U.S. DEPARTMENT OF THE TREASURY

A Financial System That Creates Economic Opportunities

Capital Markets

OCTOBER 2017

U.S. DEPARTMENT OF THE TREASURY

A Financial System That Creates Economic Opportunities
Capital Markets

Report to President Donald J. Trump

Executive Order 13772 on Core Principles
for Regulating the United States Financial System

Steven T. Mnuchin

Secretary

Craig S. Phillips

Counselor to the Secretary

Staff Acknowledgments

Secretary Mnuchin and Counselor Phillips would like to thank Treasury staff members for their contributions to this report. The staff's work on the report was led by Brian Smith and Amyn Moolji, and included contributions from Chloe Cabot, John Dolan, Rebekah Goshorn, Alexander Jackson, W. Moses Kim, John McGrail, Mark Nelson, Peter Nickoloff, Bill Pelton, Fred Pietrangeli, Frank Ragusa, Jessica Renier, Lori Santamorena, Christopher Siderys, James Sonne, Nicholas Steele, Mark Uyeda, and Darren Vieira.

Table of Contents

Executive Summary 1

Introduction 3

Scope of This Report 3

Review of the Process for This Report 4

The U.S. Capital Markets 4

Summary of Issues and Recommendations 6

Capital Markets Overview 11

Introduction 13

Key Asset Classes 13

Key Regulators 18

Access to Capital 19

Overview and Regulatory Landscape 21

Issues and Recommendations 25

Equity Market Structure 47

Overview and Regulatory Landscape 49

Issues and Recommendations 59

The Treasury Market 69

Overview and Regulatory Landscape 71

Issues and Recommendations 79

Corporate Bond Liquidity 83

Overview and Regulatory Landscape 85

Issues and Recommendations 87

Securitization 89

Overview 91

Regulatory Landscape 96

Issues and Recommendations 97

Derivatives 107

Overview 109

Regulatory Landscape 116

Issues and Recommendations 126

Financial Market Utilities 149

Overview and Regulatory Landscape 151

Issues and Recommendations 164

Regulatory Structure and Process 169

Overview 171

Issues and Recommendations 179

International Aspects of Capital Markets Regulation 187

Overview 189

Issues and Recommendations 190

Appendices 193

Appendix A: Participants in the Executive Order Engagement Process 193

Appendix B: Table of Recommendations 203

Acronyms and Abbreviations

Acronym/Abbreviation	Term
ABS	Asset-Backed Securities
Agency MBS	Agency Mortgage-Backed Securities
ANE	Arrange, Negotiate, or Execute
ARRC	Alternative Reference Rates Committee
ATR	Ability to Repay
ATS	Alternative Trading System
BCBS	Basel Committee on Banking Supervision
BDC	Business Development Company
BNY Mellon	Bank of New York Mellon
CCAR	Comprehensive Capital Analysis and Review
CCP	Central Counterparty
CDO	Collateralized Debt Obligation
CDS	Credit Default Swap
CEA	Commodity Exchange Act
CEM	Current Exposure Method
CFTC	U.S. Commodity Futures Trading Commission
CFMA	Commodity Futures Modernization Act
CHIPS	Clearing House Interbank Payments System
CLO	Collateralized Loan Obligation
CLOB	Central Limit Order Book
CMBS	Commercial Mortgage-Backed Securities
CME, Inc.	Chicago Mercantile Exchange, Inc.
CMG	Crisis Management Groups
CPO	Commodity Pool Operator
CPMI-IOSCO	Committee on Payments and Market Infrastructures and the Board of the International Organization of Securities Commissions
CTU	Central Treasury Unit
DCM	Designated Contract Market
DCO	Derivatives Clearing Organization

DERA	SEC Division of Economic and Risk Analysis
DFAST	Dodd-Frank Act Stress Test
Dodd-Frank	Dodd-Frank Wall Street Reform and Consumer Protection Act
DtC	Dealer-to-Client
DTC	Depository Trust Company
DTCC	Depository Trust and Clearing Corporation
EC	European Commission
EGC	Emerging Growth Company
eSLR	Enhanced Supplementary Leverage Ratio
ETFs	Exchange-Traded Funds
EU	European Union
Exchange Act	Securities Exchange Act of 1934
FCM	Futures Commission Merchant
FDIC	Federal Deposit Insurance Corporation
FHFA	Federal Housing Finance Agency
FIA	Futures Industry Association
FICC	Fixed Income Clearing Corporation
FINRA	Financial Industry Regulatory Authority
FMU	Financial Market Utility
FRB	Federal Reserve Board of Governors
FRBNY	Federal Reserve Bank of New York
FRTB	Fundamental Review of the Trading Book
FSB	Financial Stability Board
FSOC	Financial Stability Oversight Council
FTE	Full-Time Equivalent (Personnel)
FX	Foreign Exchange
FY	Fiscal Year
GAO	U.S. Government Accountability Office
GSA	Government Securities Act of 1986
GSD	Government Securities Division (of FICC)
GSE	Government Sponsored Enterprise

HFT	High Frequency Trading
HQLA	High-Quality Liquid Assets
HUD	U.S. Department of Housing and Urban Development
IDB	Interdealer Broker
IOSCO	International Organization of Securities Commissions
IPO	Initial Public Offering
IRS	Interest Rate Swap
ISDA	International Swaps and Derivatives Association
IT	Information Technology
JOBS Act	Jumpstart Our Business Startups Act
JP Morgan	JPMorgan Chase & Co.
JSR	Joint Staff Report
LCR	Liquidity Coverage Ratio
LIBOR	London Interbank Offered Rate
LPR	Large Position Reporting
LSEG	London Stock Exchange Group
MAT	Made Available to Trade
MBS	Mortgage-Backed Securities
MBSD	Mortgage Backed Securities Division (of FICC)
MiFID	Markets in Financial Instruments Directive
MSRB	Municipal Securities Rulemaking Board
NBBO	National Best Bid or Offer
NFA	National Futures Association
NMS	National Market System
NMS Stock ATSs	Alternative Trading Systems that trade NMS stocks
NRSRO	Nationally Recognized Statistical Rating Organization
NSCC	National Securities Clearing Corporation
NSFR	Net Stable Funding Ratio
NYSE	New York Stock Exchange
OCC	Options Clearing Corporation (FMU)
OCC	Office of the Comptroller of the Currency (Regulator)
OLA	Orderly Liquidation Authority

OTC	Over-the-Counter
PLS	Private-Label Securities
PTF	Principal Trading Firm
QIBs	Qualified Institutional Buyers
QM	Qualified Mortgage
QRM	Qualified Residential Mortgage
RFA	Regulatory Flexibility Act
RFQ	Request for Quote
SA-CCR	Standardized Approach for Counterparty Credit Risk
SDR	Swap Data Repository
SEC	U.S. Securities and Exchange Commission
SEF	Swap Execution Facility
SFA	Supervisory Formula Approach
SIP	Securities Information Processor
SIFMA	Securities Industry and Financial Markets Association
SIFMUs	Systemically Important Financial Market Utilities
SLR	Supplementary Leverage Ratio
SPV	Special Purpose Vehicle
SRC	Smaller Reporting Company
SRO	Self-Regulatory Organization
SSB	Standard Setting Body
SSFA	Simplified Supervisory Formula Approach
TBA	To-Be-Announced Market
TCH	The Clearing House Payments Company, L.L.C.
Title VII	Title VII of the Dodd-Frank Wall Street Reform and Consumer Protection Act
Title VIII	Title VIII of the Dodd-Frank Wall Street Reform and Consumer Protection Act
TRACE	Trade Reporting and Compliance Engine
Treasury	U.S. Department of the Treasury
USD	U.S. Dollar
UTP	Unlisted Trading Privileges

Executive Summary

Introduction

President Donald J. Trump established the policy of his Administration to regulate the U.S. financial system in a manner consistent with a set of Core Principles. These principles were set forth in Executive Order 13772 on February 3, 2017. The U.S. Department of the Treasury (Treasury), under the direction of Secretary Steven T. Mnuchin, prepared this report in response to that Executive Order. The reports issued pursuant to the Executive Order identify laws, treaties, regulations, guidance, reporting and record keeping requirements, and other Government policies that promote or inhibit Federal regulation of the U.S. financial system in a manner consistent with the Core Principles.

The Core Principles are:

A. Empower Americans to make independent financial decisions and informed choices in the marketplace, save for retirement, and build individual wealth;

B. Prevent taxpayer-funded bailouts;

C. Foster economic growth and vibrant financial markets through more rigorous regulatory impact analysis that addresses systemic risk and market failures, such as moral hazard and information asymmetry;

D. Enable American companies to be competitive with foreign firms in domestic and foreign markets;

E. Advance American interests in international financial regulatory negotiations and meetings;

F. Make regulation efficient, effective, and appropriately tailored; and

G. Restore public accountability within Federal financial regulatory agencies and rationalize the Federal financial regulatory framework.

Scope of This Report

The financial system encompasses a wide variety of institutions and services, and accordingly, Treasury is delivering a series of four reports related to the Executive Order covering:

- The depository system, covering banks, savings associations, and credit unions of all sizes, types and regulatory charters (the Banking Report,[1] which was publicly released on June 12, 2017);
- Capital markets: debt, equity, commodities and derivatives markets, central clearing and other operational functions (this report);

1. U.S. Department of the Treasury, *A Financial System That Creates Economic Opportunities: Banks and Credit Unions* (June 2017).

- The asset management and insurance industries, and retail and institutional investment products and vehicles; and
- Nonbank financial institutions, financial technology, and financial innovation.

On April 21, 2017, President Trump issued two Presidential Memoranda to the Secretary of the Treasury. One calls for Treasury to review the Orderly Liquidation Authority (OLA) established in Title II of the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank). The other calls for Treasury to review the process by which the Financial Stability Oversight Council (FSOC) determines that a nonbank financial company could pose a threat to the financial stability of the United States and will be subject to supervision by the Federal Reserve and enhanced prudential standards, as well as the process by which the FSOC designates financial market utilities as systemically important. While some of the issues described in this report are relevant to OLA and FSOC designations, Treasury will submit separate reports on those topics to the President.

Review of the Process for This Report

For this report on capital markets, Treasury incorporated insights from the engagement process for the Banking Report and also engaged with additional stakeholders focused on capital markets issues. Over the course of this outreach, Treasury consulted extensively with a wide range of stakeholders, including trade groups, financial services firms, consumer and other advocacy groups, academics, experts, financial market utilities, investors, investment strategists, and others with relevant knowledge. As directed by the Executive Order, Treasury consulted with FSOC member agencies. Treasury also reviewed a wide range of data, research, and published material from both public and private sector sources.

Treasury incorporated the widest possible range of perspectives in evaluating approaches to regulation of the U.S. financial system according to the Core Principles. A list of organizations and individuals who provided input to Treasury in connection with the preparation of this report is set forth as ***Appendix A***.

The U.S. Capital Markets

The U.S. capital markets are the largest, deepest, and most vibrant in the world and of critical importance in supporting the U.S. economy. The United States successfully derives a larger portion of business financing from its capital markets, rather than the banking system, than most other advanced economies. U.S. capital markets provide invaluable capital resources to our entrepreneurs and owners of businesses, whether they are large or small, public or private. Both our equity and debt markets provide investment opportunities to a broad range of investors, from large institutions to individuals saving for retirement. Derivatives markets facilitate risk management strategies for many financial and nonfinancial businesses. Vibrant securitization markets support various lending channels, improving consumer access to credit cards, automobile loans, and a range of other credit products. Robust financial market infrastructure, including clearing and settlement operations, underpins each of these markets and is critical for delivering the benefits of our financial system to the broader economy.

While the United States has some of the largest capital markets, capital markets are global and operate around the clock in financial centers around the world. The largest U.S. financial services firms are global in nature and benefit from a level playing field to compete in global markets.

Major public capital markets in the United States include the $29 trillion equity market, the $14 trillion market for U.S. Treasury securities, the $8.5 trillion corporate bond market, and the $200 trillion (notional amount) derivatives markets. Participants in these markets include approximately 3,500 domestic public companies, nearly 4,000 broker-dealers, and millions of investors domestically and abroad.

The current statutory and regulatory framework for U.S. capital markets dates back to the Great Depression, and has been evolving ever since. Changes have been driven by launches of new capital markets products, the increasing complexity of financial products and markets, the implications of evolving data and technology capabilities, and the globalization of markets. The primary regulators of U.S. capital markets are the Securities and Exchange Commission (SEC) and the Commodity Futures Trading Commission (CFTC), along with state securities regulators. Additionally, self-regulatory organizations, including the Financial Industry Regulatory Authority (FINRA), the Municipal Securities Rulemaking Board (MSRB), and the National Futures Association (NFA), help regulate and oversee certain parts of the financial sector. Following its enactment in 2010, Dodd-Frank resulted in several significant changes to capital markets regulation, such as mandating risk retention for securitized products, mandating clearing of certain derivatives through central counterparties (CCPs), and authorizing the FSOC to designate systemically important financial market utilities (SIFMUs). More than seven years after Dodd-Frank's enactment, it is important to reexamine these rules, both individually and in concert, guided by free-market principles and with an eye toward maximizing economic growth consistent with taxpayer protection.

Certain elements of the capital markets regulatory framework are functioning well and support healthy capital markets. For some elements, more action is needed to guard against the risks of a future financial crisis. Other elements need better calibration and tailoring to help markets function more effectively for market participants. There are significant challenges with regulatory harmonization and efficiency, driven by a variety of factors including joint rulemaking responsibilities, overlapping mandates, and jurisdictional friction.

In order to help maintain the strength of our capital markets, we need to constantly evaluate the financial regulatory system to consider how it should evolve to continue to support our markets and facilitate investment and growth opportunities, while promoting a level playing field for U.S. and global firms and protecting investors. Treasury has identified recommendations that can better align the financial system to serve issuers, investors, and intermediaries to support the Administration's economic objectives and drive economic growth.

Summary of Issues and Recommendations

Treasury's review of the regulatory framework for capital markets has identified significant opportunities for reform to advance the Core Principles. The review has identified a wide range of measures that could promote economic growth and vibrant financial markets, providing opportunities for investors and issuers alike, while maintaining strong investor protection, preventing taxpayer-funded bailouts, and safeguarding the financial system.

Treasury's recommendations in this report are organized in the following categories:

- Promoting access to capital for all types of companies, including small and growing businesses, through reduction of regulatory burden and improved market access to investment opportunities;
- Fostering robust secondary markets in equity and debt;
- Appropriately tailoring regulations on securitized products to encourage lending and risk transfer;
- Recalibrating derivatives regulation to promote market efficiency and effective risk mitigation;
- Ensuring proper risk management for CCPs and other financial market utilities (FMUs) because of the critical role they play in the financial system;
- Rationalizing and modernizing the U.S. capital markets regulatory structure and processes; and
- Advancing U.S. interests by promoting a level playing field internationally.

Treasury's recommendations to the President are focused on identifying laws, regulations, and other government policies that inhibit regulation of the financial system according to the Core Principles. Because depository institutions are significant service providers and market makers in capital markets, this report builds on several themes identified in the Banking Report.

A list of all of Treasury's recommendations within this report is set forth as ***Appendix B***, including the recommended action, the method of implementation (Congressional and/or regulatory action), and which Core Principles are addressed.

Following is a summary of the recommendations set forth in the report.

Promoting Access to Capital and Investment Opportunities

In the wake of the financial crisis, the U.S. economy has experienced the slowest economic recovery of the post-war period. While the Administration is pursuing a range of policies to stimulate economic growth, one key area will be promoting capital formation for entrepreneurs and growing businesses. The regulatory burden for public companies has grown, and many companies are choosing to retain or return to private ownership. Over the last 20 years, the number of public companies in the United States has dropped by nearly 50%.

Treasury's recommendations include numerous measures to encourage companies toward public ownership, including eliminating duplicative requirements, liberalizing pre-initial public offering communications, and removing non-material disclosure requirements, among other recommendations. Improperly tailored regulatory burden can benefit the largest companies, which are better positioned to absorb the costs, and discourage competition from new entrants. Treasury has also identified opportunities to ease challenges for smaller public companies, including scaled disclosure requirements.

Public companies provide a useful investment vehicle for millions of retail investors who need investment opportunities to help save for retirement. If many successful new companies stay private, middle-class Americans may miss out on the significant returns they generate for investors. Treasury recommends a series of changes to open private markets for more investors, including revisiting the "accredited investor" definition and considering ways to facilitate pooled investments in private or less-liquid offerings.

Our capital markets can also be better harnessed to help America's entrepreneurs. Through creative funding tools such as crowdfunding, markets can help provide capital for these innovators to grow their businesses and create jobs. After a few years of experience following the 2012 Jump-start Our Business Startups Act (JOBS Act), it is time to take another look at how these tools can be improved. Treasury's recommendations also seek to maintain the efficacy of the private equity markets, which will continue to be important for some companies and entrepreneurs. These recommendations include maintaining an appropriate regulatory structure for finders, expanding the range of eligible investors, empowering investor due diligence efforts, and modifying the rules for private funds investing in private offerings.

While the burden on both public and private companies needs to be reduced, maintaining appropriate investor protection is an important priority. Investor confidence in the integrity of markets, supported by robust disclosure and regulatory protections, is a critical element of capital formation.

Fostering Robust Markets for Businesses and Investors

Robust secondary markets are critical to supporting capital formation, and in turn, economic growth. Aligning regulation to promote liquid and vibrant markets is an important element of the Core Principles. While the U.S. equity and debt markets are the best in the world, regulators need to keep pace with market developments so that markets continue to function optimally for issuers and investors of all sizes to best support economic growth and the needs of consumers and businesses.

In the equity markets, the current "one-size-fits-all" market structure is not working well for smaller companies that are currently experiencing limited liquidity for their shares. While the largest and most actively traded companies benefit from a diversity of trading venues, for the least liquid (and often smallest) companies, fragmentation of liquidity across 12 equity exchanges and 40 alternative trading systems (ATSs) may inhibit effective liquidity provision. Treasury recommends that the SEC consider regulatory changes to promote improved liquidity for these companies. Changes to the price increment, or "tick size," at which companies trade could play a role in promoting liquidity provision for less-liquid companies. The SEC should also consider how to reduce complexity, increase transparency, and harness competition in other aspects of the equity market, including market data, order types and routing decisions, and practices of ATSs.

In the bond market, market liquidity has been challenging, especially for the least liquid securities. As discussed in the Banking Report, a combination of the Volcker rule, bank capital rules, and bank liquidity rules may be limiting market liquidity. This report explores the effects of these rules on the corporate bond and repo markets in particular, reiterating many recommendations from the Banking Report.

Safeguarding the Treasury Market

The Treasury market has seen substantial changes over recent decades, including the growth of electronic trading and principal trading firms (PTFs), which have reshaped the market in numerous ways. Despite recent modernization efforts to improve the visibility of regulators into the Treasury market, data gaps remain, particularly regarding PTFs, which are now some of the largest participants in the Treasury market. Treasury recommends steps to close these gaps in official sector data without imposing significant costs on market participants.

In addition to data gaps, Treasury market clearing has become bifurcated, reducing efficiency and presenting potential risks. Our regulatory regime needs to keep pace with these market developments, and Treasury recommends further study of potential solutions by regulators, market participants, and other stakeholders.

Safeguarding the Treasury market is crucial because of the central role of the Treasury market in the financial system as well as the importance of financing the U.S. government at the lowest cost to taxpayers over time.

Encouraging Lending Through Promotion of Quality Securitization

Securitization, or the process of packaging loans and receivables into more tradable securities, is a liquidity transformation and risk-transfer mechanism. When used responsibly, this process can have significant benefits for borrowers, lenders, and the economy. The securitization market provides a valuable outlet for the banking sector, as well as for other nonbank originators, through the placement of securities backed by loans and other asset pools with a wide range of investors, including pension funds, insurance companies, asset managers, sovereign wealth funds, and central banks.

Dodd-Frank and various rulemakings implemented to address pre-crisis structural weaknesses in the securitization market may have gone too far toward discouraging securitization. By imposing excessive capital, liquidity, disclosure, and risk retention requirements on securitizers, recent financial regulation has created significant disincentives to securitization. While some changes are helpful in promoting market discipline, others unduly constrain market activity and limit securitization's useful role as a funding and risk transfer mechanism for lending. The Banking Report explored private sector secondary market activity for residential mortgage lending. This report will focus on regulatory recommendations pertaining to securitized products collateralized by other consumer and commercial asset classes. Recalibrating regulations affecting this market should be viewed through the lens of making the economics of securitization, not the regulatory regime governing it, the driver of this market.

Recalibrating Derivatives Regulation

Reforms in the derivatives market, such as mandatory central clearing of certain swaps and increased data disclosure requirements, have been effective in promoting greater market liquidity and transparency. There are, however, numerous opportunities for improvements in implementation. Derivatives of many forms, including forward agreements, futures contracts, options, and swaps, are a class of financial instruments that allow financial and nonfinancial concerns to transfer, and thus better manage, a wide range of risks. Treasury recommends greater harmonization between the SEC and the CFTC, more appropriate capital and margin treatment for derivatives, allowing space for innovation and flexibility in execution processes, and improvements in market infrastructure. Treasury recommends that the CFTC and the SEC strive to improve cross-border regulatory cooperation with non-U.S. jurisdictions where possible to avoid market fragmentation, redundancies, undue complexity, and conflicts of law. These changes can serve to level the playing field for market participants while at the same time ensuring healthy, fair, and robust derivatives markets and preserving our domestic financial interests.

Ensuring Proper Oversight of Clearinghouses and Financial Market Utilities

FMUs, including CCPs, play crucial and often distinct roles in the financial system. The capital markets and American public rely on these entities to work, and their proper functioning supports a broad range of financial market and broader economic activity. For decades, these entities have handled tremendous transactional volumes. Dodd-Frank's derivatives clearing mandate and other regulations pushed even more trading activity into clearinghouses and authorized the FSOC to designate FMUs as "systemically important," but left significant issues for systemic risk management unresolved. It is imperative that our financial regulatory system prevent taxpayer-funded bailouts and limit moral hazard. The centralization of risk in a clearinghouse and resulting implications for systemic risk necessitate appropriate regulatory oversight, and Treasury recommends improving oversight of FMUs. Treasury also recommends that the FSOC, working with the appropriate regulatory agencies, continues to study the role that these entities play in the financial system. Regulators must finalize an appropriate regulatory framework for FMU recovery or resolution to avoid taxpayer-funded bailouts.

Modernizing and Rationalizing Regulatory Structure and Process

Both Congress and the financial regulatory agencies have roles to play in modernizing and rationalizing the federal regulatory framework, and many opportunities for improvement are cited throughout this report. The roles of the SEC and CFTC, and the management of regulatory overlaps and areas for harmonization, should be evaluated. Greater coordination is also required between the market regulators and the prudential regulators of U.S. financial institutions.

Regulatory processes can also be improved. Treasury recommends that the SEC and CFTC make their rulemaking processes more transparent and incorporate improved economic analysis, an updated consideration of the effects on small entities, and public input as appropriate. Treasury also recommends that the SEC and the CFTC avoid imposing substantive new requirements by interpretation or other guidance. At the same time, Treasury believes regulators should have appropriate authority to provide exemptions to requirements when doing so can facilitate market innovation.

Finally, Treasury recommends that the CFTC and SEC should conduct comprehensive reviews of the roles, responsibilities, and capabilities of self-regulatory organizations (SROs) under their respective jurisdictions and make recommendations for operational, structural, and governance improvements of the SRO framework.

Promoting U.S. Interests and Ensuring A Level Playing Field Abroad

U.S. agencies should also continue to advance U.S. interests by engaging bilaterally and multilaterally to enhance American companies' competitiveness. Treasury emphasizes the important differences between market regulation and prudential regulation, and urges international standard-setting bodies to fully utilize the expertise of market regulators in formulating international standards for market regulation.

Treasury recommends increased transparency and accountability in international financial regulatory standard-setting bodies. Improved interagency coordination should be adopted to ensure the most effective harmonization of U.S. participation in applicable international forums. International regulatory standards should only be implemented through consideration of their alignment with domestic objectives and should be carefully and appropriately tailored to meet the needs of the U.S. financial services industry and the American people.

Capital Markets Overview

Introduction

The proper functioning and efficiency of U.S. capital markets is critical for ensuring U.S. economic strength and maintaining financial stability. Vibrant capital markets allow individuals and institutions to invest in businesses, helping allocate capital where it is needed and supporting efforts to innovate. Through the efficient allocation of capital, these markets support efforts by businesses to produce goods, offer services, and create jobs.

Key participants in capital markets include investors, issuers, and intermediaries. Investors provide capital, issuers raise capital, and intermediaries help markets function more efficiently by connecting buyers and sellers (either directly, or indirectly by providing liquidity). Investors include institutions, such as pension funds and insurance companies, and individuals, who own securities directly or through shares of funds – such as mutual funds, exchange-traded funds (ETFs), and hedge funds. Issuers of securities include governments, corporations, and certain specialized institutions like government-sponsored enterprises. Intermediaries include various institutional entities, like broker-dealers and proprietary trading firms that engage in market-making. Other entities that support capital markets activity – including exchanges and payment, clearing, and settlement service providers – are critical for maintaining the infrastructure of these markets. The ability of market participants to transfer risk efficiently is also critical to the health of capital markets. When considering the impact of major market developments and regulation, it is important to consider the effects on each of these categories of market participants.

Key Asset Classes

The U.S. capital markets can be segmented into several major asset classes. Each have unique characteristics, including participants, venues, and functions. A summary of key market characteristics is provided here:

Key Market Characteristics

	Market Size (Amount Outstanding)	2016 Issuance	Average Daily Volume	Representative Issuers	Representative Investors	Representative Intermediaries
Equities[2,3]	$29 trillion	$200 billion	$270 billion	Corporations	Individuals, asset managers, institutions such as pensions	Exchanges, broker-dealers
U.S. Treasuries[4,5]	$14 trillion (marketable securities)	Bills: $6.1 trillion Notes: $2.0 trillion Bonds: $190 billion	$510 billion	U.S. government	Individuals, banks, pensions, insurers, foreign governments	Broker-dealers, trading platforms
Corporate Bonds[6]	$8.5 trillion	$1.5 trillion	$31 billion	Corporations	Insurers, pensions, asset managers	Broker-dealers
Foreign Currencies[7]	N/A	N/A	$5.1 trillion	Central banks	Central banks, asset managers, corporations	Trading platforms, broker-dealers
Derivatives[8]	Interest rate: $200 trillion (notional) Credit: $3.6 trillion (notional)	N/A	Interest rate: $900 billion (notional) Credit: $110 billion (notional)	N/A	Corporations, hedge funds, individuals	Central Counterparties, exchanges, broker-dealers, trading platforms
Securitized Products[9]	Mortgage related: $8.9 trillion Other ABS: $1.3 trillion	$2.1 trillion	Mortgage related: $210 billion Other ABS: $1.3 billion	Banks, nonbank financial companies, government-sponsored enterprises	Banks, insurers, pensions, hedge funds, asset managers	Broker-dealers

2. SIFMA, *2017 Fact Book*, at 32, available at: *https://www.sifma.org/wp-content/uploads/2016/10/US-Fact-Book-2017-SIFMA.pdf* ("SIFMA Fact Book").
3. SIFMA US Equity Statistics (July 2017), available at: *http://www2.sifma.org/research/statistics.aspx*.
4. U.S. Department of the Treasury. Total notional outstanding of marketable Treasury securities (including bills, notes, bonds, and TIPS) is $13.9 trillion. Non-marketable Treasury securities constitute an additional $6.1 trillion. The 2016 issuance figures include gross.
5. SIFMA US Treasury Trading Volume, available at: *https://www.sifma.org/resources/research/us-treasury-trading-volume/.*
6. SIFMA U.S. Bond Market Issuance and Outstanding, U.S. Corporate Bond Issuance and Trading Volume (July 2017), available at: *http://www2.sifma.org/research/statistics.aspx.*

Equities

Equity markets are the largest U.S. capital market, with major equity indexes considered bellwethers for the U.S. economy. At approximately $29 trillion in publicly traded U.S. corporate stock outstanding as of 2016 year end,[10] healthy U.S. equity markets are an important component of well-functioning capital markets and overall economic growth. U.S. equities are heavily traded, with an average of $270 billion in daily volume in 2016.[11] Despite a shrinking number of publicly listed U.S. companies, market capitalization of U.S. equities has increased over the past decade on larger equity issues and equity market appreciation.

Equity issuers include U.S. companies, who raise equity capital to finance their operations. Individuals own equities either directly or through funds – including mutual funds and other asset management products. As of 2016 year end, U.S. mutual funds held 24% of U.S. equities, while other registered investment companies – ETFs, for the most part – held another 6%.[12]

Investment companies can either be actively managed, in which fund managers select specific securities for a portfolio, or passively managed, in which securities are chosen to reflect a market index. Through inflows into passive mutual funds and ETFs, investors have shifted their asset allocation away from actively managed funds over the past decade. Outflows from actively managed funds have totaled approximately $900 billion since 2009, roughly equal to the inflows into passive funds over this period.[13]

As of July 2017, approximately 63% of equities trading occurred on registered exchanges, with the top three exchanges representing over half of that volume.[14] A larger fraction of equity trading occurs on exchanges than in many other asset classes, due to the relatively small number of actively traded equity issues (for example, relative to a much larger number of bond issues). Through exchanges, market participants can gain access to a substantial amount of data on equity prices, volumes, and liquidity. Equities can also be traded in the private market, which is less transparent.

U.S. Treasuries

U.S. Treasury securities serve a number of roles in the global financial system. Issuance of Treasury securities finances the U.S. government, while also providing a risk-free rate against which trillions

---

7. Bank for International Settlements, Turnover of OTC Foreign Exchange Instruments (Apr. 2016), available at: *http://www.bis.org/statistics/d11_1.pdf.*
8. Figures on credit derivatives include index-linked products. Volume figures reflect 12-week moving averages ending December 30, 2016. CFTC Swaps Report (Jan. 11, 2017), available at: *http://www.cftc.gov/MarketReports/SwapsReports/Archive/index.htm.*
9. SIFMA U.S. Structured Finance (July 2017), available at: *http://www2.sifma.org/research/statistics.aspx.*
10. Includes market capitalization of both domestic and foreign companies. SIFMA Fact Book at 32.
11. SIFMA U.S. Equity Statistics (July 2017), available at: *http://www2.sifma.org/research/statistics.aspx.*
12. Investment Company Institute, 2017 Investment Company Fact Book, at 14, available at: *https://www.ici.org/pdf/2017_factbook.pdf* (“ICI Fact Book”).
13. Morningstar.
14. Rosenblatt Securities.

of dollars in financial contracts are benchmarked. Treasury securities also provide individuals and institutions the ability to earn a risk-free return.

The Treasury market has expanded significantly in recent years as government debt levels have increased. At $14 trillion in total notional marketable debt outstanding,[15] it is the largest market for any individual issuer in the world. Treasury securities trade in high volumes, at approximately $510 billion per day.[16] Treasury futures – contracts that promise the delivery of Treasury securities at a future date – are also actively traded.

Individuals, institutions, and governments seeking safe assets remain the dominant provider of credit to the U.S. government. U.S. financial institutions, in an effort to increase asset liquidity, have increased their holdings of Treasury securities. Foreign investors also constitute a significant source of funding.[17] While traditional broker-dealers continue to provide a large portion of Treasury market intermediation – buying and selling securities for their customers – the market structure for Treasury trading has shifted in recent years. Principal trading firms not affiliated with traditional regulated banks or broker-dealers have become significant participants in market intermediation.

Corporate Bonds

In addition to raising equity capital, corporations also use bonds to borrow funds in the capital markets. Fueled by low interest rates and strong demand for U.S. credit, issuance of corporate bonds has increased markedly over the past decade, with total corporate debt reaching $8.5 trillion as of 2016 year end.[18] Trading is highly bifurcated; larger, recently issued, and highly rated corporate bonds trade relatively frequently, while lower rated and so-called "aged" bonds tend to trade much less.

Institutional investors have a significant presence in the corporate bond market. As of 2016 year end, insurance companies and pensions held $3.1 trillion and $1.3 trillion in U.S. corporate and foreign bonds, respectively.[19] As in the equity market, individuals may own corporate bonds directly or indirectly through mutual funds, ETFs, and other funds. Fixed-income focused mutual funds – which have witnessed strong inflows over the past decade – hold 16% of bonds issued by U.S. corporations and foreign bonds held by U.S. residents, with an additional 3% held by other registered investment companies.[20]

---

15. U.S. Department of the Treasury.
16. SIFMA US Treasury Trading Volume (September 2017), available at: *https://www.sifma.org/resources/research/us-treasury-trading-volume/.*
17. U.S. Department of the Treasury, Major Foreign Holders of Treasury Securities, available at: *http://ticdata.treasury.gov/Publish/mfh.txt.*
18. SIFMA U.S. Bond Market Issuance and Outstanding, U.S. Corporate Bond Issuance and Trading Volume (July 2017), available at: *http://www2.sifma.org/research/statistics.aspx.*
19. Insurance company data includes holdings by life insurers and property and casualty insurers. Financial Accounts of the United States.
20. ICI Fact Book, at 14.

Intermediation in corporate bonds has also changed in recent years. Broker-dealers historically have intermediated corporate bond trading on a principal basis for their customers and have held corporate bond positions on their balance sheets to support trading. Some market participants have increasingly turned to electronic platforms for trade execution. In addition, intermediaries have expanded their agency-based trading, whereby an order is only executed when buying and selling customers can be matched and dealers do not need to commit capital to support trades.

Foreign Exchange

Foreign currencies trade heavily and are in many cases highly liquid, with $5.1 trillion in USD equivalent changing hands per day.[21] Foreign currencies trade in the "spot" market, with one currency traded for another, or via derivatives. Currencies are traded frequently on multilateral platforms as well as bilaterally with banks and broker-dealers. Unlike equities and bonds, foreign currencies are not securities issued by governments or corporations. However, markets for these products remain important in that they allow investors to diversify portfolios and manage risk.

Derivatives

In financial markets, "derivatives" are a broad class of financial instruments or contracts whose prices or terms of payment are dependent upon, or derive from, the value or performance of another asset or commodity. Unlike securities (e.g., stocks and bonds), derivatives are originated primarily for the purpose of managing, or hedging, the risks associated with the underlying assets. Given the large size of derivatives markets and their ability to make markets and institutions more interconnected, derivatives are a major feature of the financial system.

At approximately $200 trillion in total notional outstanding as of 2016 year end,[22] interest rate derivatives – including interest rate swaps – constitute the largest derivatives market by notional outstanding. Credit derivatives on indexes, including credit default swaps, constitute another major category, with $3.6 trillion in outstanding notional.[23] Other major categories include derivatives linked to equities, foreign currencies, and commodities.

The market for derivatives has changed considerably in recent years. In an effort to reduce counterparty risk and to comply with post-crisis regulations, market participants have increasingly turned to derivatives cleared by central counterparties over those backed by other financial institutions like banks and broker-dealers. For example, approximately 80% of derivatives linked to interest rates and credit indexes are now centrally cleared, each measured as a percentage of transaction dollar volume.[24]

---

21. Bank for International Settlements, Turnover of OTC Foreign Exchange Instruments (Apr. 2016), available at: *http://www.bis.org/statistics/d11_1.pdf.*
22. CFTC Swaps Report (Jan. 11, 2017), available at: *http://www.cftc.gov/MarketReports/SwapsReports/Archive/index.htm.*
23. Id.
24. Id.

Securitization Markets

Securitization – the process of transforming individual loans into tradable securities – supports the financial system by allowing banks to transfer credit risks from customer lending to the broader financial system, broadening the investor base for such loans. Securitization begins with individuals who borrow money to finance various needs like housing, automobiles, and education. Securitizers, including special purpose vehicles sponsored by banks and nonbank financial companies, purchase such loans and issue securities against them. Investors are typically institutional investors, including insurance companies, pensions, and hedge funds. These investors provide capital and are attracted to these securities for their diversification benefits, liquidity, and yield. The ability to sell loans to investors through securitization allows banks to make additional loans available to customers.

Across all asset classes, housing has the biggest presence in securitization markets. The notional outstanding for U.S. securities backed by other assets, such as automobiles, student loans, and credit card debt, is sizeable as well, totaling $1.3 trillion at 2016 year end.[25]

Key Regulators

The Securities and Exchange Commission (SEC) and the Commodity Futures Trading Commission (CFTC), along with state securities regulators, constitute the major U.S. market regulators. Additionally, self-regulatory organizations, including the Financial Industry Regulatory Authority (FINRA), the Municipal Securities Rulemaking Board (MSRB), and the National Futures Association (NFA), help regulate and oversee certain parts of the financial sector.

The SEC's mission is to protect investors; maintain fair, orderly, and efficient markets; and facilitate capital formation. Broadly, the SEC has jurisdiction over brokers and dealers, securities offerings in the primary and secondary markets, investment companies, investment advisers, credit rating agencies, and security-based swap dealers. The SEC was mandated by Dodd-Frank to enact rules in areas including registration of investment advisers to certain private funds (hedge funds and private equity funds), the Volcker Rule, security-based swaps, clearing agencies, municipal securities advisors, executive compensation, proxy voting, asset-backed securitizations, credit rating agencies, and nonfinancial disclosures.

The CFTC's mission is to foster open, transparent, competitive, and financially sound markets to avoid systemic risk and to protect market users and their funds, consumers, and the public from fraud, manipulation, and abusive practices related to derivatives and other products that are subject to the Commodity Exchange Act.[26] The CFTC's jurisdiction includes commodity futures (and options on futures), as well as futures on financial assets and indexes, interest rates, and other financial, commercial, or economic contingencies. In 2010, Congress expanded the CFTC's jurisdiction to include swaps.

---

25. SIFMA US ABS Issuance and Outstanding (July 2017), available at: *http://www2.sifma.org/research/statistics.aspx*.

26. U.S. Commodity Futures Trading Commission, *Agency Financial Report, Fiscal Year 2016*, available at: *http://www.cftc.gov/About/CFTCReports/ssLINK/2016afr* ("CFTC 2016 Financial Report").

Access to Capital

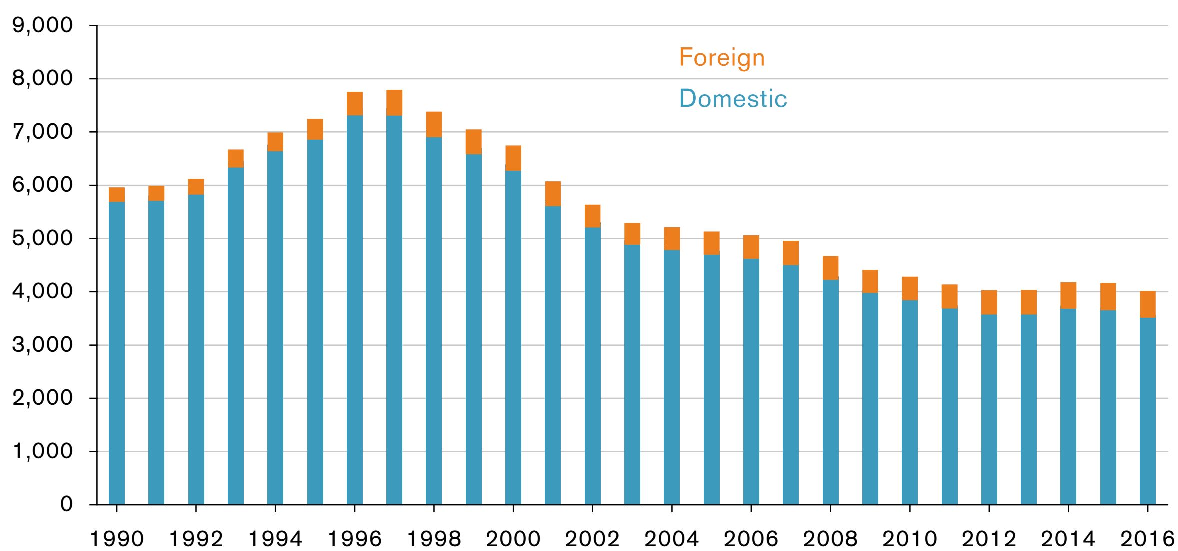
Overview and Regulatory Landscape

Access to capital is crucial to promoting a thriving U.S. economy. It allows companies to invest in growth and develop new products and services, leading to increased employment opportunities and wealth creation. But for companies to have access to capital, investors must be willing to supply capital. Without robust investor protections that underpin confidence in the markets, such as the predictable and consistently applied rule of law and the enforceability of contracts, investors may be less willing to provide capital. Hence, a well-designed regulatory structure, one that promotes fairness, predictability, and efficiency for investors and companies alike, is crucial to healthy capital markets.

The source and structure of capital can vary depending on what stage a company is in its lifecycle, as well as market conditions and company preferences. Early stage companies may access capital from friends and family, angel investors, and venture capital firms. As companies mature further, they might attract capital from private equity or through a public listing via an initial public offering (IPO).

Historically, companies seeking a significant amount of capital have often preferred to conduct an IPO and have shares traded on a national securities exchange. But over the last two decades, the number of domestic public companies listed in the United States has declined by nearly 50% (see Figure 1).

Figure 1: Number of Public Companies in the United States, 1990-2016



Source: Securities and Exchange Commission staff analysis using data from the Center for Research in Securities Prices U.S. Stock and U.S. Index Databases(c) 2016 Center for Research in Securities Prices, The University of Chicago Booth School of Business.

The trends in the United States toward fewer public listings are unusual compared to the trends in other developed countries with similar institutions and economic development. According to one study, while U.S. listings dropped by about half since 1996, listings in a sample of developed countries increased by 48%.[27] The study indicated that the decline in the U.S. market was driven by low levels of new listings and a high number of delistings, many of which were the result of one public company being acquired by another.[28] A wave of business failures following the large number of IPOs during the dot-com era also contributed to the high number of delistings.[29]

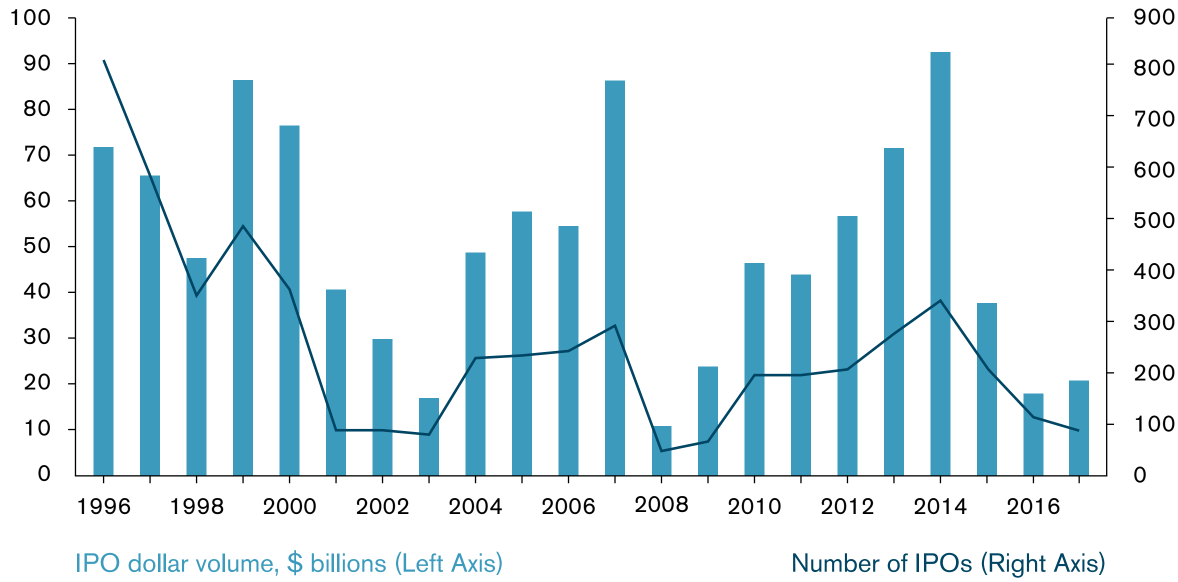
As the number of U.S. listings has decreased, the size of listed public companies has increased. A recent analysis found that as of early 2017, the average market capitalization of a U.S.-listed public company was $7.3 billion compared to an average of $1.8 billion in 1996.[30] The analysis noted that approximately 140 companies with more than $50 billion in market capitalization constituted more than half of the total U.S. market capitalization.[31]

Although IPO activity has dramatically declined since 1996, the data also shows that the amount of capital raised through IPOs varies over time in a cyclical pattern that is consistent with overall economic conditions at the time. As shown in Figure 2, the number of IPOs peaked at 821 in 1996 and fell to 119 by 2016. Since the financial crisis, the annual number of IPOs averaged 188 – far less than the average of 325 during the period before.

