.S. bank (known as bank holding companies or BHCs) concentrate the great majority of their assets and activities within the bank and its subsidiaries.[131] This is particularly true for interest rate swap activity.[132] The OCC provides a report comparing derivatives activity within the bank and its subsidiaries to BHC-wide derivative activity. This report shows that over sixty percent of the revenues from swap activity are generated in banks or bank subsidiaries, confirming that the majority of swap dealing takes place inside banks and their subsidiaries rather than in other parts of the BHC.[133] Thus over ninety-six percent (96%) of U.S. swap dealing takes place from banks or bank affiliates; assuming bank assets correlate with swap dealing, about eighty percent (80%) of bank affiliated U.S. swap dealing is from U.S. banks and their affiliates; and over sixty percent (60%) of swap dealing by U.S. banks and their affiliates is out of banks and their subsidiaries. In other words, swap dealing by U.S. banks and their subsidiaries can be expected to account for approximately forty-five percent (45%) of all U.S. swap dealing. Can an almost fifty percent (50%) drop in inter-dealer activity be explained by activity of swap dealers outside that forty-five percent (45%)? It is arithmetically possible, but it is highly statistically improbable that the activity of U.S. banks and their subsidiaries does not take a substantial role in that explanation.[134] And that activity shows only a minor decline on a

130. FED. RESERVE BD., SHARE DATA FOR THE U.S. OFFICES OF FOREIGN BANKING ORGANIZATIONS (2019), https://www.federalreserve.gov/releases/iba/fboshr.htm [https://perma.cc/G8FL-ZF27] (last visited Nov. 18, 2019).

131. Dafna Avraham, Patricia Selvaggi & James Vickery, *A Structural View of U.S. Bank Holding Companies*, 18(2) FRBNY ECON. POL'Y REV. 65, 71 tbl.1 (2012)., https://www.newyorkfed.org/medialibrary/media/research/epr/12v18n2/1207avra.pdf [https://perma.cc/58NZ-Z7ZG] (last visited on July 30, 2018).

132. Orlando Fernández, *The Dodd Frank Act's Pushout Rule: Implications for the Derivatives Market*, THOMSON REUTERS PRACTICAL LAW (Jan. 13, 2011).

133. *Compare* OFFICE OF THE COMPTROLLER OF THE CURRENCY, QUARTERLY REPORT ON BANK TRADING AND DERIVATIVES ACTIVITIES (FOURTH QUARTER 2017) at 4, tbl. 1 (reporting $4.034 billion in national revenues from interest rate and foreign exchange derivatives at the bank and bank subsidiary level) [hereinafter QUARTERLY REPORT], *with id.* at 4, tbl.2 (reporting $6.606 billion in national revenues from interest rate and foreign exchange derivatives across all BHCs). Historically, more than 61% of interest rate and foreign exchange derivatives was traded out of banks and their subsidiaries rather than other BHC affiliates.

134. Among others, the OCC data covers consolidated global swaps activity by JP Morgan Chase Bank NA, Citibank National Association, Goldman Sachs Bank USA, Bank of America NA, Wells Fargo Bank NA, HSBC NA, State Street Bank & Trust Co, Bank of New York Mellon, PNC Bank National Association, U.S. Bank National Association, Northern Trust Co., Suntrust Bank, and Morgan Stanley Bank NA. *See* QUARTERLY REPORT, *supra* note 133, at app. tbl.3.

consolidated basis, showing that to the extent U.S. banks and their subsidiaries explain the drop observed in CFTC data, that explanation is due to banks relocating their dealing operations into off-shore subsidiaries. News stories support the view that U.S. banks created offshore subsidiaries outside the CFTC's purview to carry on dealing operations.[135]

Changes in the swap dealing activities of U.S. banks and their subsidiaries likely motivate a substantial portion of the decline observed in U.S. swaps markets. Inter-dealer swap activity by entities other than U.S. banks and their subsidiaries is likely inadequate to explain the decline in volume observed within the U.S. inter-dealer market. Since on a consolidated basis, U.S. bank swap activity has not substantially declined, as significant portion of the decline is owed to the migration of swap activity from U.S. banks to their foreign subsidiaries. The next section explains the cross-border reach of swaps regulations under Title VII and explores the migration of swap activity from U.S. markets.

III. DOES THE SWAP EXPERIENCE SUPPORT INTERNATIONAL FINANCIAL REGULATION THEORY?

The preceding analysis supports that the advent of regulation coincided with significant migration of wholesale swap operations from the United States. The analysis also shows that the swap activity of U.S. end-users did not appreciably decline (in fact, it increased). These observations inform related inquiries central to scholarship on financial regulation: Did the exclusion of non-U.S. entities' swap activities with other non-U.S. persons undermine the policy goals of Title VII? And more generally, is migration of financial activity a constraint on unilateral financial regulation? The theory developed in this Part, consistent with observation of relocation in the wake of regulation, shows that migration reduces the arsenal of tools available to achieve regulatory priorities but does not empty that arsenal. The theory also identifies that the vulnerability of financial regulation to mobility depends on the policy goal being implemented. Policy goals targeting the relationship between financial services providers and end-users, such as consumer

135. Charles Levinson, *U.S. Banks Moved Billions of Dollars in Trades Beyond Washington's Reach*, REUTERS (Aug. 21, 2015), https://www.reuters.com/investigates/special-report/usa-swaps/ [https://perma.cc/9XGG-Q96D] (last visited Nov. 18, 2019) ("Major banks had tweaked a few key words in swaps contracts and shifted some other trades to affiliates in London, where regulations are far more lenient. Those affiliates remain largely outside the jurisdiction of U.S. regulators, thanks to a loophole in swaps rules that banks successfully won from the Commodity Futures Trading Commission in 2013."); Thomas J. McCartin, *A Derivative in Need: Rescuing U.S. Security-Based Swaps from the Race to the Bottom*, 81 BROOK. L. REV. 361, 364 (2015) (explaining that non-regulation of swap activity by foreign subsidiaries of U.S. companies created opportunities for regulatory arbitrage prompting migration of swap activity offshore); *see also* Bonnie Kavoussi, *Seven Largest U.S. Banks Have Created Thousands Of Subsidiaries To Avoid Taxes: Fed Report*, HUFFINGTON POST (July 23, 2012), https://www.huffingtonpost.com/2012/07/23/big-banks-subsidiaries_n_1694458.html [https://perma.cc/8L4K-WDPW] (last visited July 30, 2018).

protection and end-user market transparency, have been largely immune to mobility. In contrast, policy goals such as the containment of systemic risk and reduction of discriminatory pricing are more susceptible to offshoring. As discussed below, however, a number of mitigants can be deployed within the United States to dampen if not wholly mute the pernicious effects of migration. That these mitigants have not been adopted speaks as much to general limitations on regulatory efficacy as to the challenges posed by migration.

A. How Relocation of Swaps Activity Compromised Policy Goals

Title VII was enacted to "reduce risk, increase transparency, and promote market integrity within the financial system."[136] The following discussion explores how the movement of non-U.S. facing swap activity into foreign subsidiaries undermined these three distinct policy goals.

1. Systemic Risk

Financial risk can be reduced down to risk of lower revenues or risk of higher expenses (or lower cash in-flows or higher cash out-flows).[137] How can the unregulated activities of a foreign subsidiary increase risk of loss to the U.S. parent? If the subsidiary follows a riskier policy, the value of the parent's equity in the subsidiary may be more volatile.[138] Alternately, the parent may guarantee payments on certain contracts by the subsidiary and be directly liable in the event of subsidiary default.[139] Or the defaults of a subsidiary can trigger cross-defaults under the parent's obligations.[140] Finally, even without legal obligations, a U.S. bank may voluntarily bail out a subsidiary, even though the parent enjoys limited liability.[141] These are risks that can flow into the U.S. financial system from the unregulated activity of foreign subsidiaries. If congressional views that unregulated swap market activity contributed significantly to the financial crisis and broader economic decline of 2008 are correct, then the migration of U.S. banks' swap dealing operations into foreign subsidiaries discussed above poses substantial risk of precipitating another crisis.

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136. Business Conduct Standards for Swap Dealers and Major Swap Participants with Counterparties, 77 Fed. Reg. 9733, 9735 (Feb. 17, 2012). *See* SIFMA v. CFTC, 67 F. Supp. 3d at 387.

137. This assertion is not intended to minimize that secondary factors, such as volatility and uncertainty, leverage, inter-connectivity and asymmetric information can exacerbate or mitigate losses.

138. This assumes the subsidiary is compensated for additional risk through higher expected returns. If the subsidiary makes unwise decisions to take on more risk, the value of the parent's equity would not only be more volatile but also lower (even without a discount for volatility).