---

27. Craig Doidge, G. Andrew Karolyi, and René M. Stulz, *The U.S. Listing Gap*, 123 Journal of Financial Economics 464 (Mar. 2017), at 467 ("Doidge, Karolyi, and Stulz (2017)").
28. Id. at 465-66.
29. Ernst & Young LLP, *Looking Behind the Declining Number of Public Companies: An Analysis of Trends in US Capital Markets* (May 2017), at 1, available at: *http://www.ey.com/Publication/vwLUAssets/an-analysis-of-trends-in-the-us-capital-markets/$FILE/ey-an-analysis-of-trends-in-the-us-capital-markets.pdf.*
30. Id. at 2-3. The 1996 average market capitalization has been adjusted for inflation to reflect current dollars.
31. Id. at 3.

Figure 2: U.S. Initial Public Offerings by Number and Dollar Volume, 1996-2017



Source: Securities and Exchange Commission staff analysis based on Securities Data Corporation's New Issues database (Thomson Financial). Excludes closed-end funds and American Depository Receipts. The data for 2017 is for the period ending Aug. 31, 2017.

While robust public markets are critically important to issuers and investors, private markets also serve as important liquidity tools to companies. In discussions with market participants, Treasury staff were told that private markets provide important flexible alternatives for obtaining financing for entrepreneurial efforts. Moreover, for the overwhelming majority of U.S. firms, a public listing on a national securities exchange might not be appropriate given their business size and circumstances.[32] For these companies, the nonpublic capital markets, or private markets, will remain an important source of potential funding.

According to a recent SEC staff report, during 2009-2016, the total amount of debt and equity primary offerings reported in the private markets was consistently greater than

In general, under the federal securities laws, a security may be offered or sold in the United States only if it is registered with the SEC or subject to an applicable exemption from registration.

If a company registers its offering, it files extensive disclosures with the SEC, including audited financial statements, and becomes subject to continuing disclosure requirements.

Common exemptions from registration include Regulation A (mini-public offerings), Regulation D (many types of private placements), Regulation CF (crowdfunding), Regulation S (offshore offerings), Rule 144A (qualified institutional buyers), and Rules 147 and 147A (intrastate offerings).

32. Less than 0.02% of the estimated 28.8 million firms in the United States are currently exchange-listed firms. See Division of Economic and Risk Analysis (DERA), U.S. Securities and Exchange Commission, *Report to Congress: Access to Capital and Market Liquidity* (Aug. 2017), at 37, available at: *https://www.sec.gov/files/access-to-capital-and-market-liquidity-study-dera-2017.pdf* ("DERA (2017)").

the comparable amount offered in the public markets.[33] Amounts raised through private offerings of debt and equity for 2012 through 2016 combined exceeded amounts raised through public offerings of debt and equity over the same time period by approximately 26%.

The last major legislative effort to improve access to capital occurred in 2012. The Jump-start Our Business Startups Act (JOBS Act)[34] was enacted on April 5, 2012 in an effort to spur capital formation.

Key Provisions of the 2012 Jump-start Our Business Startups Act[35]

Title	Also Known As	Description
Title I	IPO On-Ramp	Creates a category of public companies called "emerging growth companies (EGCs)." Status available for up to the first five years after an IPO for companies with less than $1 billion in annual revenue and publicly traded shares of less than $700 million. Permits confidential review of filings by the SEC with public release no later than 21 days before start of the company's road show, testing the waters, scaled disclosure requirements, and phase-in of certain requirements following an IPO.
Title II	Regulation D General Solicitation	Eliminates the prohibition on general solicitation for Regulation D offerings provided the issuer takes reasonable steps to verify accredited investor status.[36] Exempts certain persons – such as online marketplaces for issuers and accredited investors that facilitate private offerings – from the requirement to register with the SEC as broker-dealers if they do not receive transaction-based compensation, possess customer funds or securities, or negotiate the terms of issuance.
Title III	Crowdfunding	Allows private companies to offer and sell up to $1 million in equity securities during a 12-month period to any investor in small amounts through a broker or funding portal, with accompanying disclosure requirements and investment limitations. Resales of such securities are restricted.

33. Id. at 35-36.

34. Public Law No. 112-106.

35. On December 4, 2015, the Fixing America's Surface Transportation (FAST) Act was signed into law (Public Law No. 114-94). The FAST Act contained several amendments to the JOBS Act, including a reduction of the public release period for confidential submissions from 21 days to 15 days, a revision to the grace period for EGCs whose status changes, and permitting an EGC to file only financial information that will be included in a preliminary prospectus.

36. SEC rules define "accredited investor." See 17 C.F.R. § 501(a). One category of qualification is to be a person with a net worth of at least $1 million (excluding primary residence) or an income of at least $200,000 ($300,000 together with a spouse) each year for the last two years.

Title IV	Regulation A+	Increases the size of offerings from private companies exempt from registration under the SEC's existing Regulation A from $5 million to $50 million during a 12-month period. The SEC's implementing regulations divide this exemption into two categories: up to $20 million (Tier 1); and up to $50 million (Tier 2), which includes ongoing disclosure requirements and investment limitations and preempts state securities registration requirements.
Titles V and VI	Section 12(g) Amendments	Increases the thresholds for registering a class of equity securities with the SEC until a company has more than $10 million in assets and securities that are "held of record" by 2,000 persons, or 500 persons who are not accredited investors. Banks, bank holding companies, and savings and loan holding companies[37] are subject to a modified threshold. The definition of the term "held of record" excludes securities received in an exempt transaction under an employee compensation plan.

The JOBS Act contained a number of provisions intended to facilitate capital formation and business startups. While the IPO on-ramp was effective upon enactment, other provisions required SEC rulemaking for implementation. The removal of the ban on general solicitation became effective in September 2013, followed by Regulation A+ in June 2015 and, most recently, crowdfunding in May 2016.

This chapter looks at recommendations to improve the attractiveness of going public when companies are seeking to raise capital, but also considers recommendations to expand access to capital more broadly. Becoming an SEC-reporting company may not be appropriate for many small enterprises. For example, a small enterprise may be seeking to raise only a modest amount of capital. Thus, this chapter examines approaches for improving access to capital in the private markets as well. This chapter also discusses ways to improve investors' access to opportunities while maintaining investor protections.

Issues and Recommendations

Why are there Fewer Public Companies and IPOs?

When raising capital, a company generally weighs the relative costs and benefits of all available options before reaching a decision. Those costs and benefits are affected by the regulatory environment, but also by other factors such as the overall state of the economy, interest rates, market volatility, and investor sentiment.

Historically, an IPO has been an important event in the lifecycle of a company. Access to the public equity markets means obtaining a source of permanent capital, usually at a cost lower than other alternatives. Proceeds from IPOs can be used to hire employees, develop new products and

37. Savings and loan holding companies were not covered in the JOBS Act, but were later added by the FAST Act.

technologies, and expand operations. Furthermore, IPOs give institutional and other early stage investors an exit, allowing them to reallocate their capital and talent to other ventures. IPOs also have important implications for employees, who may have accepted pre-IPO compensation in the form of options and stock grants. After an IPO, an employee can monetize his or her compensation by selling into the market. This feature can incentivize employee job performance and work commitment. Despite these benefits, the number of IPOs has declined over the last 20 years.

As illustrated above, the number of IPOs and amounts raised varies over time, and it is challenging to identify specific causal factors that contribute to decisions on whether to go public.

> "Well-intentioned regulations aimed at protecting the public from the misrepresentations of a small number of large companies have unintentionally placed significant burdens on the large number of smaller companies. As a result, fewer high-growth entrepreneurial companies are going public, and more are opting to provide liquidity and an exit for investors by selling out to larger companies. This hurts job creation, as the data clearly shows that job growth accelerates when companies go public, but often decelerates when companies are acquired."
>
> Interim Report, President Obama's Council on Jobs and Competitiveness, October 2011

However, increased disclosure and other regulatory burdens may influence a decision to obtain funding in the private markets for a company that might have previously sought to raise capital in the public markets. In addition, a company must consider not only current regulations, but also the potential impact of future regulations.

During Treasury's outreach efforts, stakeholders frequently highlighted the cumulative impact of new regulations and legal developments affecting public companies since the Sarbanes-Oxley Act, rather than any individual regulatory action. Some factors that were mentioned include:

- Heightened compliance costs related to the Sarbanes-Oxley Act, Regulation FD, shareholder proposal rules, and Dodd-Frank;
- Changes in equity market structure that are less favorable to smaller public companies (e.g., decimalization, fragmentation of the market, and disappearance of small and mid-sized investment banks);
- Nonfinancial disclosure requirements based on social or political issues, which have tangential, if any, relevance to the financial performance of a company;
- Shareholder litigation risk;
- Shareholder pressure to prioritize short-term returns over long-term strategic growth;
- Inadequate oversight and accountability of proxy advisory firms;
- Lack of research coverage for smaller public companies.

There are differing views on the degree to which regulatory burdens influence a company's decision to undertake an IPO and, once public, to remain public. Non-regulatory factors, such as changes in the economic environment due to globalization, the changing nature of new firms (e.g., service-based companies may have less intensive capital needs than industrial companies), the availability of cheaper debt financing, and increased mergers and acquisitions activity (particularly as an alternate to internal research and development) may also play a role.[38] The increase in size and scale of venture capital and private equity firms has also had an impact. Globally, private equity assets under management, for instance, have increased from $1.8 trillion to $2.5 trillion over the last 5 years.[39]

Opportunities Lost for Investors in the Public Markets

When a company offers securities in the public market, it registers with the SEC and makes extensive disclosures. The securities exchanges, over the counter markets, and other trading venues allow investment opportunities to be made available to the general public. Generally, any retail investor can participate without significant regulatory limitations or restrictions.

If a company decides not to go public and instead raises capital in the private market or as an exempt offering,[40] it could be subject to investor qualification requirements and/or offering limitations. This could result in the average investor being deprived of an opportunity to consider investing in that enterprise. Instead, those investment opportunities and potential wealth gains, along with their attendant risks, might be made available only to a relatively small group of investors. To the extent that companies decide not to go public due to anticipated regulatory burdens, regulatory policy may be unintentionally exacerbating wealth inequality in the United States by restricting certain investment opportunities to high income and high net worth investors.

> "Investors, then, and not just entrepreneurs, have a significant interest in vibrant public markets that foster IPOs. Investors stand to gain most when successful growth companies go public as soon as possible."
>
> SEC Investor Advocate
> Rick Fleming, May 9, 2017

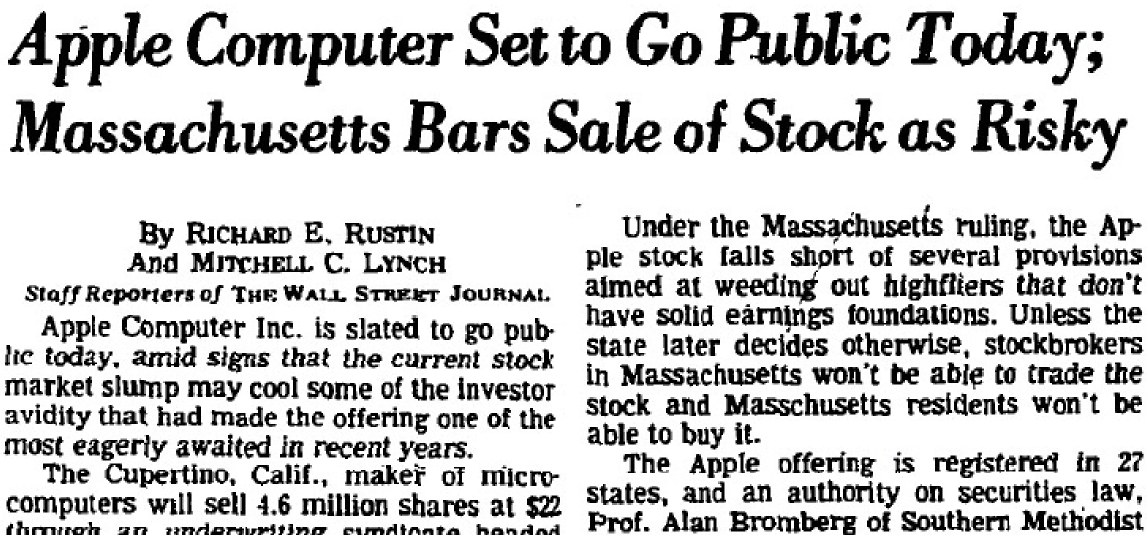
The trend over the past several decades indicates an increasing number of Americans investing in capital markets through investment vehicles, such as mutual funds and ETFs, rather than individual securities.[41] However, few mutual funds invest in private companies, with one analysis indicating that such investments totaled only 0.13% of $8.6 trillion in assets held by equity and allocation funds as of June 2016.[42] Thus, in addition to encouraging companies to become public, it is equally important to consider methods to increase investor exposure and opportunity to the private markets as well.

---

38. See, e.g., Doidge, Karolyi, and Stulz (2017); Xiaohui Gao, Jay R. Ritter, and Zhongyan Zhu, *Where Have All the IPOs Gone?*, 48 Journal of Finance and Quantitative Analysis 1663 (Dec. 2013) ("Gao, Ritter, and Zhu (2013)").
39. The Boston Consulting Group, *Capitalizing on the New Golden Age in Private Equity* (Mar. 7, 2017), available at: *https://www.bcg.com/en-ca/publications/2017/value-creation-strategy-capitalizing-on-new-golden-age-private-equity.aspx*.
40. The most common type of exempt offerings is Regulation D. See DERA (2017).
41. ICI Fact Book, at 112 (showing that the percentage of U.S. households owning mutual funds increased to 43.6% in 2016 from 14.7% in 1985).
42. Katie Rushkewicz Reichart, Morningstar, *Unicorn Hunting: Mutual Fund Ownership of Private Companies is a Relevant, but Minor, Concern for Most Investors* (Dec. 5, 2016), available at: *http://corporate1.morningstar.com/ResearchArticle.aspx?documentId=780716*. The Morningstar report covered $11.5 billion held in open-end investment companies. By comparison, as of June 30, 2016, business development companies held approximately $51 billion in assets under management according to SEC staff analysis.

When companies choose the private markets to raise capital, a vast majority of investors lose out on the opportunity to participate directly in the potential growth associated with these companies or the diversification they provide. More importantly, an active public market has positive spillover effects for the market as a whole. The listed-market ecosystem, in which prices are based upon information disclosed and processed by investors, securities analysts, market commentators, investment advisers, and the public, provides an important layer of transparency and price discovery which benefits investor protection. Valuations in the private markets are often based on public markets.

Prohibiting the public from deciding whether to take on investment risk can potentially preclude them from participating in opportunities.



Apple Computer Set to Go Public Today; Massachusetts Bars Sale of Stock as Risky

By RICHARD E. RUSTIN
And MITCHELL C. LYNCH
Staff Reporters of THE WALL STREET JOURNAL

Apple Computer Inc. is slated to go public today, amid signs that the current stock market slump may cool some of the investor avidity that had made the offering one of the most eagerly awaited in recent years.

The Cupertino, Calif., maker of microcomputers will sell 4.6 million shares at $22

Under the Massachusetts ruling, the Apple stock falls short of several provisions aimed at weeding out highfliers that don't have solid earnings foundations. Unless the state later decides otherwise, stockbrokers in Massachusetts won't be able to trade the stock and Masschusetts residents won't be able to buy it.

The Apple offering is registered in 27 states, and an authority on securities law, Prof. Alan Bromberg of Southern Methodist

Source: The Wall Street Journal, December 12, 1980

How the JOBS Act IPO On-Ramp Has Worked

Nearly 87% of the firms filing for an IPO after April 2012 have identified themselves as EGCs under the IPO on-ramp. Of those, approximately 88% used the confidential review accommodation, 96% provided reduced executive compensation disclosures, 69% provided only two years of audited financial statements (rather than three years as otherwise required), and 15% adopted new accounting standards using delayed private company effective dates.[43] In deciding not to delay their adoption of accounting standards, most EGCs appear to be reassuring investors that their financial statements will be comparable to those of other public companies.

An SEC staff report found that after the JOBS Act, smaller IPOs – i.e., those seeking proceeds up to $30 million – constituted approximately 22% of all IPOs from 2012-2016 as compared to 17% from 2007-2011.[44] One academic study found that the JOBS Act led to additional IPOs and that the confidential review and testing the waters provisions particularly benefitted companies with high proprietary disclosure costs, such as those in the biotechnology and pharmaceutical

43. Ernst & Young LLP, *Update on Emerging Growth Companies and the JOBS Act* (Nov. 2016), available at: *http://www.ey.com/Publication/vwLUAssets/ey-update-on-emerging-growth-companies-and-the-jobs-act-november-2016/$FILE/ey-update-on-emerging-growth-companies-and-the-jobs-act-november-2016.pdf.*

44. DERA (2017) at 5.

industries.[45] The SEC, through a recent staff action, extended the confidential review accommodation to all companies filing for an IPO beginning July 10.[46] Treasury views this development as a positive step.

The passage of the JOBS Act was followed by a revival in public offerings, which reached a peak of 291 in 2014, the highest level since 2000. However, IPO activity has been relatively muted since then. Further regulatory changes may be needed to enhance the attractiveness of public markets.

Remove Non-Material Disclosure Requirements

An important principle underlying federal securities laws is the materiality requirement for disclosures. Materiality is an objective standard based on the reasonable investor, as opposed to a subjective standard that is based on what a particular investor may view as important.[47] Unfortunately, amendments in Dodd-Frank to the federal securities laws have imposed requirements to disclose information that is not material to the reasonable investor for making investment decisions, including information related to conflict minerals (Section 1502), mine safety (Section 1503), resource extraction (Section 1504), and pay ratio (Section 953(b)).

Treasury recognizes that the original support for such provisions was well-intentioned. However, federal securities laws are ill-equipped to achieve such policy goals, and the effort to use securities disclosure to advance policy goals distracts from their purpose of providing effective disclosure to investors. If the intent is to use the law to influence business conduct, then this effort will be undermined by imposing such requirements only on public companies and not on private companies. In addition, such requirements impose significant costs upon the public companies that are widely held by all investors.

Recommendations

Treasury recommends that Section 1502, Section 1503, Section 1504, and Section 953(b) of Dodd-Frank be repealed and any rules issued pursuant to such provisions be withdrawn, as proposed by H.R. 10, the Financial CHOICE Act of 2017. To the extent Congress determines that it is desirable to require disclosure from all companies, both public and private, this oversight responsibility could be moved from the SEC to a more appropriate federal agency, such as the Departments of State, Commerce, Homeland Security, Labor, or Energy. In the absence of legislative action, Treasury recommends that the SEC consider exempting smaller reporting companies (SRCs) and EGCs from these requirements.[48]

---

45. Michael Dambra, Laura Casares Field, and Matthew T. Gustafson, *The JOBS Act and IPO Volume: Evidence that Disclosure Costs Affect the IPO Decision*, 116 Journal of Financial Economics 121 (Apr. 2015).

46. Division of Corporation Finance, U.S. Securities and Exchange Commission, *Draft Registration Statement Processing Procedures Expanded* (June 29, 2017 as supplemented on Aug. 17, 2017), available at: *https://www.sec.gov/corpfin/announcement/draft-registration-statement-processing-procedures-expanded.*

47. In TSC Industries v. Northway, 426 U.S. 438, 445 (1976), the Supreme Court stated in that "[t]he question of materiality, it is universally agreed, is an objective one, involving the significance of an omitted or misrepresented fact to a reasonable investor." The Court then held that a fact is material "if there is a substantial likelihood that a reasonable shareholder would consider it important." Id. at 449.

48. The JOBS Act amended Section 953(b) of Dodd-Frank to exclude EGCs.

Eliminate Duplicative Requirements

SEC Regulation S-K[49] specifies the disclosure requirements for public companies. Since at least 2013, SEC staff has been reviewing whether the disclosure requirements should be modified or eliminated and can be presented in a manner that is more effective.[50] An update to the regulation is long overdue, particularly with a view to removing provisions that are duplicative, overlapping, outdated, or unnecessary.

Recommendations

Treasury recommends that, as required by the Fixing America's Surface Transportation Act, the SEC proceed with a proposal to amend Regulation S-K in a manner consistent with its staff's recent recommendations. To the extent that there are other provisions of Regulation S-K or elsewhere not described in the staff report that are duplicative, overlapping, outdated, or unnecessary, Treasury encourages inclusion of those provisions in the proposal. Treasury also recommends that the SEC move forward with finalizing its current proposal to remove SEC disclosure requirements that duplicate financial statement disclosures required under generally accepted accounting principles by the Financial Accounting Standards Board.[51]

Permit Additional Pre-IPO Communications

Under the JOBS Act, EGCs may communicate with qualified institutional buyers (QIBs)[52] and institutional accredited investors prior to filing a registration statement with the SEC to determine whether they might be interested in a contemplated securities offering. This ability is known as "testing the waters," which allows a company to gauge investor interest in a potential offering before undertaking the expense of preparing a registration statement.

When combined with the ability to file a registration statement confidentially with the SEC, testing the waters reduces the company's risk associated with an IPO. The company has a better gauge of investor interest prior to undertaking significant expense and, in the event the company elects not to proceed with an IPO, information has been disclosed only to potential investors and not to the company's competitors.

Recommendations

Given that the SEC now permits all companies to file for IPOs confidentially,[53] Treasury recommends that companies other than EGCs be allowed to "test the waters" with potential investors who are QIBs or institutional accredited investors.

---

49. 17 C.F.R. Part 229.
50. Staff of the U.S. Securities and Exchange Commission, *Report on the Simplification and Modernization of Regulation S-K* (Nov. 23, 2016), available at: *https://www.sec.gov/files/sec-fast-act-report-2016.pdf.*
51. Disclosure Update and Simplification (Jul. 13, 2016) [81 Fed. Reg. 49431 (Aug. 26, 2016)].
52. As defined in 17 C.F.R. § 230.144A.
53. See footnote 46.

Proxy Advisory Firms

During outreach meetings, Treasury staff heard differing views on proxy advisory firms. Public companies expressed concerns with the role of proxy advisory firms in advising shareholders on how to vote their shares and the limited competition between, and the resulting market power of, the two dominant firms.[54] Public companies also expressed their desire for greater transparency into the process by which proxy advisory firms develop recommendations. Public companies also had concerns about potential conflicts of interest that arise when a proxy advisory firm provides voting advice to its clients on public companies while simultaneously offering consulting services to those same companies to improve their corporate governance rankings. In addition, others have expressed concern that institutional investors have become too reliant on proxy advisory firms, which may reduce market discipline.[55]

On the other hand, institutional investors, who pay for proxy advice and are responsible for voting decisions, find the services valuable, especially in sorting through the lengthy and significant disclosures contained in proxy statements.

Several government agencies have identified and studied these issues. For example, in a recent report on proxy advisory firms, the U.S. Government Accountability Office (GAO) reviewed studies and obtained stakeholders perspectives. The report concluded that proxy advisory firms influenced shareholder voting and corporate governance practices, but was mixed on the extent of their influence and whether it was helpful or harmful.[56] The SEC also raised issues with respect to proxy advisory firms in a concept release in 2010[57] and a roundtable held in December 2013.[58] Treasury recommends further study and evaluation of proxy advisory firms, including regulatory responses to promote free market principles if appropriate.

Address Concerns on Shareholder Proposals

Exchange Act Rule 14a-8[59] allows a shareholder to have his or her proposal placed in a company's proxy materials. The rule requires the company to include the proposal unless the shareholder has not complied with procedural requirements or it falls within one of 13 bases for exclusion. To be eligible under the rule, a shareholder must have held, for at least one year before the proposal is

54. One firm is an SEC-registered investment adviser and the other firm has not registered with any regulator.

55. David F. Larcker, Allan L. McCall, and Gaizka Ormazabal, *Outsourcing Shareholder Voting to Proxy Advisory Firms*, 58 Journal of Law and Economics 173 (Feb. 2015).

56. U.S. Government Accountability Office, *Proxy Advisory Firms' Role in Voting and Corporate Governance Practices* (Nov. 2016).

57. Concept Release on the U.S. Proxy System; Proposed Rule (July 14, 2010) [75 Fed. Reg. 42982 (July 22, 2010)].

58. U.S. Securities and Exchange Commission, *Press Release No. 2013-253* (Nov. 27, 2013), available at: *https://www.sec.gov/news/press-release/2013-253.* Subsequently, SEC staff issued additional guidance regarding the proxy voting responsibilities of investment advisers and the availability of exemptions from the proxy rules for proxy advisory firms. See Staff of the U.S. Securities and Exchange Commission, *Staff Legal Bulletin No. 20* (June 30, 2014), available at: *https://www.sec.gov/interps/legal/cfslb20.htm.*

59. 17 C.F.R. § 240.14a-8.

submitted, either (1) company securities with at least $2,000 in market value, or (2) at least 1% of the company's securities entitled to vote on the proposal.

According to one study, six individual investors were responsible for 33% of all shareholder proposals in 2016, while institutional investors with a stated social, religious, or policy orientation were responsible for 38%.[60] During the period between 2007 and 2016, 31% of all shareholder proposals were a resubmission of a prior proposal.

One trade association asserted that it costs companies tens of millions of dollars and significant management time to negotiate with proponents of shareholder proposals, seek SEC no-action relief to exclude proposals from proxy statements, and prepare opposition statements, all of which divert attention from operating the business.[61] During outreach meetings with Treasury, however, some groups representing investors countered that the ability to submit proposals is a key right that allows them to hold management accountable and that many shareholder proposals have been adopted that have become widely accepted best practices in corporate governance.

Recommendations

Treasury recommends that the $2,000 holding requirement, which was instituted over 30 years ago, be substantially revised. The SEC might also want to explore options that better align shareholder interests (such as considering the shareholder's dollar holding in company stock as a percentage of his or her net liquid assets) when evaluating eligibility, rather than basing eligibility solely on a fixed dollar holding in stock or percentage of the company's outstanding stock.

Treasury also recommends that the resubmission thresholds for repeat proposals be substantially revised from the current thresholds of 3%, 6%, and 10% to promote accountability, better manage costs, and reduce unnecessary burden.[62]

---

60. James R. Copland and Margaret M. O'Keefe, Manhattan Institute, *Proxy Monitor: An Annual Report on Corporate Governance and Shareholder Activism* (2016), available at: *https://www.manhattan-institute.org/sites/default/files/pmr_2016.pdf.*

61. The Business Roundtable, *Responsible Shareholder Engagement and Long-Term Value Creation* (Oct. 2016), at 5, available at: *http://businessroundtable.org/sites/default/files/reports/BRT%20Shareholder%20proposal%20paper-final.pdf.*

62. Under Rule 14a-8(i)(12), if a shareholder proposal is substantially similar to another proposal that has been previously included in a company's proxy materials during the preceding five calendar years, the new proposal may be excluded from proxy materials for any shareholder meeting held within three calendar years of the last submission if the proposal received (i) less than 3% of the vote if proposed once during the preceding five years, (ii) less than 6% of the vote on its last submission if proposed twice previously within the preceding five years, or (iii) less than 10% of the vote on its last submission if proposed three times or more within the preceding five years.

Concerns on Class Action Litigation

The potential for class action securities litigation may discourage companies from listing their shares on public markets and encourage companies that are already public to "go private" rather than face the cost and uncertainty of securities litigation. Section 10(b) of the Exchange Act, and Rule 10b-5 thereunder, create a private right of action for investors to sue a securities issuer for the issuer's misrepresentations or omissions.

The number of securities class action lawsuits filed in the U.S. has steadily increased from 151 in 2012 to 272 last year, though this total is significantly below the recent peak in 2001, when 498 securities class action lawsuits were filed. In the first nine months of 2017, 317 such lawsuits have been filed.[63] This increase in lawsuits is particularly notable given the smaller number of public companies, meaning that securities issuers face a greater likelihood of lawsuits. In 2016, a record 3.9% of exchange-listed companies faced a class action securities lawsuit (not including additional securities lawsuits related to mergers and acquisitions or Chinese reverse mergers).[64]

The majority of class action securities lawsuits resolved since 1996 have settled before going to trial. Since 1996, 55% of completed class action securities lawsuits were settled for an amount totaling over $90 billion.[65] Of the settled cases since 2007, approximately 27% were settled before the first hearing on motion to dismiss, while approximately two-thirds were settled after a ruling occurred on motion to dismiss, but prior to summary judgment.[66] Only 21 cases since the adoption of the Private Securities Litigation Reform Act of 1995 have gone to trial.[67]

Some observers have argued that securities class action lawsuits are a means for shareholders to hold company managers accountable and potentially deter future securities law violations. However, class action securities lawsuits have been criticized as an economically inefficient way to address securities law violations. Because judgments and settlements are funded from corporations' assets or their insurance policies, the shareholder plaintiffs' recovery is funded indirectly from the investments of other shareholders. Transaction costs are also high, as plaintiffs' and defendants' legal fees in securities litigation have totaled billions of dollars over the last 20 years, reducing payments to shareholders.[68] Thus, securities class actions can significantly benefit attorneys at the expense of shareholders.

---

63. Data from Stanford Law School Securities Class Action Clearinghouse, available at: *http://securities.stanford.edu/charts.html (last accessed on Oct. 2, 2017).*

64. Cornerstone Research, *Securities Class Action Filings: 2016 Year in Review*, at 1, available at: *http://securities.stanford.edu/research-reports/1996-2016/Cornerstone-Research-Securities-Class-Action-Filings-2016-YIR.pdf.*

65. Data from Stanford Law School Securities Class Action Clearinghouse, available at: *http://securities.stanford.edu/stats.html (last accessed on Oct. 2, 2017).*

66. Laarni T. Bulan, *Securities Class Action Settlements: 2016 Review and Analysis* (Apr. 18, 2017), available at: *https://corpgov.law.harvard.edu/2017/04/18/securities-class-action-settlements-2016-review-and-analysis/.*

67. Stefan Boettrich and Svetlana Starykh, *Recent Trends in Securities Class Action Litigation: 2016 Full-Year Review* (Jan. 2017), at 41, available at: *http://www.nera.com/content/dam/nera/publications/2017/PUB_2016_Securities_Year-End_Trends_Report_0117.pdf.*

68. In 2006 and 2007 alone, securities class action settlements totaled $24.766 billion and judges awarded attorneys' fees of $3.366 billion, or approximately 13.6% of the settlement amounts. Brian T. Fitzpatrick, *Class Action Settlements and Their Fee Awards*, 7 The Journal of Empirical Legal Studies 811, at 825 and 831 (Dec. 2010). The median attorneys' fee award in securities suits when judges used the percentage of settlement amount as a basis (the more common method) was 25% of the settlement amount. Id. at 835.

Treasury recommends that the states and the SEC continue to investigate the various means to reduce costs of securities litigation for issuers in a way that protects investors' rights and interests, including allowing companies and shareholders to settle disputes through arbitration.

Shareholder Rights and Dual Class Stock

Corporate governance and shareholders rights are a matter of state law. Some companies have dual classes of common stock, where shareholders may have equal economic interests but different voting rights, to the extent permitted by the company's state of incorporation. The difference in voting power allows holders of one class, often a founder or group of insiders, to control the outcome of a shareholder vote. During outreach meetings with Treasury, some participants stated that dual class stock represents a defense mechanism against short-term investors who may not support a longer-term strategy for the company. Conversely, some participants representing investors expressed concern with the move away from a one share, one vote principle.

The federal securities laws provide the SEC with limited ability to substantively regulate corporate governance.[69] The national securities exchanges currently permit listed companies with dual classes of stock. Major index providers are considering to what extent companies with dual class stock should be included in widely followed stock indexes.

Recommendations

State law remains the principal authority for determining issues of corporate governance and shareholder rights. Treasury recommends that the SEC continue its efforts, when reviewing company offering documents, to comment on whether the documents provide adequate disclosure of dual class stock and its effects on shareholder voting.

Allow Business Development Companies to Use Securities Offering Reform

In 2005, the SEC adopted its securities offering reform rules, which modernized the registered offering process under the Securities Act.[70] Many of these changes did not apply to business development companies (BDCs). BDCs are ineligible to be considered "well-known seasoned issuers."[71] In addition, BDCs may not use the safe harbor for factual business information and forward-looking information, may not use the expanded communications provisions in connection with filing a registration statement, and may not utilize the "access equals delivery" model for prospectus delivery.[72] BDCs were created as a means of making capital more readily available to

69. In 1988, the SEC issued a rule prohibiting the exchanges from listing companies that took any action to disenfranchise shareholder voting rights. The D.C. Circuit vacated the rule as exceeding the SEC's authority. Business Roundtable v. SEC, 905 F.2d 406 (D.C. Cir. 1990).

70. Securities Offering Reform (July 19, 2005) [70 Fed. Reg. 44722 (Aug. 3, 2005)] ("Securities Offering Reform").

71. 17 C.F.R. § 230.405.

72. Securities Offering Reform. "Access equals delivery" is where investors are presumed to have access to the Internet, and issuers and intermediaries can satisfy their prospectus delivery requirements if the filings or documents are posted on a web site.

small, developing, and financially troubled companies that do not have access to public markets or other forms of conventional financing.[73] BDCs provide significant managerial assistance to their portfolio companies. Although BDCs are a type of closed-end fund, they are not required to register under the Investment Company Act and have greater flexibility in certain areas, such as in use of leverage, than registered investment companies.[74] However, unlike registered investment companies, BDCs are subject to the full reporting requirements under the Exchange Act, including the requirements to file Forms 10-K, 10-Q, and 8-K.

Recommendations

Treasury recommends that the SEC revise the securities offering reform rules to permit BDCs to utilize the same provisions available to other issuers that file Forms 10-K, 10-Q, and 8-K.[75]

Disproportionate Challenges for Smaller Public Companies

Access to capital is a persistent challenge for small and young companies and has remained weak relative to access to capital by larger firms following the financial crisis. Small companies are particularly well positioned to make beneficial use of capital because they tend to be more innovative than large companies and account for a significant percentage of jobs created every year.[76]

The substantial drop in the number of IPOs in the United States is characterized by the disappearance of small IPOs. One review found that IPOs with an initial market capitalization of $75 million or below constituted 38% of IPOs in 1996, but had declined to only 6% of IPOs by 2012.[77] During this same time period, large IPOs – those with an initial market capitalization of $700 million and more – grew from 3% of IPOs in 1996 to 33% in 2012.[78]

The challenges facing smaller public companies are driven in part by increased regulatory burden, but also by other factors such as the growth in mutual fund sizes (which makes holding smaller positions less attractive),[79] and broader equity market structure changes, which are reviewed in detail in the following chapter.

Institutional investors have historically favored large public companies over smaller ones. As of October 2013, institutional investors held over 83% of equity ownership in companies with more than $750 million in market capitalization but only 31% in companies with a smaller market

---

73. Definition of Eligible Portfolio Company under the Investment Company Act of 1940 (Oct. 25, 2006) [71 Fed. Reg. 64086 (Oct. 31, 2006)].
74. See 15 U.S.C. § 80a-2(a)(48).
75. See also Financial CHOICE Act of 2017, H.R. 10, 115th Cong. § 438 (2017).
76. Salim Furth, Heritage Foundation, *Who Creates Jobs? Start-up Firms and New Businesses* (Apr. 4, 2013), available at: *http://www.heritage.org/jobs-and-labor/report/research-review-who-creates-jobs-start-firms-and-new-businesses.*
77. Paul Rose and Steven Davidoff Solomon, *Where Have All the IPOs Gone? The Hard Life of the Small IPO*, 6 Harvard Business Law Review 83, at 103-04 (2016).
78. Id.
79. See, e.g., Jeffrey M. Solomon, *Presentation to the SEC Investor Advisory Committee* (June 22, 2017), at 5-8, available at: *https://www.sec.gov/spotlight/investor-advisory-committee-2012/jeffrey-solomon-presentation.pdf.*

capitalization.[80] One working paper has also observed that while mutual funds were historically a strong source of demand for small IPOs, they have invested only sparingly in such offerings since the late 1990s.[81]

Increased regulatory burdens under federal securities laws since the enactment of the Sarbanes-Oxley Act appear to have had a disproportionate impact on smaller companies when compared to their larger counterparts, despite measures to limit such effects. For instance, the annual attestation by outside auditors of management's report on the effectiveness of internal controls under Section 404(b) of the Sarbanes-Oxley Act imposes significant costs for smaller public companies.[82] A recent working paper suggests that corporate innovation may be declining due to compliance costs, citing as evidence the reduction in the number of patents and patent citations for companies subject to Section 404.[83]

Modify Eligibility Requirements for Scaled Regulation

Companies with less than $75 million in public float are considered smaller reporting companies and non-accelerated filers. SRCs may elect to provide scaled disclosure requirements for reporting issuers. Non-accelerated filers are given additional time to file periodic reports with the SEC and are exempt from the requirement under Section 404(b) of the Sarbanes-Oxley Act to have an independent auditor attest to management's assessment of internal controls. EGCs currently may not hold such status for more than five years.

Recommendations

Treasury supports modifying rules that would broaden eligibility for status as an SRC and as a non-accelerated filer to include entities with up to $250 million in public float, an increase from the current limit of $75 million in public float.[84]

Consistent with the H.R. 1645, the Fostering Innovation Act of 2017, Treasury further recommends extending the length of time a company may be considered an EGC to up to 10 years,

---

80. Equity Capital Formation Task Force, *From the On-Ramp to the Freeway: Refueling Job Creation and Growth by Reconnecting Investors with Small-Cap Companies* (Nov. 11, 2013), at 19, available at: *https://www.scribd.com/document/193918638/From-the-on-Ramp-to-the-Freeway-Refueling-Job-Creation-and-Growth-by-Reconnecting-Investors-With-Small-Cap-Companies.*

81. Robert P. Bartlett, III, Paul Rose, and Steven Davidoff Solomon, *The Small IPO and the Investing Preferences of Mutual Funds*, working paper (July 27, 2017), available at: *https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2718862.*

82. Peter Iliev, *The Effect of SOX Section 404: Costs, Earnings Quality, and Stock Prices*, 65 The Journal of Finance 1163 (June 2010).

83. Huasheng Gao and Jin Zhang, *The Real Effects of SOX 404: Evidence from Corporate Innovation*, working paper (Jan. 2017), available at: *https://www3.ntu.edu.sg/home/hsgao/SOX404Innovation20170119.pdf.* See also Testimony of John Blake, aTyr Pharma, Inc., before the House Financial Services Subcommittee on Capital Markets, Securities, and Investment (July 18, 2017) ("expensive regulatory requirements siphon innovation capital from the lab, diverting funds from science to compliance on a quarterly and annual basis").

84. Amendments to Smaller Reporting Company Definition (June 27, 2016) [81 Fed. Reg. 43130 (July 1, 2016)].

subject to a revenue and/or public float threshold.[85] These measures would more appropriately tailor compliance costs associated with being a smaller public company.

Review Rules for Interval Funds

Smaller public companies have expressed concerns that they are overlooked by institutional investors such as mutual funds. Fund managers have indicated that SEC rules restrict their ability to invest in illiquid securities and that the relative size and market capitalization of smaller public companies means that an investment will not meaningfully impact fund returns. To date, trends show relatively less interest by institutional investors in investments in smaller public companies compared to larger public companies.

Registered investment companies are either open-end (i.e., offer daily redemption) or closed-end (no redemption rights but often tradable, at a discount to net asset value, on an exchange). Open-end funds will be subject to the additional liquidity requirements under new SEC rules.[86] Because of their limited redemption rights, closed-end funds can more easily invest in thinly traded securities and private startup companies. The SEC adopted Rule 23c-3 under the Investment Company Act in 1993 to permit closed-end funds to be "interval funds" in which periodic redemptions are offered, but the number of interval funds is small. SEC staff reports there are 34 interval funds with about $12.1 billion in assets under management.[87]

Recommendations

Treasury recommends that the SEC review its interval fund rules to determine whether more flexible provisions might encourage creation of registered closed-end funds that invest in offerings of smaller public companies and private companies whose shares have limited or no liquidity. For example, rather than requiring redemptions on a fixed time basis, the rules could permit redemptions based on a liquidity event of a portfolio company in a manner similar to a venture capital fund.

Review and Consolidate Research Analyst Rules

In 2003 and 2004, securities regulators settled with 12 major broker-dealer firms for conflicts of interest between their research analysts and investment bankers (Global Settlement).[88] Under the Global Settlement, broker-dealers were required to reform their structures and practices to insulate research analysts from investment banking pressures. The Global Settlement only applies to the firms that are parties to the settlement. The terms of the Global Settlement were modified in 2010,

---

85. See also Financial CHOICE Act of 2017, H.R. 10, 115th Cong. § 441 (2017).

86. Investment Company Liquidity Risk Management Programs (Oct. 13, 2016) [81 Fed. Reg. 82142 (Nov. 18, 2016)].

87. By comparison, at the end of 2016, total net assets was $262 billion for closed-end funds, $16.3 trillion for mutual funds, and $2.5 trillion for ETFs. ICI Fact Book, at 9.

88. U.S. Securities and Exchange Commission, *Press Release No. 2003-54* (Apr. 28, 2003), available at: *https://www.sec.gov/news/press/2003-54.htm*; U.S. Securities and Exchange Commission, *Press Release No. 2004-120* (Aug. 26, 2004), available at: *https://www.sec.gov/news/press/2004-120.htm*. Of the 12 settling firms, Bear, Stearns & Co. and Lehman Brothers Inc. are no longer in existence.

but have otherwise remained unchanged.[89] Other broker-dealers are subject to rules on research analyst reports adopted by the SEC and FINRA, but the rules may differ in part from the Global Settlement.[90] In 2012, the JOBS Act modified the research analyst rules for communications in connection with the IPO of an EGC.

In outreach meetings with Treasury, smaller public companies asserted that sell-side research coverage of their firms has become sparse, or has even been discontinued, due in part to the increase in regulation and compliance costs caused by the Global Settlement. Another possible reason for the decline in analyst coverage could be the mergers among investment banks.[91] If this is the case, then recent studies would suggest that the decline in the number of analysts can negatively affect the quality of information in the overall market. For example, one study found that an increase in the number of analysts covering an industry improved the quality of analyst forecasts and information flow to market participants, which suggests that a decline in the number of sell-side analysts would have the opposite effect.[92] Despite assertions of a decline in the number of analysts, however, one study found no empirical evidence indicating a decline in post-IPO analyst coverage for either small company or large company IPOs since the Global Settlement.[93]

Recommendations

Treasury recommends a holistic review of the Global Settlement and the research analyst rules to determine which provisions should be retained, amended, or removed, with the objective of harmonizing a single set of rules for financial institutions.