139. Coffee, *supra* note 3, at 1285 ("U.S. banks can avoid U.S. rules by using a foreign subsidiary and only 'implicitly' guaranteeing [sic] its debt.").

140. Anthony J. Casey, *The New Corporate Web: Tailored Entity Partitions and Creditors' Selective Enforcement*, 124 YALE L.J. 2680, 2683 n.5 (2015).

141. *See, e.g.*, Julie Creswell & Vikas Bajaj, *$3.2 Billion Move by Bear Stearns to Rescue Fund*, N.Y. TIMES (June 23, 2007), https://www.nytimes.com/2007/06/23/business/23bond.html [https://perma.cc/6NMX-AZNZ] (last visited July 30, 2018).

2. Market Transparency

Market transparency could benefit from non-U.S. subsidiaries reporting swap transaction data with non-U.S. counterparties and application of other Title VII initiatives abroad. European initiatives to bring market transparency to swap markets have been less fruitful than those of the U.S.[142] Having more data on the prices at which transactions have been recently executed and could be executed in the near future provides valuable information to market participants, including those seeking to value inventories.[143] Furthermore, in addition to the informational benefits from ongoing reporting, there would be the transparency benefits from comprehensive recordkeeping required under Title VII.[144] The costs of migration to market transparency, however, are likely to be relatively light given the substantial amount of activity that remains in the United States. Recordkeeping interests are a related concern to market transparency that geographically limited regulation compromises. Recordkeeping ensures that prior dealings and current positions are available to private parties and regulatory supervisors for analysis.

3. Market Integrity

Efforts to enhance market integrity were intended to protect end-users from information asymmetries and potential exploitation by dealers.[145] Limitations on the applicability of Title VII obligations to trades between non-U.S. persons and non-U.S. subsidiaries of U.S. banks can implicate these concerns. Did the movement of swap activity expose the protected group to risk of abuse? The reduction in trading was concentrated in inter-dealer activity.[146] Many of the anti-abuse rules are expressly limited to transactions between dealers and end-users.[147] Levels of end-user swap usage subject to Title VII protections were not affected, and there is no evidence that non-U.S. subsidiaries were used to

142. Amir Khwaja, *EMIR Trade Reporting and Public Data: What s the Point?*, CLARUS FIN.TECH. (April 28, 2014), https://www.clarusft.com/emir-trade-reporting-and-public-data-what-is-the-point/ [https://perma.cc/KB9Q-5P35] (last visited July 30, 2018).

143. *See* Ilya Beylin, *Taxing Fictive Orders: How an Information-Forcing Tax Can Reduce Manipulation and Distortion in Financial Product Markets*, 85 U. CIN. L. REV. 91, 99 (2017); Kevin Haeberle, *Stock Market Law and the Accuracy of Public Companies' Stock Prices*, 2015 COLUM. BUS. L. REV. 121 (2015); Urska Velikonja, *The Cost of Securities Fraud*, 54 WM. & MARY L. REV. 1887 (2013).

144. *See supra* note 79.

145. Business Conduct Standards for Swap Dealers and Major Swap Participants with Counterparties, 77 Fed. Reg. 9733, 9743 (Feb. 17, 2012) ("Taken together, the final rules materially enhance the ability of counterparties to assess the merits of entering into any particular swap transaction and reduce information asymmetries between swap dealers and . . . their counterparties.").

146. Opting out of standards intended to protect counterparties from better informed swap dealers does not come across as very troubling when the transaction is between two swap dealers.

147. *See, e.g.*, 17 C.F.R. §§ 23.431, 23.440, 23.450. *See also* Coffee, *supra* note 3, at 1287 (arguing that international swap regulation should "focus more on those factors that truly relate to systemic risk (e.g., capital, leverage, margin, etc.) and less on rules that relate to consumer protection or business conduct.").

circumvent trading with U.S. end-users.[148] As for trading with non-U.S. end-users, there is a question of whether U.S. customer protection laws are meant to protect non-U.S. clienteles? Home country regulators of those clienteles could have their own views of appropriate protective measures for their domestic companies. And those foreign companies could (if they wanted to) avail themselves of Title VII protections through trading with U.S. based swap dealers rather than their foreign subsidiaries. This approach would be a variant of the bonding hypothesis developed by John Coffee in the securities context.[149] The bonding hypothesis explains cross-listing behavior of foreign issuers on U.S. exchanges as, in part, an opting into U.S. securities law for the benefits of higher investor protections. Just as issuers can partner with investors in committing to heightened investor protection by listing on an exchange, end users can partner with dealers to opt into the customer protection rules initiated by Title VII. In this manner, the protective benefits of market integrity focused regulations could be exported at the election of foreign end-users.

The Title VII experience also illustrates an interesting exception to the general principle that customers control whether customer-protection goals of a regulatory regime are met. As explained in Part I, prior to the Dodd-Frank Act, there were two types of markets for swaps: (a) a "wholesale", inter-dealer market, and (b) a "retail" market for end-users. There is a view that dealers offered each other preferential pricing in the former type of market, increasing relative costs for customers.[150] Title VII imposed registration and open access requirements on the electronic platforms that were serving as inter-dealer markets. These requirements were meant to reduce oligopolistic pricing and increase pre-trade price transparency.[151] But these goals were substantially circumvented as a number of foreign trading platforms limited access to U.S. persons so as to be excluded from registration requirements as a SEF or DCM and attendant open access mandates.[152] Thus swap dealers were able to retain two bands of pricing, and potentially continue oligopolistic extraction at the expense of end-users through moving inter-dealer trades abroad. Where a regulation polices how terms between one group of market participants compare with the terms of another group of market participants—rather than sets absolute requirements on terms between market participants—mobility can undermine consumer protection notwithstanding that consumers are free to stay put (and indeed, do appear to stay put). Short of traditional antitrust approaches or directly policing pricing, it may be difficult to implement policies restricting financial

148. The longer term potential of U.S. end users setting up offshore subsidiaries to engage in unregulated swap trading is discussed below.

149. *See supra* note 8.

150. *See supra* note 23 and surrounding text.

151. Because SEF and DCM requirements were also meant to contribute to pre-trade price transparency, the arguments in this paragraph relate both to market transparency and market integrity.

152. SIFMA v. CFTC, 67 F. Supp. 3d at 403–05 (D.D.C. 2014).

institutions from discriminating among counterparties without international harmonization.[153]

The subversion of rules meant to enact inclusive markets reveals a broader threat from the relocation of financial institutions. When inter-dealer markets move beyond regulation, the health of U.S. markets is implicated to the extent U.S. markets rely on the function of the migrating market. If an offshore market exhibits pathologies, entities that do not transact in the market may be affected so long as they are holding related positions.

B. The Potential for Territorially Circumscribed Unilateral Financial Regulation

The above discussion shows how migration has undermined some more than other Dodd-Frank policy goals. Given that a national regulatory regime will have some geographic limits,[154] does that mean a nation cannot effectively regulate financial activity unilaterally? Pierre-Hugues Verdier theorizes that "the rise of private international finance creates challenges for national regulation that states cannot fully address by acting unilaterally."[155] Chris Brummer concisely articulates the view of jurisdictional selection as a constraint on unilateral financial regulation: "[F]inancial institutions dissatisfied with one jurisdiction's rules can increasingly move to another with weaker and potentially suboptimal oversight to raise capital or engage in complex financial transactions."[156] Theorists view mobility as a key threat to unilateral financial regulation.[157] Is this a significant threat in

153. Some argue that the open access model is inappropriate for low-liquidity products such as some swaps. *See* GIANCARLO & TUCKMAN, *supra* note 60. In this case, the flight of inter-dealer swap markets may represent a desirable circumvention of regulatory priorities.

154. Itai Grinberg, *The New International Tax Diplomacy*, 104 GEO. L.J. 1137, 1144 (2016); Cross-Border Guidance, *supra* note 91, at 45,324 ("The Commission understands that commenters are concerned that foreign entities, in order to avoid swap dealer status, may decrease their swap dealing business with foreign branches of U.S. registered swap dealers and guaranteed affiliates that are swap dealers").