Expanding Access to Capital Through Innovative Tools

In order to foster a healthy economy, the regulatory framework should provide innovative tools to companies at every stage of their lifecycle, particularly to new companies that are not contemplating an IPO. Regulation A+ and crowdfunding represent innovative capital raising frameworks that are targeted to support pre-IPO companies. The JOBS Act also sought to make matching investors with companies seeking to raise capital easier by removing the prohibitions on general solicitation and advertising under certain conditions.

---

89. U.S. Government Accountability Office, *Additional Actions Could Improve Regulatory Oversight of Analyst Conflicts of Interest* (Jan. 2012), at 30-31. In 2012, GAO recommended that the SEC formally assess and document whether any of the Global Settlement's remaining terms should be codified.

90. In 2015, the SEC approved FINRA rule 2241, which consolidated prior NASD rule 2711 and NYSE rule 472. Exchange Act Release No. 75471 (July 16, 2015) [80 Fed. Reg. 43482 (July 22, 2015)]. Although FINRA considered the provisions of the Global Settlement in modifying rule 2241, it specifically disclaimed any intent to supersede the Global Settlement.

91. See, e.g., Bryan Kelly and Alexander Ljungqvist, *Testing Asymmetric-Information Asset Pricing Models*, 25 The Review of Financial Studies 1366, at 1370 (May 2012).

92. Kenneth Merkley, Roni Michaely, and Joseph Pacelli, *Does the Scope of the Sell-Side Analyst Industry Matter? An Examination of Bias, Accuracy, and Information Content of Analyst Reports*, 72 Journal of Finance 1285 (June 2017).

93. Gao, Ritter, and Zhu (2013).

Increase Flexibility for Regulation A Tier 2

In adopting final rules implementing Regulation A+, the SEC kept the prior Regulation A exemption as Tier 1, while increasing the aggregate offering amount from $5 million to $20 million, and created Tier 2 for offerings of up to $50 million.[94] Regulation A+ has enabled more companies to take advantage of the "mini IPO" process than under the previously existing Regulation A registration exemption for small offerings. A Tier 2 offering may be less costly than an IPO, particularly for companies seeking relatively smaller amounts of capital. Companies' continuing disclosure obligations under Tier 2 are particularly useful to broker-dealers to satisfy their obligations to review information about a company before making quotations, which permits them to publish quotes for Tier 2 securities under SEC rules, thereby facilitating secondary trading.[95]

In the year after implementation, 147 Regulation A+ offerings were filed by companies seeking to raise $2.6 billion in financing. Of these, approximately 81 offerings totaling $1.5 billion were qualified under Regulation A+ by the SEC, 60% of which were Tier 2. By comparison, there were 27 qualified Regulation A offerings in the preceding four years. The average size of the Regulation A+ offerings was approximately $18 million, with most of the issuers having previously engaged in private offerings.[96] Despite the increase in offerings after the adoption of Regulation A+, companies making Regulation A+ offerings sought significantly lower amounts of capital than companies making use of other exemptions, such as Regulation D.

A recent study by the SEC's Division of Economic and Risk Analysis suggests that the ongoing disclosure requirements for issuers in Tier 2 offerings might encourage the development of a secondary market for Regulation A securities.[97] There are various obstacles to the development of a secondary market. For example, although federal securities laws do not impose trading restrictions on Tier 2 securities, state securities laws may prohibit secondary transactions without registration at the state level. In addition, issuers may elect to impose such restrictions to have a stable investor base or avoid triggering thresholds that would require registering the securities with the SEC.

Tier 2 permits companies to conduct offerings of up to $50 million in a 12-month period exempt from registration under the Securities Act using a scaled offering document. Tier 2 issuers are subject to an ongoing reporting regime, including requirements for semi-annual, annual, and current reports, as well as audited financial statements. These disclosures are electronically available on the SEC's Electronic Data Gathering and Retrieval (EDGAR) system. Tier 2 offerings are subject to investment limits for unaccredited investors and are preempted from state "blue sky" requirements. Tier 2 issuers may also test the waters with any investor prior to qualification of an offering statement.

---

94. Amendments for Small and Additional Issues Exemptions under the Securities Act (Regulation A) (Mar. 25, 2015) [80 Fed. Reg. 21806 (Apr. 20, 2015)].

95. 17 C.F.R. § 240.15c2-11.

96. Anzhela Knyazeva, *Regulation A+: What Do We Know So Far?*, Nov. 2016, available at: *https://www.sec.gov/dera/staff-papers/white-papers/18nov16_knyazeva_regulation-a-plus-what-do-we-know-so-far.html.*

97. DERA (2017), at 51-52.

Although the JOBS Act does not include any specific issuer eligibility requirements, SEC rules prohibit Exchange Act reporting companies from using Tier 2.[98] During the related SEC rulemaking, a number of commenters supported extending eligibility to Exchange Act reporting companies but the SEC declined to expand eligibility until it had an opportunity to observe the use of Tier 2.[99]

Recommendations

Given the relatively modest use of Tier 2 since it became available in June 2015, particularly in comparison to other exemptions such as Regulation D, Treasury recommends expanding Regulation A eligibility to include Exchange Act reporting companies. This modification will provide already public companies with a lower-cost means of raising additional capital and potentially increase awareness and interest in Regulation A offerings by market participants.

Treasury further recommends steps to increase liquidity in the secondary market for Tier 2 securities. Although federal securities laws do not impose trading restrictions on Tier 2 securities, state "blue sky" laws may impose registration requirements. Treasury recommends that state securities regulators promptly update their regulations to exempt secondary trading of Tier 2 securities or, alternatively, the SEC use its authority to preempt state registration requirements for such transactions.

Finally, Treasury recommends that the Tier 2 offering limit be increased to $75 million. The JOBS Act requires the SEC to review the Tier 2 offering limit every two years and, if needed, revise to an amount the SEC determines "appropriate." The increase to $75 million is consistent with the House-passed Financial CHOICE Act (H.R. 10) and would allow private companies to consider a "mini-IPO" under Regulation A as a potentially less costly alternative to raise capital.

Crowdfunding

The crowdfunding rules implementing Title III of the JOBS Act became effective in May 2016. In the 12-month period following effectiveness, 335 companies filed crowdfunding offerings with the SEC and there were 26 portals registered with FINRA for unaccredited investors. Of the filed crowdfunding offerings, 43% were funded, 30% of campaigns ended unsuccessfully, and the others are still ongoing. Total capital committed was in excess of $40 million. On average, each funded offering raised $282,000 and included participation from 312 investors.[100]

However, in conversations with Treasury staff, market participants have expressed concerns about the cost and complexity of using crowdfunding compared to private placement offerings. Participants cited regulatory constraints, such as disclosure requirements and issuance costs, as well as structural factors, such as the challenges associated with having a large number of investors, as potentially limiting the use of this capital raising method. Some participants also expressed concern that unless crowdfunding platforms can demonstrate clear advantages relative to the ease and availability of private placements, such as meaningfully increasing the amount of investor

---

98. 17 C.F.R. § 230.251(b)(2).

99. 80 Fed. Reg. at 21811.

100. Crowdfund Capital Advisors, *One Year into Regulation Crowdfunding and It Is Off to the Portal Races* (May 19, 2017), available at: *http://crowdfundcapitaladvisors.com/one-year-regulation-crowdfunding-off-portal-races/*.

capital available from unaccredited investors, crowdfunding may lead to adverse selection where only less-attractive companies pursue funding from less sophisticated investors, who may lack the expertise to properly evaluate such investments.

Recommendations

Treasury recommends allowing single-purpose crowdfunding vehicles advised by a registered investment adviser, which may mitigate issuers' concerns about vehicles having an unwieldy number of shareholders and tripping SEC registration thresholds (2,000 total shareholders, or over 500 unaccredited shareholders). These vehicles could potentially facilitate the type of syndicate investing model that has developed in accredited investor platforms, whereby a lead investor conducts due diligence, pools the capital of other investors, and receives carried interest compensation.

However, risks exist that such vehicles may weaken investor protections by creating layers between investors and the issuer, and present potential conflicts of interest. Appropriate investor protections are critical in the crowdfunding market given the participation of unaccredited investors. Therefore, Treasury recommends that any rulemaking in this area prioritize alignment of interests between the lead investor and the other investors participating in the vehicle, regular dissemination of information from the issuer, and minority voting protections with respect to significant corporate actions.

Treasury recommends that the limitations on purchases in crowdfunding offerings be waived for accredited investors as defined by Regulation D. Crowdfunding might become more attractive if a company can more easily reach its fund-raising goals. Treasury further recommends that the crowdfunding rules be amended to have investment limits based on the greater of annual income or net worth for the 5% and 10% tests, rather than the lesser.[101] The current rules unnecessarily limit investors who have a high net worth relative to annual income, or vice versa, which is inconsistent with the approach taken for Regulation A Tier 2 offerings.[102]

Treasury also recommends that the conditional exemption from Section 12(g) be modified by raising the maximum revenue requirement from $25 million to $100 million. The higher threshold will allow crowdfunded companies to stay private longer. These companies likely lack the necessary size to be a public company and should not be forced to register as public companies until reaching higher revenues.

Finally, Treasury recommends increasing the limit on how much can be raised over a 12-month period from $1 million to $5 million, as it will potentially allow companies to lower the offering costs per dollar raised.

---

101. A crowdfunding investor is limited as to how much can be invested during any 12-month period based on net worth and annual income. Under current rules, if either annual income or net worth is less than $107,000, then an amount up to the greater of either $2,200 or 5% of the lesser of annual income or net worth may be invested. If both annual income and net worth are equal to or more than $107,000, then an amount up to 10% of annual income or net worth, whichever is lesser, but not to exceed $107,000 may be invested. 17 C.F.R. § 227.100.

102. 17 C.F.R. § 230.251(d)(2)(i)(C) (using a "greater of" annual income or net worth test).

Women and Entrepreneurship

Female entrepreneurs have been historically undeserved by sources of venture capital. Between 2010 and 2015, 12% of venture funding rounds and 10% of venture dollars globally went to startups with one or more female founders.[103] Innovative funding tools may disrupt traditional networks, resulting in better access to capital for women and other undeserved communities.

Equity-based crowdfunding may help female entrepreneurs raise capital for their businesses. Regulation Crowdfunding has been in effect for only a little more than a year, so data is limited. However, evidence from the previously existing rewards-based crowdfunding market shows its promise for increasing opportunities for female entrepreneurs.

In rewards-based crowdfunding, run by platforms like Kickstarter and Indiegogo, backers receive a "reward" or prize in exchange for their investment, rather than an equity share in the company. 47% of successful Indiegogo funding campaigns are run by women, a significantly higher percentage when compared to venture capital funding.[104] Analysis of Kickstarter data shows that from 2009 to 2012, women had a 69.5% success rate in crowdfunding compared to a 61.4% success rate for men. A separate study looking at crowdfunding globally in 2015 and 2016 shows that women had a 22% success rate in reaching their funding goals while men had a 17% success rate.[105] While this is still a fairly nascent field, many point to the fact that the "crowd" tends to be more balanced in terms of female versus male participants, which may contribute to the more representative success of female-led crowdfunding campaigns.

Equity crowdfunding is relatively new, but many companies have already used it successfully as discussed in this report. While equity crowdfunding is not a perfect substitute for traditional venture capital investments, making changes to equity crowdfunding to increase its flexibility and cost effectiveness may further improve an innovative tool that broadens access to capital for female entrepreneurs.

Maintaining the Efficacy of the Private Markets

Treasury believes that regulators can increase the attractiveness and efficiency of public markets while preserving the current vibrancy of private markets. Although some have suggested that restricting access to capital in private markets might force more companies to seek financing in public capital markets, Treasury does not believe that removal of choices from the marketplace is an appropriate path forward.

Treasury observes that measures can be taken to improve access to capital for small business enterprises in the private markets. Certain provisions of the JOBS Act were intended to address this gap

---

103. Gene Teare and Ned Desmond, *The First Comprehensive Study on Women in Venture Capital and their Impact on Female Founders* (Apr. 19, 2016), available at: *https://techcrunch.com/2016/04/19/the-first-comprehensive-study-on-women-in-venture-capital/.*

104. Elena Ginebreda-Frendel, *Women's Day Should Be Every Day*, Indiegogo Blog (Mar. 8, 2016), available at: *https://go.indiegogo.com/blog/2016/03/women-entrepreneurs.html.*

105. PricewaterhouseCoopers, *Women Unbound: Unleashing Female Entrepreneurial Potential* (July 2017), available at: *http://womenunbound.org/download/Women_Unbound_-_PwC_Crowdfunding_Report.pdf.*

and the SEC has adopted rules to implement those provisions. Appropriate regulatory adjustments should be made based on how market participants have reacted to and utilized these provisions.

Title II of the JOBS Act required the SEC to revise Securities Act Rule 506 to remove the prohibition against general solicitation or advertising, provided that all purchasers are accredited investors. In implementing Title II, the SEC retained the prior exemption, which prohibits general solicitation or advertising but allows participation by unaccredited investors, as Rule 506(b). The new provision permitting general solicitation and advertising was codified as Rule 506(c).

According to SEC data, for the approximately three-year period through the end of 2016, $107.7 billion was raised in debt and equity offerings under Rule 506(c), while $2.2 trillion was raised under Rule 506(b) during the same period.[106] Thus, Rule 506(c) offerings amount to only 3% of the capital reportedly raised under Rule 506. Although Rule 506(b) offerings are permitted to be sold to unaccredited investors, relatively few companies reported an intention to do so.[107]

Title II also provided an exemption for online marketplaces. The last three years have seen nearly $1.5 billion in commitments raised in over 6,000 private offerings on 16 online marketplaces for accredited investors.[108] Although annual capital commitments and success rates (in terms of raising the amount of capital sought) for online capital offerings to accredited investors have steadily increased over the last three years, reaching over $600 million and 30%, respectively, the number of annual new offerings has declined from approximately 4,700 to nearly 550 over this period.[109]

Online marketplaces thus far represent only a very small share of the Regulation D private placement securities offerings and venture capital investments. Activity in online marketplaces, however, is growing, with a number of third-party firms now providing critical services including accredited investor verification, compliance, legal documentation, and reporting to meet the needs of issuers, investors, and platforms.

Create Appropriate Regulatory Structure for Finders

For a small business seeking to raise capital, identifying and locating potential investors can be difficult. It becomes even more challenging if the amount sought (e.g., less than $5 million) is below a level that would attract venture capital or a registered broker-dealer, but beyond the levels that can be provided by friends and family and personal financing. The number of registered broker-dealers has been falling, and few registered broker-dealers are willing to raise capital in small

---

106. DERA (2017) at 39. For the period between September 23, 2013 and December 31, 2016, initial Form D filings reported that $70.6 billion was raised under Rule 506(c), with an additional $37.1 billion reported in amended Form D filings. By comparison, new Rule 506(b) offerings reported raising nearly $2.2 trillion in initial Form D filings and an additional $1.9 trillion in amended Form D filings. The data on Regulation D offerings may not accurately reflect the true amount of capital raised, because a Form D filing is not a condition to the exemption provided by the rule. In addition, there is no requirement to update Form D to report the total amount actually raised in the offering.

107. Id. at 66 (reporting only 6% of Rule 506(b) offerings were sold or intended to be sold to unaccredited investors).

108. Crowdnetic, *Annual Title II Data Analysis for the Period Ending September 23, 2016*, at 5, available at: *https://www.crowdwatch.co/hosted/www/download-report?report_month=oct_2016.*

109. Id. at 7.

transactions. Thus, finders, individuals or firms who connect a firm seeking to raise capital with an investor for a fee, can play an important role in filling this gap to help small businesses obtain early stage financing.

Finders have operated in an uncertain regulatory environment, one that has developed more from no-action letters and enforcement actions than rules. Frequently, the role of the finder in a private capital-raising transaction is limited and does not involve handling of any securities or funds. However, finders who seek to receive transaction-based compensation may be required to register as a broker-dealer with the SEC, FINRA, and the applicable states. Resolving issues regarding finders has been a frequent topic of the SEC Government-Business Forum on Small Business Capital Formation and the SEC Advisory Committee on Small and Emerging Companies.

Recommendations

Treasury recommends that the SEC, FINRA, and the states propose a new regulatory structure for finders and other intermediaries in capital-forming transactions. For example, a "broker-dealer lite" rule that applies an appropriately scaled regulatory scheme on finders could promote capital formation by expanding the number of intermediaries who are able to assist smaller companies with capital raising.

Allow Additional Categories of Sophisticated Investors to Participate in Regulation D Offerings

Rules 506(b) and (c) of Regulation D provide an exemption from registration for offerings made to accredited investors. Natural persons can qualify as an accredited investor if they have a net worth of at least $1 million (excluding primary residence) or have income of at least $200,000 ($300,000 together with a spouse) for each year for the last two years. Certain legal entities with over $5 million in assets are accredited investors, while certain regulated entities such as banks, broker-dealers, registered investment companies, BDCs, and insurance companies are automatically designated as accredited investors. In December 2015, SEC staff published a report that suggested potential modifications to the definition of accredited investor.[110]

Recommendations

Treasury recommends that amendments to the accredited investor definition be undertaken with the objective of expanding the eligible pool of sophisticated investors. The "accredited investor" definition could be broadened to include any investor who is advised on the merits of making a Regulation D investment by a fiduciary, such as an SEC- or state-registered investment adviser. Furthermore, financial professionals, such as registered representatives and investment adviser representatives, who are considered qualified to recommend Regulation D investments to others, could also be included in the definition of "accredited investors."

---

110. Division of Corporation Finance, U.S. Securities and Exchange Commission, *Report on the Review of the Definition of "Accredited Investor"* (Dec. 18, 2015), available at: *https://www.sec.gov/corpfin/reportspubs/special-studies/review-definition-of-accredited-investor-12-18-2015.pdf.*

Review Rules for Private Funds Investing in Private Offerings

Investing in a well-diversified portfolio of private placement offerings instead of a single offering can potentially reduce investment risk. For unaccredited investors, exposure to Rule 506 offerings through a fund could provide diversification benefits to an investment portfolio.

Recommendations

Treasury recommends a review of provisions under the Securities Act and the Investment Company Act that restrict unaccredited investors from investing in a private fund containing Rule 506 offerings.

Empower Investor Due Diligence Efforts

Investment opportunities allow all Americans to participate as investors in the capital markets. But to effectively empower investors, government should ensure that the public has access to information to make informed investment decisions. Given that financial markets also present opportunities for bad actors to take advantage of investors, it is critical that investors have information to protect themselves.

Information on bad actors is currently fragmented across databases maintained by different agencies and organizations. FINRA maintains a database on investment advisers, which compiles information from the SEC and the states, called Investment Adviser Public Disclosure. The SEC and FINRA jointly maintain a database on broker-dealers called BrokerCheck.[111] The National Futures Association maintains a database on firms involved with futures, options on futures, and foreign currency called Background Affiliation Status Information Center (BASIC).[112] No centralized databases are available to the public, free of charge, that provide information on other disciplinary actions handed out by the SEC, Public Company Accounting Oversight Board, or state regulators. Information on criminal convictions for financial fraud obtained by federal, state, or local prosecutors is also not available in a centralized database.

Recommendatons

Treasury recommends that federal and state financial regulators, along with their counterparts in self-regulatory organizations, work to centralize reporting of individuals and firms that have been subject to adjudicated disciplinary proceedings or criminal convictions, which can be searched easily and efficiently by the investing public free of charge.

---

111. BrokerCheck includes some but not all state level information on broker-dealer discipline. Investors may need to use BrokerCheck and additional state databases to obtain full information on an individual broker.

112. The CFTC has launched an effort, called Smartcheck (*https://smartcheck.cftc.gov/check/*), which provides a portal for investors to separately search records on BASIC and BrokerCheck as well as a general Internet search.

Equity Market Structure

Overview and Regulatory Landscape

The fairness, soundness, and efficiency of the U.S. capital markets promote investment in the enterprises that fuel innovation and jobs. The previous section focused on primary markets for equity capital formation. This section will turn to market structure and liquidity, with a focus on secondary market activity – that is, the markets for buying and selling previously issued securities. Secondary markets facilitate investment opportunities for individuals and companies, establish market-based valuations to help investors efficiently allocate capital, and provide liquidity for entrepreneurs, workers, and investors who wish to cash out of all or part of their investments.

Secondary markets for equity in the United States, including stock exchanges, options exchanges, and alternative trading systems (ATSs), provide investors with access to a broad array of securities to fulfill myriad investment objectives. For the largest companies and most liquid stocks, the secondary equity market is operating very well, with strong competition, low transaction costs for investors, and generally strong liquidity conditions. However, this same market is not serving less liquid (often smaller and newer) companies as well. For these companies, liquidity provision, trading activity, and research coverage have declined. Accordingly, many of the recommendations in this section focus on improving the market for less liquid stocks by more appropriately tailoring regulation. In addition, our recommendations aim to promote greater transparency, reduce unnecessary complexity, and improve the overall vibrancy of equity markets to foster economic growth.

The National Market System and Regulation NMS

Recent U.S. equity market regulation has focused on encouraging competition between multiple venues to enhance trade execution pricing and innovation. All securities exchanges, which are key components of the National Market System, provide a venue for securities buyers to establish prices for and execute securities transactions. While securities are listed on a primary exchange, they can be traded on any national securities exchange (or other trading venues such as alternative trading systems) through a system of Unlisted Trading Privileges (UTP). UTP allows companies that do an initial public offering (IPO) and list on New York Stock Exchange (NYSE), for example, to be traded on other trading venues such as NASDAQ and BATS. Because of UTP, there is intense competition among trading venues to capture secondary market trading and the revenue it generates. While UTP is one important element of today's framework, regulatory changes adopted over the last 20 years underpin the current equity market structure.

In 2005, the SEC adopted Regulation NMS, which updated earlier rulemakings that were intended to strengthen and modernize the National Market System.[113] Regulation NMS included new substantive rules to modernize and strengthen the regulatory structure of the U.S. financial markets.

113. Regulation NMS (June 9, 2005) [70 Fed. Reg. 37495 (June 29, 2005)]. This rulemaking helped to satisfy certain key objectives of 1975 amendments to the Exchange Act, including: (1) promoting more efficient and more effective market operations, (2) enhancing competition, (3) improving price transparency, and (4) contributing to the best execution of customer orders. Public Law No. 94–29.

Regulation NMS

Features of NMS	Description
Order Protection Rule (Rule 611, also called the Trade-through Rule)	Requires trading centers[114] to establish, maintain, and enforce written policies and procedures reasonably designed to prevent the execution of trades at prices inferior to protected quotations displayed by other trading centers, subject to an applicable exception. To be protected, a quotation must be immediately and automatically accessible.[115] Impact: The price and speed incentives created by the rule encouraged trading venues to move to electronic execution and discouraged open outcry markets.
Access Rule (Rule 610)	Requires fair and non-discriminatory access to quotations, establishes a limit on access fees to harmonize the pricing of quotations across different trading centers, and requires each national securities exchange and national securities association to adopt, maintain, and enforce written rules that prohibit their members from engaging in a pattern or practice of displaying quotations that lock or cross automated quotations. Impact: Promotes competition among trading venues by allowing any trading venue to compete for any order on any other venue.
Sub-penny Rule (Rule 612)	Prohibits market participants from accepting, ranking, or displaying orders, quotations, or indications of interest in a pricing increment smaller than a penny, except for orders, quotations, or indications of interest that are priced at less than $1.00 per share. Impact: Encouraged broker internalization which continued to allow trading (though not quoting) at sub-penny prices.
Market Data Rules (Rules 601 and 603)	Updated the requirements for consolidating, distributing, and displaying market information, as well as amendments to the joint industry plans for disseminating market information that modify the formulas for allocating plan revenues. Impact: Helped to create an environment where market information becomes an increasingly valuable commodity.

Regulation NMS has been credited with reducing trading costs to some of the lowest levels in the world, reducing bid-ask spreads, and generally increasing liquidity. However, Regulation NMS has also faced criticism for its role in adding to the complexity of equity markets as well as facilitating the rise of high-frequency trading practices, which many have criticized as harming true liquidity and market quality.[116] Regulatory change that had been underway before Regulation NMS also contributed to significant market structure changes.

---

114. "Trading centers" include any national securities exchange, national securities association that operates an SRO (self-regulating organization) trading facility, alternative trading system, exchange market maker, over-the-counter market maker, or any other broker or dealer that executes orders internally by trading as principal or crossing orders as agent. See 17 C.F.R. § 242.600(b)(78).

115. See 17 C.F.R. § 242.600(b)(57)(iii) (defining a "protected bid" or "protected offer" to include only automated quotations) and 17 C.F.R. § 242.600(b)(3) (defining "automated quotation").

116. See, e.g., Larry Tabb, *Regulation NMS Part I: Loved or Loathed and Why Many Want It to Die* (May 13, 2013), available at: *https://research.tabbgroup.com/report/v11-018-regulation-nms-part-i-loved-or-loathed-and-why-many-want-it-die*; and Christopher Groskopf, *The Modern Stock Market is a Badly Designed Computer System* (June 15, 2016), available at: *https://qz.com/662009/the-sec-tried-to-fix-a-finance-problem-and-created-a-computer-science-problem-instead/*.

Regulatory Changes Before Regulation NMS

Changes	Description
Decimalization	The gradual reduction in "tick sizes," or the minimum increment of price for the trading of stocks on exchanges. Prior to 1992, stocks had traded in 1/8 of a dollar tick sizes, which effectively created a minimum bid-ask spread for a stock of 12.5 cents. This wide bid-ask spread created high transaction costs for buyers and sellers but also sustained large profit margins for dealers. In the 1990s, the SEC and stock exchanges progressively narrowed tick sizes, first to 1/16 of a dollar and culminating in April 2001 with the full implementation of decimalization, or the pricing of most stocks in one penny increments.[117] Impact: Decimalization reduced the spreads on the most heavily traded stocks to as little as a penny, dramatically reducing trading costs.[118]
Regulation ATS	Adopted in 1998, exempts certain alternative trading systems (ATSs) from registration as a national securities exchange, while applying core elements of exchange regulation. Requires ATSs to provide order display and execution access when market share thresholds are reached. Imposes capacity, integrity, and systems-security standards and requires ATSs to register as broker-dealers. Impact: Institutionalized ATSs, allowing them to operate and grow with modest regulatory oversight compared to exchanges. They grew significantly upon enactment of Regulation NMS (national market system). Today, these ATSs, operated by broker-dealers registered with the SEC, have become important sources of liquidity.

Electronification and Increased Competition

Technological evolution, in addition to regulatory changes, has driven changes to equity market structure. Electronification has facilitated an extraordinary increase in the speed of trading, with trading activity now measured in milliseconds and microseconds. Market participants are often keenly focused on the speed by which trade data travels between data centers or in collocating their own servers on exchanges' premises to minimize data latency. Electronification has also been critical to promoting market participant and venue competition. Barriers to entry for a new electronic market maker or electronic venue are much lower than those of the human-centered past. Equities trading has been on the cutting edge of this transition for decades.

These regulatory and structural changes spurred the conversion of manual stock markets, which executed trades through floor brokers, to largely automated operations, which placed a premium

117. See Securities and Exchange Commission, *Report to Congress on Decimalization* (July 2012) at 4-6, available at: *https://www.sec.gov/news/studies/2012/decimalization-072012.pdf.*

118. Id.

on high-speed computers, sophisticated execution algorithms, and rich data about the financial market prices and orders.[119] These changes also helped ensure widespread and near-instantaneous dissemination of market prices electronically, which enabled ATSs to compete with exchanges.

Another trend of note during this period was the "demutualization" of stock exchanges beginning in 2005. Demutualizing stock exchanges went from nonprofit institutions owned by their broker-dealer members to for-profit entities. These for-profit exchanges then consolidated into larger entities operating multiple exchanges within and across national borders.[120]

When considering the operational effects, electronification has been a double-edged sword. Electronic trading has made the everyday trading process more efficient and reduced the frequency of human error. On the other hand, operational risk has grown significantly. As an example, at Knight Capital in 2012, a series of errors relating to an internal software update triggered more than $400 million of losses and ultimately led to the sale of the firm.[121]

Technological and regulatory changes have also promoted increased competition between equity trading venues. Investors looking to buy and sell securities may now do so at any of 12 registered national securities exchanges, 40 broker-dealer operated ATSs that trade equities,[122] and numerous other internal trading systems run by registered broker-dealers. The changes in market share for the NYSE and NASDAQ underscore the dramatic shift that occurred in the equity markets in the mid-2000s. Exchanges now handle only a minority of the trading in their stock listings.

---

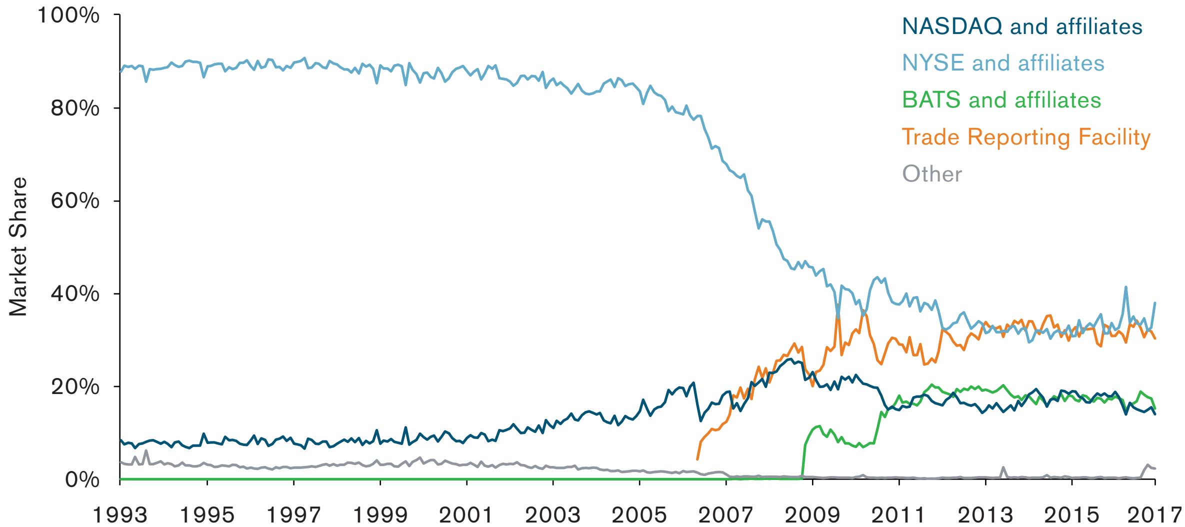
119. CFA Institute, *Liquidity in Equity Markets: Characteristics, Dynamics, and Implications for Market Quality* (Aug. 2015), at 4-5, available at: *http://www.cfapubs.org/doi/pdf/10.2469/ccb.v2015.n7.1.*

120. See Ernst & Young LLP, *IPO Insights: Comparing Global Stock Exchanges* (2007), at 5-6, available at: *http://www.ey.com/Publication/vwLUAssets/IPO_Insights:_Comparing_global_stock_exchanges/$FILE/IPO_comparing-globalstockexchanges.pdf.*

121. See *In re: Knight Capital Americas LLC* (Oct. 16, 2013), available at: *https://www.sec.gov/litigation/admin/2013/34-70694.pdf.*

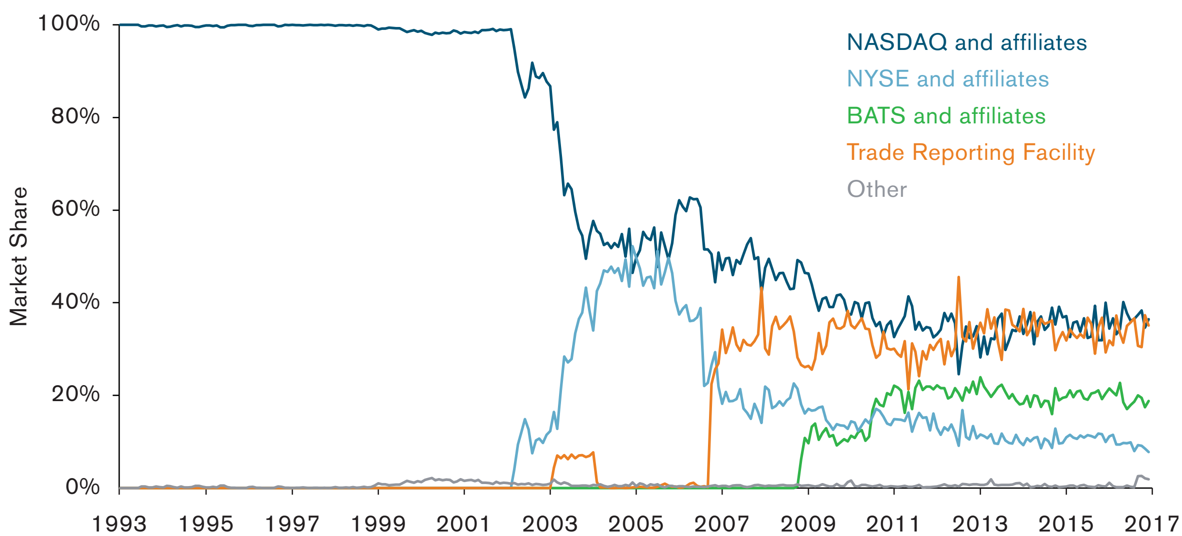
122. Financial Industry Regulatory Authority, *Equity ATS Firms as of Sept. 1, 2017*, available at: *http://www.finra.org/industry/equity-ats-firms* (last accessed Sept. 14, 2017).

Figure 3: NYSE-Listed Equities by Exchange



Sources: Office of Financial Research analysis, U.S. Equities Trade and Quote (TAQ), calculated (or derived) based on data from Daily Stock File ©2017 Center for Research in Security Prices (CRSP®), the University of Chicago Booth School of Business.

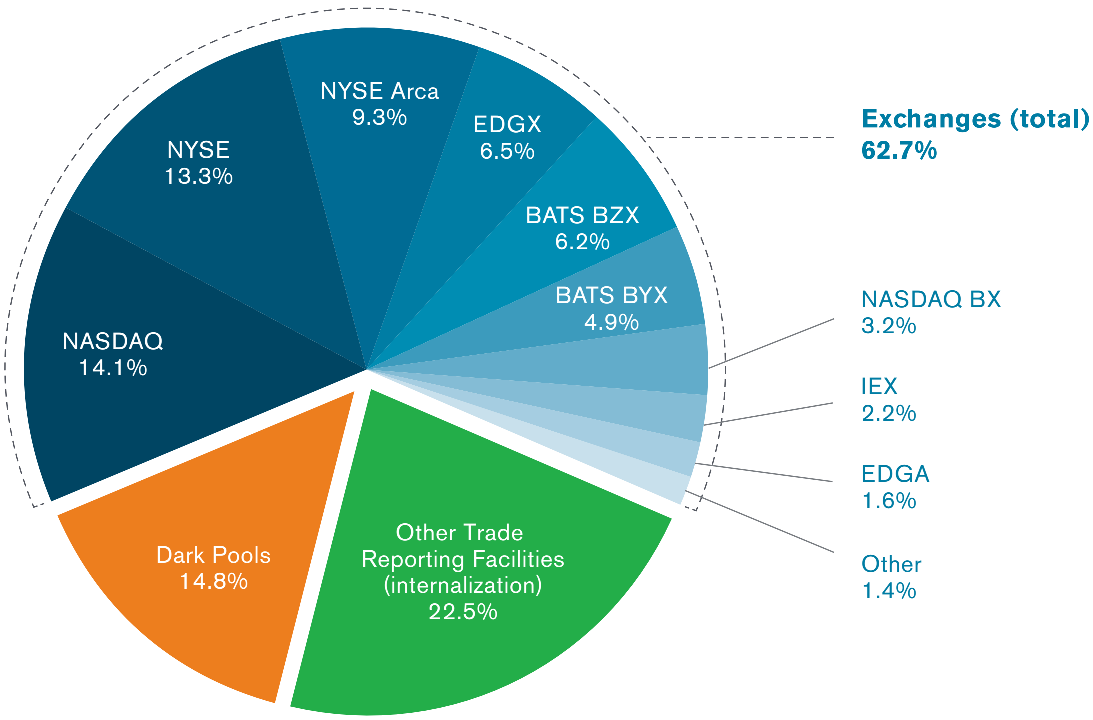
Figure 4: NASDAQ-Listed Equities by Exchange



Sources: Office of Financial Research analysis, U.S. Equities Trade and Quote (TAQ), calculated (or derived) based on data from Daily Stock File ©2017 Center for Research in Security Prices (CRSP®), the University of Chicago Booth School of Business.

Market share is now dispersed amongst trading venues, including a substantial portion of trading flow being internalized by broker-dealers in lieu of being executed on the exchanges.

Figure 5: Equities Market Share by Venue



Source: Rosenblatt Securities, July 2017

To attract volume, some venues offer incentives for directing orders to the exchange or for entering orders. Some offer novel order types, causing an increasingly complex trading environment. Some offer preferential access to data at a price, which may enable high-frequency traders to engage in practices that disadvantage institutional sellers and may contribute to higher volatility. The proliferation of electronic trading venues has given rise to high-frequency trading (HFT) activities, which rely on high-speed computers and sophisticated algorithms to effectively make markets on multiple venues and in multiple securities simultaneously. HFT strategies have been used by new entrants, often trading with their own capital, as well as by some established market participants such as broker-dealers that are part of banks.

An increasing share of trading is also done in dark pools and other unlit venues. Institutional investors may elect to use dark pools to effect large transactions without impacting market prices, and some dark pools may offer lower transaction costs and spreads. Dark liquidity includes certain

ATSs on which broker-dealers' customers may trade with each other or with the broker-dealer anonymously; exchange-executed hidden orders; and other OTC venues, such as broker-dealers who internalize orders. Dark pools are controversial because they may reduce the effectiveness of the lit markets' price discovery function,[123] may enable abusive trading by high-frequency traders, and may conceal trading by broker-dealers that is disadvantageous to their customers.[124] However, dark pools may benefit investors by reducing trading costs, facilitating the sale of lower-volume securities, and permitting investors to trade without triggering unfavorable price changes.[125]

The SEC's regulation and oversight of securities exchanges and ATSs differs meaningfully. A registered national securities exchange is a self-regulatory organization (SRO) that must fulfill certain responsibilities defined by statute and SEC rules. A national securities exchange must, among other obligations, register with the SEC (unless an exemption or exception applies);[126] enforce its members' compliance with federal securities laws and its own rules;[127] adopt listing requirements for securities on its exchange (if the exchange lists securities);[128] equitably allocate reasonable dues, fees, and other charges among its members and other users; and have rules designed to prevent fraudulent and manipulative acts and practices to promote just and equitable principles of trade and to protect investors and the public interest.[129] SROs must also file any new rule or rule change with the SEC for approval.[130] Although an ATS matches buyers and sellers like an exchange, an ATS is exempt from the definition of exchange and thus is not required to register as an exchange or to fulfill the regulatory obligations of an SRO.[131] Instead, an ATS must comply with the requirements of the SEC's Regulation ATS.[132] Among the requirements are that an ATS must be registered with the SEC as a broker-dealer and become a member of FINRA,[133] file Form ATS with the SEC before beginning operations,[134] and update the form to maintain its accuracy.[135]

---

123. Linlin Ye, *Understanding the Impacts of Dark Pools on Price Discovery* (Oct. 2016), available at: *https://arxiv.org/pdf/1612.08486.pdf* (finding that dark pools impair price discovery when information risk is high but enhance price discovery when information risk is low). See also PricewaterhouseCoopers, *An Objective Look at High-Frequency Trading and Dark Pools* (May 6, 2015), available at: *http://www.pwc.com/us/en/pwc-investor-resource-institute/publications/assets/pwc-high-frequency-trading-dark-pools.pdf* ("PwC HFT Report") (suggesting price discovery is harmed when a significant portion of a security's trading is in dark pools). Other researchers find that dark pools improve price discovery. See, e.g., Haoxiang Zhu, *Do Dark Pools Harm Price Discovery?* (Nov. 16, 2013), available at: *https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1712173.*

124. Various settled enforcement actions involving ATS operators are described in footnote 140.

125. See PwC HFT Report.

126. 15 U.S.C. § 78e.

127. 15 U.S.C. § 78f(b)(1).

128. 15 U.S.C. § 78f(h)(3).

129. 15 U.S.C. § 78f(b)(4).

130. 15 U.S.C. § 78s(b)(1).

131. See 17 C.F.R. § 240.3a1-1 (exempting any organization, association, or group of persons from the definition of "exchange" if it complies with Regulation ATS).

132. 17 C.F.R. §§ 242.300 et seq.

133. 17 C.F.R. § 242.301(b)(1).

134. 17 C.F.R. § 242.301(b)(2).

135. 17 C.F.R. § 242.301(b)(2)(ii).

Form ATS is merely a notice filing, which the SEC does not approve in any way. An ATS must also report information to the SEC quarterly on Form ATS-R, including the volume of specified categories of securities traded on the ATS and a list of all subscribers that were participants during the quarter.[136] These forms tell the SEC about ATSs' operations, but the forms otherwise remain confidential and are not disclosed to the public.[137]

An ATS is required to provide "fair access" if the ATS's market share is more than 5% of the average daily volume of national market system (NMS) stocks (e.g., exchange-listed stocks) or certain other securities for four of the preceding six calendar months.[138] "Fair access" requires an ATS to publicly display its best bid or offer and to provide equal access to those orders. Accordingly, an ATS must establish standards for granting access to its platform and fairly apply those standards without unreasonably prohibiting or limiting any person from trading in any equity securities.[139] An ATS must also notify the SEC on Form ATS-R when it has denied or limited access to the ATS.

The opaque operations of ATSs and limited public disclosure requirements have created the conditions for numerous instances of malfeasance by ATS operators. ATS operators have been accused of making inadequate or false disclosures about their operations and failing to disclose conflicts of interest. In the last five years, the SEC has settled enforcement actions against several ATS operators for making inadequate or false disclosures about their operations, failing to update their Forms ATS as required, or for failing to disclose conflicts of interest.[140]

Market Quality

The U.S. capital markets are the most liquid in the world and a powerful force in promoting economic growth and investment. Liquidity is difficult to define precisely, and its characteristics vary by asset class. However, it generally relates to the ease, speed, and cost with which investors can buy or sell assets. Some commonly used metrics for liquid markets include:

---

136. Id.

137. Regulation of NMS Stock Alternative Trading Systems (Nov. 18, 2015) [80 Fed. Reg. 80998 at 81005-06 (Dec. 28, 2015)] ("Regulation NMS Proposal").

138. 17 C.F.R. § 242.301(b)(5). The fair access provisions apply on a security-by-security basis. 17 C.F.R. § 242.301(b)(5)(ii).

139. See Regulation of Exchanges and Alternative Trading Systems (Dec. 8, 1998) [63 Fed. Reg. 70844 (Dec. 22, 1988)].

140. See, e.g., *In re: ITG Inc. and Alternet Securities, Inc.* (Aug. 12, 2015) (failing to disclose the operation of a proprietary trading desk that traded algorithmically against customers' order based on live feeds of an ATS's order book while purporting to be an "agency-only" broker that would protect the confidentiality of its customers' data). See also *In re: UBS Securities LLC* (Jan. 15, 2015) (illegally accepting sub-penny orders from high-frequency traders, who were allowed to use special order types marketed exclusively to them to jump the queue ahead of lawful whole-penny orders); *In re: LavaFlow, Inc.* (July 25, 2014) (giving an affiliate access to its customers' confidential order information, which affiliate then used the knowledge of those orders to determine how to route orders for others); *In re: Liquidnet, Inc.* (June 6, 2014) (selectively providing favored private equity and venture capital customers with confidential information about Liquidnet members' indications of interest and executions in contravention of confidentiality assurances it gave to its members); and *In re: eBX, LLC* (Oct. 3, 2012) (using ATS members' confidential order flow information in contravention of its promises to members to inform and improve the order routing process of an ATS affiliate).