155. Verdier, *supra* note 3, at 1437.

156. Brummer, *supra* note 3, at 267. *See* Grinberg, *supra* note 154, at 1155 ("[L]ike multinational corporate activity more generally, international finance is by nature highly mobile (indeed, in some respects, more mobile). Rules targeting mobile capital, whether they involve tax or finance, are inherently more difficult and inherently more likely to lead to competitive responses among states than rules targeting product markets directly, because unlike capital, consumers rarely move to another jurisdiction in response to strict regulatory standards"); Annelise Riles, *Managing Regulatory Arbitrage: A Conflict of Laws Approach*, 47 CORNELL INT'L L.J. 63, 65 (2014) ("The ability of financial institutions to act beyond the reach of regulators threatens the sovereignty of nation-states and the well being of national economies. Yet as regulators are well aware, the threat is possible only because of differences in national regulatory regimes.")(internal citations omitted);Chris Brummer, *Corporate Law Preemption in an Age of Global Capital Markets*, 81 S. CAL. L. REV. 1067, 1089–103 (2008).

157. David Zaring, *Financial Reform's Internationalism*, 65 EMORY L.J. 1255 (2016); Brummer, *supra* note 3, at 262–63; Beth Simmons, *The International Politics of Harmonization: The Case of Capital Market Regulation*, 55 INT'L ORG. 589 (2001); David Zaring, *International Law by Other Means: The Twilight Existence of International Financial Regulatory Organizations*, 33 TEX. INT'L L.J. 281, 286 (1998).

practice? The evidence points to the threat being both real and significantly overstated.

1. End-user Swap Activity Unaffected in the Short Term

The experience of end-users after the implementation of Title VII qualifies both views that regulation severely impedes economic function and views that regulation can be easily avoided. Figure III.A shows that end-users continued using swaps subject to U.S. regulation following the implementation of Dodd-Frank. There is no evidence that customers reduced using regulated swaps either in substance or through relocation abroad. Subsequent research may find that the increase in customer usage of swaps within the United States would have been greater but for the regulation of swap markets, although a baseline that removes the impact of swap regulation may be difficult to establish. What is clear is that a massive regulatory intervention into swaps markets did not significantly interfere with customer access to swaps.[158] In contrast to inter-swap dealer activity, U.S.-based speculation and hedging through swaps did not decline in the relevant period. The lack of evidence that consumers of financial products were ready to relocate to enable suppliers to avoid regulatory burdens supports that unilateral regulation may be used to achieve some forms of customer protection.[159]

Many critiques of unilateral financial regulation focus narrowly on the mobility of capital sources or, less narrowly, on the mobility of financial institutions.[160] But neither capital mobility nor mobility of financial institutions is sufficient to enable regulatory arbitrage. Financial services are services and as such only provide revenues to the financial institution if there is a client consuming them. It is insufficient for the source of capital or the financial institution to be mobile if regulation is also triggered by the customer being within the territory of the regulator. The provision of most if not all financial services depends on a contract performed between at least two persons one of which is a financial intermediary. This provides several touchpoints for territorially circumscribed nexus to attach.[161]

As discussed above, the CFTC has taken a territorial approach that applies swap regulation if either the swap dealer or its counterparty is a U.S. person (or the transaction is conducted out of the United States). That means that end-users would themselves have to also relocate for the transaction to escape the reach of regulation. Financial services are an important ingredient to the successful operation

158. It is left to subsequent work to explore whether and under what circumstances restraints on swap activity may have social costs. Subsequent studies may look to, among other things, whether adding to the cost of risk management resulted in excess bankruptcy filings. Subsequent work may also look to whether super-competitive pricing in swaps markets results in no significant changes in price with the increase of regulatory costs.

159. John Armour, Martin Bengtzen & Luca Enriques, *Investor Choice in Global Securities Markets* 13 (ECGI Working Paper Series in Law, Working Paper No. 371/2017, 2017) (discussing challenges in unilateral securities market regulation).

160. *See supra* notes 155–56.

161. Armour, Bengtzen & Enriques, *supra* note 159, at 13–19.

of businesses. Yet there are many other ingredients, and it is questionable whether a business would be willing to engage in the steps necessary to move its consumption of financial services outside the ambit of U.S. regulation to reduce regulatory costs. Key factors to assessing whether a business would create an offshore entity with offshore operations to receive financial services are: (a) what are the costs of creating that offshore presence and (b) what are the benefits from obtaining a lighter regulatory regime from the perspective of the business and its prospective financial services providers? The second of these two questions turns largely on the net savings between the business and its service provider due to decreased regulatory obligations. That decrease depends on the fixed costs and variable costs of compliance as well as the frequency of regulated transactions (for measuring total variable costs). The balance of these factors is expected to disfavor relocation due to the typically substantial costs of relocation, the infrequency and insignificance of financial services in the business model of the customer, and the low amount of surplus in regulatory savings that can be shared between customers and their financial services providers.

In the context of key financial services, the costs of customer relocation are expected to be particularly significant. Is relocation practicable with respect to a range of financial services involving potential customer liabilities: (1) loans; (2) underwriting; (3) swaps? To reduce regulatory burdens (and presumably share the resulting surplus) would a client be willing to form a foreign subsidiary, operate it abroad and source financial services through that subsidiary? Would a financial counterparty be willing to transact with that subsidiary? As the rest of this discussion shows, the content of financial services matters when discussing how nimble private efforts at circumvention may be. For example, lending is very different from deposit taking because lending requires the bank to rely on the creditworthiness of the customer. Without delving into loan underwriting standards, it is intuitive that a bank would not typically lend to an uncapitalized subsidiary that has no operating assets. Similarly, could regulations on underwriting be skirted through the client creating a foreign subsidiary? Who would invest in a shell with no operations or assets? Could swap regulations be avoided through creating an empty foreign subsidiary? As discussed in more detail below, the answer is generally a resounding "no."[162] Banks, investors, and other financial market participants require effective recourse when the transaction creates a customer obligation. The rest of this discussion furthers the literature on jurisdictional selection in response to financial regulation through focusing on service specific capacities for mobility.

The empirical findings reviewed above cast a light on a practical constraint to jurisdictional selection in response to financial regulation neglected by the literature. *Customer cooperation is typically required for financial institutions to avoid unilateral*

162. *See* Grinberg, *supra* note 154, at 1155 ("[C]onsumers rarely move to another jurisdiction in response to strict regulatory standards."); Anu Bradford, *The Brussels Effect*, 107 NW. U. L. REV. 1, 17 (2012).

territorial regulation of a range of services aimed at protecting market participants. Under robust territorial regulation, that cooperation requires more than legal structuring. It requires a genuine relocation of assets and operations, including the headquarters of the entity. This point is worth repeating. It is not sufficient to incur what are typically referred to as transaction costs[163] to avoid unilateral, territorial financial regulation through relocation. Rather, actual movement of assets and decisional resources is required.[164] Not only that, but the personnel involved in the transaction would need to be present in the new jurisdiction.[165] So not only the management of the entity but also the financial personnel negotiating the loan, underwriting or swap with the relevant bank would need to work from another country. An investment fund or other financial business that relies extensively on financial services may face sufficient returns from sharing the surplus from deregulation to relocate, but most businesses probably would not absent uncommonly costly regulations. Although at the border it is an empirical question, as a matter of common sense it is unlikely that the surplus from partnering in regulatory arbitrage in what are infrequent transactions incidental to operating a non-financial business would outweigh the expense of transitioning operations into another jurisdiction.[166] This intuition is reflected in corporate and tax[167] scholarship on jurisdictional selection.

Mitchell Kane and Edward Rock explore the interdependence of jurisdictional selection for corporate and tax law.[168] Under the internal affairs doctrine, the corporate law governing the relationship between the corporation, its officers, directors and shareholders is determined by the state where the corporation is

163. Transaction costs are the search and information costs to identifying a potentially desirable exchange, the bargaining and decision costs of entering into that exchange, and the policing and enforcement costs of ensuring compliance with the exchange. Carl J. Dahlman, *The Problem of Externality*, 22 J.L. & ECON. 141, 148 (1979).

164. *See* Cross-Border Guidance, *supra* note 91, at 45309 (requiring the principal place of business of an entity to be outside the United States to avoid the reach of swap regulation and explaining the principal place of business "should normally be the place where the corporation maintains its headquarters—provided that the headquarters is the actual center of direction, control and coordination, *i.e.*, the 'nerve center,' and not simply an office where the corporation holds its board meetings.") (internal quotations and citations omitted). *See* Hertz Corp. v. Friend, 559 U.S. 77, 80 (2010).

165. *See* Grinberg, *supra* note 154, at 1154 ("Now imagine if [altering tax consequences] also requires shifting activity; be that labor generally or particularly attractive research and development or headquarters activity. In this case, the distributional consequences [between sovereigns] can affect both government revenue and national employment.").

166. Indirect transactions with U.S. non-financial businesses are also less likely to implicate systemic risk concerns. *See* Cross-Border Guidance, *supra* note 91, at 45,324 (exempting transactions with a non-U.S. affiliate guaranteed by a U.S. *non-financial entity* from counting towards the swap dealer de minimis threshold).