- Breadth of market: the width of the bid-ask spread, or the difference between the price at which investors may purchase shares (the "ask" or "offer") and the price at which they may sell shares (the "bid").
- Depth of market: the number of shares of stock available at the best bid or offer.

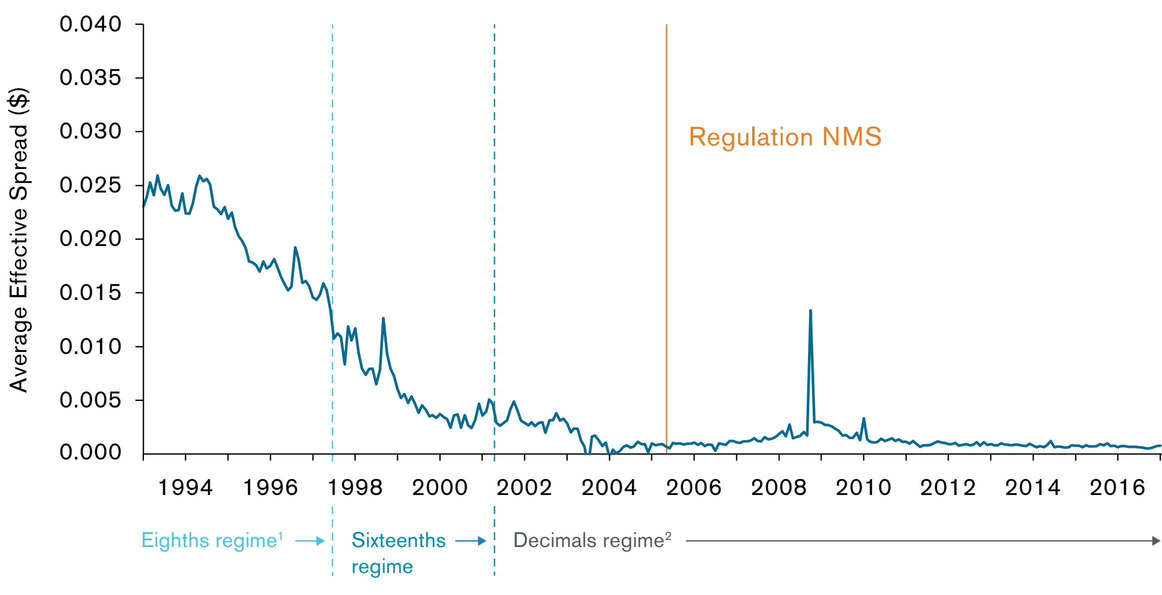
Robust market depth and breadth combine to give investors and traders the ability to buy or sell shares of stock with limited effects on the market price, a characteristic that has been called "resilience." Companies that enjoy good liquidity can more easily raise money in the capital markets to fund investments and provide jobs. Investors rely on the liquidity in our financial markets to make new investments and to realize returns from their earlier investments. Liquid markets also allow investors to transfer risks among themselves at low cost, further helping the process of allocating capital among competing business opportunities.

Liquidity relies on having a large pool of investors who are willing to buy and sell securities and venues upon which they can interact. Market makers, floor specialists, institutions, day traders, and retail investors are all important contributors of liquidity.

As discussed in the last section, regulatory and market changes have affected the sources of liquidity in the last two decades. These structural market changes have contributed to reduced direct trading costs (both bid-ask spreads and commissions), but have also caused liquidity to fragment among many venues.

Figure 6: Value-Weighted Effective Spreads on NASDAQ

Trading costs have fallen



Note: Securities traded in NYSE/AMEX/NASDAQ/ARCA

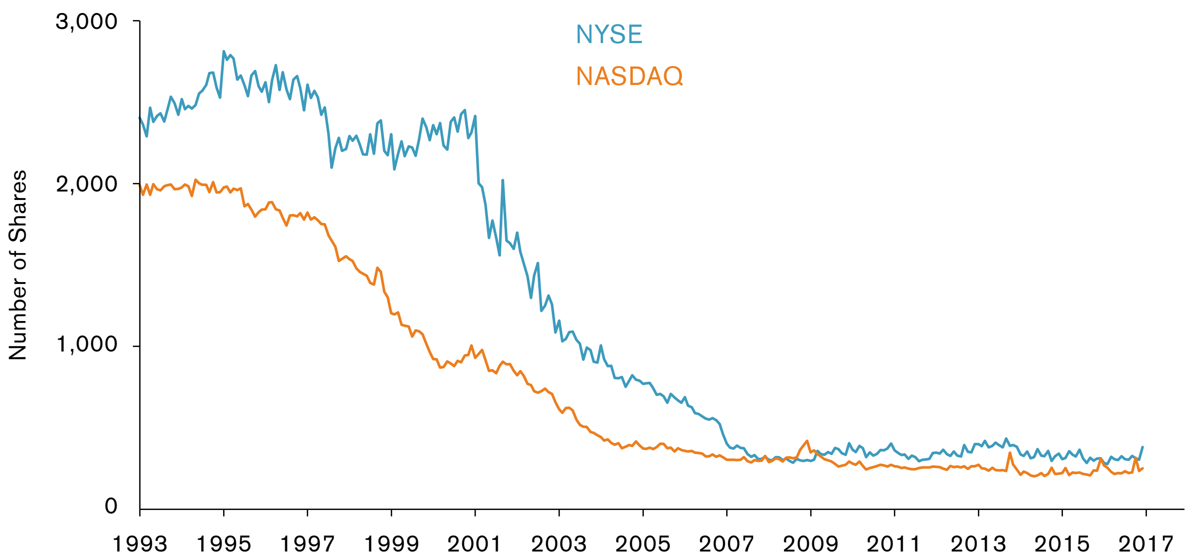
[1] Stocks priced below $10 per share traded in sixteenths

[2] Decimalization test covering selection of 15 representative stocks began on 3/2/2001

Source: Center for Research in Security Prices

One particular complaint is that while share volume in the United States is substantial, executing large transactions has become harder. The average trade size in U.S. markets fell precipitously in just 15 years, though some of this effect may be due to increasing electronification and greater reliance on algorithms to split trades and minimize market impact. The average trade size for large capitalization stocks in 1999 was 988 shares, but by 2014 it had fallen to 195 shares.[141] For small capitalization stocks, average trade size dropped from 732 shares to 118 shares in the same period.[142] Block trades, trades of 10,000 shares or more, have become much less frequent. Block trades account for less than 8% of volume on the NYSE, compared with over 50% in the 1990s.[143] Average transaction sizes for NYSE-listed stocks declined by 14% from 2004 to 2014.[144]

Figure 7: Average Trading Size in U.S. Equities Markets



Sources: Office of Financial Research analysis, Muzan Trade and Quote Data

Liquidity is also unevenly distributed across the equities market, with small- and mid-capitalization stocks enjoying much less liquidity than large-capitalization stocks. A study of liquidity among companies with market capitalizations of less than $5 billion found that in general, companies with the smallest market capitalizations (less than $100 million) had larger quoted and effective

141. CFA Institute, *Liquidity in Equity Markets: Characteristics, Dynamics, and Implications for Market Quality*, Exhibit 4 (Aug. 2015), available at: *http://www.cfapubs.org/doi/pdf/10.2469/ccb.v2015.n7.1.*

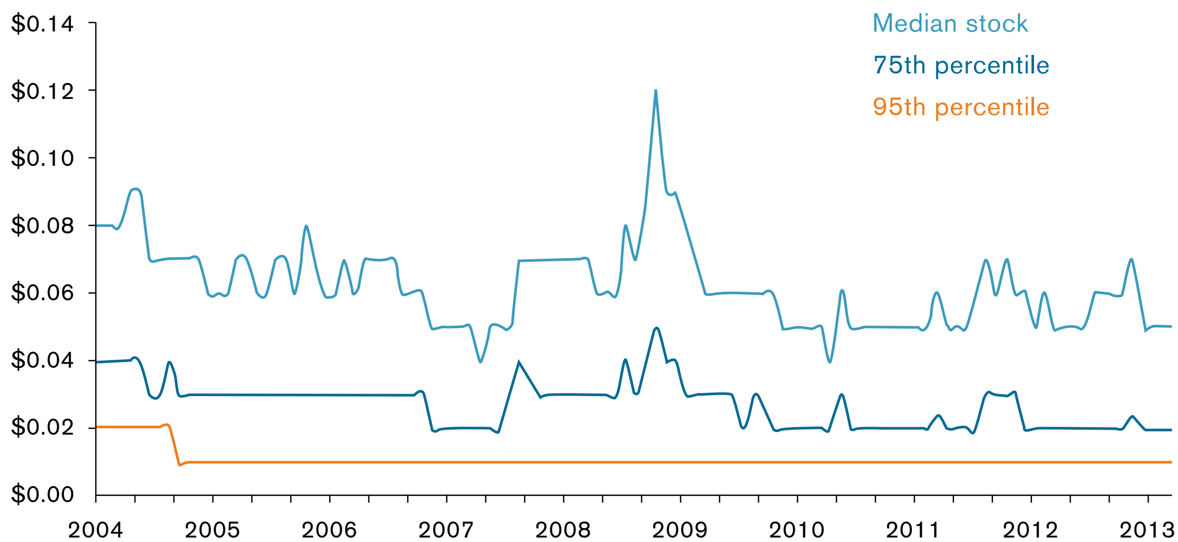
142. Id.

143. BlackRock, *The Liquidity Challenge: Exploring and Exploiting (Il)liquidity* (June 2014), available at: *https://www.blackrock.com/corporate/en-mx/literature/whitepaper/bii-the-liquidity-challenge-us-version.pdf.*

144. PricewaterhouseCoopers, *Global Financial Markets Liquidity Study* (Aug. 2015), at 88, available at: *http://www.pwc.se/sv/pdf-reports/global-financial-markets-liquidity-study.pdf ("PwC Liquidity Study").*

spreads than the largest capitalization companies (between $2 billion and $5 billion).[145] The smallest capitalization companies also had shallower depths of book, or pending orders at prices outside the best bid or offer.[146] The gap between the "liquidity haves" and the "liquidity have-nots" may be expanding. Trading volume in the mid-capitalization stocks in the Standard & Poor's 400 Mid-Cap index dropped 25% between 2008 and 2014.[147]

Figure 8: Quoted Bid-ask Spreads



Source: NYSE TAQ data/James J. Angel, Lawrence E. Harris, Chester S. Spatt, Equity Trading in the 21st Century: An Update at 5 (June 21, 2013)

Issues and Recommendations

Fragmentation of Liquidity and Promoting Liquidity in Less Liquid Stocks

Regulatory, technology, and market factors have fueled an increase in the number of trading venues. Competition has increased and trading activity has fragmented among these venues.

While competition in trading venues has been a significant driver in the reduction of transaction costs over the past decade, the benefits have not been shared evenly by all listed securities. Competition among venues has garnered the most benefits for heavily traded stocks, where volumes are sufficient to support many venues. In thinly traded stocks, venue fragmentation can be especially problematic, as light volumes are thinly spread across many venues. The primary

145. Charles Colliver, *A Characterization of Market Quality for Small Capitalization US Equities*, white paper (Sept. 2014), available at: *https://www.sec.gov/marketstructure/research/small_cap_liquidity.pdf.*

146. Id.

147. PwC Liquidity Study, Figure 4.83 at 92.

function of markets is to facilitate the meeting of buyers and sellers, but with so little volume spread across so many venues, finding the other side of a trade has become harder. Excessive fragmentation can complicate provision of liquidity as market-makers limit the size they post to each market to manage their risk, which in total reduces the available liquidity.

Recommendations

Treasury recognizes that one size may not fit all when it comes to trading venue regulation. Treasury recommends exploring policies that would consolidate liquidity for less-liquid stocks on a smaller number of trading venues. Consolidating trading to fewer venues would simplify the process of making markets in those stocks and thereby encourage more market makers to provide more liquidity in those issues.

To accomplish this goal, Treasury recommends that issuers of less-liquid stocks, in consultation with their underwriter and listing exchange, be permitted to partially or fully suspend UTP for their securities and select the exchanges and venues upon which their securities will trade. Issuers have a unique interest in promoting the liquidity of their stocks and balancing the interests of market-makers and investors. While issuers may not be experts in market structure, they could consult their underwriter and the listing exchange on these important issues.

Accordingly, the SEC should consider amending Regulation NMS to allow issuers of less-liquid stocks to choose to have their stock trade only on a smaller number of venues until liquidity in the stock reaches a minimum threshold. To maintain a basic level of competition for execution, broker-internalization should remain as a trading option for all stocks.

A number of measures could be used to determine which stocks are "illiquid" for these purposes. While definitions of and metrics used to measure liquidity differ,[148] one simple approach would be to use average daily volume as the metric to differentiate between liquid and illiquid stocks for these purposes.

Dynamic Tick Sizes

As explained previously, decimalization, or the conversion of quoting conventions to decimals instead of fractions, coincided with a reduction in the tick size (or minimum increment) for most stocks to one penny.[149] Decimalization and the associated reduction in tick size is one of the many factors cited as contributing to the long-term reduction in equities trading costs.

The tick size creates an arbitrary minimum cost to trade, and also establishes at what increments market participants can interact. From the perspective of a market operator, tick size is a useful tool to balance the minimum cost to trade with the rewards of liquidity provision. A tick size that is too large imposes costs on participants who choose to cross the spread, and such large transaction costs can discourage trading activity and investment. On the other hand, a tick size that is too

148. See, e.g., Ruslan Y. Goyenko, Craig W. Holden, and Charles A. Trzcinka, *Do Liquidity Measures Measure Liquidity?*, 92 Journal of Financial Economics 153 (May 2009) for a discussion of alternative measures of liquidity. A sample of these measures include bid-ask spreads, "Effective Tick," and "Effective Tick2."

149. 17 C.F.R. § 242.612(a) generally requires all tick sizes to be at least one penny per share for NMS stocks if the bid or offer, order, or indication of interest is equal to or greater than $1.00 per share.

small fails to consolidate liquidity at a given price because a small tick size encourages freeriding on the quotes others have made (by improving the price by economically insignificant amounts), discouraging liquidity provision.

Beginning in October 2016, the SEC launched a pilot to evaluate the effects of larger tick sizes (three different technical variations of moving from a penny to a nickel) on small cap stocks.[150] While the pilot is still ongoing, some observers are beginning to draw preliminary conclusions. Research suggests displayed depth of book (i.e., the number of shares available at the best bid or offer) increased, but return volatility increased as average trade volume dropped.[151] The tick size pilot may also be driving volume off exchanges and onto inverted markets.[152] However, the tick pilot did not distinguish between small cap stocks that had previously traded with narrow spreads and those with wide spreads. Some stocks which previously traded well at one penny have seen unnecessary cost increases, while other stocks that had typical bid-ask spread of 10 cents or wider have not seen significant changes.

Recommendations

Tick size is another area where "one-size-fits-all" changes may need to be better tailored to individual stocks. Treasury recommends that the SEC evaluate allowing issuers, in consultation with their listing exchange, to determine the tick size for trading of their stock across all exchanges. Such a change would borrow a good idea from the futures markets, where each listed contract has a different tick, and the ticks are updated periodically to improve market quality. More-liquid stocks would likely have lower tick sizes (reflecting their low cost and extremely competitive liquidity provision), and less-liquid stocks higher tick sizes (reflecting the need to coalesce liquidity to improve market functioning). As companies grow and their liquidity profile changes, they could update their tick size.

While different tick sizes for different stocks would increase the complexity of the market, this could be managed by limiting the potential choices to a small number of standard options, e.g., 10 cents, 5 cents, 1 cent, or ½ cent per share. Similar to the tick size pilot, exceptions could also be made for retail orders as appropriate.

---

150. Order Approving the National Market System Plan to Implement a Tick Size Pilot Program by BATS Exchange, Inc., BATS Y-Exchange, Inc., Chicago Stock Exchange, Inc., NASDAQ OMX BX, Inc., NASDAQ OMX PHLX LLC, The Nasdaq Stock Market LLC, New York Stock Exchange LLC, NYSE MKT LLC, and NYSE Arca, Inc., as Modified by the Commission, For a Two-Year Period (May 6, 2015) [80 Fed. Reg. 27513 (May 13, 2015)].

151. Peter Reinhard Hansena et al., *Mind the Gap: An Early Empirical Analysis of SEC's "Tick Size Pilot Program,"* working paper (May 22, 2017), available at: *https://sites.google.com/site/peterreinhardhansen/research-papers/mindthegapanearlyempiricalanalysisofsecsticksizepilotprogram*. See also José Penalva and Mikel Tapia, *Revisiting Tick Size: Implications from the SEC Tick Size Pilot*, working paper (Aug. 3, 2017), available at: *https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2994892* (finding that the tick size pilot has increased depth of book but has also increased cost of execution).

152. Yiping Lin, Peter Swan, and Vito Mollica, *Tick Size is Little More Than an Impediment to Liquidity Trading: Theory and Market Experimental Evidence*, working paper (Aug. 10, 2017).

Maker-Taker and Payment for Order Flow

Traditional securities markets charge both buyers and sellers a transaction fee for executing transactions in addition to other fees they may charge for other services. In contrast, on "maker-taker markets," the venues charge fees to some parties and pay rebates to others based on their order types. The fees and rebates are intended to help maker-taker markets attract a higher volume of transactions. In the traditional maker-taker market, "takers" who purchase or sell shares at a quoted price (and are therefore taking liquidity from the market) are charged a fee. "Makers" who provide resting quotes (and are therefore supplying liquidity to the market) receive a rebate of a portion of the taker fee if their bids or offers are executed. The rebates create an incentive for market makers to provide displayed liquidity while increasing costs for participants who cross the spread to execute their transaction. The exchange realizes a profit based on the difference between the taker's fee and the rebate paid to the maker.

The rebate system of maker-taker and inverted markets (where venues actually pay rebates to the liquidity taker) may distort the incentives of broker-dealers executing customers' trades. It could also encourage broker-dealers to direct trades to venues where they can receive greater payments for order flow rather than venues where their customers will receive the fastest execution or the greatest likelihood of execution. While best execution obligations and the Order Protection Rule require (in different ways) a broker-dealer to execute its customers' trades at the best available price, if multiple venues have the same price, the broker-dealer may choose to effect the transaction on the exchange that will provide it the greatest rebate.

Recommendations

Treasury is concerned that maker-taker markets and payment for order flow may create misaligned incentives for broker-dealers. Accordingly, Treasury recommends that the SEC consider rules to mitigate the potential conflicts of interest that arise due to these compensation arrangements.

First, Treasury recommends that the SEC require additional disclosures regarding these arrangements. Specifically, Treasury recommends that the SEC adopt a final rule implementing the changes it proposed in 2016 to Exchange Act Rules 600 and 606.[153] The proposed rule changes would require broker-dealers to provide institutional customers with specific disclosures related to the routing and execution of their orders, and also require broker-dealers to make aggregated information about their handling of customers' institutional orders publicly available. The proposed rule changes would also require that retail customers receive additional information about their orders, including the disclosure of the net aggregate amount of any payment for order flow received, payment from any profit-sharing relationship received, transaction fees paid, and transaction rebates received by a broker-dealer from certain venues; and descriptions of any terms of payment for order flow arrangements and profit-sharing relationships.

Second, Treasury supports a pilot program to study the impact reduced access fees would have on investors' execution costs or available liquidity. Reducing access fees reduces the direct funding source for maker-taker arrangements by limiting the fees paid by takers, which generally fund the rebates paid to makers. If the study showed that the reduction in fees did not have material negative

153. Disclosure of Order Handling Information (July 13, 2016) [81 Fed. Reg. 49431 (July 27, 2016)].

effects on market quality, the SEC should consider restricting the use of rebates and payment for order flow arrangements. The SEC could also consider whether it should require broker-dealers acting as agents to refund rebates and payments for order flow to their customers. If payments went directly to customers rather than intermediaries, incentives would be more appropriately aligned.

Rebates are another area where tailoring to the situations of more- and less-active stocks may be appropriate. While the issues affecting the market for less-liquid stocks are many, and a potential rebate is a small part of the equation, Treasury is hesitant to recommend any course of action that could worsen liquidity for less actively traded stocks. Accordingly, Treasury recommends that the SEC exempt less liquid stocks from the restrictions on maker-taker rebates and payment for order flow if such exemptions promote greater market making.

Market Data

As noted above, Regulation NMS included new Market Data Rules, which were intended to promote the wide availability of market data and reward trading exchanges which produce the most useful information for investors.[154] Under the Market Data Rules, an exchange or broker-dealer must make the best bids and offers available to a Securities Information Processor (SIP) on terms that are fair and reasonable. Each trading venue has only a single SIP, which then resells the consolidated data to broker-dealers and others. The SIP is responsible for consolidating the data it receives and determining the national best bid or offer (NBBO) for each security.

The Market Data Rules also allow venues to sell additional non-core data at additional cost. This has allowed venues to make considerable revenue as a provider of additional data not provided to the SIPs (such as depth of book and odd-lot orders), and by delivering that information more quickly than SIPs are able to deliver the consolidated feed. Many HFT firms rely on these proprietary data feeds to inform their trading, in part by consolidating information from exchanges' proprietary feeds faster than it can be delivered by the SIP, and by using their knowledge of the depth of book to anticipate price changes driven by executions.

Many broker-dealers report that they feel compelled to purchase these enhanced data feeds from the trading venues both to provide competitive execution services to their clients and to meet their best execution obligations. Exchange Act provisions and FINRA rules require broker-dealers to give their customers "best execution" of the customers' securities transactions.[155] Broker-dealers interpret their best execution obligations as requiring them to use the best available data to find their customers the best reasonably available price. Broker-dealers' customers may also demand that firms employ proprietary data feeds to identify the best prices. Broker-dealers must also compete with HFT firms that use enhanced data feeds to trade at an advantage to retail investors and institutional investors with slower data connections. In addition, the market for proprietary data feeds is not fully competitive. For use in making routing and trading decisions for active or institutional size order flow, data from one exchange's feed cannot substitute for data from another exchange's feed.

---

154. Regulation NMS (June 9, 2005) [70 Fed. Reg. 37495 (June 29, 2005)].

155. See 15 U.S.C. § 78j(b) 17 C.F.R. § 240.10b-10; FINRA Rule 5310.

Competitive pressure among broker-dealers and limited constraints on exchange pricing power has allowed exchanges to regularly raise prices. Consequently, exchange data fees made up nearly a third of exchanges' $28.3 billion in revenue in 2016.[156]

Recommendations

Treasury recommends that the SEC and FINRA issue guidance or rules clarifying that broker-dealers may satisfy their best execution obligations by relying on SIP data rather than proprietary data feeds if the broker-dealer does not otherwise subscribe to or use those proprietary data feeds. This should help to eliminate the need for broker-dealers to defensively subscribe to these costly data feeds to ensure that they meet increasingly cautious interpretations of their best execution obligations. Such guidance might help reduce the barriers to entry for new broker-dealers and benefit smaller broker-dealers who would otherwise find the cost of proprietary data prohibitive.

Treasury recommends that the SEC also recognize that markets for SIP and proprietary data feeds are not fully competitive. The SEC has the authority under the Exchange Act to determine whether the fees charged by an exclusive processor for market information are "fair and reasonable," "not unreasonably discriminatory," and an "equitable allocation" of reasonable fees among persons who use the data.[157] The SEC should consider these factors when determining whether to approve SRO rule changes that set data fees.

To foster competition and innovation in the market for SIP data, the SEC should also consider amending Regulation NMS as necessary to enable competing consolidators to provide an alternative to the SIPs. Competing consolidators should be permitted to purchase exchanges' proprietary data feeds, including last sale and depth of book, on a non-discriminatory basis. The competing consolidators would aim to provide faster consolidation and distribution, improved breadth of data, and lower cost than the SIPs.

Order Protection Rule

The Order Protection Rule requires a broker-dealer to route a customer's order to the trading venue with the best available price, referred to as the NBBO. One purpose of the rule is to help customers get the best available price regardless of the market which displays that order. The rule has been credited with improving prices and reducing transaction costs for retail investors.

The Order Protection Rule has helped to foster competition among execution venues because it allows a venue to attract some order flow any time that venue has the best available bid or offer. But the same feature of the rule has also contributed to the proliferation of execution venues and the fragmentation of the equities market. To meet their best execution obligations, broker-dealers are effectively required to continuously check even small venues that rarely offer meaningful liquidity or the best available prices. This means that even small execution venues with little liquidity can continue to exist and thrive, notwithstanding their low volume, by selling their data streams to broker-dealers.

---

156. Joe Parsons, *Exchange Data Made Up a Third of Revenues in 2016* (July 11, 2017), available at: *https://www.thetradenews.com/Trading-Venues/Exchange-data-made-up-a-third-of-revenues-in-2016/.*

157. 15 U.S.C. § 78k-1(c)(1)(B) and (D).

The rule has also been criticized as overly simplistic and price focused, as it does not account for the likelihood of execution, the depth of available liquidity on a venue, or even the cost of executing on the venue. To execute large transactions, institutional investors have had to rely on electronic algorithms (their own or those operated by their broker-dealers) to break large orders into smaller ones to take available liquidity on multiple markets without tipping off other traders to their large trade, or by moving their transactions to dark pools, which further fragments the equity markets.

The Order Protection Rule can also cause unintended outcomes in trade execution. The rule protects only round lot orders (orders of 100 shares or larger orders in increments of 100 shares). Some have noted that the execution of a round lot order against an odd lot order can cause the round lot order to become an odd lot residual. For example, an investor may have a bid at the top of the book for 100 shares at $50 per share. If a sell order for one share executes against the standing round lot order, an unprotected 99 share residual will remain.

Recommendations

The Order Protection Rule is intended to help investors receive the best bid or offer available in any market. However, the rule has fragmented liquidity among small venues that rarely offer significant price improvement and driven up the value of data accumulated by those exchanges. The SEC should consider amending the Order Protection Rule to give protected quote status only to registered national securities exchanges that offer meaningful liquidity and opportunities for price improvement. Furthermore, protected quote status should go to exchanges only if the cost of connecting to the market offsets the burden in market complexity and data costs that connecting would impose on broker-dealers and other market participants. Accordingly, the SEC should consider amending the Order Protection Rule to withdraw protected quote status for orders on any exchange that do not meet a minimum liquidity threshold, measured as a percentage of the average daily trading volume executed on the particular exchange versus the volume of all such securities transactions executed on all exchanges.

The SEC should carefully consider the appropriate threshold, including evaluating the benefits received by broker-dealers' customers in the form of price improvement obtained on exchanges with different levels of volume, as well as the costs broker-dealers face executing transactions on those exchanges.

Treasury recognizes that instituting a minimum volume test on exchanges could have anticompetitive effects. The proposed changes could undermine transaction revenue and data revenue at smaller exchanges, thus reducing their ability to compete with larger exchanges for volume. A minimum volume test could also create a barrier to entry, whereby a new exchange would need sufficient volume to earn the coverage of the Order Protection Rule. Without the rule, the exchange might never be able to attract the necessary volume. Accordingly, the SEC should consider proposing that any newly registered national securities exchange also receive the benefit of protected order status for some period of time to allow the new exchange an opportunity to thrive.

If a broker-dealer's best execution obligations require it to seek price improvement from every exchange, the broker-dealer may not be able to benefit from the simplification this proposal might otherwise offer. If the SEC proposes the rule described above, the SEC should also consider issuing interpretive guidance concerning whether broker-dealers' best execution obligations could be satisfied without checking the best bid or offer available on marginal exchanges.

Reducing Complexity in Equity Markets

Trading venues also compete by offering alternative order types beyond bids and offers. For example, one trading venue offers order types that vary on times of execution (pre-market, post-market, regular session, or all sessions); time in force (day orders, immediate or cancel, fill or kill orders, or good til time); market vs. limit orders; routable, non-routable, and non-routable by design orders with several variants; displayed or non-displayed orders; aggressive or superaggressive orders, etc. Many of these order types can be combined creating multiple permutations. One source estimated that exchanges offer 2,000 variations of order types.[158] Some large institutional investors are concerned that other short-term traders, such as HFT firms, may exploit these order types to learn about the institutions' trading intentions. These participants can then use this information to effectively trade ahead of the institutions, increasing their cost of execution. Exchanges assert that these order types are transparent and fully disclosed because all new order types on exchanges are approved by the SEC and fully documented. They are also available for all traders to use. Others assert that order type proliferation has made the trading environment so complex that even professional investors may not understand how others are exploiting the information advantages that may be gained from different order types.

Recommendations

Because market complexity is exacerbated by the proliferation of order types, Treasury recommends that the SEC review whether exchanges and ATSs should harmonize their order types and make recommendations as appropriate. The SEC should consider whether particular order types sustain sufficient volume to merit continuation.

Regulation ATS

In 2015, the SEC proposed to amend Regulation ATS to increase public information about ATSs that trade NMS stocks (NMS Stock ATSs) and to facilitate better SEC oversight of those ATSs.

The proposed rule would:

- Require an ATS to publicly disclose information about its operator (and any affiliates) and the ATS's operations, including information about potential conflicts of interest.
- Give the SEC authority to approve an ATS's disclosure as well as revoke an ATS's ability to operate under appropriate circumstances.
- Require ATSs to maintain written safeguards and procedures to protect subscribers' confidential trading information.

---

158. Herbert Lash, *Complaints Rise over Complex U.S. Stock Orders*, Reuters (Oct. 19, 2012), available at: *http://www.reuters.com/article/us-exchanges-ordertypes/analysis-complaints-rise-over-complex-u-s-stock-orders-idUSBRE89I0YU20121019*. See also Paul G. Mahoney and Gabriel Rauterberg, *The Regulation of Trading Markets: A Survey and Evaluation*, Virginia Law and Economics Research Paper No. 2017-07 (Apr. 19, 2017), available at: *https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2955112*.

Some industry participants are concerned, however, that the proposed rule may be unnecessarily burdensome. They also believe that the rule encompasses overbroad categories of information and would require ATSs to disclose confidential material that would not give participants any useful insight into the ATS operations. Among the problematic disclosures that would be required under the proposal are:

- "[A]ny materials provided to subscribers or other persons related to the operations of the NMS Stock ATS or the disclosures on Form ATS-N."[159]
- Disclosures about affiliates that do not present potential conflicts of interest with ATS participants.
- Disclosure about a broker-dealer operator's or its affiliate's use of smart order routers or algorithms to send or receive orders or indications of interest to or from the NMS Stock ATS and details on how the ATS and smart order routers or algorithms interact.
- Details of an NMS Stock ATS's outsourcing arrangements concerning any of its operations, services, or functions.

Recommendations

Treasury agrees with the SEC's goals of amending Regulation ATS to increase public information about NMS Stock ATSs. Additional transparency regarding an NMS Stock ATS's operations will allow participants and investors to make more informed decisions about whether to execute transactions on the venue.

Treasury recommends that the SEC adopt the amendments to Regulation ATS substantially as proposed to promote improved information about ATS operations. However, Treasury recommends that the SEC revise aspects of the proposal that would require public disclosure of confidential information that is unnecessary and unhelpful to investors deciding where to send their orders. Treasury recommends that the SEC instead require only confidential disclosure of such information to the agency if the agency can demonstrate that the information would improve its ability to oversee the industry. Treasury suggests that the SEC also ensure disclosures related to conflicts of interest are tailored to provide useful information to market participants. Finally, Treasury recommends that the SEC consider ways to simplify the disclosures to reduce the compliance burden and to increase their readability and comparability across competing ATSs.

159. Regulation NMS Proposal, 80 Fed. Reg. at 81140.

The Treasury Market

Overview and Regulatory Landscape

Overview of Treasury Market Structure

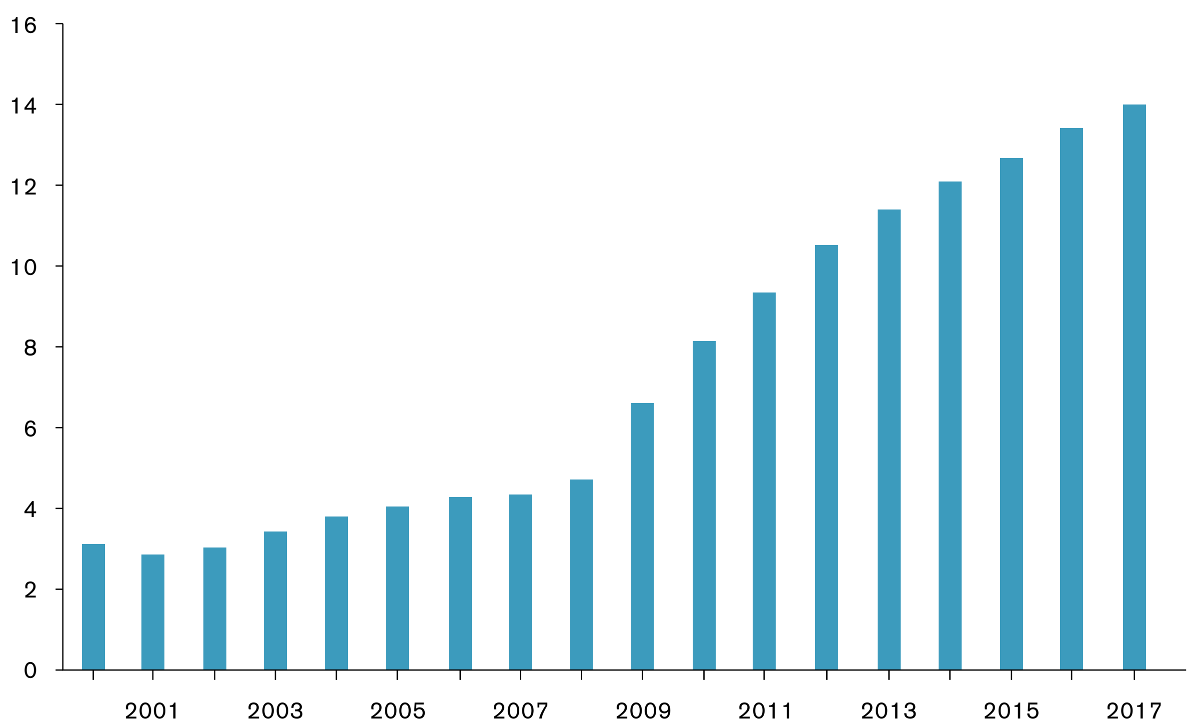
The U.S. Treasury market is the deepest and most liquid government securities market in the world and serves as the primary means of financing the U.S. government. Treasury securities play a critical role in global finance as a risk-free benchmark from which many other financial instruments are priced. Domestic and foreign investors use Treasury securities as a vehicle for investment and the Federal Reserve uses Treasury securities in its implementation of monetary policy.

In recent years, the structure of the U.S. Treasury market has changed in many important ways. As with many other financial markets, advances in technology have facilitated growth in electronic trading for large segments of the Treasury market. At the same time, extraordinary monetary policy has attended a shift in the composition of Treasury end investors. Additionally, the roles played by dealers in the Treasury market are shifting, and new types of intermediaries – particularly those specializing in electronic trading – have entered and recently come to dominate major segments of the market.

Recent Trends and Developments

Over the last decade, Treasury marketable debt outstanding has grown sharply to about $14 trillion as of June 30, 2017, up from $4.3 trillion as of June 30, 2007, just before the onset of the financial crisis.

Figure 9: Treasury Marketable Debt Outstanding ($ trillions)



Source: U.S. Department of the Treasury, Office of Debt Management

Ownership of Treasury securities has also changed over the last decade. For example, as the use of diversified portfolio and passive investment strategies has grown generally, so have mutual fund holdings of Treasury securities.[160] Holdings of Treasury securities outside the United States have grown significantly as well. According to Treasury International Capital and Federal Reserve data, foreign holdings of Treasury securities increased from about $2.2 trillion in June 2007, to about $6.2 trillion in June 2017.[161]

Changes to regulation since the financial crisis have driven changes in holdings of Treasury securities by the domestic banking sector and money market mutual funds. According to Federal Reserve data, U.S. chartered bank holdings of Treasury securities have grown from about $78 billion in 2007 to over $500 billion in the first quarter of 2017, due in part to U.S. Basel III capital requirements to hold greater amounts of high quality liquid assets (HQLA) since the financial crisis. Money market mutual fund holdings have grown from $92 billion to about $741 billion over the same period, primarily as a result of revised SEC rules on the securities money market funds can hold to retain a fixed net asset value.[162] The Federal Reserve, through the System Open Market Account, is also a significant holder of Treasury securities; the Federal Open Market Committee recently announced it will begin normalizing its balance sheet.[163]

According to the Securities Industry and Financial Markets Association (SIFMA), Treasury market daily volume has remained steady since 2010 at about $510 billion per day.[164]

Treasury Market Ecosystem

The cash Treasury market ecosystem consists broadly of two segments: the dealer-to-client (DtC) market, and the interdealer market. In addition, activity in the Treasury futures market is closely related to the cash market. Treasury repurchase agreements (repo) are often used by market participants, particularly intermediaries, to finance positions in Treasury securities.

---

160. Board of Governors of the Federal Reserve System, *Financial Accounts of the United States – Z.1, L.210 Treasury Securities (1)*, available at: *https://www.federalreserve.gov/releases/z1/current/html/l210.htm* (showing mutual fund holdings have grown from just fewer than 4% of marketable Treasury debt outstanding in the years preceding the financial crisis to over 6% in 2017).

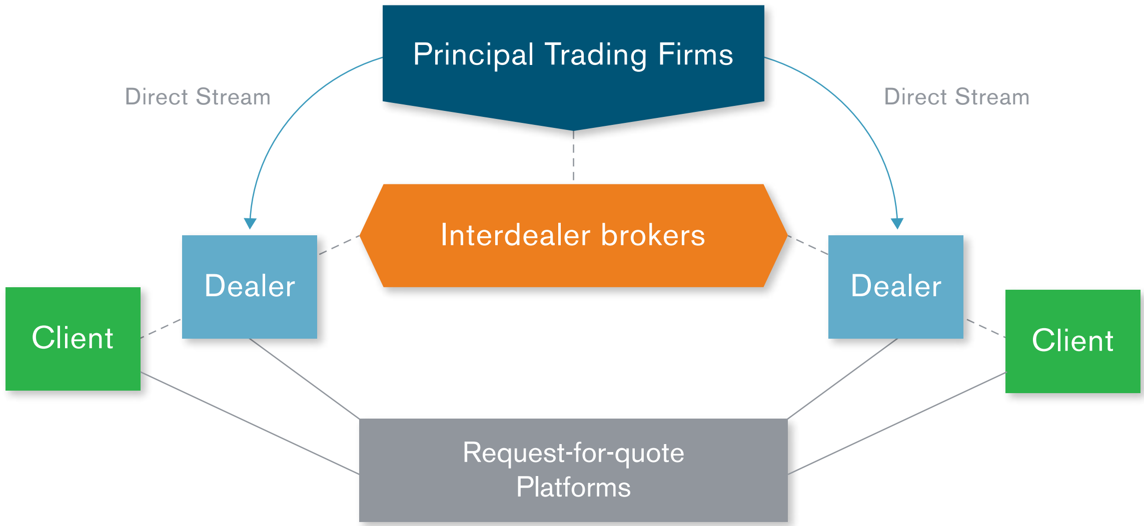
161. Id.

162. Id.

163. Board of Governors of the Federal Reserve System, *Implementation Note issued September 20, 2017*, available at: *https://www.federalreserve.gov/newsevents/pressreleases/monetary20170920a1.htm*.

164. SIFMA US Treasury Trading Volume, available at: *https://www.sifma.org/resources/research/us-treasury-trading-volume/*.

Figure 10: Treasury Cash Market Structure



Source: Treasury

Dealer-to-Client Trading

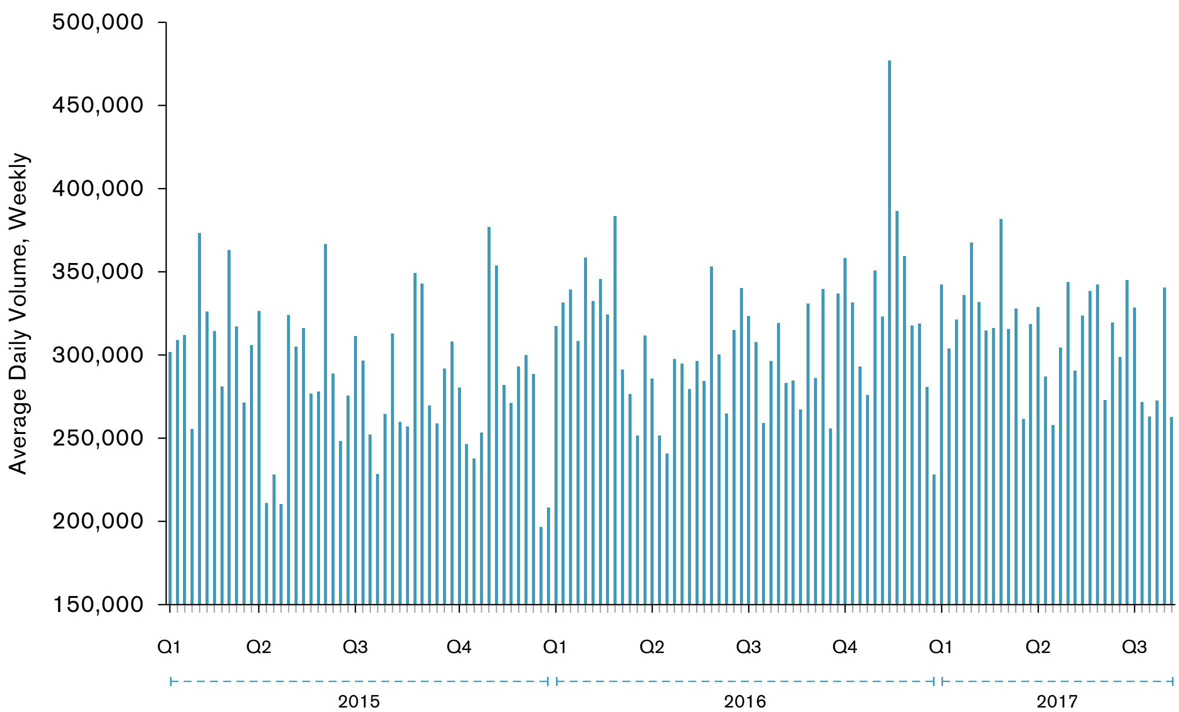
Institutional investors and other end users of Treasury securities – including mutual funds, pension funds, insurers, hedge funds, foreign central banks and sovereign wealth funds – transact in the DtC segment of the market. Bank-owned SEC registered dealers, referred to as bank dealers, hold inventory in Treasury securities and stand ready to make markets upon request from investors and end users. The bank dealer side of the DtC market is dominated by 23 primary dealers, as designated by the Federal Reserve Bank of New York (FRBNY).

The DtC market for Treasury securities is an over-the-counter (OTC) market. Transactions do not occur on central trading venues, but rather bilaterally between market participants. Though data on the size and composition of the DtC market is not widely available,[165] it is estimated to account for roughly half of all daily Treasury transactions. According to the FRBNY's weekly survey of primary dealers, primary dealers have transacted $313 billion on average per day outside the interdealer broker market in 2017, serving as a proxy for DtC activity.[166]

165. In July 2017, FINRA began requiring its members to report transactions in certain Treasury securities to its Trade Compliance and Reporting Engine (TRACE). The data is available to regulators and to Treasury.

166. Federal Reserve Bank of New York, *Primary Dealer Statistics*, available at: *https://www.newyorkfed.org/markets/gsds/search.html*.

Figure 11: Primary Dealer Transactions Not With Interdealer Brokers ($ million)



Source: Federal Reserve Bank of New York

Trading in the DtC market has been traditionally conducted by phone (i.e. voice). In recent years, electronic request-for-quote platforms (RFQ), such as Bloomberg and Tradeweb, have arisen. These platforms allow clients to electronically solicit bids and offers for Treasury securities from multiple dealers simultaneously (rather than serially by phone). As a result, the DtC market has become more automated operationally, without changing the fundamental nature of transactions between bank dealers and clients.

Interdealer Trading

The interdealer market is where wholesale trading between large institutional intermediaries, such as bank dealers, takes place. Most institutional investors and end users of Treasury securities, such as the mutual funds, pension funds, etc. mentioned above, do not access this market, and instead trade bilaterally with bank dealers. Bank dealers then use the interdealer market to manage inventory and hedge client trading activity.

Interdealer brokers (IDBs) intermediate trades between dealers in the interdealer market. IDBs manage central limit order books (CLOBs) and enable dealers to post anonymous bids and offers for Treasury securities to the order book, which are made available for other dealers to transact on. The majority of trading in the interdealer cash Treasury market is electronic and occurs on one of a few electronic interdealer platforms, such as BrokerTec, NASDAQ Fixed Income, and Dealerweb. Voice-brokered and manual electronic (as opposed to automated electronic) interdealer broker platforms still exist and intermediate significant interdealer volumes.

Along with bank dealers, principal trading firms (PTFs) also transact in the interdealer Treasury market. The Joint Staff Report: The U.S. Treasury Market on October 15, 2014[167] (JSR) concluded that PTFs account for a majority of trading in the interdealer market, while bank dealers account for approximately 30-40% of volume. In contrast to bank dealers, PTFs do not have customers, trade only for their own account, and focus on automated trading methods executed on interdealer electronic platforms. While bank dealers will conduct large trades to service their clients' needs and often carry inventory in Treasury securities, PTFs commonly act as short-term liquidity providers, frequently buying and selling in small amounts but rarely carrying inventory overnight.

Recently, some PTFs (and bank dealers) have developed the means to electronically stream executable bids and offers to bank dealers and other market participants. These direct streams are targeted at individual firms rather than available to the market as a whole, and the terms of the streams can be negotiated bilaterally between the participants. While still a small part of the market overall, this development illustrates how electronic execution methods are changing the structure of the Treasury market.

The vast majority of trading in the interdealer cash Treasury market takes place in the most recently issued Treasury securities, often referred to as on-the-run securities. Two of the major electronic interdealer platforms trade on-the-run securities exclusively.

Futures

Futures on Treasury securities, and options on these futures, are traded at the Chicago Board of Trade, a futures exchange regulated by the CFTC. The exchange is owned by the CME Group, Inc., and the vast majority of futures trades occur electronically on an anonymous CLOB, though larger or more complex trades may take place off exchange as block trades. All trades are reported publicly in real time.

As with the Treasury cash interdealer market, according to the JSR, PTFs dominate the Treasury futures market and account for over half of Treasury futures trading. Futures trading can be used by market participants to hedge cash Treasury positions or to take speculative positions in futures that closely track the returns of underlying Treasury securities. Market forces ensure that the prices of Treasury futures and their underlying Treasury securities remain tightly coupled.

Treasury Repo

Treasury repo plays a central role in U.S. securities financing markets. Repo transactions are used by market intermediaries to finance long positions in Treasury securities. Long-only investors use repo to invest cash with safe collateral. Some investors use repo to implement short positions in Treasury securities. All of this activity contributes to the Treasury market being the deepest and most liquid government securities market in the world.

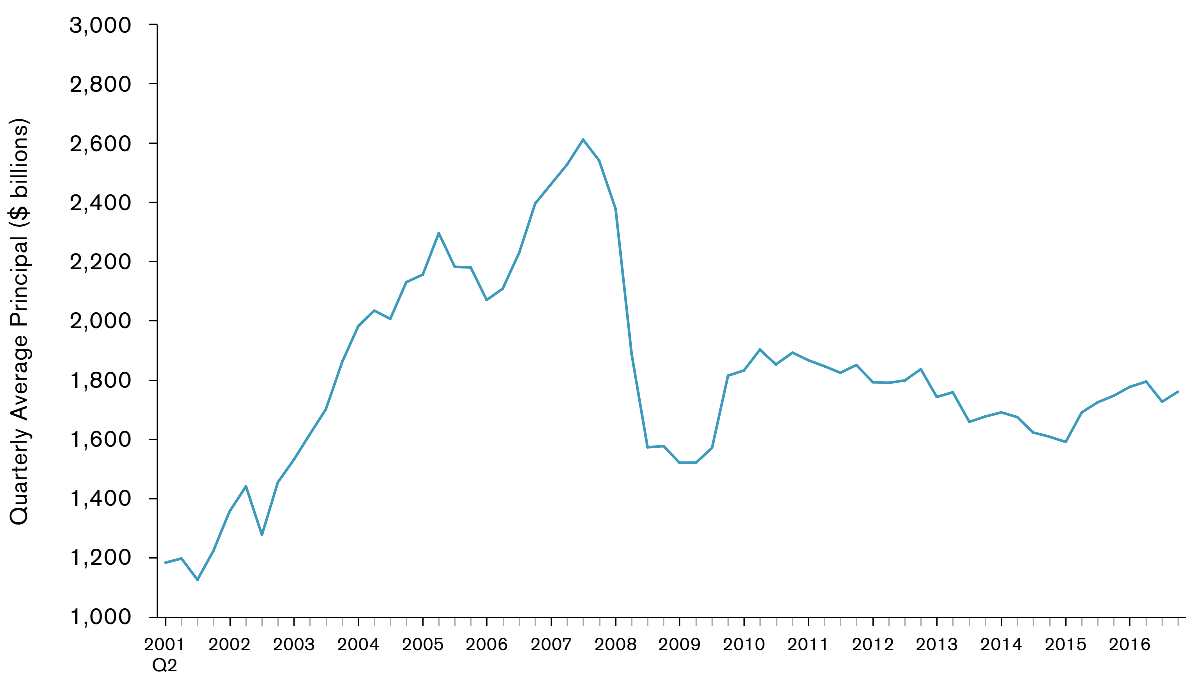
In a repo transaction, one firm agrees to sell a security to another firm, with a simultaneous agreement to buy back the security at a later date at a specified price. Repo transactions are often

167. U.S. Department of the Treasury, Board of Governors of the Federal Reserve System, Federal Reserve Bank of New York, U.S. Securities and Exchange Commission, and U.S. Commodity Futures Trading Commission, *Joint Staff Report: The U.S. Treasury Market on October 15, 2014* (July 13, 2015), available at: *https://www.treasury.gov/press-center/press-releases/Documents/Joint_Staff_Report_Treasury_10-15-2015.pdf* ("Joint Staff Report").

conducted on an overnight basis, but the term of the trade can be extended to any length the two counterparties agree to. These transactions entail short-term loans of Treasury securities in exchange for cash. Like the DtC market, the Treasury repo market is an OTC market, and bank dealers are at its center. Treasury repo transactions can be settled either triparty — i.e., with a settlement bank such as the Bank of New York Mellon (BNY Mellon) or JPMorgan Chase & Co. (JP Morgan) providing back-office support for the trade — or bilaterally between the two parties to the transaction. Relatedly, these transactions can be cleared, via the Fixed Income Clearing Corporation's (FICC) General Collateral Financing repo service in the case of tri-party transactions or via FICC's delivery-versus-payment (DVP) repo service for bilateral ones. Conversely, bilateral repo transactions can be managed between the parties directly and hence be uncleared.

Estimates of the current size of the repo market vary. Joint OFR-FRBNY research estimates that in the post-crisis era, total repo activity is around $5 trillion.[168] This is likely lower than levels prior to the financial crisis. Statistics collected by the FRBNY indicate that primary dealer Treasury financing volumes, a large component of repo outstanding, are approximately two-thirds the size they were prior to the financial crisis.

Figure 12: Primary Dealer Treasury Financing Volumes



Source: Federal Reserve Bank of New York

168. Viktoria Baklanova, Adam Copeland, and Rebecca McCaughrin, *Reference Guide to U.S. Repo and Securities Lending Markets*, Federal Reserve Bank of New York Staff Report No. 740 (Sept. 2015 and revised Dec. 2015), available at: *https://www.newyorkfed.org/medialibrary/media/research/staff_reports/sr740.pdf.*

Treasury Market Oversight

Several agencies, under a range of authorities, are responsible for regulating various entities transacting in the Treasury market. The Government Securities Act of 1986 (GSA) established a federal system for the regulation of brokers and dealers in the U.S. government securities market.[169] The GSA required previously unregistered brokers and dealers that limit their business to government and other exempt securities to register with the SEC and join a self-regulatory organization.[170] Few firms fall within this category; most broker-dealers transacting a business in government securities do not do so exclusively and have the more general securities broker-dealer registration with the SEC. The GSA also specified that firms registered as general securities brokers or dealers, and financial institutions that conduct a government securities business, are required to file a written notice with the SEC, Financial Industry Regulatory Authority (FINRA), or bank regulator, respectively, if they conduct government securities transactions.[171] The GSA registration and notice requirements provide, among other things, information and identification of government securities market participants.

Congress, in enacting the GSA, largely relied on the existing federal agency structure when assigning registration, examination, reporting, and enforcement responsibility.[172] The GSA authorized Treasury to promulgate rules to provide safeguards with respect to the financial responsibility of government securities brokers and dealers, including capital adequacy standards, acceptance of custody and use of customers' securities, record keeping, and financial reporting. In consultation with Treasury, the SEC, federal bank regulators, and FINRA also have authority to issue sales practice rules for the U.S. government securities market. Transactions in government securities are also subject to the antifraud provisions of Section 10(b) of the Securities Exchange Act of 1934 (Exchange Act) and the SEC's Exchange Act Rule 19b-5.

Congress included a large position reporting (LPR) provision in the 1993 amendments to the GSA.[173] Treasury was provided the authority to prescribe LPR rules for purposes of monitoring the impact in the Treasury securities market of concentrations of positions, assisting the SEC in enforcing the GSA, and providing Treasury with information to better understand supply and demand dynamics in certain Treasury securities.

Treasury futures and options are regulated by the CFTC under the Commodity Exchange Act (CEA) and CFTC rules. The CEA establishes a comprehensive regulatory structure to oversee

---

169. Public Law No. 99-571.

170. As used in this report, the term "registered government securities broker or dealer" means a broker or dealer conducting a business exclusively in government and other exempted securities (excluding municipal securities) registered pursuant to 15 U.S.C. § 78o-5(a)(1)(A). The term "registered broker or dealer" means a broker or dealer conducting a general securities business that is registered pursuant to 15 U.S.C. § 78o, and has filed written notice pursuant to 15 U.S.C. § 78o-5(a)(1)(B) that it is acting as a broker or dealer of government securities.

171. The SEC is the designated regulatory agency for securities brokers and dealers, and the federal bank regulators (Office of the Comptroller of the Currency, FRB, and FDIC) are the designated regulatory agencies for financial institutions.

172. The history of the GSA made clear that it was intended to address identified weakness in the market without creating duplicative requirements, unnecessarily impairing the operation of the market, increasing the costs of financing the public debt, or compromising the execution of monetary policy.

173. Public Law No. 103–202 [codified at 15 U.S.C. § 78o–5(f)].

futures and swaps trading, including surveillance of the markets under the CFTC's jurisdiction. The CFTC exercises surveillance and enforcement authority over participants in these markets. The CFTC, as the futures regulator, receives a transaction audit trail identifying market participants, which aids in ongoing market surveillance and enforcement.

Clearing Treasury Security Transactions

Since the 1980s, Treasury security transactions in major segments of the market have been cleared (prior to settlement) by a central counterparty, which supports efficient and predictable settlement. Prior to the settlement of Treasury securities transactions, firms may clear trades through a central counterparty. The primary purpose of clearing trades through a central counterparty is to "net down" gross trading activity among participants that transact frequently together in both directions (such as bank dealers) into a lower net trading amount. By submitting the lower net trading amounts to BNY Mellon and JP Morgan for settlement (rather than the larger gross amounts), clearing participants are able to eliminate unnecessary transfers of cash and ownership of securities when a trading day's business is settled.

FICC, a subsidiary of the Depository Trust and Clearing Corporation (DTCC), serves as a central clearing counterparty for major segments of the Treasury market. FICC provides trade comparison, netting, and settlement for the government securities market, including many major SEC-registered brokers and dealers. FICC members pay fees for these services and must meet FICC's standards of membership, including minimum capital requirements. The central clearing function that FICC provides to its members promotes the safety and soundness of the Treasury market as a whole.

Settlement in Treasury Markets

Treasury market liquidity depends on the smooth and predictable settlement of transactions. While the clearing function provides an important role in trade reconciliation and netting, settlement is the final step in a trade between two market participants. The business of settling transactions (that is, finalizing the transfer of ownership in Treasury securities after trades are completed) is conducted predominantly by two firms: BNY Mellon, with approximately 85% of the market share, and JP Morgan, representing the majority of the remainder.

In July 2016, JP Morgan announced its intention to exit the government securities services business, which will leave BNY Mellon as the remaining large provider of these services to the Treasury market. The transition of clients from JP Morgan to BNY Mellon is currently in progress, and is expected to be completed in 2018. As part of this process, in May 2017, BNY Mellon announced the formation of a wholly owned subsidiary, BNY Mellon Government Securities Services, intended to house the settlement business under a separate governance structure and focus on enhancing and protecting its services and technology. The activities of BNY Mellon Government Securities Services fall under the supervision of the Federal Reserve.

Treasury market participants are watching this transition carefully to measure the sustainability of such a concentration in service and what, if any changes might need to be made to the settlement landscape.

Issues and Recommendations

Treasury Market Data Gaps

On October 15, 2014, the U.S. Treasury cash market experienced a very high level of volatility that also affected the Treasury futures market and other closely related markets. In response to this event, staff of Treasury, the Board of Governors of the Federal Reserve System, FRBNY, the SEC, and the CFTC (Joint Staff) prepared a report analyzing the events of the day.[174]

Because data on Treasury market transactions is not widely available to the public, the Joint Staff relied on participant-level transaction data collected from a few trading venues — namely BrokerTec, eSpeed,[175] and CME Group, Inc. — to conduct the analysis. In other words, only data from the interdealer and futures segments of the Treasury market was available for study. The report did not analyze any transactions occurring in the dealer-to-client segment, because a comprehensive source of data did not exist.

In July 2016, the SEC approved a FINRA rule proposal to require its members to report certain transactions in Treasury securities to FINRA's Trade Reporting and Compliance Engine (TRACE).[176] FINRA began collecting the data in July 2017. Because FINRA's membership includes all SEC registered broker-dealers, the data collected by TRACE includes significant volumes from the dealer-to-client segment of the Treasury cash market. The data also contains reports of trades conducted by broker-dealers in the IDB market. Post-trade data on Treasury security transactions across so many venues and at the level of detail found on TRACE had not previously been available. The data on Treasury transactions is not being publically disseminated and is available to regulators and Treasury only, with the policy concerning public dissemination of the data currently under review by Treasury.

Though the amount of data recently made reportable through TRACE greatly enhances the ability of regulators and Treasury to understand and monitor activity in the Treasury securities market, significant gaps in the data available to regulators and Treasury still exist. Closing some of these gaps would improve Treasury's ability to understand market activity, which will assist Treasury in its mission to fund the deficit at the lowest cost to the taxpayer over time.

PTF Trade Reporting

Most PTFs are not regulated because they do not meet the definition of "dealer," as set forth in the Exchange Act and interpreted by the SEC.[177] Because they are not dealers, they are not required to register with the SEC, become members of FINRA, or report their activity to TRACE. Trading activity on the major electronic interdealer platforms is dominated by PTFs, however, and

174. See Joint Staff Report.

175. eSpeed was rebranded as NASDAQ Fixed Income in 2017.

176. Self-Regulatory Organizations; Financial Industry Regulatory Authority, Inc.; Notice of Filing of Amendment No. 1 and Order Granting Accelerated Approval of a Proposed Rule Change, as Modified by Amendment No. 1, Relating to the Reporting of Transactions in U.S. Treasury Securities to TRACE (Oct. 18, 2016) [81 Fed. Reg. 73167 (Oct. 24, 2016)].

177. 15 U.S.C. § 78c(5).

collectively they account for over half of all transaction volumes in the interdealer broker segment of the market, according to the JSR.

Because all of the major interdealer brokers in the Treasury securities market are registered with the SEC and are members of FINRA, the activity of unregistered PTFs in the IDB market is captured by TRACE through the reports of these interdealer brokers. The trade reports of PTF activity submitted by the interdealer brokers do not identify the unregistered PTF trade counterparts, however, because the PTFs are not FINRA members. Instead the PTF trade counterparty is identified only generically as a customer. In essence, a significant portion of PTF activity is anonymized in the TRACE data.

Recommendations

Treasury recommends closing the gap in the granularity of PTF data. To close this gap, trading platforms operated by FINRA member broker-dealers that facilitate transactions in Treasury securities would be required to identify customers in their reports of Treasury security transactions to TRACE. Treasury intends to work with SEC and FINRA to assess the feasibility of, and implement, this policy. Because most PTF activity occurs on electronic IDB platforms, requiring them to identify customers would capture a large fraction of total PTF trading volume, according to the results of the JSR.

Bank Trade Reporting

Some Federal Reserve member banks that conduct a government securities business under the GSA are not brokers-dealers or members of FINRA. As such, their trading activity in Treasury securities is not reported to TRACE. In 2016, the Federal Reserve Board announced that it plans to collect data from banks for transactions in Treasury securities and that it has entered into negotiations with FINRA to potentially act as collection agent.[178]

Recommendations

Treasury supports the Federal Reserve Board's efforts to collect Treasury transaction data from its bank members.

Treasury Futures Data Availability

The CFTC collects data from CME Group, Inc. on Treasury futures transactions, but the data is not available on a regular basis to other market regulators or Treasury. In order to effectively study and monitor the Treasury cash market, regulators and Treasury require comprehensive data that covers closely related securities, such as Treasury futures, as the Joint Staff Report demonstrated.

Recommendations

To improve cross-market monitoring of Treasury cash and futures trading activity, as well as to improve the overall efficiency of government data collection and consumption, Treasury recommends that the CFTC share daily its Treasury futures security transaction data with Treasury.

---

178. Board of Governors of the Federal Reserve System, *Press Release* (Oct. 21, 2016), available at: *https://www.federalreserve.gov/newsevents/pressreleases/other20161021a.htm*.

Clearing and Reporting

Treasury Market Central Clearing

As mentioned above, central clearing for cash Treasury transactions has existed for many years in the IDB segment of market. In the late 1980s, firms in the IDB market began clearing through FICC, which is overseen by the SEC. FICC's model for central clearing and the regulatory framework surrounding it has worked well for many years. Furthermore, FICC's largest and most important member firms are all registered broker-dealers and are regulated by one or several agencies, including the SEC and the Federal Reserve.

FICC's model was formulated before the existence of electronic IDB platforms. The advent of electronic platforms enabled new types of participants — namely PTFs — to enter the IDB market in the early 2000s and grow rapidly. While the registered broker-dealers that are members of FICC clear their transactions through FICC, transactions between PTFs that are not FICC members must be settled bilaterally. Transactions by PTFs with other PTFs conducted on electronic IDB platforms must clear through the FICC account of the electronic platform[179] if they are to be centrally cleared.

The ultimate consequence of these changes in clearing practices is twofold. First, there is less netting down of settlements than there would be if all interdealer market participants were FICC members. Second, if a large PTF with unsettled trading volumes were to fail, the failure could introduce risk to the market and market participants.

Despite the disadvantages that result from the bifurcation of clearing and settlement in the Treasury IDB market, any effort to include PTFs in FICC's membership is complicated by the current fee structure and capital requirements imposed by FICC on its members, which could pose an economic barrier to entry for these firms.

Recommendations

Clearing and settlement arrangements in the Treasury IDB market have evolved greatly in recent years and continue to evolve rapidly, particularly those utilized by PTFs. It is important for the regulatory regime to keep up with these developments. However, we are at the early stages of this work. For example, the fees and other standards that FICC imposes on its members, and how those fees compare to fees for similar services in other markets, such as DTCC's National Securities Clearing Corporation (NSCC), are not widely understood, even by many market participants. To better understand these arrangements and the consequences of reform options available in the clearing of Treasury securities, Treasury recommends further study of potential solutions by regulators and market participants.

179. That is, the platform must act as principal to the trade, rather than in an agency capacity.

Effect of Regulation on Secured Repurchase Agreement (Repo) Financing

It is generally acknowledged that the interaction of the U.S. banking regulators Basel III capital requirement's supplementary and enhanced supplementary leverage ratios (SLR, eSLR) and other rules enacted following the financial crisis have discouraged some banking functions, including the provision of secured repo financing. The Banking Report recommended amendments to several regulations which, if enacted, would increase the availability of secured repo financing, according to market participants generally.

Specifically, those amendments that would have the most direct impact on repo availability are:

- Adjustments to the SLR and eSLR, namely exceptions from the denominator of total exposure for cash on deposit with central banks, U.S. Treasury securities, and initial margin for centrally cleared derivatives;
- Recalibration of the U.S. Global Systemically Important Banks (G-SIB) risk-based capital surcharge, including its treatment of short-term wholesale funding reliance; and
- Basing prudential standards for Foreign Banking Organizations on U.S. risk profile rather than global consolidated assets, and raising the threshold for Intermediate Holding Companies from the current $50 billion level for participation in the U.S. Comprehensive Capital Analysis and Review.

Recommendations

Treasury reiterates its recommendations from the Banking Report[180] to improve the availability of secured repo financing.

180. The Banking Report, at 54, 56, and 70.

Corporate Bond Liquidity

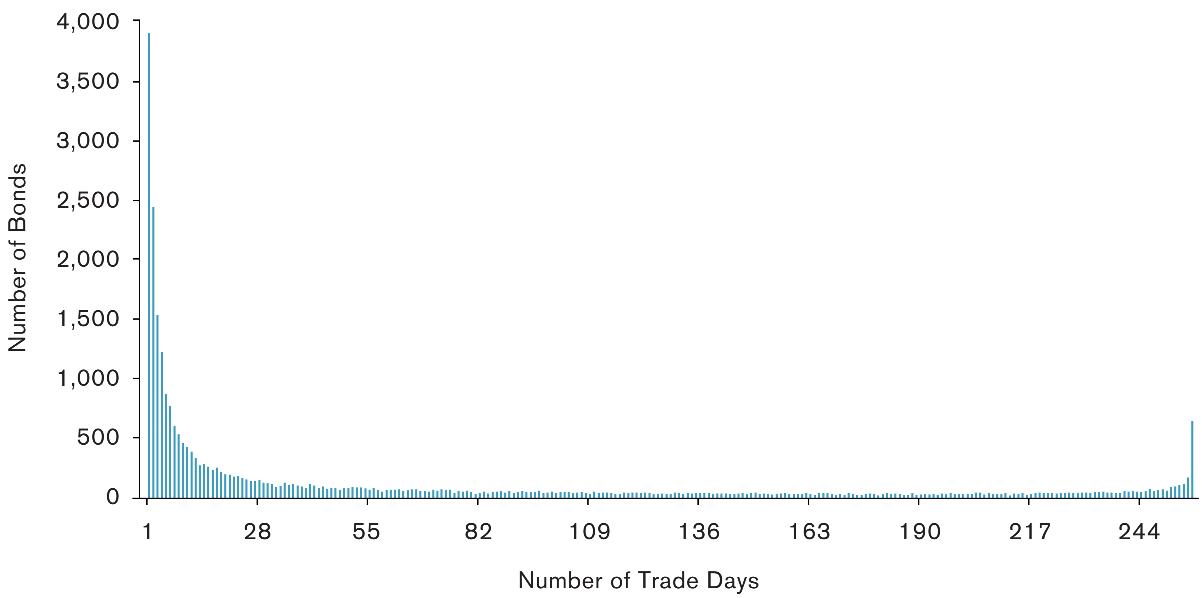
Overview and Regulatory Landscape

The corporate bond market helps companies borrow to grow their businesses and provides assets to fixed income investors. Compared with traditional bank lending that is more prominent internationally, the U.S. corporate bond market allows companies to access a broader spectrum of potential lenders as investors in their debt and diversifies the provision of credit in the economy, making it more competitive and resilient. This section will discuss the structure of the corporate bond market, challenges to liquidity, and our recommendations.

Market Structure and Intermediation

The market structure of the corporate bond market differs greatly from the equities and Treasury markets covered earlier in this report. The corporate bond market consists of tens of thousands of distinct securities, as companies have issued bonds at different times, with different tenors, and in different structures. Issuance in the corporate bond market has hit record highs 5 years running, with over $1.5 trillion issued in 2016. After issuance, corporate bonds trade "over-the-counter" (OTC) in the secondary market; some corporate bonds (often the largest and most recently issued securities) trade frequently, while most rarely trade.

Figure 13: Trade Frequency (Total 29,363 Bonds)



Source: FINRA TRACE

Because of the vast array of distinct securities, corporate bond intermediation has traditionally centered on bank dealers making markets on a principal basis (i.e., buying and selling for their own account to make markets for customers). Treasury believes that market making serves a critical function in financial markets. Market making may include, from time to time, absorbing temporary order imbalances, such as buying a large amount of bond inventory that a customer wants to sell, with the intention of selling the bonds as soon as possible. In this way, market makers play an important role in the secondary market as a provider of liquidity and facilitator of capital markets activity. In the decade leading up to the financial crisis, corporate bond dealers supported their market making business with significant inventories and were generally able to offer customers immediate liquidity.

In the past decade there has been a significant shift away from market making based on principal intermediation and toward agency intermediation, where dealers connect buyers and sellers but do not take risk themselves.[181] This shift has been driven both by regulations such as the Volcker rule and bank capital requirements as well as by market forces, as banks that suffered losses on large inventories in the financial crisis look to better manage their risks. Accordingly, dealer inventories have declined dramatically and now stand at about half the levels seen before the financial crisis.[182] Despite this shift in intermediation and reduction in inventories, secondary market trading volumes in the corporate bond market have actually doubled since the financial crisis,[183] suggesting improvements in dealer efficiency.

Another significant trend has been the growth of electronic trading of corporate bonds, which has grown to about 19% for investment grade securities and 8% for high yield securities.[184] However, most of the activity has been on request for quote (RFQ) based trading platforms where instead of calling a dealer for a quote, the customer can solicit a quote electronically. These platforms create operational efficiencies, but they do not fundamentally change the nature of corporate bond liquidity because they rely on the same dealers and customers interacting through a different medium. Platforms that use central limit order books or more fundamental changes in intermediation have not yet gained significant market share.

Liquidity

Liquidity has been challenged in parts of the corporate bond market, especially for the least-traded securities. Though definitions of liquidity differ, most observers agree that a central element of liquidity is the ability to buy or sell a financial instrument quickly, in large volumes, at a low cost, without materially changing the price of the instrument. In corporate bonds, the different

181. Hendrik Bessembinder et al, *Capital Commitment and Illiquidity in Corporate Bonds*, Journal of Finance (forthcoming Aug. 2017), draft available at: *https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2752610* (showing for the most active dealers the share of agency intermediated trades has roughly doubled from 7% to 14% since the pre-crisis period); Larry Harris, *Transactions Costs, Trade Throughs, and Riskless Principal Trading in Corporate Bonds Markets*, working paper (Oct. 2015), available at: *https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2661801* (estimating the total agency trading rate to be as high as 42%).

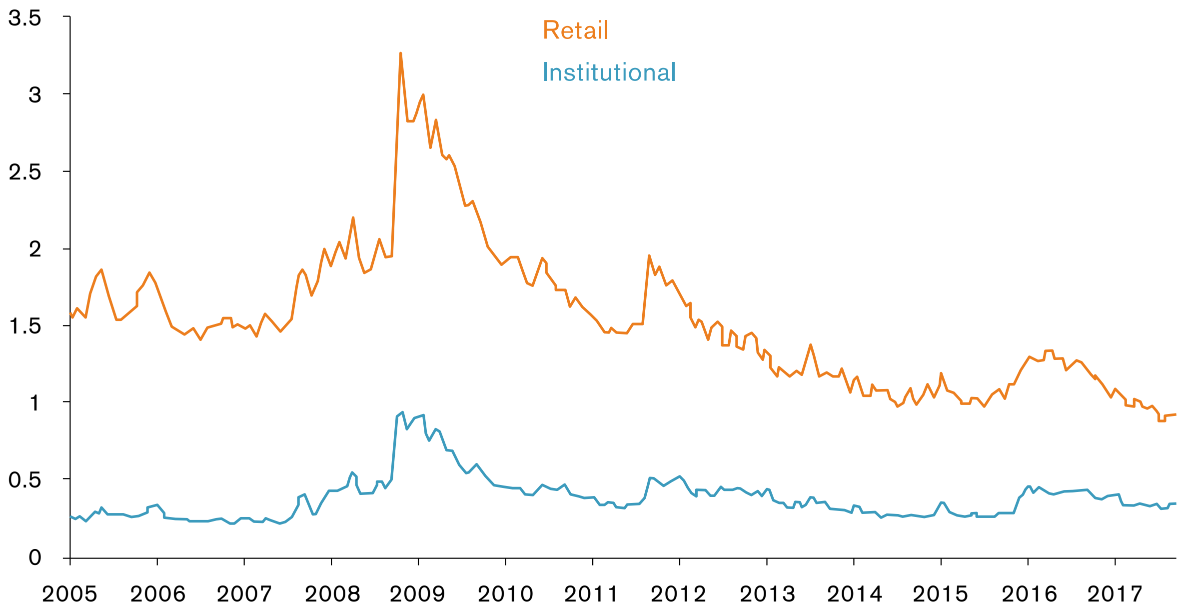
182. Federal Reserve Bank of New York, *Primary Dealer Statistics*, available at: *https://www.newyorkfed.org/markets/gsds/search.html*. It should be noted that the data pre- and post- April 2013 is not directly comparable as prior to April 2013 reported inventories included commercial paper, CMOs and REMICs issued by entities other than federal agencies and GSEs. Comparable figures have been estimated by industry.

183. SIFMA US Corporate Bond Issuance and Trading Volume (July 2017), available at: *http://www2.sifma.org/research/statistics.aspx*.

184. Greenwich Associates, *Corporate Bond Electronic Trading Continues Growth Trend* (July 28, 2016), available at: *https://www.greenwich.com/fixed-income-fx-cmds/corporate-bond-electronic-trading-continues-growth-trend*.

measures of liquidity tell a mixed story.[185] Record trading volumes and low bid-ask spreads indicate good liquidity, while reduced frequency of block trades suggest more difficulty in moving large blocks of risk. However, these oft-cited measures do not capture the full story. For example, bid-ask spreads have decreased primarily for retail investors, rather than for institutional investors.

Figure 14: Corporate Bond Bid-Ask Spreads (Percent of Par)



Source: Federal Reserve Bank of New York staff calculations, based on Supervisory TRACE data.
Notes: The chart plots 21-day moving averages of realized bid-ask spreads for retail (under $100,000) and institutional ($100,000 and more) trades of corporate bonds. Originally published at: *http://libertystreeteconomics.newyorkfed.org/2017/06/market-liquidity-after-the-financial-crisis.html*.

Moreover, measures of trading activity only capture activity that has occurred, not trades foregone by market participants because liquidity was not available or the cost was too high. Liquidity metrics also generally do not convey the reduction in immediately available trading opportunities. Such opportunities have declined as more dealers act as agents, and accordingly customers must wait until the opposite side of the trade has been found. Finally, market participants report that dealer willingness to make markets in size, take on risk, and provide firm quotes have all declined.

Issues and Recommendations

While these changes in liquidity and market structure have many causes, regulatory changes are likely a contributing factor. As detailed in the Banking Report, the Volcker rule's market-making exception has not been implemented effectively, and firms are hesitant to make markets, especially

185. See DERA (2017).

in illiquid securities where predicting near-term customer demand is difficult. Although findings are still preliminary, some research has found that the Volcker rule has reduced market-making activity and liquidity in times of stress.[186] In addition, heightened capital and liquidity standards have combined to further disincentivize market-making and liquidity provision by banks. Liquidity will offer the greatest benefit to our capital markets if it is resilient and available during times of stress. If liquidity vanishes during periods of market stress, it can exacerbate significant price movements and reduce confidence in our markets.

Recommendations

Treasury reiterates its recommendations from the Banking Report to improve secondary market liquidity.[187]

186. Jack Bao, Maureen O'Hara, and Alex Zhou, *The Volcker Rule and Market Making in Times of Stress*, Finance and Economics Discussion Series Paper No. 2016-102, Board of Governors of the Federal Reserve System (Sept. 2016), available at: *https://www.federalreserve.gov/econresdata/feds/2016/files/2016102pap.pdf*.

187. The Banking Report, at 14-15.

Securitization

Overview

The practice of securitizing cash flows through the issuance of associated debt obligations has existed as a successful financing tool for centuries.[188] Modern securitization, characterized by more complex cash flow structuring, is a relatively recent development dating to the 1970s. Problems related to certain types of securitized products, primarily those backed by subprime mortgage loans, contributed to the financial crisis that precipitated the Great Recession.[189] As a result, the securitization market has acquired a popular reputation as an inherently high-risk asset class and has been regulated as such through numerous post-crisis statutory and rulemaking changes.[190] Such treatment of this market is counterproductive, as securitization, when undertaken in an appropriate manner, can be a vital financial tool to facilitate growth in our domestic economy. Securitization has the potential to help financial intermediaries better manage risk, enhance access to credit, and lower funding costs for both American businesses and consumers. Rather than restrict securitization through regulations, policymakers and regulators should view this component of our capital markets as a byproduct of, and safeguard to, America's global financial leadership.

Securitization in its simplest form is the process by which cash flows from individual, often homogeneous illiquid assets are aggregated, referred to as "pooling," and sold as a new financial instrument to investors. By pooling cash flows and creating new, more readily tradable securities, these vehicles are able to diversify the credit risk associated with the underlying collateral and facilitate improved liquidity. Greater liquidity and risk diversification may attract a deeper pool of investor capital, with the resulting cost savings ultimately flowing to borrowers in the form of lower financing costs.

Securitization involves numerous financial actors across its supply chain. In a simplified example (see Figure 15), a securitizer or sponsor, which may include the loan originator, will arrange for the sale or transfer of a group of loans to a newly created, bankruptcy-remote trust referred to as a special purpose vehicle, or SPV.[191] This SPV has a balance sheet comprised of assets (the underlying loans or leases) funded by a combination of debt and equity. A structuring agent will tailor the mix and structure of debt and equity of the SPV, which sells or issues asset-backed securities (ABS) to investors from across the capital markets depending on their individual risk tolerance.

---

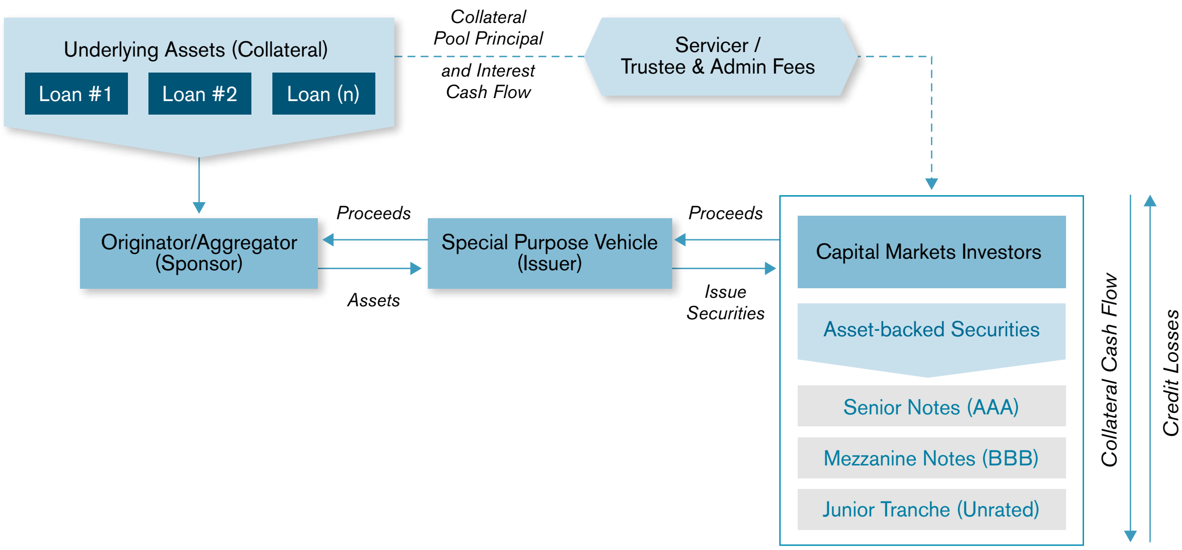
188. Bonnie Buchanan, *Back to the Future: 900 Years of Securitization*, 15 The Journal of Risk Finance 316 (2014).

189. Financial Crisis Inquiry Commission, *The Financial Crisis Inquiry Report: Final Report of the National Commission on the Causes of the Financial and Economic Crisis in the United States* (Jan. 2011) ("FCIC Report").

190. The securitization market referenced here generally refers to the structured finance market exclusive of mortgage-backed securities issued by Ginnie Mae, Fannie Mae, and Freddie Mac.

191. See Board of Governors of the Federal Reserve System, *Report to the Congress on Risk Retention* (Oct. 2010), available at: *https://www.federalreserve.gov/boarddocs/rptcongress/securitization/riskretention.pdf* ("Board Report").

Figure 15: Simplified Illustrative Securitization Structure



In an illustrative senior-subordinate ABS, the issuer will sell numerous classes, or tranches, of notes to match the specific needs of ABS investors. In a complex deal, there may be many classes of notes issued to investors. Generally, tranches are divided into senior, mezzanine, and junior classes. Senior and mezzanine classes typically carry an investment-grade rating by a nationally recognized statistical rating organization (NRSRO), with the senior bond often carrying a AAA rating. The junior, or subordinate, class is typically unrated. Principal and interest payments from the underlying collateral "waterfall" down the capital structure of the SPV's balance sheet, while losses associated with the default of the underlying assets are absorbed beginning with the most junior, or first-loss, classes. More senior classes typically do not bear credit-related cash shortfalls until the credit enhancement from subordinate classes is exhausted.[192]

By creating tranches with various risk profiles from the same pool of underlying assets, a securitization vehicle allows investors to purchase assets most suited to their risk profile. For instance, asset managers at insurance companies may prefer the relative security of the senior securitized tranches, while hedge funds seeking higher returns may prefer the higher risk of the junior or mezzanine tranches. By attracting capital from such a wide range of investors, a well-functioning securitization market provides lenders another source of funding outside of corporate debt, or in the case of banks, customer deposits, giving originators greater ability to make new loans.

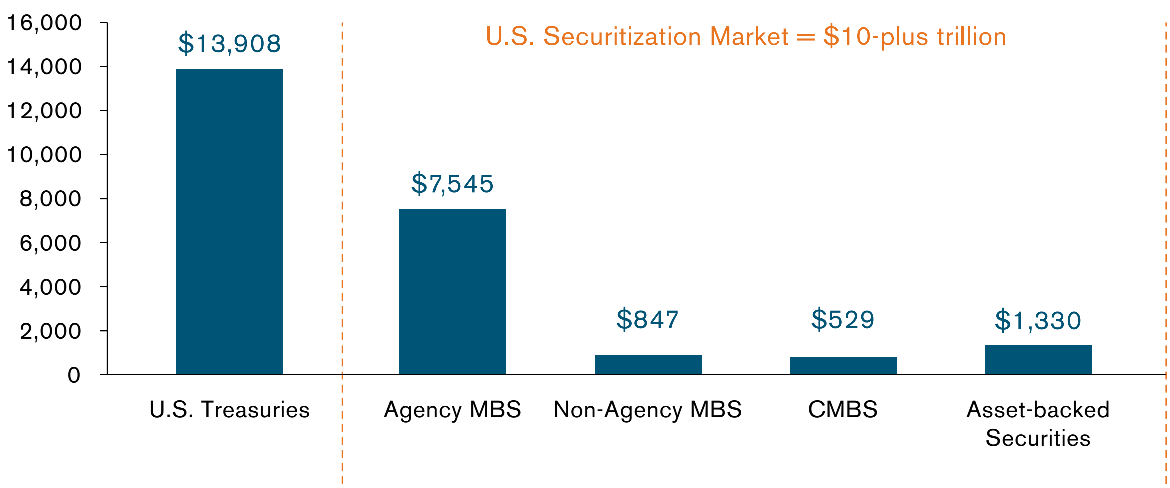
Modern securitization markets emerged in the 1970s, first at Ginnie Mae and subsequently at Freddie Mac and Fannie Mae (the government-sponsored enterprises, or GSEs).[193] Mortgage-backed securities (MBS) with a credit guaranty from these entities are commonly referred to as

192. Suleman Baig and Moorad Choudhry, *The Mechanics of Securitization* (2013).

193. See Thomas N. Herzog, *A Brief History of Mortgage Finance with an Emphasis on Mortgage Insurance*, available at: *https://www.soa.org/library/monographs/finance/housing-wealth/2009/september/mono-2009-mfi09-herzog-history.pdf.*

agency MBS.[194] Agency MBS are backed by hundreds of individual mortgage loans to U.S. borrowers. In their more common form, these securities are referred to as pass-throughs, as the cash flow from the principal and interest on the mortgages underlying the securities, less applicable fees, are passed through pro rata to the end investor. Ginnie Mae provides a guaranty backed by the full faith and credit of the United States for the timely payment of principal and interest on MBS secured by pools of government home loans. The GSEs provide a guaranty for the timely payment of principal and interest on MBS secured by pools of home loans that meet their respective credit quality guidelines. Although the GSEs' guaranty obligations are not backed by the full faith and credit of the U.S. government, the GSEs receive capital support under agreements with Treasury. Agency MBS trade largely in a unique, liquid forward market referred to as the to-be-announced (TBA) market. As of the end of 2016, the agency MBS market exceeded $7.5 trillion and represented the largest debt market after U.S. Treasury securities.[195] While agency MBS is by far the largest and most liquid component of the U.S. securitization market, its unique characteristics mean it is often discussed separately from other securitized products that structure credit risk.[196]

Figure 16: U.S. Securitized Products Outstanding FY 2016 ($ billions)



Source: SIFMA US Bond Market Issuance and Outstanding (July 2017)

Securitized products discussed in this chapter comprise a wide range of consumer, commercial, and corporate debt obligations. Securities backed by cash flows from consumer loans may be divided between structured products comprised of residential mortgage collateral, often referred

194. See Federal Reserve Bank of New York Staff Reports, *TBA Trading and Liquidity in the MBS Market* (Aug. 2010), available at: *https://www.newyorkfed.org/medialibrary/media/research/staff_reports/sr468.pdf*.