167. *See* David M. Schizer, *Frictions as a Constraint on Tax Planning*, 101 COLUM. L. REV. 1312 (2001) (discussing transaction costs as a constraint on tax arbitrage).

168. Kane & Rock, *supra* note 6.

incorporated.[169] This determination does not take into account the location of corporate management, operations, assets or other tangible facets of corporate existence. It is relatively easy, Kane and Rock show, for a U.S. firm to select its corporate law from among the available state regimes simply by changing the state of its incorporation (e.g., by creating a subsidiary in the desired jurisdiction and merging the parent into that subsidiary).[170] On the other hand, where the applicable law turns on the facts such as where the headquarters of an entity are located "changing jurisdictions . . . is often so costly as to be prohibitive."[171] Other scholars agree with this intuition[172] and empirical surveys of firm responses to regulation generally support that business mobility to take advantage or regulatory disparities is limited.[173] A modest requirement could help ensure the "reality" of territorial treatment in recognizing work as occurring in a jurisdiction only if the individual performing it has a status such as permanent residency in that jurisdiction. For management or negotiation to be seen as occurring in a foreign jurisdiction, the individuals involved should be required to continuously reside in that jurisdiction.

The preceding discussion applies generally to the prospects of customer collusion with regulatory avoidance. It is a non-trivial task to move what Kane and Rock refer to as the "real seat"[174] of an entity through creation of a foreign subsidiary and offshoring its principal place of business. But the challenges are even greater in the context of services creating long term customer obligations such as loans, underwriting or swaps. It is not enough for the customer to create a foreign subsidiary and then transfer personnel and other operational resources into that subsidiary and physically relocate them abroad. The customer must also assure the financial services provider that any obligations the subsidiary incurs in the course of receiving the services will be repaid with an adequate rate of return.[175] That either requires a transfer of assets that can support the obligation or a guarantee from an affiliate with the financial wherewithal to make good on the obligation. Both are

169. *See* Frederick Tung, *Before Competition: Origins of the Internal Affairs Doctrine*, 32 J. CORP. L. 33, 39 (2006); Vincent S.J. Buccola, *Opportunism and Internal Affairs*, 93 TUL. L. REV. 339 (2018).

170. Kane & Rock, *supra* note 6, at 1236.

171. *Id.* at 1237.

172. Eric L. Talley, *supra* note 6, at 1676.

173. Carruthers & Lamoreaux, *supra* note 5 (reviewing literature).

174. Kane & Rock, *supra* note 6, at 1235.

175. The surrounding discussion is not intended to suggest that subsidiaries are generally formed for illegitimate purposes. There is a wide range of scholarship explaining respectable and practical uses housing assets and operations in subsidiaries serves. *See* Douglas G. Baird & Anthony J. Casey, *No Exit? Withdrawal Rights and the Law of Corporate Reorganizations*, 113 COLUM. L. REV. 1, 17–18 (2013) (explaining how private ordering can take place through creation of subsidiaries within a mandatory bankruptcy regime); Edward M. Iacobucci & George G. Triantis, *Economic and Legal Boundaries of Firms*, 93 VA. L. REV. 515, 568 (2007) (explaining how partitioning of assets across subsidiaries may allow more informed and less expensive financing). *But cf.* Richard Squire, *Strategic Liability in the Corporate Group*, 78 U. CHI. L. REV. 605 (2011) (arguing that the benefits of subsidiaries are inconsistent with the practice of affiliate cross-guarantees).

explored further below, as the discussion turns first to formal and implicit guarantees and then reviews treasury affiliates that may serve as conduits to swap transactions.

At the outset, it is important to note that asset transfers are expensive because they reduce the transferor affiliate's assets (e.g., if a parent transfers unencumbered title to a plot of land to its subsidiary to be used as collateral for the financing service, the parent acting alone can no longer borrow against that plot of land). Due to structural subordination, the contribution of assets to a subsidiary to support external financing to the subsidiary reduces assets available to claim-holders on the parent. In the best case scenario from the standpoint of the avoidance partnership between the U.S. customer and financial institution, the financing would be used to purchase liquid assets with non-volatile values that could be held at the subsidiary to effectively collateralize the loan.[176] Yet, it is relatively rare that operating businesses seek financing to purchase something like high grade securities or gold. Instead, the financing would likely go towards operating assets that would need a substantial top-off from the parent because of their limited expected secondary market value. Thus, from the perspective of the U.S. customer, there would usually be an appreciable cost to receiving financing through an otherwise empty offshore subsidiary. A similar cost would arise in swap transactions, which are risk shifting rather than financing transactions but nevertheless involve the potential for long term customer liabilities. To ensure the foreign subsidiary of the U.S. customer would be able to meet its potential future obligations under the swap, the parent would need to transfer assets akin to initial and variation margin to the subsidiary. This would have costs similar to those described above.

As an alternative to providing separate assets to a foreign entity, the U.S. customer could guarantee the foreign subsidiary's obligations. This is a straightforward manner for assuring the subsidiary can repay financial obligations from the parent's assets. However, the cross-border reach of swap regulations has

176. The preceding discussion considers financing assets at the subsidiary level. If instead, the U.S. customer routed the financing through the subsidiary and purchased assets at the U.S. entity level, substantially greater service fees would be involved. The need to retain credit support at the subsidiary means financing transactions routed through the subsidiary will be less effective because the subsidiary will need to retain a portion of the net financing to the U.S. parent. This reduction need not be on a one-for-one basis due to differences in tax and other costs to financing the subsidiary relative to the parent (including, potentially, the relatively higher regulatory burdens of servicing the parent directly); however, the difference is not expected to be drastic. Even if only seventy-five percent of the proceeds from the financing transaction need to be retained at the subsidiary to satisfy the bank counterparty, the resulting expense of the avoidance strategy is extraordinary. To achieve the same level of financing as it would have received directly, the customer would need to engage in a transaction four times as large as it would need to if transacting directly with the bank. That means the bank would need to reduce its fees by seventy five percent when dealing with the subsidiary to offer the same economics. What is the likelihood that the regulatory costs of dealing directly with the parent exceed seventy five percent of the fee the bank charges?

been drawn to limit this strategy.[177] Transactions between a non-U.S. swap dealer and a non-U.S. entity that has a guarantee from a U.S. affiliate are subject to swap regulations.[178] The CFTC and SEC view a wide range of financial support arrangements as guarantees for this purpose.[179] Thus a U.S. customer could not simply create a foreign subsidiary, establish a small headquarters for it in the relevant jurisdiction, guarantee the subsidiary's trades, and source swaps from foreign swap dealers outside the ambit of Title VII.[180]

There are less overt means than express guarantees that provide credit support to Potemkin subsidiaries built for partnering in regulatory avoidance. A U.S. business could—without entering into a legal agreement—express its intent to a service provider to guarantee any shortfall from an offshore subsidiary. Writing in the context of tax planning, Alex Raskolnikov has demonstrated how norms (in contrast to legal obligations) can enable parties to a transaction to skirt legal responsibilities.[181] Yet reliance on norms introduces substantial risk, particularly where the party being relied on is not a frequent player.[182] If a non-U.S. subsidiary is not legally guaranteed and will have relatively few assets following the transaction, would a non-U.S. bank lend to that subsidiary? Would it enter into a swap transaction with that subsidiary? Would non-U.S. underwriters and investors help market and purchase securities issued by that subsidiary? Raskolnikov shows that a norm is sufficient to skirt taxes on interest from secured lending through repackaging the transaction as a sale and repurchase (e.g., municipal securities dealers "sell" tax exempt municipal bonds to banks and then "repurchase" them shortly thereafter with the bank pocketing the interest on the bond as a tax free financing charge).[183] Similarly, he shows that higher taxes on short term equity trading may be avoided through papering the transactions as long term equity swaps and then, with the cooperation of the swap dealer and without explicit rights, terminating them or rolling them into other trades.[184] Yet in these examples, the financial services provider would only lose a fee such as interest or a termination

177. *See* Cross-Border Guidance, *supra* note 91, at 45,312.

178. *See id.* at 45,355 (substituted compliance is available with respect to transactions between "a non-U.S. swap dealer . . . and a non-U.S. counterparty . . . where the non-U.S. counterparty's performance is guaranteed (or otherwise supported by) a U.S. person").

179. *See id.* at 45,320; Coffee, *supra* note 3, at 1285 (criticizing SEC rules for only reaching express rather than implicit guarantees).

180. Nor could the financial services provider escape swap dealer regulation through trading with foreign guaranteed affiliates of U.S. persons. *See id.* at 45,319 (a "non-U.S. person should count only its swap dealing transactions with U.S. persons . . . and with guaranteed affiliates towards the de minimis thresholds for swap dealer registration").