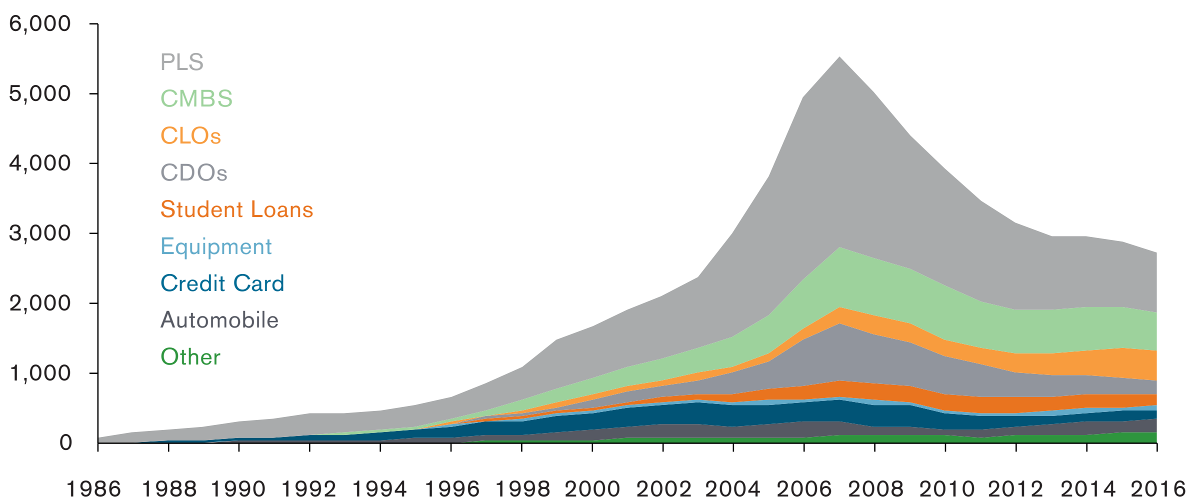
195. See SIFMA US Bond Market Issuance and Outstanding (July 2017), available at: *www.sifma.org/research*.

196. Id.

to as private-label securities (PLS) given their distinction from the agency MBS market; and ABS, typically collateralized by auto loans and leases, student loans, and credit card receivables. The largest security classes backed by pools of business and commercial collateral consist of syndicated corporate loans through the collateralized loan obligation (CLO) market, or commercial real estate loans through the commercial mortgage-backed securities (CMBS) market, but may also comprise other commercial credit products, including equipment floorplans and other commercial leases. Additionally, tranches of asset-backed securities may themselves be resecuritized to collateralize structured credit vehicles as part of the collateralized debt obligation (CDO) market.

Modern computing advances in the 1970s and 1980s catalyzed securitization through the development of computational and analysis software permitting the structuring and analysis of thousands of loans packaged into increasingly complex deals. In the 1980s, as short-term interest rates rose, securitization offered banks an attractive method to remove interest rate risk from their balance sheets while reducing regulatory capital requirements.[197] By the early 2000s, securitization markets were reaching new heights, supported by accommodative monetary policy and an influx of capital from emerging economies. By 2007, the U.S. securitized product market exceeded $5 trillion outstanding, up from $150 billion only twenty years prior.[198]

Figure 17: U.S. Structured Products Outstanding 1986–2016 ($ billions)



Note: Series are cumulative
Sources: Internal Treasury Analysis, SIFMA US Bond Market Issuance and Outstanding (July 2017)

197. FCIC Report.

198. Internal Treasury Analysis. Data from SIFMA US Bond Market Issuance and Outstanding (July 2017), available at: *www.sifma.org/research.*

The proliferation of securitization combined with a lack of discipline in the loan origination process and improperly aligned incentives across the securitization production chain contributed to and exacerbated the severity of the Great Recession. Bank capital requirements for securitization exposures based on external ratings and investor reliance on these ratings created perverse incentives for and mechanistic over-reliance on the NRSROs. Originators, incentivized by investor demand for loans that could be bought and packaged into securities, expanded underwriting into high-risk non-traditional products. Leverage in the system multiplied as issuers developed novel securitized products to invest in and gain exposure to existing securitized products through CDOs of PLS and other ABS.[199]

When the credit bubble burst and the inherent weakness in pre-crisis credit underwriting became apparent, limited transparency into the quality of the collateral supporting securitizations exacerbated broader capital market illiquidity. Investors were unable to accurately assess their risk exposures and many faced capital shortages as NRSROs downgraded credit ratings across the structured product market. Additionally, issuers faced a liquidity crisis as financing for ABS had increasingly come to rely on short-term funding vehicles, such as repo lines and asset-backed commercial paper collateralized by non-agency MBS and ABS. These lines seized as the value of the collateral became less certain. The result was billions of dollars in collateral losses, ratings downgrades, company failures, and borrower foreclosures.[200]

Today, the excesses that precipitated the financial crisis negatively color popular opinion of securitized products. Indeed, numerous statutory and regulatory changes were passed and implemented in recent years with the intention to remedy the pre-crisis vulnerabilities and misaligned incentives across parties to a securitization. Unfortunately, post-crisis reforms have gone too far toward penalizing securitization relative to alternative, often more traditional funding sources such as bank deposits. The result has been to dampen the attractiveness of securitization, potentially cutting off or raising the cost of credit to thousands of corporate and retail consumers.

In its review of the securitization market, Treasury found:

- The current regulatory regime discourages securitization as a funding vehicle, instead encouraging lenders to fund loans through more traditional methods such as bank deposits;
- Regulatory bank capital requirements treat investment in non-agency securitized instruments punitively relative to investments in the disaggregated underlying collateral;
- Regulatory liquidity standards unfairly discriminate against high-quality securitized product classes compared to other asset classes with a similar risk profile;
- The requirement that sponsors retain a residual interest in securitizations adds unnecessary costs to securitization as a funding source, thereby inhibiting the prudent expansion of credit through securitized products; and

199. FCIC Report.

200. Standard & Poors Global Market Intelligence, *Ten Years After the Financial Crisis, Global Securitization Lending Transformed by Regulation and Economic Growth*, (July 21, 2017).

- Expanded disclosure requirements, while an important post-crisis reform, are unnecessarily burdensome and could be more appropriately tailored.

Regulatory Landscape

The performance of certain classes of securitized products during the crisis, particularly PLS, demonstrated the need for reforms to the securitization market. Poor underwriting in the mortgage market represented one of the most significant drivers of losses for securitized products. In the wake of the crisis, Congress mandated, and the Consumer Financial Protection Bureau implemented, an ability to repay (ATR) requirement for residential mortgage loans. This requirement specifies certain minimum underwriting and documentation factors for mortgage originators to use to determine a borrower's ability to repay a mortgage and offers a presumption of compliance with ATR for loans that meet the definition of a qualified mortgage (QM).[201] Treasury articulated in the Banking Report its belief that the ATR/QM requirement currently unduly limits access to mortgage credit and should be clarified and modified. However, the imposition of this standard has helped eliminate the types of non-traditional mortgage products behind many non-agency securitizations prior to the crisis. As securitization cannot fundamentally change the aggregate risk of the underlying collateral, efforts to improve the quality of the assets going into securitizations are essential to improve the securitization market more broadly.

Additionally, Dodd-Frank eliminated regulatory reliance on NRSRO ratings by requiring that references to credit ratings be removed from federal laws and regulations, and that alternative measures of creditworthiness be used in their place.[202] Today, capital requirements for securitized classes are no longer based on the ratings assigned to them by the NRSROs even though ratings agencies continue to play an important gatekeeper role in this market.[203] Further, Dodd-Frank built on the Credit Rating Agency Reform Act of 2006 by enhancing the SEC's supervisory authority over registered NRSROs,[204] including new requirements pertaining to internal controls, reporting, disclosure, and accountability. Dodd-Frank also established the Office of Credit Ratings within the SEC with a mandate to carry out annual compliance examinations of each NRSRO.[205] Collectively, these reforms have improved the process by which ratings are assigned to securitized products and helped mitigate the systemic risk associated with reliance on such ratings.

Other post-crisis reforms require recalibration. Presently, rules related to capital, liquidity, risk retention, and disclosures overly burden activity in securitized products. In response to losses at depository banks, regulators introduced complex, increased capital requirements for securitized products. Additionally, due to illiquidity attributable to securitization exposures during the financial crisis, banking regulators excluded these assets from eligibility toward post-crisis liquidity standards. Legislation and rulemaking also introduced expanded disclosure requirements in response

201. 12 C.F.R. Part 1026.
202. See Dodd-Frank § 939A.
203. 12 C.F.R Parts 208, 217, and 225.
204. Public Law No. 109–291.
205. Public Law No. 111–203.

to limited transparency of securitized assets, and most notably, imposed requirements for sponsors to retain credit risk in securitizations in response to a perceived misalignment of incentives between securitizers and investors. As defined currently, these rules add unnecessary cost and complexity to the securitization market and apply broadly across securitized product classes, irrespective of their differences and performance history. Below, we review securitization regulations for bank capital and liquidity, risk retention, and disclosures, and provide recommendations for their recalibration.

Issues and Recommendations

Capital Requirements

In July 2013, U.S. banking regulators finalized rules implementing the Basel III capital framework[206] and Sections 171 and 939A of Dodd-Frank, which prohibited reliance on credit ratings and required banking regulators to consider securitized products in establishing risk-based capital standards.[207] These rules established risk-based capital requirements for the banking book (i.e., exposures not captured in the trading book) for U.S. banks.[208]

Federal banking regulators generally require banking institutions to derive a risk weight for securitization exposures based on a set of prescriptive factors, primarily through what is known as the simplified supervisory formula approach (SSFA).[209] The SSFA considers risk factors such as the capital required of the underlying assets, delinquencies, and the attachment and detachment points of the exposure to determine an aggregate risk weight. The SSFA formula additionally imposes a supervisory surcharge, referred to as the p factor, which represents the multiple above the disaggregated loan capital charge assigned to hold the collateral as a securitization.[210] Under the current capital regulation, p is specified at 0.5, which may be interpreted as a 50% surcharge on holding the underlying asset in securitized form. In revisions to its capital framework, the Basel Committee on Banking Supervision (BCBS) has proposed raising the p-factor for traditional securitizations to 1.0.[211] Furthermore, SSFA does not recognize unfunded forms of credit support as added credit enhancement in determining the attachment point of a securitization interest. As such, a bank is not able to recognize added credit protection when it carries or purchases a securitization interest at less than its par value.[212]

206. See Bank for International Settlements, *Basel III: A Global Regulatory Framework for More Resilient Banks and Banking Systems* (Dec. 2010 and revised Jun. 2011), available at: *http://www.bis.org/publ/bcbs189.htm*.

207. See Dodd-Frank §§ 171 and 939A.

208. 12 C.F.R. § 217.142.

209. Id. at § 217.144.

210. Id. at § 217.144(b)(5).

211. See Bank for International Settlements, *Revisions to the Securitisation Framework* (Dec. 2013), available at: *http://www.bis.org/publ/bcbs269.pdf* ("Basel III Revisions").

212. See Regulatory Capital Rules: Regulatory Capital, Implementation of Basel III, Capital Adequacy, Transition Provisions, Prompt Corrective Action, Standardized Approach for Risk-weighted Assets, Market Discipline and Disclosure Requirements, Advanced Approaches Risk-Based Capital Rule, and Market Risk Capital Rule [78 Fed. Reg. 62017, 62120 (Oct. 11, 2013)] ("Bank Capital Rules").

In order to mitigate model risk and provide a level of standardization, securitization exposures, excluding agency MBS, are subject to a risk-weight floor of 20%.[213] While this risk-weight floor, finalized in 2013, was consistent with the BCBS's recommended floor, the BCBS has since revised its securitization framework to lower the recommended floor to 15%.[214] The European Banking Authority has similarly recommended that European regulatory bodies lower the minimum capital floor for qualifying senior tranches.[215] For U.S. banks, the risk-weight floor remains 20% for structured securities. If this recommendation is adopted, U.S. banks may be placed at a competitive disadvantage to their European peers.

A smaller number of regulated bank holding companies use the supervisory formula approach (SFA) under the advanced approach risk-based capital rule.[216] The SFA requires additional parameters beyond SSFA.[217] While the standard and advanced approaches differ in complexity and application, they both, by design, may result in the same higher capital charge for securitized assets versus holding the same underlying assets on balance sheet.[218]

Under bank capital rules, risk-based capital for securitizations is required to be held against consolidated balance sheet assets, as determined by accounting treatment.[219] Under generally accepted accounting principles implemented in 2010, a bank securitizer may be required to consolidate ABS trusts onto its balance sheet if it maintains a controlling financial interest in the vehicle.[220] A securitization consolidated for accounting purposes on the sponsoring bank's balance sheet would require the sponsor to hold capital against that exposure.[221] Thus, for certain securitized asset classes, even when risk has been effectively sold or transferred to investors through the issuance of asset-backed notes, a sponsoring bank may still be required to hold capital against the underlying assets. By tying capital requirements for securitized products to an accounting treatment rather than a risk transfer treatment, this practice may result in the financial system holding duplicative capital against the same exposure.

Banks have additional capital requirements for securitized products held in their trading books. In January 2016, the BCBS issued its final update on the revised minimum capital standard for

213. 12 C.F.R. § 217.144(c).

214. See Basel III Revisions.

215. See European Banking Authority, *Report on Qualifying Securitisation* (July 2015), available at: *https://www.eba.europa.eu/documents/10180/950548/EBA+report+on+qualifying+securitisation.pdf*.

216. 12 C.F.R. § 217.143.

217. See Office of the Comptroller of the Currency, *Guidance on Advanced Approaches GAA 2015-01: Supervisory Guidance for Implementation of the Simplified Supervisory Formula Approach for Securitization Exposures Under the Advanced Approaches Risk-Based Capital Rule* (May 19, 2015), available at: *https://www.occ.treas.gov/topics/capital/gaa-2015-01.pdf*.

218. See Bank Capital Rules, at 62119.

219. Id. at 62083 [codified at 12 C.F.R. § 217.2].

220. Financial Accounting Standards Board (FASB): *Accounting Standards Codification Topic 860, Transfers and Servicing (ASC 860, commonly FAS 166); and FASB Accounting Standards Codification Topic 810, Consolidation* (ASC 810, commonly FAS 167).

221. See Board Report.

market risk, known as the Fundamental Review of the Trading Book (FRTB).[222] U.S. banking regulators have not announced how they might implement FRTB. The revised standard increases capital requirements for securitizations by changing the capital calculation under the current trading book capital requirements to a revised standardized approach for market risk. Under this approach, banks would be required to hold capital sufficient to withstand large credit spread shocks in securitized products held for trading, even if the severity of those shocks are disconnected from the credit quality of the underlying collateral.

The implied capital required under FRTB would make secondary market activity uneconomical for many banks, thereby hindering ABS liquidity. Without ABS liquidity, securitization may be a far less economical funding proposition. Under FRTB, the additional capital requirements would be additive to SSFA requirements. As such, this duplicative capital requirement could dramatically exceed the economic exposure on the bond itself. Such requirements would act as a disincentive for banks to participate in secondary market trading for securitized products, thereby reducing liquidity vital to the success of this market.

Securitized product liquidity is further hindered by the punitive capital treatment of these products under bank stress testing requirements. Comprehensive Capital Analysis and Review (CCAR) and Dodd-Frank Act Stress Test (DFAST) regimes were mandated by Dodd-Frank and implemented by federal banking regulators to assess capital sufficiency during adverse economic environments.[223] Currently, the Federal Reserve's global market shock assumptions for the trading book require banks to apply the peak-to-trough changes in comparable asset valuations from the 2007-09 period without sufficiently tailoring such shocks to the collateral quality or safeguards implemented since the crisis.[224] For example, under CCAR, a AAA-rated non-agency residential security is subject to a price shock of 31.5%, regardless of the quality of the mortgages collateralizing the exposure and the expected associated price decline.[225]

The current treatment of securitization exposures in DFAST and CCAR along with punitive treatment under bank capital rules have imposed an outsized cost on market makers for securitized products and contributed to these participants reducing their holdings and trading activity of structured products. Given the vital role our depositories play in the intermediation of consumer and corporate financing, regulations that discourage additional funding sources like securitization should be recalibrated.

Recommendations

Treasury recommends that banking regulators rationalize the capital required for securitized products with the capital required to hold the same disaggregated underlying assets. Capital requirements

---

222. See Basel Committee on Banking Supervision, *Fundamental Review of the Trading Book: A Revised Market Risk Framework* (Oct. 2013), available at: *http://www.bis.org/publ/bcbs265.pdf*.

223. 12 U.S.C. § 5365(i).

224. See Board of Governors of the Federal Reserve, *2017 Supervisory Scenarios for Annual Stress Tests Required under the Dodd-Frank Act Stress Testing Rules and the Capital Plan Rule* (Feb. 2017), available at: *https://www.federalreserve.gov/newsevents/pressreleases/files/bcreg20170203a5.pdf*.

225. See SIFMA, *Rebalancing the Financial Regulatory Landscape* (Apr. 2017), available at: *https://www.sifma.org/wp-content/uploads/2017/05/SIFMA-EO-White-Paper.pdf*.

should be set such that they neither encourage nor discourage funding through securitization, thereby allowing the economics of securitization relative to other funding sources to drive decision making. Rationalizing banking and trading book capital requirements may encourage additional bank participation in this asset class.

U.S. banking regulators should adjust the parameters of both the SSFA and the SFA. The p factor, already set at a punitive level that assesses a 50% surcharge on securitization exposures, should, at minimum, not be increased. Furthermore, SSFA should recognize the added credit enhancement that exists when a bank holds a securitization at a discount to par value.

U.S. banking regulators should align the risk weight floor for securitization exposures with the Basel recommendation. In today's global capital markets, regulations should ensure U.S. banks are on a level playing field with their global competitors.

Additionally, bank capital for securitization exposures should sufficiently account for the magnitude of the credit risk sold or transferred in determining required capital instead of tying capital to the amount of the trust that is consolidated for accounting purposes.

Concerning bank trading book requirements, regulators should consider the impact that capital standards, such as FRTB, would have on secondary market activity. Capital requirements should be recalibrated to prevent the required amount of capital from exceeding the maximum economic exposure of the underlying bond.

For stress testing requirements, the Federal Reserve Board should consider adjusting the global market shock scenario for trading exposures to more fully consider the credit quality of the underlying collateral and reforms implemented since the crisis.

Liquidity Requirements

Among the Basel III reforms introduced following the financial crisis were two global liquidity standards: the Liquidity Coverage Ratio (LCR) and the Net Stable Funding Ratio (NSFR).[226] U.S. banking regulators finalized LCR rules in 2013.[227] The final LCR was implemented to help ensure designated banks maintained a sufficient amount of unencumbered high-quality liquid assets (HQLA) to weather cash outflows during a prospective 30-calendar-day period of economic stress. Assets deemed to be liquid and readily marketable were designated as HQLA under three categories: level 1 liquid assets, level 2A liquid assets, and level 2B liquid assets, with the latter two categories subject to haircuts and caps toward total HQLA.[228]

While the final Basel III LCR rule laid out a framework for national regulators to consider including non-agency residential securities as level 2B HQLA, U.S. banking regulators elected to exclude all non-agency securitized products from counting toward a bank's LCR requirement as HQLA

226. See Basel Committee on Banking Supervision, *Basel III: The Liquidity Coverage Ratio and Liquidity Risk Monitoring Tools* (Jan. 2013), available at: *http://www.bis.org/publ/bcbs238.pdf*, and *Basel III: The Net Stable Funding Ratio* (Oct. 2014), available at: *http://www.bis.org/bcbs/publ/d295.pdf*.

227. 12 C.F.R. Part 249.

228. Id.

regardless of their seniority and performance history.[229] By excluding even senior tranches of securitizations from LCR, regulators signaled that they consider all securitized products illiquid during a period of market stress. This assumption ignores both changes made to the market in recent years and the outsized role the lack of transparency into underlying collateral quality played in causing illiquidity during the crisis.

Under the current LCR rule, other asset classes that experienced similar, or worse, illiquidity during the crisis have been made eligible to count toward HQLA. Investment-grade corporate debt, for example, experienced price declines of 18% through the financial crisis, greater than both AAA auto and card securitizations; yet a depository may count investments in investment-grade corporate debt, at a 50% haircut to fair value, as level 2B HQLA for purposes of satisfying the LCR requirement.[230] To be eligible for treatment as HQLA, these corporate debt securities must meet certain requirements, including that the issuing entity's obligations have a track record of liquidity during risk-off markets and that they are not obligations of a regulated financial company.[231]

Recommendations

High-quality securitized obligations with a proven track record should receive consideration as level 2B HQLA for purposes of LCR and NSFR. Regulators should consider applying to these senior securitized bonds a prescribed framework, similar to that used to determine the eligibility of corporate debt, to establish criteria under which a securitization may receive HQLA treatment.

Risk Retention

The imposition of securitizer or sponsor risk retention requirements has generated substantial controversy among market participants. Section 941 of Dodd-Frank amended the Exchange Act to require the sponsor of an asset-backed security to retain not less than 5% of the credit risk of the assets collateralizing the securities.[232] Six agencies — the SEC, Office of the Comptroller of the Currency, Federal Reserve Board, FDIC, Federal Housing Finance Agency, and Department of Housing and Urban Development (HUD) — were required to jointly prescribe regulations to implement the Section 941 requirements; the agencies published a final rule in December 2014, referred to as the Credit Risk Retention Rulemaking.[233] The rule became effective for residential-backed new issues in December 2015 and for all other classes of ABS in December 2016. Under the Credit Risk Retention Rulemaking, sponsors of asset-backed securitizations must retain an economic interest in the credit risk of the structure either in the form of an eligible horizontal (first loss) interest, an eligible vertical interest, or a combination of both (L-shaped interest).

---

229. See Liquidity Coverage Ratio: Liquidity Risk Measurement Standards (Sept. 3, 2014) [79 Fed. Reg. 61440 (Oct. 10, 2014)].

230. See Structured Finance Industry Group, Regulatory Reform: Securitization Industry Proposals to Support Growth in the Real Economy (Apr. 2017), available at: *http://www.sfindustry.org/images/uploads/pdfs/SFIG_White_Paper_-_Regulatory_Reform_%28Digital%29.pdf.*

231. 12 C.F.R. § 249.20(c).

232. 15 U.S.C. § 78o-11.

233. Credit Risk Retention [79 Fed. Reg. 77602 (Dec. 24, 2014)].

Dodd-Frank specifically exempts sponsors from risk retention where the collateral satisfies the definition, established under joint rulemaking, of a qualified residential mortgage, which the rulemaking agencies aligned with the qualified mortgage definition set by Dodd-Frank amendments to the Truth in Lending Act for ATR/QM.[234] Section 941 also required the banking agencies to include underwriting standards that indicate a low credit risk for commercial mortgages, commercial loans, and automobile loans. As such, the rule-writing agencies could require risk retention that is less than 5% if the asset underwriting standards are met.

The banking agencies do not appear to have undertaken a sufficiently robust economic analysis on the impact of the thresholds when setting the exemption requirements for commercial loans, commercial mortgages, and high-quality automobile loans, with the result that the eligible non-residential classes seldom qualify for the exemptions provided under the Credit Risk Retention Rulemaking. For example, loans backing auto securitizations are required to have a minimum 10% down payment, among other standards, to qualify for exemption.[235] Auto loans, however, are often financed with lower down payment requirements (or none at all), rendering even well-underwritten collateral subject to issuer risk retention.

In the Credit Risk Retention Rulemaking, agencies also subjected managers of CLOs to the risk retention rule under the determination that CLO managers fell within the statutory definition of securitizers.[236] CLOs are structured products backed by leveraged loans from both large and small U.S. companies. Unlike other securitized products, where an originator may originate loans with the intent to sell them, CLO managers do not originate the underlying loans that they select for the CLO vehicle and are typically compensated with management fees contingent on the performance of the underlying loans. These attributes makes CLO managers more like asset managers in this regard. The imposition of the retention requirement on CLO managers has the potential to create particular burdens given the more limited access to capital for these market participants. Furthermore, the departure of smaller CLO managers lacking the ability to raise the necessary capital to comply with the retention requirement could force an unhealthy consolidation of the number of issuers who are able to service this important sector of corporate borrowing in the United States.

Finally, the Credit Risk Retention Rulemaking required that qualified third-party purchasers and sponsors of CMBS horizontal interests, as well as non-QRM residential sponsors, retain their interest for a minimum of 5 years, with non-QRM residential sponsors also subject to a minimum balance threshold, to allow sufficient time for losses resulting from underwriting defects to become evident.[237] Other asset-backed securities subject to risk retention require sponsors to hold the residual interest for a minimum of two years or until the aggregate unpaid balance of ABS interests has been reduced to 33%.

---

234. 17 C.F.R. § 246.13.

235 Id. at § 246.18.

236. See Credit Risk Retention, 79 Fed. Reg. at 77650.

237. 17 C.F.R. § 246.7(b)(8)(ii)(A) and § 246.12(f)(2)(A).

Recommendations

Risk retention is an imprecise mechanism by which to encourage alignment of interest between sponsors and investors. However, sponsor "skin-in-the-game" can serve as a complement to other regulatory reforms, such as enhanced disclosure requirements and underwriting safeguards, to provide added confidence to investors in securitized products. Instead of recommending an across-the-board repeal of the retention requirement, Treasury recommends that federal banking regulators expand qualifying risk retention exemptions across eligible asset classes based on the unique characteristics of each securitized asset class, through notice-and-comment rulemaking.

Well-documented and conservatively underwritten loans and leases, regardless of asset class, should not require signaling, through retention, from the sponsor as to the creditworthiness of the underlying collateral. Asset-specific disclosure requirements should provide investors with confidence that securitizations of assets that are deemed "qualified" are sound enough to warrant exemption. This expanded exemption would reduce the cost to issue and could encourage additional funding through securitization. Treasury reiterates the prior recommendations regarding risk retention for residential mortgage securitizations, as stated in the Banking Report.[238]

Additionally, regulators should review the mandatory five-year holding period for third-party purchasers and sponsors subject to this requirement. To the extent regulators determine that the emergence period for underwriting-related losses is shorter than five years, the associated restrictions on sale or transfer should be reduced accordingly.

Regarding the requirement that CLO managers retain risk even though they do not originate the loans that they select for inclusion in their securitization, Treasury recommends that the rulemaking agencies introduce a broad qualified exemption for CLO risk retention. CLO managers, like other sponsors who are subject to risk retention, do have discretion in the quality of the loans they select for their vehicles. In the same vein as the broader recommendation that risk retention not be statutorily eliminated but should instead be right-sized, Treasury recommends creating a set of loan-specific requirements under which managers would receive relief from being required to retain risk.

Finally, as stated in the Banking Report, Congress should designate a lead agency, from among the six that promulgated the Credit Risk Retention Rulemaking, to be responsible for future actions related to the rulemaking.[239] Designating one agency with responsibility for the rulemaking going forward would avoid the challenge of coordinating the agencies to issue interpretative guidance or exemptive relief.

Disclosure Requirements

In 2004, the SEC introduced registration, disclosure, and reporting requirements for the rapidly growing asset-backed securities market.[240] These requirements, known as Regulation AB, implemented changes to the Securities Act and the Exchange Act. Due in part to the lack of transparency regarding the collateral quality of asset-backed securities during the financial crisis, the SEC

238. The Banking Report, at 101.

239. Id.

240. See Asset-Backed Securities (Dec. 22, 2004) [70 Fed. Reg. 1506 (Jan. 7, 2005)] ("Regulation AB").

proposed additional ABS disclosure requirements, referred to as Reg AB II, in the aftermath of the crisis. The SEC published final rules for certain asset classes in 2014.[241]

For the ABS market, issuers had historically provided pool-level information rather than detailed asset-level information. Issuers provided information at a more granular level for only a small number of data fields. A standardized format did not exist, nor did agreed-upon data points across issuances, even within the same asset class. Reg AB II, by implementing disclosure requirements for registered, public issuances, was intended to provide an additional level of transparency to the market to address these perceived shortcomings of the pre-crisis securitization market.

Section 942 of Dodd-Frank required the SEC to adopt disclosure requirements for asset-backed securities in order that these securities include "asset-level or loan-level data, if such data is necessary for investors to independently perform due diligence."[242] In its final rules implementing this provision and other reforms, the SEC extended loan-level disclosure requirements to ABS backed by residential mortgages, commercial mortgages, auto loans or leases, resecuritizations of these types of ABS, and securities backed by corporate debt. Specifically, the rule required 270 unique asset-level fields for PLS, 152 for CMBS, 72 for auto loan ABS, and 60 for debt security ABS resecuritizations.[243]

In addition to the requirements above, the final Reg AB II rule required that issuers of registered securitizations publish this asset-level information at least three days before bringing a deal to market.[244] With these rules, the SEC hoped to address a persistent problem in the ABS market prior to the crisis, whereby investors felt pressured to forego independent diligence of collateral, amidst an aggressive demand for structured products, and instead rely on the credit ratings assigned by the NRSROs.

In both Regulation AB and Reg AB II, the SEC undertook an inherently difficult balancing act — weighing the need to provide investors sufficient transparency into the risk profile of the underlying assets against the burden placed upon issuers to furnish detailed, asset-specific information. In Regulation AB, the SEC elected to set collateral-specific disclosure requirements at a principles-based level to prevent "the accumulation of unnecessary detail, duplicative or uninformative disclosure and legalistic recitations of transaction terms that obscures material information."[245] This standard is reasonable to measure the adequacy of disclosure requirements. Current regulations that require up to 270 unique data fields at the loan level are inconsistent with this goal.

Investors in securitized products broadly welcomed the enhanced disclosure requirements mandated by Dodd-Frank. However, issuers have stated that the increased cost and compliance burdens, lack of standardized definitions, and sometimes ambiguous regulatory guidance has had a negative impact on the issuance of new public securitizations.

241. See Asset-Backed Securities Disclosure and Registration (Sept. 4, 2014) [79 Fed. Reg. 57184 (Sept. 24, 2014)] ("Regulation AB II").

242. See Dodd-Frank § 942(b).

243. See Regulation AB II, 79 Fed. Reg. at 57210, 57222, 57225, and 57229.

244. 17 C.F.R. § 230.424(h)(1).

245. See Regulation AB, 70 Fed. Reg. at 1532.

Under the final rule, the SEC noted that the proposals to expand asset-level disclosure requirements to private placement of securitized products, as 144A offerings, as well as additional securitized asset classes in registered offerings, including those structures backed by equipment floorplan leases, revolving consumer credit (credit card), and student loans, remained outstanding.[246] However, the SEC has not taken additional action relative to disclosure requirements for 144a offerings or for these additional asset classes.

Recommendations

The scope of asset-level data required by Reg AB II warrants review and recalibration. The number of required reporting fields for registered securitizations should be reduced. Additionally, the SEC should continue to refine its definitions to better standardize the reporting requirements on the remaining required fields. Treasury agrees with the SEC that standardization and transparency can better enable the investor community to compare asset quality across deals. However, Treasury suggests that a sufficient level of transparency and standardization can be achieved at fewer than the current number of required fields.

Additionally, the SEC should explore adding flexibility to the current asset-level disclosure requirements by instituting a "provide or explain regime" for pre-specified data fields. Under such a framework, certain asset-level data fields would be required. However, other fields may be omitted provided an issuer identifies the omitted field in the prospectus and includes an explanation for the omission. Such opt-out flexibility may lower costs for issuers and incentivize them to bring additional deals to market without sacrificing transparency.

In addition, the SEC should review its mandatory three-day waiting period for registered issuance. Issuers face additional risk of price movement during that three-day period, which does not include weekends, thus extending the lock-out to five days for offerings that become effective on a Thursday or Friday. Proper standardization of required fields should facilitate accelerated analysis of the collateral on the part of prospective investors, potentially only requiring one or two business days, dependent on securitized asset class, instead of the current three.

Finally, the SEC should signal that it will not extend Reg AB II disclosure requirements to unregistered 144A offerings or to additional securitized asset classes. ABS collateralized by equipment loans or leases, floorplan financings, student loans, and revolving credit card debt lack uniformity across the underlying loans and loan terms. As such, while disclosure remains an important tool to bolster investor confidence and provide sufficient market transparency, cohort-level or grouped-account disclosures as currently provided should suffice for these additional asset classes.

246. See Regulation AB II, 79 Fed. Reg. at 57190.

Derivatives

Overview

Overview of Derivatives and their Uses

In financial markets, "derivatives" are a broad class of financial instruments or contracts whose prices or terms of payment are dependent on, or derive from, the value or performance of another asset or commodity.[247] Unlike stocks and bonds, which are generally used by issuers to raise capital for their business and traded by investors hoping to earn a return on their investment, derivatives originated primarily for the purpose of managing, or hedging, the risks associated with the underlying assets. Such risks stem from unknown future changes in commodity prices, interest rates, foreign currency exchange rates, or other factors. The greater the degree of uncertainty around such changes — i.e., the volatility — the greater the risk that must be managed. While their usage has grown and become more complex, derivatives have been used in one form or another since ancient times, for example by farmers and merchants managing risks regarding the future delivery and price of livestock or crops.

Derivatives are also used for speculative purposes. In contrast to hedgers who seek to manage existing risks, speculators use derivatives to take on risk with the aim of profiting from their trading activities. Essentially, speculators take on a derivatives position betting either that the price of the underlying commodity or reference price will increase or decrease. When speculators correctly anticipate price movements, they profit; when prices move against them, speculators incur losses. Through their trading activity, speculators provide an important source of liquidity for the markets, often taking the opposite side of hedgers' positions.

The term derivatives encompasses several specific types of financial instruments — for example, forwards, futures, options, and swaps.

Types of Derivatives

Derivative	Features	Simplified Example
Forward Agreements	■ A private agreement to buy or sell a commodity or asset at a certain future date for a certain price ■ Traded bilaterally in the over-the-counter markets, each agreement may be customized (e.g., in terms of delivery time, or quality and quantity of goods to be delivered) ■ Generally not regulated	A farmer plans to grow 1,000 bushels of wheat but wants to be sure he will get a good price for his crop. He enters into a forward agreement with a grain merchant to sell his wheat for an agreed-upon price at harvest time. With a locked-in price, the farmer is protected if wheat prices fall, but he will still only receive the price in the agreement even if wheat prices are higher at harvest time.

247. For a full discussion of derivatives, see, e.g., John C. Hull, Options, *Futures and Other Derivatives* (8th edition), Pearson/Prentice Hall (2012); and Robert W. Kolb and James A. Overdahl (eds), *Financial Derivatives*, John Wiley & Sons (2010).

Types of Derivatives

Derivative	Features	Simplified Example
Futures Contracts[248]	■ A highly standardized, exchange-traded contract to buy or sell a commodity for delivery in the future ■ The exchange specifies certain standardized features of the contract, such as quality and quantity of goods to be delivered ■ Both buyer and seller are obligated to fulfill the contract at the price agreed at the initiation of the contract, whether profitable or not ■ May be settled by delivery of the underlying commodity, by cash, or by purchasing an offsetting contract through the exchange ■ Regulated by the Commodity Futures Trading Commission (CFTC) (exclusive jurisdiction)	An airline that expects fuel prices to rise wants to hedge its costs for an upcoming purchase of jet fuel. To do so, the airline takes a long position in exchange-traded, cash-settled oil futures contracts that are correlated with cash-market jet fuel prices. When it is time to purchase the jet fuel, the airline takes an offsetting short position in the oil futures contracts. If oil prices have increased, the airline will earn a profit on its oil futures position, which should serve to offset the "loss" arising from purchasing the jet fuel it needs at the higher price. The converse happens if oil prices have decreased. The better the correlation between the cash and futures markets prices, the more effective the hedge will be.
Options	■ A contract that gives the buyer the right, but not the obligation, to buy (a call option) or sell (a put option) a specified quantity of a commodity or other instrument at a specific price within a specified period of time, regardless of the market price of that instrument ■ The buyer of an option pays a premium for the right to buy or sell ■ Traded both on exchanges and over-the-counter ■ Regulated either by the CFTC or the Securities and Exchange Commission, depending on underlying asset or index	A currency trader believes the U.S. dollar/euro exchange rate is trending upward. Hoping to profit from her view, she buys a call option on euros expiring in three months which gives her the right, but not the obligation, to buy euros at the option's strike price. The trader has to pay a premium for this right. (Conversely, the seller of the option receives the premium, but is obligated to sell euros at the strike price if the trader exercises the option.) Three months later, if the U.S. dollar/euro exchange rate is above the strike price (i.e., the option is in-the-money), the trader will exercise the option and realize a gain on the currency trade. Her gain, however, is offset by the premium she paid for the call option. She will not exercise the call option at maturity if the U.S. dollar/euro exchange rate is below the strike price (it is out-of-the-money), in which case her loss is limited to the premium paid.

248. The CFTC and the SEC jointly regulate "security futures," a statutorily defined separate class of derivatives. Security futures are contracts for the sale or future delivery of a single security or of a narrow-based security index and can be based on a variety of reference securities or prices.

Swaps[249]	■ A contract between two counterparties providing for the exchange of cash flows based on differences or changes in the value or level of the underlying commodity, asset, or index ■ Swaps categories: Interest rate swaps, credit index swaps, foreign exchange swaps, equity index (broad-based) swaps, and other commodity swaps ■ Previously unregulated. Post-Dodd-Frank, regulated by the CFTC (security-based swaps regulated by the SEC)	Two companies, each with an outstanding five-year $10 million loan, have different views of the future path of interest rates. Company A, with a floating-rate loan, is concerned interest rates will go up, leading to higher interest costs on its loan. Company B, with a fixed-rate loan, thinks interest rates will stay the same or even decline over the five years of its loan. The two companies enter into a five-year interest rate swap under which Company A will pay interest to Company B at a fixed rate, and Company B will pay interest to Company A at a variable rate (for example, prime + 0.1%) that matches Company A's floating rate loan. Both sets of interest payments are calculated based on a principal amount of $10 million (but the principal is only "notional;" it is not exchanged). Through the swap, Company A has transformed its floating-rate loan into a fixed-rate liability. For Company B, if interest rates go down as it anticipates, its payments to Company A will be lower while it continues to receive fixed payments from Company A.

Derivatives have distinctive attributes depending on whether they are listed and traded on an exchange or whether they are trading bilaterally between two parties to the transaction — the so-called "counterparties" — in the over-the-counter (OTC) marketplace. Exchange-traded derivatives — such as futures and options — are highly standardized as to their terms and conditions, including the quality, quantity or other specification of the underlying assets.[250] Because they are standardized, exchange-traded derivatives tend to be more liquid than OTC derivatives and are characterized by a higher degree of price transparency. Moreover, the exchanges themselves (as well as the exchange intermediaries who carry out trades for customers) are highly regulated entities with enforced standards for collateralization and risk management. Because of these protections, exchange-traded markets tend to be accessible by a wider range of participants, including so-called "retail investors," such as individuals and small businesses. Finally, exchange-traded derivatives are generally cleared through a clearinghouse (often affiliated with the exchange), which mutualizes credit and liquidity risk.

By contrast, OTC derivatives commonly have terms that are privately negotiated between the counterparties, and they tend to be less liquid than exchange-traded derivatives. OTC derivatives transactions — including forward agreements, swaps, and some options — often are much larger than typical trades in exchange-traded markets, and some can be extremely complex. Unless they are cleared, OTC derivatives tend to entail a greater degree of bilateral counterparty credit risk.

---

249. For a legal definition of "swap," see 7 U.S.C. § 1a(47) and 17 C.F.R. § 1.3(xxx); for "security-based swap," see 15 U.S.C. § 78c(a)(68).

250. For clarity, options can be listed and traded on an exchange or traded OTC, but "futures" always refers to an exchange-traded contract.

For these reasons, OTC derivatives market participants are generally limited to large institutional investors such as banks, insurance companies, pension funds, state and local governments, and other eligible nonfinancial end users. Though many OTC derivatives are highly customized to meet the needs of a specific party, some types of OTC transactions have become sufficiently standardized to permit centralized clearing and more exchange-like trading. Despite their generally greater risks, OTC derivatives have become a significant alternative to exchange-traded products.

Though the first derivatives originated as a means for farmers and merchants to manage risks in agricultural markets, today derivatives are used in virtually every segment of the U.S. and global economies, covering nearly every conceivable type of commodity and underlying asset. Highly complex financial contracts based on security indexes, interest rates, foreign currencies, Treasury bonds, and other products now greatly exceed the agricultural contracts in trading volume.[251] It is through this growth and innovation that businesses and organizations across every sector of the U.S. economy have become users of both exchange-traded and OTC derivatives. Manufacturers of nearly every variety, banks, insurance companies, importers and exporters, pension funds, service and transportation industries and more use these instruments as a means to manage the underlying risks associated with their businesses and operations and benefit from the price discovery function they provide. Indeed, derivatives have become essential financial tools that, when used properly, allow companies to grow and create jobs, produce goods and services for the economy, and provide stable prices for American consumers.

The Commodity Exchange Act and the Commodity Futures Trading Commission

In the United States, the organized trading of futures contracts originated in the middle of the 19th century in Chicago. As with the securities markets, there was no federal regulation or oversight of the nascent futures markets. Instead, the markets operated under a form of self-regulation, imposed through agreement among the members of an organized exchange. The first such exchange was the Chicago Board of Trade, established in 1848. In 1919, the Chicago Mercantile Exchange was established. It was not until the 1920s that Congress enacted federal regulation of futures markets. The Grain Futures Act of 1922, the first effective federal law to govern trading in grain futures, was administered by the Grain Futures Administration, an agency of the U.S. Department of Agriculture. In 1936, Congress enacted the Commodity Exchange Act (CEA), broadening the types of commodities on which futures contracts could trade and transforming the Grain Futures Administration into the Commodity Exchange Authority.

The CEA, amended and expanded numerous times since 1936, remains today the primary federal statute governing U.S. derivatives markets. In 1974, the Commodity Futures Trading Commission Act amended the CEA and established several fundamental changes in the regulation of U.S. derivatives markets. Most significantly, Congress created the Commodity Futures Trading Commission (CFTC) as a new independent federal regulatory agency. Congress transferred the authority over the futures markets previously exercised by the Commodity Exchange Authority,

251. See CFTC 2016 Financial Report, at 18-21.

the CFTC's predecessor agency in the Department of Agriculture, to the CFTC.[252] In addition, Congress mandated the CFTC should have exclusive jurisdiction over futures.[253]

When the CFTC was established, the majority of derivatives trading consisted of futures contracts on agricultural commodities.[254] These contracts gave farmers, ranchers, distributors, and end users of products ranging from grains to livestock an efficient and effective set of tools to hedge against price risk. Beginning in the 1970s, however, the futures industry began to diversify beyond agricultural products. The first futures on financial assets were on foreign currencies, and in 1975, the newly established CFTC approved the first futures contract on U.S. government debt.[255] Ultimately, the markets overseen by the CFTC grew to encompass contracts based on metals, energy products, and a long list of other financial products and indexes, providing new opportunities for risk management to a wide range of businesses across the economy. In 2010, Dodd-Frank amended the CEA to expand the CFTC's jurisdiction to include many types of swaps.

The CFTC's mission is to foster open, transparent, competitive, and financially sound markets to avoid systemic risk and protect market users and their funds, consumers, and the public from fraud, manipulation, and abusive practices related to derivatives and other products subject to the CEA.[256] To promote market integrity, the CFTC monitors the markets and participants under its jurisdiction for abuses and brings enforcement actions.

The CFTC oversees industry self-regulatory organizations, including traditional organized futures exchanges or boards of trade known as designated contract markets (DCMs). The CEA generally requires futures contracts to be traded on regulated exchanges, with futures trades cleared and settled through clearinghouses, referred to as derivatives clearing organizations (DCOs).

The Commodity Futures Modernization Act of 2000

In the 1980s and 1990s, the emergence and proliferation of new types of off-exchange derivatives tested the CEA and the limits of the CFTC's jurisdiction. End users often preferred these transactions — broadly referred to as OTC derivatives or swaps — over standardized exchange-traded futures and options, since they permitted end users to customize the terms and conditions of the transactions with greater precision to meet their specific risk management needs. The markets for

---

252. The CFTC was officially established in 1975 when authority for the regulation of futures trading was transferred from the Commodity Exchange Authority, an agency in the Department of Agriculture, to the CFTC.