181. Alex Raskolnikov, *The Cost of Norms: Tax Effects of Tacit Understandings*, 74 U. CHI. L. REV. 601 (2007).

182. *Id.* at 671 (explaining the relevant costs of defection by a borrower with little repeat play and a lender that constantly makes new loans in the market and thus substantially relies on reputational capital).

183. *Id.* at 626–27.

184. *Id.* at 620.

charge should the customer defect. In contrast, facing an under-capitalized subsidiary on a loan that is disbursed to the subsidiary and then upstreamed by the subsidiary to its parent or similar transaction exposes the financial service provider to losses of far greater magnitude. It is questionable whether norms are in and of themselves adequate to enable these forms of avoidance.[185]

The second path to creating a credit-worthy foreign subsidiary is normatively more ambiguous than naked attempts at avoidance. That second path involves setting up what is generally referred to as a treasury affiliate and organizing that affiliate abroad. It is common for large global companies to centralize their hedging or risk-management activities in an affiliate commonly referred to as a "treasury" entity.[186] Under this structure, the treasury entity may enter into swaps with its affiliates and then enter into offsetting swaps with swap dealers (or other third parties). The CFTC recognizes that this model "promotes operational efficiency and prudent risk management by enabling a company to manage its risks on a consolidated basis at a group level."[187] The treasury affiliate may be organized as a U.S. or non-U.S. subsidiary of the parent company, and the CFTC refers to these entities alternately as "conduit affiliates" or "affiliate conduits." Because a foreign treasury entity may serve as an intermediary shifting risk between its U.S. affiliates and non-U.S. swap dealers, the CFTC applies swap regulations to the conduct of affiliate conduits in some circumstances.[188] The regulation of conduit affiliates covers some but far from all cases in which a U.S. customer establishes bona fide treasury operations abroad to receive swap services from non-U.S. dealers.

The existence of a path to avoidance is not the same as its regular use. Figure III.A shows that U.S. customers have not slowed sourcing swap transactions in the United States. Thus, it does not appear that the route left open for regulatory

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185. *See* Alex Raskolnikov, *Relational Tax Planning Under Risk-Based Rules*, 156 U. PA. L. REV. 1181 (2008).

186. Cross-Border Guidance, *supra* note 91, at 45,358.

187. *Id.*

188. For these purposes, an affiliate conduit is an entity that meets a complex definition, and the CFTC has provided inconsistent descriptions of whether and how affiliate conduits may be regulated. *Compare id.* at 45,324 ("The Commission's policy is to generally allow non-U.S. persons not to count toward their de minimis thresholds their swap dealing transactions with . . . a conduit affiliate that is not a swap dealer and itself engages in de minimis swap dealing activity and which is affiliated with a swap dealer"), *with id.* at 45,359 ("The Commission does not intend that the term 'conduit affiliate' would include affiliates of swap dealers."). In considering whether a non-U.S. person is an "affiliate conduit", the CFTC considers whether: (i) the non-U.S. person is a majority owned affiliate of a U.S. person; (ii) the non-U.S. person is controlling, controlled by or under common control with the U.S. person; (iii) the financial results of the non-U.S. person are included in the consolidated financial statements of the U.S. person; and (iv) the non-U.S. person, in the regular course of business, engages in swaps with non-U.S. third-parties for the purpose of hedging or mitigating risks faced by, or to take positions on behalf of, its U.S. affiliate(s), and enters into offsetting swaps or other arrangements with its U.S. affiliates in order to transfer the risks and benefits of such swaps with third-parties to its U.S. affiliates. *Id.* at 45,359. The CFTC notes that other facts and circumstances also may be relevant to determining if an entity is a conduit affiliate. *Id.*

avoidance through mobility has been extensively adopted. This is consistent with market participants foregoing the opportunity to reduce regulatory burdens through other means.[189] A variety of reasons—including implementation costs, uncertainty about efficacy, moral reservations, norms, organizational inertia, agency costs within legal and compliance departments—can lead customers (or financial services providers) to abstain from opportunities to reduce regulatory burdens. Yet, the abstention may be temporary, as new market norms, practices and structures may take time to gain widespread adoption.

CFTC guidance on the cross-border reach of Title VII regulations leaves an important gap. A U.S. swap customer can, through a bona fide foreign treasury entity, generally accept swap dealing services outside the scope of U.S. swap regulation.[190] The strategy relies on the method by which swap dealer status is determined in the cross-border context. Only swaps with U.S. nexus count towards a de minimis threshold below which an entity does not have to register as a swap dealer or comply with the various requirements applicable to swap dealers.[191] A non-U.S. person financial institution dealing swaps to foreign treasury affiliates (among other non-U.S. persons) would not have to register as a swap dealer and thus could avoid the associated Title VII requirements.[192] Figure IV.C.1 shows the structure for effecting this arrangement.[193] In this manner, U.S. customers could—through creating offshore treasury affiliates—share any surplus from a laxer offshore regulatory environment with their offshore financial services provider. It

189. For example, to avoid regulations triggered by notional value thresholds, parties could have rewritten the terms of their swap transactions to decrease notional amounts while increasing applicable rates. Yet review of notional data following the implementation of Title VII shows that parties have not sought to exploit this loophole.

190. One may argue that subsidiary treasury entities of U.S. persons should be treated differently than subsidiary treasury entities of non-U.S. persons. However, this argument must contend with the relative ease of changing the holding company domicile of a business and the relative competitiveness of U.S. and foreign businesses. The literature on the use of inversions to escape worldwide taxation of U.S. corporations provides decades of thoughtful analysis around these questions. *See* Omri Marian, *Home-Country Effects of Corporate Inversions*, 90 WASH. L. REV. 1 (2015); Cathy Hwang, *The New Corporate Migration: Tax Diversion Through Inversion*, 80 BROOK. L. REV. 807 (2014); Mihir A. Desai & James R. Hines, Jr., *Expectations and Expatriations: Tracing the Causes and Consequences of Corporate Inversions*, 55 NAT'L TAX J. 409 (2002).

191. Cross-Border Guidance, *supra* note 91, at 45,318.

192. *Id.* at 45,319 ("Non-U.S. persons that are not guaranteed or conduit affiliates are not required to count swaps with a conduit affiliate towards the swap dealer de minimis calculation."); *id.* at 45,324 n.310 ("Note that if a non-U.S. person that is not a guaranteed or conduit affiliate of a U.S. person engages in a swap dealing transaction with another non-U.S. person that is not a guaranteed affiliate of a U.S. person (including such non-U.S. person that is a swap dealer), then such swap dealing transaction does not count toward the de minimis threshold of the unregistered, swap dealing party."). It is less clear whether the approach for skirting swap regulation described in this paragraph could work with a guaranteed non-U.S. subsidiary of a U.S. person as opposed to an affiliate conduit.

193. Large trader reporting requirements may apply to some swap transactions between a non-U.S. person that is not a swap dealer providing swaps to a non-U.S. treasury affiliate. *See id.* at 45,364.

is perhaps out of concern for these structures that the CFTC smudged the ink and created substantial uncertainty when authoring its cross-border guidance.[194]

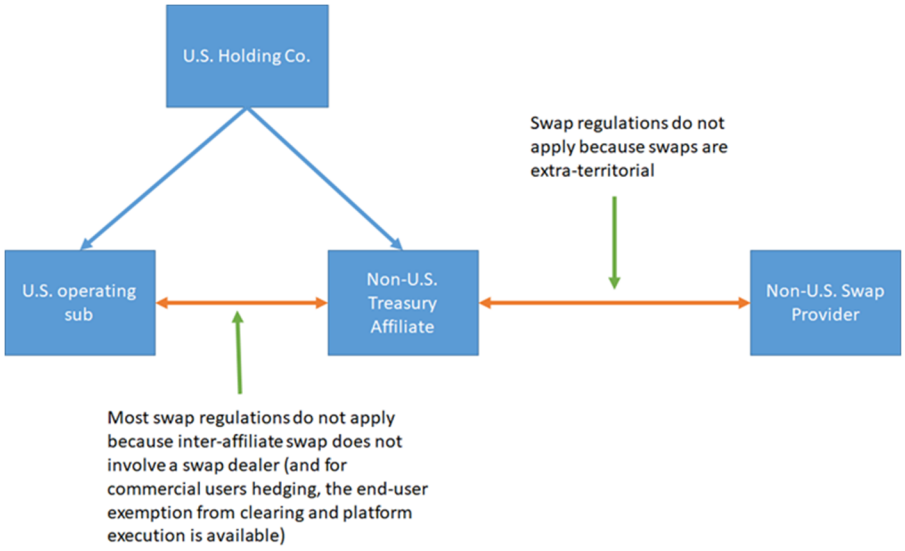

Figure IV.C.1: Non-U.S. Treasury Affiliate used to source swaps from non-U.S. entity providing swaps but not registered as a swap dealer.