253. For example, while U.S. states have a role in regulating aspects of the securities markets and banking system, they are precluded by the Commodity Exchange Act from regulating "transactions involving swaps or contracts of sale of a commodity for future delivery." See 7 U.S.C. § 2(a)(1)(A). Section 722 of Dodd-Frank extended the CFTC's exclusive jurisdiction to include swaps other than security-based swaps, which are regulated by the SEC.

254. The historical link between futures markets and agricultural commodities also helps explain why the CFTC's congressional oversight is carried out through the Senate and House Agriculture Committees.

255. See Timeline of CME Achievements, available at: *http://www.cmegroup.com/company/history/timeline-of-achievements.html*; and CFTC History in the 1970s, available at: *http://www.cftc.gov/About/HistoryoftheCFTC/history_1970s*.

256. CFTC 2016 Financial Report, at 18.

OTC derivatives, however, operated under a cloud of legal uncertainty, because it was unclear whether such transactions were subject to the CEA and CFTC regulation.[257]

In response to these concerns and following the recommendations of the President's Working Group on Financial Markets, Congress passed the Commodity Futures Modernization Act (CFMA) of 2000 to provide legal certainty for OTC swap agreements.[258] The CFMA explicitly prohibited the CFTC from regulating the OTC swaps markets and provided that even purely speculative OTC derivatives contracts were legally enforceable.[259] Though most OTC derivatives market participants were regulated, OTC derivatives instruments were shielded from regulation and oversight under the CFMA. As a result, volumes in OTC derivatives surged (see Figure 18). According to The Financial Crisis Inquiry Report, the 2011 report of the Financial Crisis Inquiry Commission:

> At year-end 2000, when the CFMA was passed, the notional amount of OTC derivatives outstanding globally was $95.2 trillion, and the gross market value was $3.2 trillion. In the seven and a half years from then until June 2008, when the market peaked, outstanding OTC derivatives increased more than sevenfold to a notional amount of $672.6 trillion; their gross market value was $20.3 trillion.[260] (Footnotes omitted.)

---

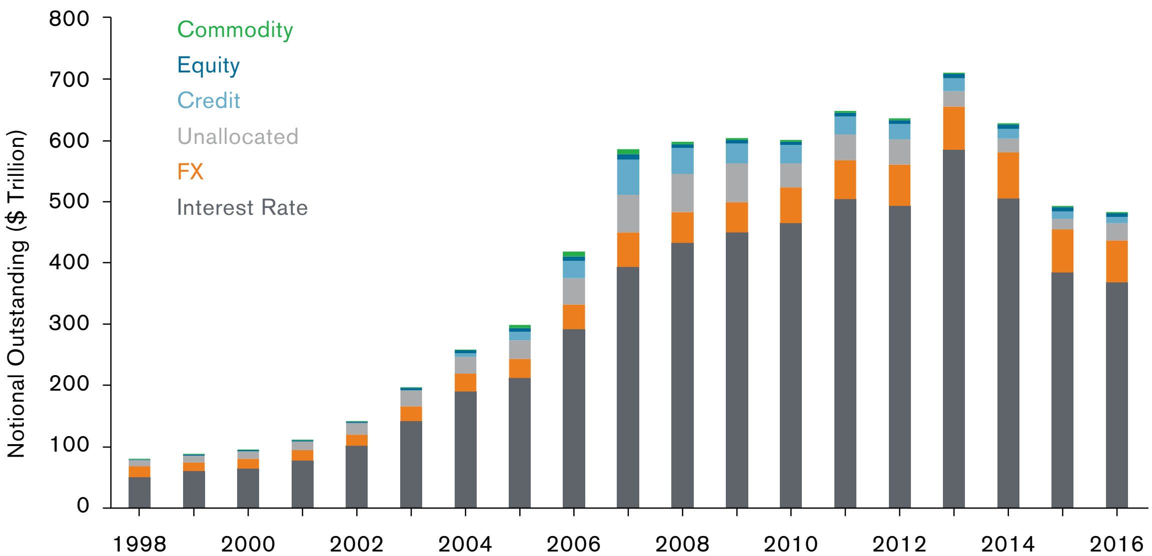
257. Lynn Stout, *Derivatives and the Legal Origin of the 2008 Credit Crisis*, 1 Harvard Business Law Review 1, at 19-20 (2011).

258. See *Report of the President's Working Group on Financial Markets, Over-the-Counter Derivatives Markets and the Commodity Exchange Act* (Nov. 1999), available at: *https://www.treasury.gov/resource-center/fin-mkts/Documents/otcact.pdf*.

259. Lynn Stout, W*hy We Need Derivatives Regulation*, N.Y. Times (Oct. 7, 2009), available at: *https://dealbook.nytimes.com/2009/10/07/dealbook-dialogue-lynn-stout/*. The Commodity Futures Modernization Act also prohibited the SEC from regulating OTC swaps.

260. FCIC Report at 49.

Figure 18: Global OTC Derivatives by Asset Class



Source: Bank for International Settlements

Critics of the CFMA have argued it was overly deregulatory and, as such, helped create the conditions that allowed the financial crisis to occur.[261]

Challenges During the Financial Crisis

Leading up to the financial crisis, many OTC derivatives were not collateralized, backed by reserves, or hedged, resulting in financial vulnerability for market participants and the U.S. financial system. More generally, the OTC derivatives markets were characterized by complexity, interconnectivity, and lack of transparency, as demonstrated by the case of the Lehman Brothers failure and bankruptcy. At the time of its bankruptcy in September 2008, Lehman had total assets of more than $600 billion. The net worth of its total derivatives portfolio amounted to $21 billion, approximately 96% of which represented OTC positions. Lehman's OTC derivatives portfolio consisted of more than 6,000 contracts involving over 900,000 transactions with myriad counterparties.

As Lehman began to experience trouble, regulators lacked information about Lehman's claims on, and obligations to, its OTC derivatives counterparties. This information was necessary to assess the impact of a potential Lehman bankruptcy on its counterparties and the broader financial system. Lehman's extensive derivatives operations "greatly complicated its bankruptcy, and the impact of its bankruptcy through interconnections with derivatives counterparties and other

261. Ron Hera, *Forget About Housing, the Real Cause of the Crisis was OTC Derivatives,* Business Insider (May 11, 2010), available at: *http://www.businessinsider.com/bubble-derivatives-otc-2010-5*.

financial institutions contributed significantly to the severity and depth of the financial crisis."[262] Approximately 80% of Lehman's derivative counterparties terminated their contracts with Lehman following its bankruptcy filing, as permitted by law.[263] The spillover effects of these terminations resulted in a massive and direct loss of value to counterparties — whose costs included unrecovered claims and loss of hedged positions — as well as to Lehman's bankruptcy estate, not to mention the indirect costs including legal and administrative fees and other externalities.

Interest Rate Benchmark Reform

The London Interbank Offer Rate (LIBOR) is one of the most widely referenced financial benchmarks and critical to the functioning of derivatives markets. More than $300 trillion in notional value of derivatives contracts are tied to LIBOR, primarily through the floating leg of interest rate swaps. LIBOR was famously manipulated in the financial crisis, and despite important reforms, its future is increasingly threatened by a long-term decline in unsecured bank borrowing underlies the rate. In 2014, following recommendations from the Financial Stability Oversight Council and Financial Stability Board, the Federal Reserve convened the Alternative Reference Rates Committee (ARRC) to identify an alternative to LIBOR and promote market adoption. As an ex-officio member of the ARRC, Treasury believes the adoption of a new reference rate is critical and supports the ARRC's selection of the Secured Overnight Financing Rate. Adoption of a new rate should be market-led, and Treasury encourages market participants to provide input and engage in transition planning.

Regulatory Landscape

Dodd-Frank Title VII

Title VII of Dodd-Frank was framed around four principal elements of OTC derivatives reform:

1. Require clearing of standardized OTC derivatives transactions through regulated central counterparties.
2. Require trading of standardized transactions on exchanges or electronic trading platforms, where appropriate.
3. Require regular data reporting so regulators and market participants have greater transparency into market activity.
4. Subject OTC derivatives contracts that are not centrally cleared to higher capital requirements.

Title VII established a comprehensive new regulatory framework for most OTC derivatives, including new regulatory oversight for market intermediaries, clearing requirements for certain transactions, requirements that trade execution occur on regulated platforms, and trade reporting

262. FCIC Report, at 343.

263. U.S. Government Accountability Office, *Financial Regulatory Reform: Financial Crisis Losses and Potential Impacts of the Dodd-Frank Act* (Jan. 16, 2013), at 46.

to provide post-trade transparency to regulators and the public. Title VII also required registration, oversight, and business conduct standards for large swap entities, including swap dealers and major swap participants, and provided enhanced rulemaking and enforcement authorities for both the CFTC and SEC.

Dodd-Frank divided regulatory jurisdiction over swap agreements between the CFTC and the SEC. In addition, the U.S. banking regulators, such as the Federal Reserve, set capital and margin requirements for swap entities that are banks. Title VII gave the CFTC authority over the U.S. swaps market, representing approximately 95% of the overall U.S. OTC derivatives market and covering interest rate swaps, index credit default swaps (CDS), foreign exchange (FX) swaps, certain types of equity swaps, and other commodity swaps (including swaps on energy and metals). Dodd-Frank directed the CFTC to write rules implementing registration and other regulatory requirements for swap dealers, as well as for new market infrastructures such as swap execution facilities (SEFs) and swap data repositories (SDRs). Title VII also amended the Exchange Act to provide SEC authority to implement parallel reforms for the smaller security-based swaps market. This market comprises about 5% of the overall U.S. OTC derivatives market and consists primarily of swaps on individual securities or loans. Common security-based swaps include single-name CDS and total return swaps.[264] The following table shows an overview of the key terms and concepts arising from the Title VII derivatives reforms.

Dodd-Frank Title VII – Key Terms and Concepts

What key products are covered under Title VII derivatives reform?

Derivatives	■ Any financial instrument or contract whose price or terms of payment is dependent upon / derived from underlying assets ■ Used (a) to hedge risk in underlying asset/commodity, or (b) for speculative purposes ■ Generic term that includes forwards, futures, options, swaps, etc.
Swaps	■ Any agreement, contract, or transaction that is commonly known to the “trade” as a swap ■ Excludes futures contracts, options on futures, forward contracts on nonfinancial commodities, and certain retail transactions ■ Swaps asset categories: Interest rate swaps, credit index swaps, foreign exchange swaps, equity index swaps (broad-based), and other commodity swaps ■ Approximately 95% of U.S. over-the-counter derivatives market ■ Regulated by the Commodity Futures Trading Commission

264. The CFTC and SEC share authority over “mixed swaps,” which are security-based swaps that also have a commodity component. See U.S. Securities and Exchange Commission, *Derivatives* (modified May 4, 2015), available at: *https://www.sec.gov/spotlight/dodd-frank/derivatives.shtml*.

Security-based Swaps	■ Any agreement, contract, or transaction that is a swap AND based on • (i) an index that is a narrow-based security index, • (ii) a single (non-exempt) security or loan, or • (iii) a financial event relating to an issuer or issuers or securities in (i) or (ii) above ■ Approximately 5% of U.S. over-the-counter derivatives market ■ Regulated by the Securities and Exchange Commission

Who are the key market participants?

End-users	■ A commercial entity that uses swaps to hedge or mitigate commercial risk ■ Non-financial end-users are exempt from clearing, margin, etc. ■ Non-financial end-users are those that are "not a financial entity" as the latter term is defined
Swap Dealers	■ Any person who: • Holds itself out as a dealer in swaps, • Makes a market in swaps, • Regularly enters into swaps as an ordinary course of business for its own account, or • Is commonly known as a dealer or market maker in swaps ■ Subject to certain exceptions, including a de minimis exception ■ Regulated by the CFTC
Major Swap Participants	■ Any person who is not a swap dealer and who: • Maintains a "substantial position" in swaps (excluding positions held for hedging or mitigating commercial risk), • Has substantial swaps counterparty exposure that could present a systemic risk, or • Is a highly-leveraged financial entity that maintains a "substantial position" in swaps and not subject to prudential regulation ■ Regulated by the CFTC
Security-based Swap Dealers and Major Security-based Swap Participants	■ Regulated by the SEC
Clearing Members	■ A member of a clearing organization or central counterparty, such as broker-dealers, futures commission merchants (FCMs), and swap dealers ■ Subject to stringent financial, risk management and operational requirements, and monitored for ongoing compliance ■ Non-clearing members must clear their trades through a clearing member ■ Regulated by the CFTC and SEC

What are the key swaps and security-based swaps market structures under Title VII?

Derivatives Clearing Organizations (DCOs)*	■ A clearinghouse, clearing association, or similar entity that: • Enables each party to a transaction to substitute the credit of the DCO for the credit of an individual counterparty, • Provides for multilateral settlement or netting of obligations, or • Otherwise provides for the mutualization or transfer of credit risk • Also known as central counterparties, or CCPs
Designated Contract Markets (DCMs)	■ An organized exchange or other trading facility designated by the CFTC that: • Facilitates trading of futures, options on futures, and swaps, and • Permits trading by or on behalf of non-eligible contract participants (retail traders)
Swap Execution Facilities (SEFs)*	■ A trading system or platform that provides multiple participants the ability to execute or trade swaps by accepting bids and offers made by multiple participants ■ SEFs, unlike DCMs, may not facilitate futures trading or retail trading
Swap Data Repositories (SDRs)*	■ Any facility that collects, maintains, and disseminates swaps trade data and provides a centralized recordkeeping facility for swaps

What activities are taking place under Title VII derivatives reform?*

Clearing	■ Dodd-Frank requires certain swaps to be submitted to a DCO for clearing, which will result in daily margining of all risk positions ■ CFTC must determine which swaps are required to be cleared ■ DCOs may determine which swaps to accept for clearing (subject to CFTC review)
Uncleared Swaps	■ Swaps that are not cleared by a DCO ■ Under Dodd-Frank, are subject to higher risk management standards (e.g., initial margin and variation margin) than cleared swaps
SEF Trading	■ Swaps subject to mandatory clearing must be traded on a SEF or DCM, unless no SEF or DCM makes the swap "available to trade"
Real-time Public Reporting	■ Dodd-Frank requires real-time public reporting of all swaps, whether cleared or uncleared (similar to TRACE in the bond markets) ■ Involves reporting swap transaction data (e.g., price, volume) "as soon as technologically practicable" after the execution of the swap

Color Key

Term not defined in statute	Dodd-Frank definition/concept	Existing or amended statutory or regulatory term/concept

* Security-based swaps subject to corresponding requirements

The CFTC has finalized substantially all of its major rulemakings required under Title VII and has implemented the major reforms for the swaps market. Although many CFTC rules have been implemented smoothly, several are the subject of exemptive, no-action, and interpretive letters or are under review by the CFTC. While the SEC has finalized most of its major rulemakings required under Title VII, it has not yet finalized certain key Title VII derivatives reforms for security-based swaps.

CFTC Swaps Framework

Intermediary Oversight – Swap Dealers

Following the financial crisis, Congress determined to require supervision and oversight of previously unregulated dealers and other intermediaries in the OTC derivatives markets. Title VII directed the CFTC to establish rules for the registration and regulation of swap dealers and major swap participants. The CFTC completed its swap dealer registration rules in 2012.[265] The rules provide that certain entities may be exempt from registering as swap dealers if their swap dealing activity is below a de minimis threshold.[266] Swap dealers must also be registered with the National Futures Association, an industry self-regulatory organization, which conducts examinations of swap dealers on behalf of the CFTC, among other responsibilities. As of Sept. 26, 2017, 102 swap dealers were provisionally registered with the CFTC.[267]

The CEA and CFTC rules define a swap dealer in part as a market intermediary that holds itself out as a dealer in swaps, makes a market in swaps, regularly enters into swaps with counterparties in the ordinary course of business for its own account, or engages in any activity causing the person to be commonly known in the trade as a dealer or market maker in swaps. To ensure appropriate safeguards over swap dealing activities, the CFTC has adopted rules intended to promote strong risk management and high standards of business conduct among swap dealers. For example, the CFTC released final rules in January 2016 for initial and variation margin requirements for uncleared swaps entered into by swap dealers, and it is currently working to finalize a rule on swap dealer capital requirements.[268]

The CFTC's business conduct framework for swap dealers establishes both external and internal requirements. When dealing with counterparties, for example, swap dealers are prohibited from engaging in abusive practices and are required to make disclosures of certain material information to counterparties. Swap dealers must also ensure that all counterparties are eligible to enter into swaps and must have a reasonable basis to believe that a recommended swap is suitable for a

265. Registration of Swap Dealers and Major Swap Participants (Jan. 11, 2012) [77 Fed. Reg. 2613 (Jan. 19, 2012)].

266. Swap dealer registration is based in part on the aggregate gross notional amount of the swaps that an entity enters into over the previous 12 months in connection with dealing activities. Currently, the de minimis threshold is $8 billion.

267. U.S. Commodity Futures Trading Commission, Provisionally Registered Swap Dealers (last accessed Sep. 26, 2017), available at: *http://www.cftc.gov/LawRegulation/DoddFrankAct/registerswapdealer*.

268. Margin Requirements for Uncleared Swaps for Swap Dealers and Major Swap Participants (Dec. 18, 2015) [81 Fed. Reg. 636 (Jan. 6, 2016)] ("CFTC Margin Requirements for Uncleared Swaps"); Capital Requirements of Swap Dealers and Major Swap Participants (Dec. 2, 2016) [81 Fed. Reg. 91333 (Dec. 16, 2016)].

counterparty.[269] Internal business conduct requirements include standards for documentation and confirmation of transactions, as well as dispute resolution procedures.[270] Swap dealers are also subject to portfolio reconciliation and portfolio compression requirements to reduce the risks arising from multiple transactions.[271]

Clearing Mandate and Derivatives Clearing Organizations

Title VII required that certain standardized swaps must be centrally cleared, and it directed the CFTC to establish rules implementing this requirement by mandating which swaps must be cleared through CFTC-registered derivatives clearing organizations (DCOs). Central clearing, which has long been a fundamental feature of CFTC-regulated futures markets, serves to reduce the risk that one market participant's default or failure could have an adverse economic impact on its counterparty, other market participants, or the financial system as a whole.[272]

In 2011, the CFTC finalized rules under Title VII establishing the process the CFTC would use to review swaps to determine when swaps are required to be cleared by eligible CFTC-registered DCOs.[273] Under the rules, a clearing determination takes into consideration five statutory factors of the suitability of swaps for mandatory central clearing. In 2013, the CFTC issued its first mandatory clearing determination, covering certain types of interest rate swaps denominated in U.S. dollars, euros, pounds and yen, as well as credit default swaps on certain North American and European credit indexes.[274] In 2016, the CFTC expanded the clearing requirement to cover interest rate swaps denominated in nine additional foreign currencies, including the Canadian dollar, Hong Kong dollar, and Swiss franc.[275] This expanded mandate is being phased in based on the date that corresponding clearing requirements go into effect in non-U.S. jurisdictions, or within two years, whichever occurs earlier.

In 2007, only about 15% of swap transactions were cleared.[276] By contrast, most new interest rate swaps and index credit default swaps are now being cleared through CFTC-registered DCOs. Based on data reported to CFTC-registered SDRs, for the year ending June 2017, approximately

---

269. Business Conduct Standards for Swap Dealers and Major Swap Participants with Counterparties (Jan. 11, 2012) [77 Fed. Reg. 9734 (Feb. 17, 2012)].

270. Confirmation, Portfolio Reconciliation, Portfolio Compression, and Swap Trading Relationship Documentation Requirements for Swap Dealers and Major Swap Participants (Aug. 24, 2012) [77 Fed. Reg. 55904 (Sept. 11, 2012)].

271. Id.

272. Some commenters have raised policy concerns about the fact that central clearing centralizes risk in a small number of large entities. These issues are discussed in the Financial Markets Utilities chapter.

273. Process for Review of Swaps for Mandatory Clearing (July 19, 2011) [76 Fed. Reg. 44464 (July 26, 2011)].

274. U.S. Commodity Futures Trading Commission, Press Release No. 6607-13 (Jun. 10, 2013), available at: *http://www.cftc.gov/PressRoom/PressReleases/pr6607-13*.

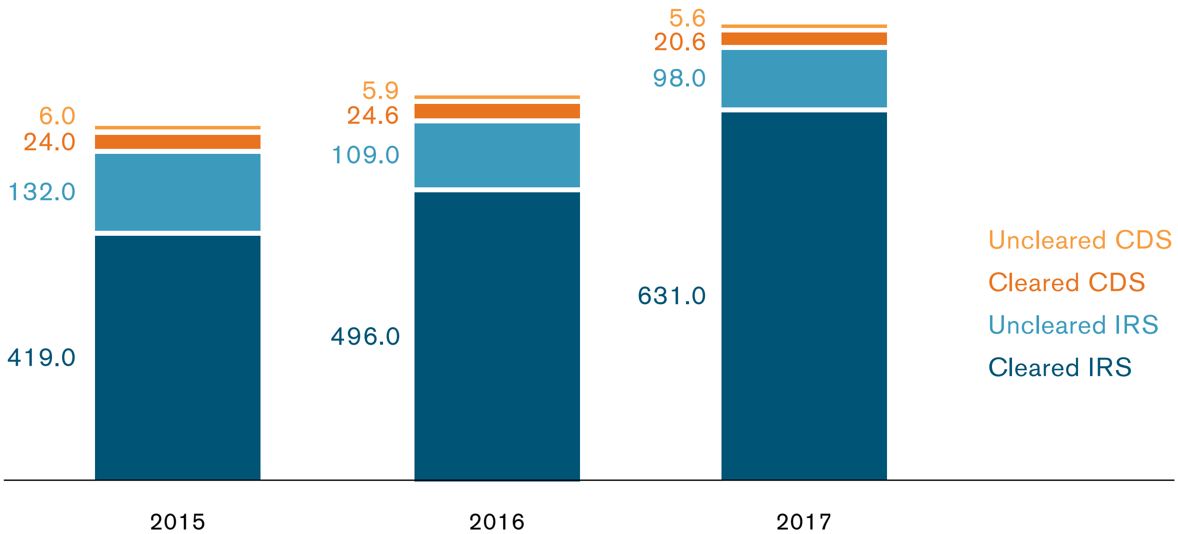
275. U.S. Commodity Futures Trading Commission, Press Release No. 7457-16 (Sept. 28, 2016), available at: *http://www.cftc.gov/PressRoom/PressReleases/pr7457-16*.

276. Chairman Timothy Massad, Remarks before the London School of Economics (Jan. 10, 2017), available at: *http://www.cftc.gov/PressRoom/SpeechesTestimony/opamassad54*.

87% of all new interest rate swap transactions were cleared, while about 79% of index credit default swaps were cleared, as measured by notional value (see Figure 19).

Figure 19: Cleared and Uncleared Interest Rate Swaps and Index Credit Default Swaps ($ billions)

Average daily notional volume, year ending June



Source: SDR data, as compiled by ISDA

Along with mandatory clearing, CFTC oversight of DCOs was updated in response to other Dodd-Frank reforms, including the CFTC's new regulatory oversight of swaps. These updates include adopting regulations to implement preexisting core principles for DCOs,[277] and finalizing rules on DCO financial resources and risk-management.[278] Currently, there are 16 DCOs registered with the CFTC, though not all clear swaps.[279] The majority of swaps clearing under the CFTC's oversight is conducted through Chicago Mercantile Exchange, Inc. (CME, Inc.), ICE Clear Credit LLC (ICE), and LCH Ltd.

DCOs, and central counterparties (CCPs) in general, raise a number of policy issues in connection with their activities. As more swaps become subject to mandatory clearing, for example, the demand for additional collateral to be pledged for cleared transactions is expected to increase significantly. Further, though CCPs mitigate credit risk between counterparties, they essentially

277. Derivatives Clearing Organization General Provisions and Core Principles (Oct. 18, 2011) [76 Fed. Reg. 69334 (Nov. 8, 2011)].

278. Enhanced Risk Management Standards for Systemically Important Derivatives Clearing Organizations (Aug. 9, 2013) [78 Fed. Reg. 49663 (Aug. 15, 2013)].

279. U.S. Commodity Futures Trading Commission, *Derivatives Clearing Organizations*, available at: *https://sirt.cftc.gov/sirt/sirt.aspx?Topic=ClearingOrganizations.*

concentrate credit risk exposure, raising questions about their risk-management, as well as their resiliency and ability to recover in cases of market stress. These issues are discussed in more detail in the "Financial Market Utility" section of this report.

Trading Mandate and Swap Execution Facilities

Another key tenet of Title VII is to promote trading of standardized derivatives products on regulated platforms. Specifically, Congress required that certain swaps must be traded on a SEF or an exchange registered as a DCM. Title VII also provided that SEFs must register with the CFTC and comply with a set of 15 statutory core principles that were to be further defined by the CFTC via a rulemaking.[280] A SEF is defined as "a trading system or platform in which multiple participants have the ability to execute or trade swaps by accepting bids and offers made by multiple participants in the facility or system, through any means of interstate commerce."[281] Defined in this way, SEFs can facilitate greater pre-trade price transparency and liquidity for market participants, while the SEF core principles are designed to promote a more open and competitive marketplace.

In June 2013, the CFTC finalized its rulemaking on core principles for SEFs, which also established permitted trade execution methods for SEFs.[282] Concurrently, the CFTC adopted final rules establishing the process by which SEFs and DCMs can make swaps "available to trade."[283] Under the core principles, each SEF has a general obligation to comply with Section 5h of the CEA, both initially at registration and on an ongoing basis. The core principles cover a number of areas, including establishing and enforcing rules for trading and product requirements, compliance by market participants, market surveillance obligations, operational capabilities, and financial resource requirements. SEFs are also required to provide impartial access to market participants and make trading information publicly available.

Trading on SEFs began in October 2013 and soon after, several SEFs filed "made available to trade" determinations, leading to the first trade execution mandates. Beginning in February 2014, transactions in interest rate swaps and index credit default swaps subject to mandatory clearing were required to take place on a SEF or DCM. Other types of swaps, in addition to those that are required to trade on SEFs, are also trading on the new platforms, including certain foreign exchange swaps. For the year-ended June 2017, the average daily trading volume of interest rate swaps across all SEFs amounted to approximately $470 billion, while index credit default swaps and FX swaps showed average daily trading volumes of $25 billion and $41 billion, respectively (see Figure 20). To date, 25 SEFs are fully registered with the CFTC, though most swap trading is concentrated among a few SEFs.[284] Nearly 75% of trading in index credit default swaps, for

---

280. 7 U.S.C. § 7b-3.

281. 7 U.S.C. § 1a(50).

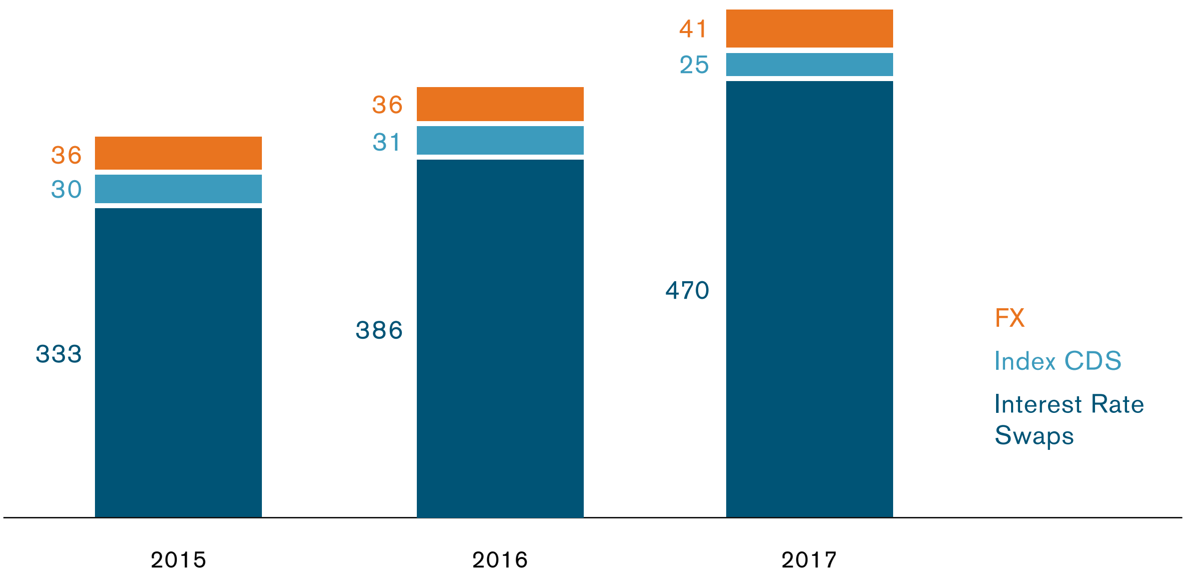
282. Core Principles and Other Requirements for Swap Execution Facilities (May 17, 2013) [78 Fed. Reg. 33476 (Jun. 4, 2013)] (known as "SEF Core Principles Rule").

283. 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 (May 17, 2013) [78 Fed. Reg. 33606 (Jun. 4, 2013)].

284. U.S. Commodity Futures Trading Commission, *Trading Organizations-Swap Execution Facilities (SEF)*, available at: *https://sirt.cftc.gov/SIRT/SIRT.aspx?Topic=SwapExecutionFacilities.*

example, occurs on one SEF, with 5 others accounting for most of the remaining volume. In interest rate swaps, 2 SEFs account for more than 50% of trading volume, while 6 more SEFs make up most of the balance of trading. Trading in FX swaps is somewhat less concentrated, with more than 90% of volume taking place on 5 SEFs.[285]

Figure 20: Swaps Traded on Swap Execution Facilities ($ billions)
Average Daily Volume, Year Ending June



Source: Data reported by SEFs, compiled by FIA

Data Reporting and Swap Data Repositories

The final element of swaps reform was ongoing reporting of swap activity to achieve greater post-trade transparency for regulators and the public. For this purpose, Title VII established SDRs, a new type of market entity under CFTC jurisdiction, and tasked these organizations with the responsibility for collecting, maintaining, and disseminating swap trade data. SDRs are subject to registration and core principle requirements under CFTC rules.[286] The CFTC phased in mandatory reporting of swaps by asset class and type of counterparty between December 2012 and August 2013. There are currently four SDRs provisionally registered with the CFTC. [287]

Title VII included both regulatory and public reporting requirements for swap transactions. All swap trades entered into by U.S. persons must be reported to SDRs, even if they are not cleared or executed on a centralized platform. Pricing data and certain other transaction details are publicly

285. See FIA's SEF Tracker for detail on SEF trading volumes, available at: *https://fia.org/*.

286. Swap Data Repositories: Registration Standards, Duties and Core Principles (Aug. 4, 2011) [76 Fed. Reg. 54538 (Sept. 1, 2011)].

287. U.S. Commodity Futures Trading Commission, Swap Data Repository Organizations, available at: *https://sirt.cftc.gov/sirt/sirt.aspx?Topic=DataRepositories.*

released. To promote price discovery and market efficiency, the CFTC's swap data reporting rules require real-time public dissemination of much of this data.[288] The full scope of swaps trade data collected by SDRs is available to the CFTC. This data is used by the CFTC to conduct oversight and surveillance of the markets and to carry out its statutory responsibilities.

SEC Security-based Swaps Framework

The SEC has proposed all of the major rules it is required to complete under Title VII relating to the regulation of security-based swaps. While several of these rules have been finalized, several critical rulemakings have not yet been finalized. In particular, the SEC has either not finalized or not yet fully implemented the following key Dodd-Frank reforms relating to security-based swaps: registration and regulation of security-based swap dealers, trade reporting, mandatory central clearing of standardized security-based swaps, and trade execution requirements. Key rules relating to security-based swaps that the SEC still needs to finalize include:

- regulation of security-based swap dealers and major security-based swap participants, including capital, margin, and segregation requirements for security-based swaps;
- security-based swaps clearing, including a clearing mandate for specific instruments (e.g., single-name credit default swaps or swaps based on a narrow-based security index) as well as an end-user exemption;
- platform trading of security-based swaps, especially registration and regulation of security-based swap execution facilities; and
- rules prohibiting fraud and manipulation in connection with security-based swaps.

Role of Banking Agencies

Many swap dealers and security-based swap dealers are depository institutions or subsidiaries of banks and have a prudential regulator in addition to being subject to regulation by the CFTC or SEC. Title VII provided a limited role in the regulation of OTC swaps to the U.S. banking regulators.[289] Specifically, Dodd-Frank — through amendments to the CEA and the Exchange Act — gave the banking agencies authority to determine the capital and margin requirements for swap dealers and major swap participants that have a prudential regulator.[290] The margin requirements include both initial and variation margin requirements for swaps and security-based swaps that are not centrally cleared. In addition, the prudential regulators, the CFTC, and the SEC are required to consult at least annually on minimum capital requirements and minimum initial and variation margin requirements to establish and maintain, "to the maximum extent practicable," comparable capital and margin requirements for swap dealers and major swap participants.[291]

---

288. Real-Time Public Reporting of Swap Transaction Data (Dec. 20, 2011) 77 Fed. Reg. 1182 (Jan. 9, 2012). A separate rulemaking provides for reporting delays for certain block trades.

289. As used here, the term "prudential regulator," has the meaning in 7 U.S.C. § 1a(39). The term "U.S. banking agencies" and similar terms are also used to refer to prudential regulators or a subset thereof.

290. 7 U.S.C. §§ 6s(e) and 2(a)(1)(A) (CEA); 15 U.S.C. § 78o-10 (Exchange Act).

291. See 7 U.S.C. § 6s(e)(3)(D) and 15 U.S.C. § 78o-10(e)(3)(D).

Issues and Recommendations

In general, we have found — and our broad outreach throughout the process of preparing this report has confirmed — there to be widespread support for mandated central clearing and platform trading of standardized derivatives, as well as trade reporting. However, there have also been criticisms regarding numerous details of how these market modifications have been implemented. The challenge now facing the CFTC, the SEC and other regulators is to identify problem areas and seek solutions that level the playing field for market participants and ensure healthy, fair, and robust derivatives markets. Though the specific issues in the following discussion are varied, and some are quite technical, they tend to fall into several broad categories including regulatory harmonization, cross-border issues, capital treatment of derivatives, end-user issues, and market infrastructure.

Regulatory Coordination and Harmonization

Harmonization Between CFTC and SEC

The regulatory distinction between "swaps" and "security based swaps" did not reflect previous market practice, and the resulting split jurisdiction between SEC and CFTC has posed challenges for market participants.

In a few areas, such as further defining entities and product terms, the CFTC and SEC issued joint rules. In other areas, Dodd-Frank required the CFTC and SEC to consult and coordinate with one another, and with the prudential regulators, in a number of areas "for purposes of assuring regulatory consistency and comparability, to the extent possible."[292] Despite CFTC and SEC efforts in this regard, important differences in their Title VII rules remain.

Examples touch all areas of Dodd-Frank OTC derivatives reforms, and include differences in trade reporting requirements, trading and clearing rules, compliance requirements for registration for swap dealers and security-based swap dealers, and capital and margin requirements, among others. Sometimes, these differences in approach might not be incompatible, but more frequently they are inconsistent with or duplicative of one another, increasing the cost and complexity of compliance programs. Consequently, many market participants are or will be required to comply with different requirements to address the same regulatory goals, sometimes for the same entity, depending on the products they transact, even within the same asset classes, such as credit derivatives.

One area of concern, for example, is the SEC's security-based swap dealer registration rules, which market participants say contain certain compliance requirements that have no comparable requirement under the CFTC's rules. As another example, key requirements of the two agencies' trade reporting rules diverge in several respects, including the timing by which swap data repositories may publicly disseminate trade data. Even in areas where there was broad agreement between the two agencies, for example in the joint CFTC-SEC product definitions, improvements could be made. For example, market participants have noted the need for a clearer and simpler distinction

292. Dodd-Frank §712(a)(1)-(2).

between "swaps" and "security-based swaps," and have suggested that the term "mixed swap" be eliminated so every swap is subject either to CFTC or SEC jurisdiction, but not both.

CFTC Chairman Christopher Giancarlo and SEC Chairman Jay Clayton both have expressed support for resolving unnecessary divergences, complexity, and duplication in their respective rules and reducing compliance burdens in areas of jurisdictional overlap.[293]

Recommendations

- Treasury recommends that the CFTC and the SEC undertake and give high priority to a joint effort to review their respective rulemakings in each key Title VII reform area. The goals of this exercise should be to harmonize rules and eliminate redundancies to the fullest extent possible and to minimize imposing distortive effects on the markets and duplicative and inconsistent compliance burdens on market participants.
  - As part of this review, the SEC should finalize its Title VII rules with the goal of facilitating a well-harmonized swaps and security-based swaps regime.
  - This effort should also include consideration of the prospects for alternative compliance regimes — for example, a framework of interagency substituted compliance or mutual recognition — for any areas in which effective harmonization is not feasible.
  - Public comment should be part of this process.
- Congress should consider further action to achieve maximum harmonization in the regulation of swaps and security-based swaps.

Margin Requirements for Uncleared Swaps

One of the key reforms of Title VII was to require that standardized OTC derivatives be centrally cleared through a CCP. However, not all swaps can be sufficiently standardized to be suitable for central clearing. Rather than prohibiting such transactions, Title VII determined to treat such uncleared swaps in accordance with risks associated with such transactions. Dodd-Frank Section 731 directed that capital requirements and initial margin[294] and variation margin[295] requirements should be imposed on all swaps not cleared by a DCO or other CCP, and that such requirements

293. CFTC Chairman Giancarlo letter to Treasury Secretary Mnuchin (May 15, 2017); Chairman Jay Clayton, *Remarks at the Economic Club of New York* (Jul. 12, 2017), available at: *https://www.sec.gov/news/speech/remarks-economic-club-new-york*. Though committed to harmonization with the CFTC, Chairman Clayton further made the practical and cautionary observation that "all such efforts will need to take into account statutory variances as well as differences in products and markets."

294. Initial margin refers to funds put up as collateral at the time a derivatives transaction or contract is established (and adjusted during the life of the transaction as needed) to minimize losses if a derivatives counterparty defaults on its obligations under the terms of the transaction. Initial margin reflects the potential future exposure of a swap transaction.

295. Variation margin is the amount paid by one swap counterparty to another to reflect daily changes in the mark-to-market value of the transaction after it has been executed. Variation margin reflects the current exposure of a swap transaction. Variation margin is usually paid in cash or other high-quality and liquid collateral.

should be "appropriate for the risk associated with" the uncleared swaps.[296] Margin requirements on uncleared swaps are intended, in general, to reduce systemic risk by requiring collateral to be available to offset any losses arising from the default of a swap counterparty, limiting contagion and spillover effects. Further, margin requirements, by reflecting the generally higher risk associated with uncleared swaps, are intended to promote central clearing.

The U.S. banking agencies and the CFTC finalized margin rules for the uncleared swaps of bank-affiliated swap dealers in November 2015 and nonbank swap dealers in January 2016, respectively.[297] Market participants argue that U.S. regulators have taken a stricter approach than non-U.S. jurisdictions with respect to many of the particular requirements of the uncleared margin rules, and as a result, U.S. firms are placed at a competitive disadvantage relative to their non-U.S. competitors. Moreover, non-U.S. firms may decide not to transact with U.S. firms, so long as these transactions are subject to the more stringent requirements.

Among these differences in approach are the treatment of interaffiliate transactions, the timing of margin settlement, and the scope of end-user entities subject to the requirements.

Interaffiliate transactions. Many banks and other companies use swaps transactions between affiliates ("interaffiliate swaps") as a means to centralize their company-wide risk management activities.[298] The CFTC has exempted interaffiliate transactions from its initial margin requirements and its mandatory clearing requirements — conditioned, in part, on the "market facing" affiliates collecting initial margin or centrally clearing their swaps with unaffiliated counterparties.[299] By contrast, the U.S. banking regulators imposed initial margin requirements for interaffiliate transactions of prudentially regulated swap dealers. Differences between CFTC and U.S. banking regulators' margin requirements run counter to the goal of regulatory harmonization. While posting of initial margin between affiliates of a bank or bank holding company may help in the case of a resolution, it also creates additional liquidity demands and locks up margin that could be deployed for more productive uses. The International Swaps and Derivatives Association (ISDA) estimates that the 14 largest derivatives dealers have posted $29 billion of initial margin for interaffiliate swaps.[300]

296. 7 U.S.C. § 6s(e)(2)-(3). Analogous requirements for security-based swaps are contained in 15 U.S.C. § 78o-10(e).

297. Prudential Regulators, Margin and Capital Requirements for Covered Swap Entities [80 Fed. Reg. 74840 (Nov. 30, 2015)] ("Prudential Regulators Margin and Capital Requirements"); CFTC Margin Requirements for Uncleared Swaps. The SEC initially proposed its margin rules for uncleared security-based swaps in 2012 before the release of the framework of the Basel Committee on Banking Supervision-International Organization of Securities Commissions (BCBS-IOSCO) and has not yet re-proposed or finalized its rules in this area.

298. In general, counterparties are considered "affiliated" if one counterparty, directly or indirectly, holds a majority ownership interest in the other counterparty, or a third party, directly or indirectly, holds a majority ownership interest in both counterparties. See 17 C.F.R. § 50.52(a)(1).

299. 17 C.F.R. § 23.159 (special initial margin rules for affiliates); 17 C.F.R. § 50.52 (clearing exemption for swaps between affiliates).

300. Some market participants claim that for some banking groups, the margin held internally due to the initial margin requirements on interaffiliate transactions exceeds the initial margin held for all third-party-facing transactions.

Market participants argue that interaffiliate swaps are risk-reducing, internally insulated, and do not present systemic risk. Moreover, market participants observe that the U.S. banking regulators' initial margin requirements diverge from the Basel Committee on Banking Supervision-International Organization of Securities Commissions (BCBS-IOSCO) international framework on which they were based, as well as from analogous rules being implemented in the European Union (EU). This difference puts U.S. bank swap dealers at a disadvantage to both domestic and non-U.S. competitors.

Sizing of margin requirements. Under the rules of the CFTC and banking regulators (and based on the BCBS-IOSCO international framework), the size of required initial margin for uncleared swaps is based on a 10-day market move, in comparison to a 5-day move for cleared swaps.[301] While the higher margin requirement is meant to reflect the greater risk of uncleared swaps and encourage clearing where possible, market participants have pointed out that the 10-day window is arbitrary and not well tailored to the risk of specific products and counterparties. For example, certain swaps such as equity index total return swaps, which are primarily uncleared, could easily be liquidated well within a 10-day window.

Timing of margin settlement. Under the rules of the CFTC and the U.S. banking regulators, any initial margin and variation margin payments that must be posted to a swap counterparty must be settled within one business day (called "T+1" settlement). This timing requirement can place a significant burden on smaller U.S. entities such as pension funds and other asset managers that lack the operational or funding capability of larger swaps counterparties to settle within a single business day. Moreover, the U.S. T+1 settlement requirement is more stringent than in non-U.S. jurisdictions, such as the European Union, which typically allow two days for more margin settlement. This difference in timing potentially puts U.S. firms at a disadvantage to non-U.S. firms, particularly when dealing with counterparties in widely dispersed time zones or when the collateral being posted is denominated in different currencies.