To date, however, empirical observation does not support theories that customers would shift their operations abroad in response to financial regulation. This observation is consistent with expected cost-benefit calculations that customers face in deciding whether to move operations to a foreign subsidiary to share in the savings from regulatory avoidance.

As noted above, the use of non-U.S. treasury affiliates and the consequent avoidance of swap regulations are normatively gray. U.S. swap regulations may indeed reduce systemic risk, in which case regulation may be desirable and its avoidance a social cost.[195] Systemic risk represents an externality, and if that

194. *Compare id.* at 45,359 (indicating that only certain conditions to the inter-affiliate exemption and real time reporting would apply), *with id.* at 45,369 (indicating that transaction level requirements would apply although substituted compliance would be available). It is not clear if non-U.S. persons providing swap dealing services to conduit affiliates may be required to register as swap dealers, although it generally appears that such non-U.S. person could operate without registering: "Non-U.S. persons that are not guaranteed or conduit affiliates are not required to count swaps with a conduit affiliate towards the swap dealer de minimis calculation." *Id.* at 45,319.

195. Commercial end-users entering into a swap to hedge are usually exempt from clearing, platform execution and margin requirements suggesting that Congress and regulators do not view the systemic risks consequences as high. There are also impacts on market transparency and (under what

externality is not contained through other equally effective means, the avoidance of swap regulations will have social costs. This assumes that non-U.S. regime(s) for containing systemic risk are inferior to the U.S. regime.[196] This patriotic assumption may have some validity; perhaps jurisdictions compete to house financial activity at the behest of powerful financial institution constituents or for other reasons; or perhaps jurisdictions differ in sizing systemic risk or the private costs of regulation, or differ in their views of optimal means for containing systemic risk.[197] At the very least, the possibility that some jurisdictions do more to mitigate systemic risk enjoys broad acceptance in the literature.

In summary, empirical evidence and theoretical considerations support that customers are unlikely to move in a manner that permits financial service providers to skirt regulatory obligations. This provides a measure of comfort that some policy goals may be achieved unilaterally. Yet as discussed above in Section IV.A.3, some methods of achieving customer protection may rely not only on activities within the customer-serving market but also other markets. The goal of enabling customers to take advantage of the same terms dealers offered one another through mandatory platform execution relied on inter-dealer trading remaining within the purview of U.S. regulation. The move of inter-dealer swap activity offshore thus undermined this method of allaying concerns with oligopolistic conduct among dealers. This shows that migration, even if it does not involve customers, can complicate the regulatory project by requiring use of less elegant tools such as traditional enforcement.

2. Inter-dealer Activity Migrates

As reflected in Figure III.A, the great majority of swap activity is conducted between a relatively small number of swap dealing institutions. Due to the immense volume of inter-dealer swap activity, the heavier regulatory burdens imposed on swap dealers, and their personnel's expertise in financial structuring, greater mobility is to be expected of dealer-to-dealer transactions than customer serving transactions. At the risk of letting the tail wag the dog, it is also noteworthy that dealers are more likely to be comfortable without the certainty American legal institutions offer. Major financial institutions transacting with each other are less likely to demand the protections of developed legal and regulatory regimes due to relatively lower informational asymmetries, substantial reputational capital and expertise in tailoring contractual arrangements (which can substitute for the protections of public law). The private benefits of coordinated relocation are thus substantially higher and the costs substantially lower in the context of inter-dealer markets than customer markets.

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may be termed a paternalistic view) market integrity from the migration of transactions abroad through conduit affiliates.

196. *See supra* note 9.

197. *See* Jeffrey N. Gordon & Christopher Muller, *Confronting Financial Crisis: Dodd-Frank's Dangers and the Case for a Systemic Emergency Insurance Fund*, 28 YALE J. REG. 151, 177–78 (2011).

As discussed above, the dramatic implosion of U.S. swap market activity seen in CFTC data is owed in substantial part to the movement of U.S. banks' swap dealing operations into foreign subsidiaries. These swap activities do not involve U.S. counterparties, but rather non-U.S. persons that may have preexisted the promulgation of the CFTC's cross-border guidance or have been established subsequently. These foreign counterparties may be subsidiaries of U.S. based financial institutions or may be foreign based financial institutions. And the migrating swap activities are truly conducted abroad rather than merely papered as between non-U.S. counterparties while being negotiated from the United States. Because they operate wholly outside the United States, these subsidiaries are exempt from registration as swap dealers and hence free from the panoply of Title VII regulations applicable to swap dealers. How problematic is this migration?

Foreign subsidiaries of U.S. banks engaging in unregulated swaps trading with other major financial institutions risks accumulation of systemic risk in contravention of the policy animating Title VII.[198] If as Congress concluded and many scholars argue, unsupervised interdependence between financial institutions established through opaque swap relationships contributed to the financial crisis, the re-creation of these unregulated webs offshore can be cause for concern.[199] The concerning activities, however, take place in subsidiaries rather than U.S. banks directly and this adds a significant measure of protection. A fundamental premise of corporate law is that parents have no obligation for the liabilities of their subsidiaries provided that basic formalities are maintained.[200] Yet this protection is qualified. First, the equity interest in the subsidiary may represent a material asset of the parent. Second, financial relationships with the subsidiary such as loans or derivatives may additionally expose the parent to losses in the event the subsidiary founders. Third, parents have been known to voluntarily bail out their children (notwithstanding fraudulent conveyance risk, fiduciary duties to parental shareholders, and other legal niceties). And fourth, co-branding, inter-affiliate service agreements, and other operational interdependencies between entities can undermine the parent when the subsidiary stumbles. Financial regulators should be wary of the buildup of systemic risk in offshore subsidiaries.

Fortunately, regulators can be granted or already have tools to deal with systemic risk at the domestic parent level. The means to stem systemic risk discussed

198. As discussed above, the offshoring also implicates market transparency concerns, and to a far lesser extent due to the institutions being generally able to fend for themselves, concerns of fraud and abuse.

199. *See* Viral Acharya et al., *The Financial Crisis of 2007–2009: Causes and Remedies*, 18 FIN. MARKETS, INSTITUTIONS & INSTRUMENTS 89 (2009); George W. Madison, Gary J. Cohen & William A. Shirley, *Financial Regulatory Reform: Key Changes That Reduced Systemic Risk*, BANK. & FIN. SERV. (Jan. 2015).

200. WILLIAM A. KLEIN, J. MARK RAMSEYER & STEPHEN M. BAINBRIDGE, BUSINESS ASSOCIATIONS: CASES AND MATERIALS ON AGENCY, PARTNERSHIPS AND CORPORATIONS (Foundation Press, 10th ed. 2006).

here primarily relate to banks as opposed to non-bank affiliates within a bank holding company. Congress could, however, unilaterally expand the authority of the Federal Reserve to similarly police interactions between U.S. entities within a bank holding company and their foreign subsidiaries.[201]

U.S. banking regulators may have legislative authority to limit the flow of risk between a U.S. bank and its foreign subsidiaries.[202] For example, Basel III contemplates that national regulators will determine haircuts applicable to investments in consolidated subsidiaries.[203] Under statutory authority to define capital standards, U.S. banking regulators can force greater discounts on equity in foreign subsidiaries than on domestic subsidiaries to account for the greater risk of unregulated activity.[204]

Beyond capital requirements, banking agencies already have scaffolding for firewalling off unregulated activities of non-U.S. subsidiaries. The Federal Reserve has promulgated Regulation K, Subpart A[205] to address the unique powers and obligations related to the foreign activities of U.S. banking organizations. Additional means exist for policing guarantees or other credit support that may make a U.S. entity liable for the obligations of its non-U.S. affiliates. Sections 23A/B restrict banks' and their subsidiaries' transactions with affiliates in part to reduce the risk of FDIC insurance being used to subsidize non-bank activity.[206] Currently, transactions between banks and their subsidiaries are generally exempt from these restrictions.[207] Restrictions on affiliate transactions could be expanded for non-U.S. subsidiaries of banks to protect the bank from its subsidiary's default (and to prevent the bank from bailing out the subsidiary).[208] Reliance on Sections

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201. Legislation could also capture arrangements between members of the U.S. shadow banking sector and their offshore affiliates.

202. Non-bank swap dealers may emerge and, indeed, one famously has. *Interest rate Derivatives House of the Year: Citadel Securities*, *supra* note 125. The emergence of swap dealers unaffiliated with banks may require Congress to provide regulators with new authorities vis-à-vis hedge funds and other participants in the so called "shadow banking" sector. *See* Kathryn Judge, *Information Gaps and Shadow Banking*, 103 VA. L. REV. 411 (2017); Tobias Adrian & Adam B. Ashcraft, *Shadow Banking: A Review of the Literature, in* BANKING CRISES (Garett Jones ed., Palgrave Macmillan 2016).

203. BASEL COMM. ON BANKING SUPERVISION, BANK FOR INT'L SETTLEMENTS, BASEL III DEFINITION OF CAPITAL – FREQUENTLY ASKED QUESTIONS 10 (2017). The approach of limiting failure to an unregulated foreign subsidiary *ex post* rather than regulating the subsidiary *ex ante* to prevent it from taking on excessive risk is admittedly a second best approach. In another context, Stephen J. Lubben and Arthur Wilmarth have raised substantial questions as to whether large financial conglomerates can manage the liquidity of their affiliates in an independent manner that recognizes corporate separation (and counterparties' abilities to monitor whether these practices are taking place) particularly in times of market stress. *See* Stephen J. Lubben & Arthur Wilmarth, *Too Big and Unable to Fail*, 69 FLA. L. REV. 1205, 1229 (2017).

204. There is precedent for this approach in the treatment of bank financial subsidiary equity. *See* 12 C.F.R. § 3.22(a)(7) (2019).

205. 12 C.F.R. §§ 211.1–.13 (2019).

206. *See* Federal Reserve Act, §§ 23A–B, 12 U.S.C. §§ 371c to 371c-1 (2018).

207. *See id.* § 23A(b)(2)(A). Financial subsidiaries are generally treated as affiliates rather than bank subsidiaries. *Id.* § 23A(e).

208. *See* Cross-Border Guidance, *supra* note 91, at 45,320 (discussing implicit guarantees).

23A/B to police dependencies of U.S. banks and unregulated foreign subsidiaries may admittedly be an imperfect solution in practice as inter-affiliate arrangements are difficult to monitor, particularly in cases of informal agreements carried out by individuals with strong personal relationships or, in some cases, roles across multiple entities. Additional separation of roles and personnel may be necessary to further financial independence of banks from their foreign subsidiaries.

To address some of the risk to customer relationships from foreign subsidiary default, banks can be required to use trademarks, branding, and other identification for foreign operations and the subsidiaries housing them that is unrelated to the parent bank. Banking regulators can prohibit banks from allowing cross-defaults triggered by foreign subsidiaries. And banking regulators can prohibit banks from bailing out their subsidiaries when an injection of funds could create instability for the parent institution.

To deter diversion of parental assets to subsidiaries during times of stress, restrictions on asset contributions to foreign subsidiaries can be implemented. These restrictions may place caps on contributions during a given period or condition contributions on the absence of severely adverse market conditions. The former requires the parent to undertake a measured, deliberate policy when growing a foreign subsidiary and prevents bail outs. The latter prevents bailouts at a time when other financial institutions may be distressed. Either approach, however, may not work because during a crisis regulators may forbear from enforcement.[209] It is unclear if our political institutions have the discipline to apply law in times of crisis, especially when the broader consequences are hard to predict and will result in some businesses failing in the short term.[210] Ex ante prevention of risk concentration through international harmonization rather than ex post containment of risk through barriers between parents and subsidiaries during a crisis represents a potentially more efficient approach to stemming systemic risk. For that reason, regulating dealing activities similarly across the globe may be preferable to limiting blowback from activity through insulating U.S. entities from unregulated offshore affiliates. This is another example where unilateral solutions exist, though harmonization allows for more efficacious designs for achieving policy priorities.

This example also shows how harmonization permits regulatory design to bypass shortcomings in domestic lawmaking institutions. The above proposal to cabin risk in foreign subsidiaries would require cooperation between the CFTC and SEC, on the one hand, and the banking regulators (e.g., the Federal Deposit Insurance Corporation (FDIC), the Federal Reserve Board and the OCC), on the other hand, or at least an understanding of the former's regulations by the latter.[211]

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209. *See* POSNER, *supra* note 3.

210. *See* Saule T. Omarova, *From Gramm-Leach-Bliley to Dodd Frank: The Unfulfilled Promise of Section 23A of the Federal Reserve Act*, 89 N.C.L. REV. 1683 (2011) (explaining regulatory willingness to relax prohibitions on inter-affiliate transactions during the financial crisis).

211. Judge, *supra* note 3, at 901 (discussing failure of coordination between Federal Reserve and SEC).

In other words, banking regulators would have to identify foreign subsidiaries of U.S. banks that would have been swap dealers under CFTC and SEC rules if they had been conducting their operations in the U.S. Banking regulators would further have to amend current rules governing bank subsidiaries to provide U.S. bank parents protection commensurate with the risk from unregulated conduct of their offshore subsidiaries. This poses an institutional problem where a host of banking regulators need to measure and fill a lacuna left by the territorial limitation of regulations written primarily by the CFTC and SEC. Yet this coordination problem is not predominantly owed to mobility of U.S. financial institutions but rather to the unique fragmentation of the U.S. financial regulatory system.[212] Unlike most of its peer countries, the United States has splintered financial regulation across a multitude of agencies (serving, in part, the campaign finance goals of legislators controlling the distinct committees to which these agencies are beholden). These institutional features create challenges to effective unilateral regulation, which harmonization helps bypass.

The discussion above shows how the migration of inter-dealer markets undermines the regulatory architecture developed to reduce systemic risk. It also shows that migration does not necessarily undermine policy goals in the absence of harmonization; rather, the susceptibility of a unilateral regime to relocation is determined jointly by the lawmakers architecting the regime and the private parties responding to it. As this example shows, design error or political compromise may lead lawmakers to architect regimes in manners susceptible to private parties opting out through relocation.

The above concerns with migration and proposals for addressing it are premised on a nationalistic assumption that U.S. regulations strike the correct balance between social and private costs. It may be that U.S. regulations are overly strict while the regulations in the jurisdiction to which activities have migrated are overly lax. Viewing mobility as a form of *undesirable* avoidance assumes that the host jurisdiction has a relatively superior regime. It remains for future work to normatively assess the flight of U.S. swap activity abroad.[213]

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212. Kenneth W. Dam, *The Subprime Crisis and Financial Regulation: International and Comparative Perspectives* (John M. Olin Program in Law and Econ., Working Paper No. 517, 2010), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1579048 [https://perma.cc/HYF8-M7S8] (last visited July 30, 2018); Sabrina R. Pellerin, John R. Walter & Patricia E. Wescott, *The Consolidation of Financial Regulation: Pros, Cons, and Implications for the United States*, 95 ECON. Q. 121 (2009); Howell E. Jackson, *A Pragmatic Approach to the Phased Consolidation of Financial Regulation in the United States* (Harv. Law Sch. Pub. Law and Legal Theory, Working PaperNo. 09-19, 2008), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1300431 [https://perma.cc/VPY5-US9T] (last visited July 30, 2018); United States Department of the Treasury, *Blueprint for a Modernized Financial Regulatory Structure* (2008), https://www.treasury.gov/press-center/press-releases/Documents/Blueprint.pdf [https://perma.cc/3FE9-FNSM] (last visited July 30, 2018).

213. There is no serious contention that legislation regulating the financial industry is based on a wonkish calculus of benefits and costs. And the agencies implementing financial regulations are generally not constrained to promulgating only those regulations with positive net benefits. Jeffrey

CONCLUSION

This preceding discussion develops the debate on the necessity of internationally harmonizing financial regulations. This conventional view was based on the supposition that financial institutions could relocate to subvert regulations. This Paper both substantiates the core concerns of international financial regulation—supporting that financial institutions do indeed relocate operations following regulatory intervention—and challenges that regulatory policy is categorically susceptible to such relocation. Depending on the policy goal, unilateral financial regulation may be more or less effective to achieve it.

The applicability of regulations governing financial services does not turn on just the location of the services provider but also on the location of the customer. The rhetoric concerning "financial institutions" relocating, rather than "financial service providers" helps elide the reality that all financial activity directly or indirectly serves customers and involves at least two parties. The swap market experience presented in this paper shows that customers are less likely to relocate than services providers in the wake of regulations. This is not just an empirical observation. It is consistent with models of relative benefits and costs from relocation to customers and their suppliers. Customers tend to be subject to lighter regulatory burdens than service providers and to less frequently engage in regulated conduct. As a result, the relative benefits in regulatory savings of migrating customer-serving transactions are significantly lower than those of migrating transactions between financial services providers. Regulations aimed at markets

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N. Gordon, *The Empty Call for Benefit-Cost Analysis in Financial Regulation*, 43 J. LEG. STUD. S351 (2014). Imminent scholars disagree as to the prospects for arriving at a cost-benefit based design of financial regulation, as opposed to design based on reasoned application of experience and judgment. *Compare id.*, *and* Coates, *supra* note 114, *with* Eric A. Posner & E. Glen Weyl, *Cost-Benefit Analysis of Financial Regulations: A Response to Criticisms*, 124 YALE L.J.F. 246 (2015) (arguing for further research and identifying that financial markets produce unusually high amounts of data that may be useful for measuring benefits and costs). Some of the same issues plaguing ex ante design stymie ex post measurement. For leading efforts in measuring systemic risk, which is perhaps the most slippery of the priorities of financial regulators, see efforts by the Federal Reserve Bank of Cleveland to develop a public systemic risk indicator. *System Risk Indicator*, FED. RES. BANK CLEVELAND, https://www.clevelandfed.org/our-research/indicators-and-data/systemic-risk-indicator.aspx [https://perma.cc/4HX7-PDBJ] (last visited Nov. 18, 2019). The indicator, however, is based on implied market expectations of bank default and does not provide a ready answer for how leverage, maturity-mismatch, inter-connectedness, opaque financial dependencies, or other variables commonly referenced as contributors affect systemic risk. Inability to measure and compare the health of regulatory environments across jurisdictions calls into question a swath of normative scholarship in financial regulation. Because there is no available measure for the quality of financial regulation, many scholarly discussions amount at best to expressions of judgment and informed guesswork. For example, it is difficult to understand whether a race-to-the bottom or top is taking place without being able to compare the quality of regulation, and similarly, recommendations for experimentation among jurisdictions do not address how the results of the experiment would be measured and learned from. *Cf.* Griffith, *supra* note 49, at 1293–94 (explaining calls for harmonization as based on concerns with a race to the bottom, while encouraging experimentation in part to separate successful from unsuccessful approaches to financial regulation).

between financial institutions and their customers such as those seeking customer protection goals are less likely to be susceptible to regulatory arbitrage through relocation.

In contrast, markets between financial services providers are relatively more mobile. Thus, goals concerned with regulating these markets are more reliant on harmonization. Yet even in this context, unilateral financial regulation may be largely successful. If the goal is prevention of systemic risk inflow to U.S. financial institutions, restrictions on a U.S. parent may be adequate notwithstanding a liberal regime governing the activities of a foreign subsidiary. These restrictions, however, may be difficult to implement in practice due to institutional constraints such as challenges to inter-agency coordination and political over-rides in times of crisis. International harmonization is desirable not because of the mobility of financial institutions without more but because of shortcomings in our lawmaking apparatus, many of them self-imposed.

The mobility of financial institutions, however, raises concerns beyond those of thwarting regulatory agendas. Migration of economic activity to avoid regulation creates what tax scholars[214] refer to as deadweight loss. The migration also has distributive consequences as countries with laxer laws attract businesses and the attendant benefits such as greater employment and taxes. These costs of mobility itself, rather than the limitations mobility imposes on policy objectives motivating financial regulation, are a topic for subsequent scholarship.

214. HENRY J. AARON & JOSEPH A. PECHMAN, HOW TAXES AFFECT ECONOMIC BEHAVIOR, BROOKINGS (1981). Deadweight loss figures prominently in the normative analysis of tax law, where it is a measure of private loss induced through legal intervention. This type of deadweight loss also occurs in response to financial and other regulation. As a harm, deadweight loss is not solely caused through government intervention and anti-trust scholarship provides a careful study of how private collusion can create deadweight loss relative to a competitive market baseline. *See* Douglas Melamed, *Antitrust Law is not That Complicated Response*, 130 HARV. L. REV. F. 163, 164 (2017).

APPENDIX A

Swap Market Regulation Timeline[215]

On December 31, 2012, swap dealers had to register as such.[216]

On January 1, 2013, a number of swap dealer specific obligations came into effect:

- Prohibitions on fraud;[217]
- Providing the daily mark of swap transactions;[218]
- Fair dealing standards applicable to swap dealer communications;[219]
- Diligence on recommended swaps and strategies;[220]
- Restrictions on political contributions;[221]
- Risk management program;[222]
- Business continuity requirements;[223]
- Monitoring of position limits;[224]
- Diligent supervision of swap personnel;[225]
- Conflicts of interest policies and procedures;[226]
- Accessibility of information to regulators;[227]
- Antitrust considerations;[228]
- Designation of chief compliance officer for already regulated entities;[229]
- Portfolio compression for already regulated entities;[230]
- Trade confirmation requirements;[231]

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215. For sources, see MAYER BROWN LLP, BY WHEN? – THE CFTC'S DODD-FRANK COMPLIANCE DATES, https://www.isda.org/a/1niDE/df-effectiveness-timelines.pdf [https://perma.cc/VVF4-BU8L] (last visited Nov. 18, 2019); *Swaps Made Available to Trade Determination*, CFTC, https://sirt.cftc.gov/sirt/sirt.aspx?Topic=%20SwapsMadeAvailableToTradeDetermination [https://perma.cc/FMY6-35MW] (last visited Nov. 18, 2019); SWAPS MADE AVAILABLE TO TRADE (Feb. 18, 2014), https://www.cftc.gov/sites/default/files/idc/groups/public/@otherif/documents/file/swapsmadeavailablechart.pdf [https://perma.cc/XVW7-BRHZ]. (last visited Nov. 18, 2019)

216. *See* 17 C.F.R. §§ 3.10, 23, 23.21–22, 170.16 (2019).

217. *See id.* § 23.410(a), (b).

218. *See id.* § 23.431(d).

219. *See id.*

220. *See id.*

221. *See id.*

222. *See id.* § 23.600.

223. *See id.* § 23.603.

224. *See id.* § 23.601.

225. *See id.* § 23.602.

226. *See id.* § 23.605.

227. *See id.* § 23.606.

228. *See id.* § 23.607.

229. *See id.* § 3.3.

230. *See id.* § 23.503.

231. *See id.* § 23.501.

On March 10, 2013, portfolio compression became mandatory for swap dealers that were not subject to regulation prior to registration as swap dealers;[232]

On March 11, 2013, swap clearing became mandatory with respect to major swaths of the interest rate and credit default swap market where the transaction was between so called "Category 1 Entities" (which include swap dealers and very large private funds);[233]

On April 3, 2013, swap dealers that were not subject to regulation prior to registering as swap dealers had to designate a chief compliance officer;[234]

On May 1, 2013, a number of additional regulations became applicable to swap dealers:

- General provisions such as anti-evasion rules and know your counterparty rules became applicable;[235]
- Confidential treatment of counterparty information;[236]
- Verification of counterparty eligibility to enter into swaps and status as a special entity (e.g., governmental body, retirement plan, endowment);[237]
- Counterparty disclosures, including pre-trade mid-market mark and scenario analysis;[238]
- Clearing related disclosure;[239]
- Institutional suitability;[240]
- Requirements applicable to swap dealers acting as advisors or counterparties to special entities;[241]

One June 10, 2013, the second batch of entities became subject to clearing requirement (these include all private funds and entities predominantly engaged in activities that are financial in nature);[242]

On July 1, 2013, swap dealers had to begin portfolio reconciliation with their counterparties;[243]

On September 9, 2013, all remaining entities became subject to clearing requirement;[244]

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232. *See id.* § 23.503.
233. *See id.* §§ 39, 50.
234. *See id.* § 3.3.
235. *See id.* § 23.402.
236. *See id.* § 23.410(c).
237. *See id.* §§ 23.401, 23.430.
238. *See id.* § 23.431(a)–(c).
239. *See id.* § 23.432.
240. *See id.* § 23.434(a)(2), (b), (c).
241. *See id.* §§ 23.440, 23.450.
242. *See id.* §§ 39, 50.
243. *See id.* § 23.502.
244. *See id.* §§ 39, 50.

On February 15, 2014, the first set of interest rate and credit default swaps became subject to the platform execution requirement.[245]

On September 1, 2016, the variation margin requirement came into effect for swap dealers with the largest outstanding notional amounts of uncleared swaps;[246]

On March 1, 2017, the rest of the swap dealers became subject to variation margin requirements (although this was separately delayed until Sept. 1, 2017 under CFTC Letter No. 17-11).[247]

245. *See Swaps Made Available to Trade*, *supra* note 215.
246. *See* 17 C.F.R. § 23.153.
247. *See id.*