Scope of end users. The initial and variation margin requirements of the uncleared swap margin rules issued by the CFTC and the U.S. banking regulators are generally applicable to swaps in which both counterparties are swap dealers, major swap participants, or financial end users. The rules generally do not apply to a swap in which one of the counterparties is a nonfinancial end user that qualifies for the end-user exception to the clearing mandate in Section 2(h)(7) of the CEA.[302]

The U.S. margin rules define "financial end user" by enumerating the various types of entities the CFTC and the U.S. banking regulators intended to cover.[303] This list is expansive, and market participants argue it goes far beyond analogous requirements in the uncleared margin rules of non-U.S. jurisdictions.

301. See Prudential Regulators Margin and Capital Requirements; CFTC Margin Requirements for Uncleared Swaps.

302. 7 U.S.C. § 2(h)(7). This exemption is further available to certain small financial institutions and captive finance companies, certain cooperative entities that qualify for an exemption from the clearing requirements, and certain treasury affiliates acting as agent and that satisfy the criteria for an exception from clearing in section 2(h)(7)(D) of the CEA.

303. See, e.g., 17 C.F.R. § 23.151.

Recommendations

Treasury recommends that U.S. regulators take steps to harmonize their margin requirements for uncleared swaps domestically and cooperate with non-U.S. jurisdictions that have implemented the BCBS-IOSCO framework to promote a level playing field for U.S. firms.

- The U.S. banking agencies should consider providing an exemption from the initial margin requirements for uncleared swaps for transactions between affiliates of a bank or bank holding company in a manner consistent with the margin requirements of the CFTC and the corresponding non-U.S. requirements, subject to appropriate conditions.[304]
- The CFTC and U.S. banking agencies should work with their international counterparts to amend the uncleared margin framework so it is more appropriately tailored to the relevant risks.
- Where warranted based on logistical and operational considerations, the CFTC and the U.S. banking agencies should consider amendments to their rules to allow for more realistic time frames for collecting and posting margin.
- The CFTC and the U.S. banking agencies should reconsider the one-size-fits-all treatment of financial end users for purposes of margin on uncleared swaps and tailor their requirements to focus on the most significant source of risk.
- Consistent with these objectives, the SEC should re-propose and finalize its proposed margin rule for uncleared security-based swaps in a manner that is aligned with the margin rules of the CFTC and the U.S. banking regulators.

CFTC Use of No-Action Letters

Throughout the process of implementing the swaps reforms of Dodd-Frank, CFTC staff made frequent use of no-action letters and other guidance to smooth the implementation of the new requirements. CFTC staff issues written guidance concerning the CEA and CFTC regulations, principally in the form of responses to requests for exemptive, no-action, and interpretative letters. CFTC Regulation 140.99 defines three types of staff letters — exemptive letters,[305] no-action

304. With regard to interaffiliate transactions generally, Treasury sees value in preserving the flexibility of regulators in this area. While Treasury is not at this time prepared to recommend a statutory amendment to exclude interaffiliate swap transactions from the requirements of Dodd-Frank Title VII, as some have proposed, we support the CFTC's use of its exemptive and rulemaking authorities to provide targeted exemptions for interaffiliate transactions. Treasury calls on the CFTC and SEC to consider further actions to provide appropriate relief to interaffiliate transactions that are consistent with the public interest.

305. Under CFTC Regulation 140.99(a)(1), "exemptive letter" means "a written grant of relief issued by the staff of a Division of the Commission from the applicability of a specific provision of the Act or of a rule, regulation or order issued thereunder by the Commission. An exemptive letter may only be issued by staff of a Division when the Commission itself has exemptive authority and that authority has been delegated by the Commission to the Division in question. An exemptive letter binds the Commission and its staff with respect to the relief provided therein. Only the Beneficiary may rely upon the exemptive letter." 17 C.F.R. § 140.99(a)(1).

letters,[306] and interpretative letters[307] — that differ in terms of scope and effect. Before Dodd-Frank, CFTC staff generally issued a relatively small number of no-action and interpretive letters each year. Since 2012, CFTC staff has typically issued dozens of such letters each year, including 160 staff letters issued in 2014 alone.[308] These figures include the many no-action letters issued during this period that have been extended multiple times.

The CFTC has been criticized for over-relying on relief granted to market participants through no-action letters (which are frequently extended), rather than codifying the relief granted through the rulemaking process. Taking such a step through formal rulemaking would provide an updated estimate of costs and benefits and allow affected market participants to comment on the proposals. A rulemaking codifying previously issued no-action letters would also simplify and clarify the obligations currently stated in a number of interlocking no-action letters and provide permanent, rather than temporary, relief from certain obligations.

Market participants have raised a number of additional concerns about the CFTC's reliance on no-action letters. These include concerns that reliance on no-action letters can facilitate regulatory capture and undermine regulatory quality, and that no-action letters can impose substantive new requirements that should appropriately be introduced through notice and comment rulemaking under the Administrative Procedures Act.[309] No-action letters also fail to provide regulatory certainty to market participants on which to make business decisions.

No-action letters and other forms of written guidance are nevertheless important regulatory tools. In implementing the Dodd-Frank swaps reforms, the CFTC was operating under tight statutory time frames to impose a wholly new regulatory framework essentially from scratch. This course of action inevitably compelled the CFTC to make extensive use of regulatory guidance and no-action relief. Yet had it not had these tools, the resulting market disruptions could have been more consequential. Several years into the implementation phase of the new swaps reforms, it is now incumbent on the CFTC to provide certainty for market participants by reviewing staff

306. Under CFTC Regulation 140.99(a)(2), "no-action letter" means "a written statement issued by the staff of a Division of the Commission or of the Office of the General Counsel that it will not recommend enforcement action to the Commission for failure to comply with a specific provision of the Act or of a Commission rule, regulation or order if a proposed transaction is completed or a proposed activity is conducted by the Beneficiary. A no-action letter represents the position only of the Division that issued it, or the Office of the General Counsel if issued thereby. A no-action letter binds only the issuing Division or the Office of the General Counsel, as applicable, and not the Commission or other Commission staff. Only the Beneficiary may rely upon the no-action letter." 17 C.F.R. § 140.99(a)(2).

307. Under CFTC Regulation 140.99(a)(3), "interpretive letter" means "written advice or guidance issued by the staff of a Division of the Commission or the Office of the General Counsel. An interpretative letter binds only the issuing Division or the Office of the General Counsel, as applicable, and does not bind the Commission or other Commission staff. An interpretative letter may be relied upon by persons in addition to the Beneficiary." 17 C.F.R. § 140.99(a)(3).

308. An archive of CFTC staff letters is available on the CFTC website: *http://www.cftc.gov/LawRegulation/CFTCStaffLetters/index.htm*.

309. See Hester Peirce, *Regulating through the Back Door at the Commodity Futures Trading Commission*, Mercatus working paper (Nov. 2014), at 50, available at: *https://www.mercatus.org/system/files/Peirce-Back-Door-CFTC.pdf*; see also Donna M. Nagy, *Judicial Reliance on Regulatory Interpretations in SEC No-Action Letters: Current Problems and a Proposed Framework*, 83 Cornell Law Review 921, 957 (1998).

guidance and no-action relief issued over the past several years to determine which rule changes might be warranted or which relief might be made permanent.

Recommendations

- Treasury recommends that the CFTC take steps to simplify and formalize all outstanding staff guidance and no-action relief that has been used to smooth the implementation of the Dodd-Frank swaps regulatory framework. This should include, where necessary and appropriate, amendments to any final rules that have proven to be infeasible or unworkable, necessitating broadly applicable or multiyear no-action relief.

Cross-border Issues

Cross-border issues are in many ways about cooperation with foreign authorities that are implementing OTC derivatives reforms in their own jurisdictions. Such international cooperation is critical given the global nature of the OTC derivatives markets. The goal is to achieve efficient and fair treatment of U.S. and foreign firms and to promote a level playing field. While cross-border issues impact many of the key issues discussed elsewhere in this chapter, we address them here as a separate set of issues.

Dodd-Frank established the scope of the CFTC's and the SEC's jurisdiction over cross-border swaps and security-based swaps, respectively. Specifically, Dodd-Frank provided that the swap provisions of the CEA enacted by Title VII "shall not apply to activities outside the United States unless those activities: (1) have a direct and significant connection with activities in, or effect on, commerce of the United States; or (2) contravene such rules or regulations as the [CFTC] may prescribe or promulgate as are necessary or appropriate to prevent the evasion of any provision" of Title VII.[310] Similarly, Dodd-Frank provided that the new security-based swaps provisions of the Securities Exchange Act do not apply "to any person insofar as such person transacts a business in security-based swaps without the jurisdiction of the United States, unless such person transacts such business in contravention of such rules and regulations as the [SEC] may prescribe as necessary or appropriate to prevent the evasion of any provision" of Title VII.[311]

Beginning in 2013, the CFTC issued a series of interpretive guidance, staff advisories, and rulemakings laying out various aspects of its approach to the cross-border implementation of its swaps rules. This included the CFTC's July 2013 Cross-Border Guidance, which addressed the scope of the term "U.S. person"; swap dealer registration requirements, including aggregation of dealing activity; and the treatment of swaps involving certain foreign branches of U.S. banks or non-U.S. counterparties guaranteed by a U.S. person.[312] The Cross-Border Guidance also laid out the permissible scope and procedures for the CFTC's substituted compliance framework, which permits certain non-U.S. swap dealers to comply with a foreign jurisdiction's law and regulations governing swaps transactions in lieu of compliance with the corresponding CFTC requirements. For purposes of substituted compliance determinations, the Cross-Border Guidance divided the

310. Dodd-Frank § 722 [codified at 7 U.S.C. § 2(i)].

311. Dodd-Frank § 772 [codified at 15 U.S.C. § 78dd(c)].

312. Interpretive Guidance and Policy Statement Regarding Compliance with Certain Swap Regulations (July 17, 2013) [78 Fed. Reg. 45292 (Jul. 26, 2013)] (the "Cross-Border Guidance").

CFTC's swaps provisions applicable to swap dealers into two sets, "entity-level requirements," which apply to a swap dealer or firm as a whole, and "transaction-level requirements," which apply on a transaction-by-transaction basis.[313]

Following the Cross-Border Guidance, the CFTC issued a staff advisory in November 2013 concluding that CFTC transaction-level requirements (clearing, trading, margin, etc.) apply to a swap between a non-U.S. swap dealer and a non-U.S. person if personnel in the United States regularly arrange, negotiate, or execute (ANE) swaps.[314] The staff advisory on so-called "ANE transactions" prompted immediate alarm among market participants engaged in cross-border swaps, and less than two weeks later, CFTC staff granted time-limited no-action relief with respect to the staff advisory.[315] Since then, this no-action relief — which was initially available through Jan. 14, 2014 — has been extended several times and was extended again for the sixth time on July 25, 2017.[316]

Another publication that has impacted how market participants must comply with CFTC requirements in the context of cross-border swaps is the CFTC's November 2013 staff guidance on swap execution facilities. Among other things, this guidance addressed registration requirements under CFTC rules for platforms located outside the U.S. "where the trading or executing of swaps on or through the platform creates a 'direct and significant' connection to activities in, or effect on, commerce of the United States."[317] This guidance, combined with other aspects of the CFTC's final SEF rules, prompted non-U.S. trading platforms to exclude U.S. persons to avoid falling under the CFTC's SEF registration and other regulatory requirements, contributing to market fragmentation in certain products.

The SEC issued a comprehensive cross-border proposed rule in May 2013 but subsequently determined to implement the cross-border aspects of its security-based swaps rules concurrently with completing its separate rulemakings. For example, the SEC finalized a rulemaking in August 2014 defining "U.S. person" and stipulating rules for determining which cross-border security-based swap transactions have to be counted toward the security-based swap dealer registration

---

313. Entity-level requirements include capital adequacy, chief compliance officer duties and requirements, risk management policies and procedures, books and records requirement, and reporting to swap data repositories, among other requirements. Transaction-level requirements include, for example, required clearing and swap processing, margining and segregation of collateral for uncleared swaps, mandatory trade execution, and external business conduct requirements.

314. Division of Swap Dealer and Intermediary Oversight, U.S. Commodity Futures Trading Commission, *Staff Advisory No. 13-69 - Applicability of Transaction-Level Requirements to Activity in the United States* (Nov. 14, 2013), available at: *http://www.cftc.gov/idc/groups/public/@lrlettergeneral/documents/letter/13-69.pdf*.

315. Staff of the U.S. Commodity Futures Trading Commission, *Letter No. 13-71, No-Action Relief: Certain Transaction-Level Requirements for Non-U.S. Swap Dealers* (Nov. 26, 2013), available at: *http://www.cftc.gov/idc/groups/public/@lrlettergeneral/documents/letter/13-71.pdf*.

316. Staff of the U.S. Commodity Futures Trading Commission , *Letter No. 17-36, Extension of No-Action Relief: Transaction-Level Requirements for Non-U.S. Swap Dealers* (Jul. 25, 2017), available at: *http://www.cftc.gov/idc/groups/public/@lrlettergeneral/documents/letter/17-36.pdf*.

317. Division of Market Oversight, U.S. Commodity Futures Trading Commission, *Guidance on Application of Certain Commission Regulations to Swap Execution Facilities* (Nov. 15, 2013), available at: *http://www.cftc.gov/idc/groups/public/@newsroom/documents/file/dmosefguidance111513.pdf*.

threshold.[318] More recently, the SEC has adopted final rules on business conduct standards for security-based swap dealers, and final rules pertaining to reporting and dissemination of security-based swap data, each addressing the cross-border application of the rules and the availability of substituted compliance.[319] Compliance with these rules, however, has yet to go into effect pending finalization by the SEC of its rules pertaining to registration and regulation of security-based swap dealers.

Market participants and non-U.S. regulators, among others, have raised concerns that the application of U.S. rules to cross-border swaps activities has led to conflicts and inefficiencies between U.S. and non-U.S. compliance regimes, in turn causing considerably higher operational costs and decreased competitiveness of U.S. entities in relation to foreign entities. More broadly, they argue, the cross-border application of U.S. rules has contributed to market fragmentation, diminished liquidity, and other distortive effects as foreign entities avoid trading with U.S. counterparties for fear of being captured by the U.S. regulatory regime. The CFTC, in particular, has been subject to criticism that it has misinterpreted the scope of its cross-border mandate under CEA Section 2(i)[320] and has inappropriately dismissed the mandate not to apply CEA swaps reforms to non-U.S. transactions, "unless those activities…have a direct and significant connection with activities in, or effect on, commerce of the United States." Consequently, these critics allege, the CFTC has significantly over-reached in applying its rules to certain non-U.S. and cross-border transactions.

Likewise, market participants have raised concerns with aspects of the SEC's cross-border rules, and have highlighted those that conflict with privacy, blocking and secrecy laws in non-U.S. jurisdictions. The SEC's security-based swap dealer registration rules, for example, require entities to provide certification and opinion of counsel regarding SEC access to their books and records as a condition of registration. Many non-U.S. security-based swap dealers may not be able to comply with this requirement without violating local laws.

Recommendations

Treasury recommends that CFTC and the SEC should: (1) make their swaps and security-based swaps rules compatible with non-U.S. jurisdictions, (2) adopt outcomes-based substituted compliance regimes, and (3) reconsider their approaches to transactions that are arranged, negotiated, or executed by personnel in the United States. These recommendations are described in more detail below.

- Cross-border Application and Scope: Treasury recommends that the CFTC and the SEC provide clarity around the cross-border scope of their regulations and make their rules compatible with non-U.S. jurisdictions where possible to avoid market fragmentation,

318. Application of "Security-Based Swap Dealer" and "Major Security-Based Swap Participant" Definitions to Cross-Border Security-Based Swap Activities (June 25, 2014) [79 Fed. Reg. 47278 (Aug. 12, 2014)].

319. Business Conduct Standards for Security-Based Swap Dealers and Major Security-Based Swap Participants (Apr. 14, 2016) [81 Fed. Reg. 29960 (May 13, 2016)]; and Regulation SBSR–Reporting and Dissemination of Security-Based Swap Information (July 14, 2016) [81 Fed. Reg. 53546 (Aug. 12, 2016)].

320. 7 U.S.C. § 2(i).

redundancies, undue complexity, and conflicts of law. Examples of areas that merit reconsideration include:

- whether swap counterparties, trading platforms, and CCPs in jurisdictions compliant with international standards should be required to register with the CFTC or the SEC as a result of doing business with a U.S. firm's foreign branch or affiliate;
- whether swap dealer registration should apply to a U.S. firm's non-U.S. affiliate on the basis of trading with non-U.S. counterparties if the U.S. firm's non-U.S. affiliate is effectively regulated as part of an appropriately robust regulatory regime or otherwise subject to Basel-compliant capital standards, regardless of whether the affiliate is guaranteed by its U.S. parent;
- whether U.S. firms' foreign branches and affiliates, guaranteed or not, should be subject to Title VII's mandatory clearing, mandatory trading, margin, or reporting rules when they trade with non-U.S. firms in jurisdictions compliant with international standards; and
- providing alternative ways for regulated entities to comply with requirements that may conflict with local privacy, blocking, and secrecy laws.

• Substituted Compliance: Treasury recommends that effective cross-border cooperation include meaningful substituted compliance programs to minimize redundancies and conflicts.
  - The CFTC and SEC should be judicious when applying their swaps rules to activities outside the United States and should permit entities, to the maximum extent practicable, to comply with comparable non-U.S. derivatives regulations, in lieu of complying with U.S. regulations.
  - The CFTC and the SEC should adopt substituted compliance regimes that consider the rules of other jurisdictions, in an outcomes-based approach, in their entirety, rather than relying on rule-by-rule analysis. They should work toward achieving timely recognition of their regimes by non-U.S. regulatory authorities.
  - The CFTC should undertake truly outcomes-based comparability determinations, using either a category-by-category comparison or a comparison of the CFTC regime to the foreign regime as a whole.
  - Meaningful substituted compliance could also include consideration of recognition regimes for non-U.S. CCPs clearing derivatives for certain U.S. persons and for non-U.S. platforms for swaps trading.

• ANE Transactions: Treasury recommends that the CFTC and the SEC reconsider any U.S. personnel test for applying the transaction-level requirements of their swaps rules.
  - The CFTC should provide certainty to market participants regarding the guidance in the CFTC ANE staff advisory (CFTC Letter No. 13-69), which has been subject to extended no-action relief, either by retracting the advisory or proceeding with a rulemaking.

- In particular, the CFTC and the SEC should reconsider the implications of applying their Title VII rules to transactions between non-U.S. firms or between a non-U.S. firm and a foreign branch or affiliate of a U.S. firm merely on the basis that U.S.-located personnel arrange, negotiate, or execute the swap, especially for entities in comparably regulated jurisdictions.

Capital Treatment in Support of Central Clearing

As discussed in Banking Report, "the supplementary leverage ratio (SLR) imposes significant capital requirements requirements on initial margin for centrally cleared derivatives. Banks that hold segregated customer client margin through their affiliates that are futures commission merchants (FCMs) incur higher capital charges via the SLR as a result of the FCMs' clearing services. These higher capital costs, in turn, discourage FCMs from clearing derivatives transactions for clients. In recognition of these disincentive effects, the Banking Report recommended deducting initial margin for centrally cleared derivatives from the leverage ratio denominator.

Beyond initial margin, however, the SLR has other distorting effects related to derivatives exposures, notably through its use of the current exposure method (CEM) to measure derivatives exposures. CEM is insensitive to risk and results in higher leverage ratio capital requirements for certain derivatives products (including exchange-traded derivatives) relative to risk-based measures. The CEM model, for example, requires options contracts to be sized on their notional face value rather than allowing for a risk adjustment to notional to reflect the actual exposure associated with these derivatives. Specifically, CEM does not permit a delta adjustment for the notional value measurement of options.

Moreover, the CEM methodology measures exposures on a gross basis and is, therefore, overly restrictive in permitting netting and the offsetting of long and short positions. Typically, for example, market makers and others who maintain hedged positions will execute and clear offsetting trades. When done through the same CCP, the risk of such hedged positions is reduced, or even eliminated. CEM, however, applies separately — on a gross basis — to each of the offsetting positions, compounding the capital that hedged traders' FCMs must set aside, even though the hedged position has reduced exposure overall. By contrast, a trader with an unhedged, directional position — by definition more risky than a hedged position — will, from a CEM perspective, have less exposure than a hedger with two offsetting trades.

In light of these issues, in 2014, the Basel Committee on Banking Supervision (BCBS) developed the Standardized Approach for Counterparty Credit Risk (SA-CCR) as a replacement for CEM for certain capital calculations.[321] SA-CCR was supposed to become effective in 2017, but adoption in the United States has been delayed. Even though SA-CCR improves on many of the shortcomings of CEM, market participants note that it requires certain modifications before implementation to fully support central clearing. Market participants have commented, for example, that SA-CCR should be modified to ensure appropriate calibration and full recognition of initial margin,

321. Basel Committee on Banking Supervision, *The Standardised Approach for Measuring Counterparty Credit Risk Exposures* (Mar. 2014 and rev. Apr. 2014), available at: *http://www.bis.org/publ/bcbs279.pdf*.

recognition of the risk-reducing offsets between diversified but correlated products, and appropriate calibration of add-on calculations, including supervisory factors.[322]

Many market participants and observers have noted the decline in the number of CFTC-registered FCMs in recent years. In a speech given this past May, CFTC Chairman Christopher Giancarlo stated: "The FCM marketplace has declined from 100 CFTC-registered entities in 2002 to 55 at the beginning of 2017. Of these 55, just 19 were holding customer funds for swaps clearing. Many large banks have exited the business, including State Street, Bank of New York-Mellon, Nomura, Royal Bank of Scotland and Deutsche Bank."[323] The decline in the number of FCMs is due to multiple factors, including increased regulatory burden as well as factors such as consolidations and pricing pressures.[324] Moreover, FCM client clearing activity is concentrated in a few large firms. Market participants claim that of the currently registered FCMs, only about eight to 12 firms are capable of clearing the types of swaps subject to mandatory clearing under Dodd-Frank. In the market for listed options, there are even fewer choices, with only three large FCMs clearing for market makers and other customers.[325]

The ability to quickly and easily transfer customer positions has long been an indispensable feature of the central clearing model, and has allowed for the continued smooth functioning of the cleared derivatives markets even when one or more clearing firms fail, such as happened during the financial crisis. The decline in the number of FCMs, however, means that clearing customers have fewer options for their business and makes it more difficult for customers of a defaulting clearing firm to move their positions and collateral to another firm. In addition, market participants have widely reported that the current SLR framework and the CEM model have harmed market liquidity and adversely impacted the ability and willingness of FCMs to clear for end users, limiting their access to markets and ability to hedge risks. FCMs have reportedly dropped out of the clearing business due to it being a low-margin business, driven in part by the capital costs. Meanwhile, remaining FCMs are hesitant to take on new business due to the capital costs, and in some cases they are addressing the costs of current clients' activity by placing limits on their risk exposures. Some FCMs reportedly assess each of their clearing clients on a regular basis to determine whether or not to keep their business.

Another issue raised by U.S. clearing members and market participants was whether U.S. banking regulators would permit variation margin to be treated as the settlement of the exposure of certain centrally cleared derivatives when calculating the potential future exposure amounts used to determine regulatory capital requirements. In response to this issue, the U.S. banking regulators

---

322. Vijay Albuquerque et al, *Repeal CEM; Reform SA-CCR*, Risk.net, (Jul. 24, 2017), available at: *http://www.risk.net/regulation/5307456/repeal-cem-reform-sa-ccr*.

323. Acting Chairman J. Christopher Giancarlo, R*emarks before the International Swaps and Derivatives Association 32nd Annual Meeting* (May 10, 2017), available at: *http://www.cftc.gov/PressRoom/SpeechesTestimony/opagiancarlo-22*.

324. See, e.g., Hester Peirce, *Dwindling Numbers in the Financial Industry*, Brookings (May 15, 2017), available at: *https://www.brookings.edu/research/dwindling-numbers-in-the-financial-industry/*.

325. Some observers have noted that the FCM business is not highly concentrated by certain metrics–such as the Herfindahl-Hirschman Index–or as compared with other industries. See, e.g., Tod Skarecky, *The Truth about FCM Concentration*, Clarus Financial Technology blog (Apr. 4, 2017), available at: *https://www.clarusft.com/the-truth-about-fcm-concentration/*.

issued guidance in August 2017 about the treatment of cleared "settled-to-market contracts" under the agencies' regulatory capital rules.[326] Specifically, the guidance clarified that the existing capital rules, under certain conditions, recognize that daily variation margin for certain centrally cleared derivatives constitutes a settlement of exposure, potentially providing significant capital relief for banks.[327]

Overall, one of the CEM's methodological shortcomings is that it requires FCMs and other CCP clearing members to maintain significantly more capital relative to the actual risks arising from their customers' derivatives activities. The CEM may be responsible for a corresponding reduction in banks' ability and willingness to facilitate access for their market maker clients who are the primary liquidity providers in these markets. End users face increased risk of being unable to transfer their positions and margin to another FCM if their FCM defaults or exits the business. In a period of market stress, this risk would be exacerbated and could become systemic.

Recommendations

Treasury recommends that regulators properly balance the post-crisis goal of moving more derivatives into central clearing with appropriately tailored and targeted capital requirements.

- As a near-term measure, Treasury:
  - reiterates the recommendation of the Banking Report and calls for the deduction of initial margin for centrally cleared derivatives from the SLR denominator;[328] and
  - recommends a risk-adjusted approach for valuing options for purposes of the capital rules to better reflect the exposure, such as potentially weighting options by their delta.
- Beyond the near term, Treasury recommends that regulatory capital requirements transition from CEM to an adjusted SA-CCR calculation that provides an offset for initial margin and recognition of appropriate netting sets and hedged positions.
- In addition, Treasury recommends that U.S. banking regulators and market regulators conduct regular comprehensive assessments of how the capital and liquidity rules impact the incentives to centrally clear derivatives and whether such rules are properly calibrated.

---

326. Board of Governors of the Federal Reserve, Office of the Comptroller of the Currency, and Federal Deposit Insurance Corporation, Guidance: Regulatory Capital Treatment of Certain Centrally-cleared Derivative Contracts under the Board's Capital Rule (Aug. 14, 2017), available at: *https://www.federalreserve.gov/supervisionreg/srletters/sr1707.pdf*.

327. Banks would have to ensure, for example, that settlement of any outstanding exposure would generally involve "a clear and unequivocal transfer of ownership of the variation margin from the transferor to the transferee, the transferee taking possession of the variation margin, and termination of any claim of the transferor on the variation margin transferred, including any security interest in the variation margin." Id. at 3.

328. The Banking Report, at 54.

End-user Issues

Swap Dealer De Minimis Threshold

Under CFTC rules, a person must register as a swap dealer if its swap dealing activity exceeds an aggregate gross notional amount threshold of $3 billion over the previous 12-month period (the "de minimis" threshold).[329] When the rule was finalized, the de minimis threshold was set at a phase-in level of $8 billion through December 2017, but in October 2016 the CFTC extended the $8 billion phase-in level through Dec. 31, 2018. Unless the CFTC takes action before Dec. 31, 2018, to set a different termination date or to modify the de minimis exception, the swap dealer registration de minimis threshold will drop to $3 billion.

A 2016 CFTC staff report on this issue found that lowering the swap dealer registration threshold to $3 billion would provide "insignificant additional regulatory coverage" for dealing activity in interest rate swaps and index credit default swaps as compared to the $8 billion level. Specifically, lowering the threshold to $3 billion would require an estimated 58% increase in registered swap dealers while capturing less than 1% of additional notional activity.[330] Moreover, the staff analysis found that at the current $8 billion threshold, 98% of interest rate swaps, 99% of credit default swaps, and 89% of nonfinancial commodity swaps reported to swap data repositories during the period reviewed for the report involved at least one CFTC-registered swap dealer.[331]

Market participants argue that the de minimis threshold is appropriately set at $8 billion and should not be lowered.[332] Moreover, they report that uncertainty about what future actions, if any, the CFTC will take regarding the de minimis level is causing many market participants to limit their U.S. trading activity to avoid the swap dealer designation and related regulatory requirements. Not only does this potentially result in fewer counterparties, increased costs, and reduced liquidity in the swaps markets, it has adverse effects on certain commercial market participants' willingness to enter into risk-hedging transactions.

Recommendations

- Treasury recommends that the CFTC maintain the swap dealer de minimis registration threshold at $8 billion and establish that any future changes to the threshold will be subject to a formal rulemaking and public comment process.

329. 17 C.F.R. § 1.3(ggg).

330. Staff of the U.S. Commodity Futures Trading Commission, *Swap Dealer De Minimis Exception Final Staff Report* (Aug. 15, 2016), at 21, available at: *http://www.cftc.gov/idc/groups/public/@swaps/documents/file/dfreport_sddeminis081516.pdf*. Table 1 in the CFTC staff report shows that "potential swap dealing entities" would increase by approximately 84 entities, from 145 at the $8 billion threshold level to 229 if the threshold were lowered to $3 billion, a change of 58%.

331. Id. at 22.

332. Of the 24 comment letters the CFTC received on a preliminary version of its staff report, 20 supported either maintaining the $8 billion threshold or raising it.

Definition of Financial Entity

Title VII's swaps clearing mandate provides an exception for nonfinancial entities using swaps to hedge or mitigate commercial risk.[333] Nonfinancial end users eligible for the clearing exception are also exempted from the margin requirements for uncleared swaps.[334]

The types of nonfinancial entities Congress had in mind when providing this exception were farmers, ranchers, energy producers, manufacturers and other end users of derivatives, whose activities did not contribute to the crisis and who rely on the swaps markets to help manage the risks arising from their businesses. Using swaps and other risk management tools helps these end users supply food, energy, and other consumer necessities for American consumers at stable prices. Congress excluded nonfinancial end users from the Dodd-Frank swaps clearing requirement in acknowledgement that failure to do so would increase their costs and lead to higher and more volatile prices in the economy. Relief from the clearing exception is also provided for certain affiliates of nonfinancial end users, subject to specific criteria.[335]

The CEA does not define the term "nonfinancial entity." Instead, CEA Section 2(h)(7)(C) defines the term "financial entity" to describe the universe of entities that cannot take advantage of the clearing exception. Swap dealers, major swap participants, commodity pools, private funds, and employee benefit plans are among the types of financial entities that are specifically ineligible for the exception to the clearing mandate. However, the definition of financial entity also includes a broader, catch-all prong. Persons "predominantly engaged in activities that are in the business of banking, or in activities that are financial in nature, as defined in section 1843(k) of title 12" are also defined as financial entities and cannot take advantage of the clearing exception.[336] CEA Section 2(h)(7)(C) also permits the CFTC to exclude certain entities from the definition of financial entity, potentially making them eligible for the clearing exemption. Specifically, the CFTC is given authority to exempt small financial institutions from the definition of financial entity — that is, "small banks, savings associations, farm credit system institutions, and credit unions" with $10 billion or less in total assets.[337] Finally, the definition of financial entity does not include certain

---

333. Dodd-Frank § 723 [codified at 7 U.S.C. § 2(h)(7)]. An analogous exception for clearing security-based swaps is provided in the Exchange Act. This discussion, therefore, is applicable both to swaps and security-based swaps. However, because the SEC has not yet implemented a clearing mandate for security-based swaps, the Report focuses on swaps.

334. 7 U.S.C. § 6s(e)(4). Section 731 of Dodd-Frank added section 4s(e) to the CEA to require capital requirements and margin requirements for uncleared swaps for swaps dealers and major swap participants. Subclause (4) of section 4s(e), providing an explicit exemption for the margin requirements for certain end users, was added by the Terrorism Risk Insurance Program Reauthorization Act of 2015 (Public Law No. 114-1).

335. 7 U.S.C. § 2(h)(7)(D).

336. 7 U.S.C. § 2(h)(7)(C)(i)(VIII).

337. 7 U.S.C. § 2(h)(7)(C)(ii).

entities whose primary business is providing financing and who use derivatives to hedge certain commercial risks within their corporate structure. [338]

Since passage of Dodd-Frank, there have been numerous proposals to modify the definition of financial entity and clarify the scope of the exception for nonfinancial end users' affiliates. Market participants from various industries, including insurance, equipment financing, foreign exchange, and payments processing, among others, argue that the definition of financial entity is too broad and unfairly captures the hedging activities of certain end users, preventing these entities from qualifying for the clearing exception. Moreover, it is not always clear which entities are "predominantly engaged" in activities that are financial in nature and therefore captured under the financial entity definition. For example, certain commercial enterprises use special purpose vehicles and similar subsidiary structures to engage in derivatives transactions. Market participants argue that enterprises using such structures, which are ostensibly financial in nature, should nonetheless be deemed nonfinancial end users and therefore eligible for the clearing exception. Market participants also cite a competitiveness issue, pointing out that certain non-U.S. jurisdictions, such as the European Union, have de minimis tests to ensure that certain entities are afforded exemptions based on their derivatives activities and not simply because they are financial in nature.

Some of these proposals for further clarification of the scope of the clearing exception have met with both legislative and regulatory success. The Consolidated Appropriations Act of 2016, for example, amended CEA Section 2(h)(7)(D) to expand and clarify the scope of entities that may qualify as affiliates of nonfinancial end users and be eligible for the clearing exception.[339] The CFTC also has taken steps to accommodate certain end users. In its final rule on the end-user exception to the clearing requirement, for example, the CFTC exempted small financial institutions from the definition of financial entity, permitting those entities to avail themselves of the clearing exception.[340] The CFTC has issued staff no-action relief from the clearing requirement for swaps entered into by eligible treasury affiliates.[341] These affiliates, also known as "central treasury units" (CTUs), are centralized corporate affiliates of commercial end users that aggregate and manage the company-wide need for treasury services and risk-management.

Despite these developments, many market participants continue to raise concerns about the scope of the financial entity definition and seek further rulemaking or statutory solutions. Some market participants report, for example, that they have corporate policies that preclude them from relying on the CFTC's no-action relief for CTUs, because these are staff letters and not formal Commission-sponsored rulemakings.

---

338. 7 U.S.C. § 2(h)(7)(C)(iii). Specifically, this provision states that the definition of financial entity "shall not include an entity whose primary business is providing financing, and uses derivatives for the purpose of hedging underlying commercial risks related to interest rate and foreign currency exposures, 90 percent or more of which arise from financing that facilitates the purchase or lease of products, 90 percent or more of which are manufactured by the parent company or another subsidiary of the parent company."

339. Public Law No. 114–113, Title VII (Financial Services) § 705 (Dec. 18, 2015).

340. End-User Exception to the Clearing Requirement for Swaps (July 10, 2012) [77 Fed. Reg. 42560, 42587-42588 (Jul. 19, 2012)].

341. Division of Clearing and Risk, U.S. Commodity Futures Trading Commission, *Letter No. 14-144, No-Action Relief from the Clearing Requirement for Swaps Entered into by Eligible Treasury Affiliates* (Nov. 26, 2014), available at: *http://www.cftc.gov/idc/groups/public/@lrlettergeneral/documents/letter/14-144.pdf*.

Recommendations

- To provide regulatory certainty and better facilitate appropriate exceptions from the swaps clearing requirement for commercial end users engaged in bona fide hedging or mitigation of commercial risks, Treasury would support a legislative amendment to CEA Section 2(h)(7) providing the CFTC with rulemaking authority to modify and clarify the scope of the financial entity definition and the treatment of affiliates.
  - Such authority should include consideration of non-prudentially regulated entities that currently fall under subclause VIII of CEA Section 2(h)(7)(c)(i)—i.e., entities that are "predominantly engaged… in activities that are financial in nature"—but which might warrant exception from the clearing requirement if they engage in swaps primarily to hedge or mitigate the business risks of a commercial affiliate.
  - Such authority should also be flexible enough to permit, for example, the CFTC to formalize its no-action relief for CTUs in a rulemaking.
  - Further, any exceptions provided by the CFTC under such authority should be subject to appropriate conditions and allow the CFTC to appropriately monitor exempted activity. The conditions could include, for example, making the exception dependent on the size and nature of swaps activities, demonstration of risk-management requirements in lieu of clearing, and reporting requirements.
- Any legislative amendment should provide the SEC analogous rulemaking authority under Exchange Act Section 3C(g) with respect to exceptions from the clearing requirement for security-based swaps.

Position Limits

Position limits refer to the maximum position that a trader or group of traders working together is permitted to hold in a given contract. Such limits have long been used in the futures markets to prevent speculators from amassing positions that can potentially have undue influence on market prices or deliverable supply to the detriment of commercial end users seeking to hedge risks arising from their business activities. In the futures markets, position limits are set by the DCMs (i.e., the exchanges) or by the CFTC itself. An exemption from speculative position limits is generally available for bona fide hedgers and certain other market participants who meet the eligibility requirements of the DCM and CFTC rules.

The CEA gives the CFTC statutory authority to set speculative position limits. Dodd-Frank expanded this authority by requiring the CFTC to establish, as necessary and appropriate, aggregate position limits on all physical commodity derivative positions across U.S. futures exchanges, foreign boards of trade providing "direct access" to U.S. entities, and swaps that are "either economically equivalent" to a commodity futures contract or that serve a "significant price discovery function."[342] However, the CEA's intent is not to unduly restrict legitimate speculation, which

342. Dodd-Frank § 737 [amending 7 U.S.C. § 6a].

serves valuable functions such as "assuming price risks, discovering prices, or disseminating pricing information through trading in liquid, fair and financially secure trading facilities."[343]

The CFTC finalized a position limits rule pursuant to Dodd-Frank in November 2011,[344] but it was vacated in September 2012 by the U.S. District Court for the District of Columbia[345] after a legal challenge brought by the International Swaps and Derivatives Association and other plaintiffs, who argued the CFTC misinterpreted its statutory authority and failed to properly consider the rule's costs and benefits. Since that time, the CFTC has undergone several rounds of proposals and comments on a new position limits rule but has yet to take final action. The lack of a clear definition of "excessive speculation" has impeded progress on what specific limits should be established.

Appropriately tailored position limits protect market participants from real threats of manipulation, cornering, and other disruptive practices but avoid hindering legitimate speculative activity. Moreover, any rule must not unnecessarily constrain end users in their ability to hedge. If end users are unable to hedge in an efficient and effective way, they may be discouraged from hedging at all.

Recommendations

- Treasury recommends that the CFTC complete its position limits rules as contemplated by its statutory mandate, with a focus on detecting and deterring market manipulation and other fraudulent behavior. Among the issues to consider in completing a final position limits rule, the CFTC should:
  - ensure the appropriate availability of bona fide hedging exemptions for end users and explore whether to provide a risk management exemption;
  - consider calibrating limits based on the risk of manipulation, for example, by imposing limits only for spot months of physical delivery contracts where the risk of potential market manipulation is greatest; and
  - consider the deliverable supply holistically when setting the limits (e.g., for gold, consider the global physical market, not just U.S. futures).

Market Infrastructure

SEF Execution Methods and MAT Process

Under the CEA, as amended by Dodd-Frank, certain swaps are subject to a "trade execution requirement," and must be executed on a SEF or a DCM. Swaps subject to the trade execution requirement are those that (1) the CFTC has determined are subject to mandatory clearing, and

343. 7 U.S.C. § 5(a).

344. Position Limits for Futures and Swaps (Oct. 18, 2011) [76 Fed. Reg. 71626 (Nov. 18, 2011)]. The associated proposed rule issued by the CFTC in January 2011 drew more than 15,000 comments from the public. According to the CFTC, only about 100 comments overall provided "detailed comments and recommendations" regarding the proposals. Approximately 55 comments requested that the CFTC either significantly alter or withdraw the proposal. The majority of the more than 15,000 comments consisted of submissions by individuals in one or more form letter formats and generally supported the proposed position limits.

345. The rule's amendments to CFTC Regulation §150.2 were excepted from the court's action.

(2) have been "made available to trade" by a SEF (or a DCM).[346] The CEA defines a SEF as "a trading system or platform in which multiple participants have the ability to execute or trade swaps by accepting bids and offers made by multiple participants in the facility or system, through any means of interstate commerce" (emphasis added).[347] The determination by which certain swaps have been "made available to trade" by a SEF is known as a "MAT determination."

Under CFTC rules, swaps subject to the trade execution requirement are known as "required transactions." Required transactions must be traded on a SEF through an order book or through a request-for-quote system that operates in conjunction with an order book.[348] A request-for-quote (RFQ) system means a trading system or platform in which a market participant transmits a request for a quote to buy or sell a specific instrument to one or more market participants in the trading system or platform, to which all such market participants may respond. The CFTC's SEF rules impose an "RFQ-3" requirement, meaning that requests for quotes must be transmitted to at least three other market participants in the SEF.[349] In contrast to required transactions, "permitted transactions" are swap transactions that may be executed on SEFs but are not subject to the trade execution requirement.[350]

Market participants have raised the concern that limiting trading to order book and RFQ-3 methods is overly restrictive, undermines Congressional intent, discourages trading swaps on SEFs, and harms pre-trade price transparency. CFTC Chairman Giancarlo echoed these concerns in a January 2015 white paper, shortly after he joined the CFTC as a commissioner. The white paper cautioned that the "avoidance by non-U.S. person market participants of the CFTC's ill-designed U.S. swaps trading rules is fragmenting global swaps markets between U.S. persons and non-U.S. persons and driving away global capital. Global swaps markets have divided into separate liquidity pools: those in which U.S. persons are able to participate and those in which U.S. persons are shunned."[351]

CFTC rules permit a SEF to make a MAT determination on consideration of six specified factors, which triggers the trade execution requirement for a class of swaps.[352] Many market participants

---

346. U.S. Commodity Futures Trading Commission, *Fact Sheet: Final Rulemaking Regarding Core Principles and Other Requirements for Swap Execution Facilities* ("SEF Core Principles Fact Sheet"), available at: *http://www.cftc.gov/idc/groups/public/@newsroom/documents/file/sef_factsheet_final.pdf.*

347. 7 U.S.C. § 1a(50).

348. "Order book" is defined to mean an electronic trading facility or trading facility (as such terms are defined in Section 1a of the CEA), or a trading system or platform in which all market participants in the trading system or platform have the ability to enter multiple bids and offers, observe or receive bids and offers entered by other market participants, and transact on such bids and offers. 17 C.F.R. § 37.3(a)(3).

349. 17 C.F.R. § 37.9(a)(3).

350. SEF Core Principles Fact Sheet.

351. Commissioner J. Christopher Giancarlo, *Pro-Reform Reconsideration of the CFTC Swaps Trading Rules: Return to Dodd-Frank* (Jan. 29, 2015), at 49, available at: *http://www.cftc.gov/idc/groups/public/@newsroom/documents/file/sefwhitepaper012915.pdf* ("Giancarlo White Paper").

352. For a discussion of the MAT determination process, see U.S. Commodity Futures Trading Commission, *Fact Sheet: Process for a Designated Contract Market or Swap Execution Facility to Make a Swap Available to Trade under Section 2(h)(8) of the Commodity Exchange Act*, available at: *http://www.cftc.gov/idc/groups/public/@newsroom/documents/file/mat_factsheet_final.pdf.*

have commented that the six factors that SEFs must consider before making a MAT determination are not robust enough to demonstrate sufficient liquidity for mandatory trading. CFTC Chairman Giancarlo has stated that, "Since the MAT process is platform-controlled, a nascent SEF attempting to gain a first-mover advantage in trading liquidity may force certain swaps to trade exclusively through the SEF's restrictive methods of execution (i.e., order book or RFQ-3 system), potentially before sufficient liquidity is available to support such trading."[353] Commenters have recommended giving the CFTC greater control over the MAT determination process by empowering the CFTC, rather than SEFs, to trigger the trade execution requirement.

Finally, when the CFTC finalized its SEF rules in June 2013, it was clear that SEFs temporarily registered with the CFTC would have to come into full compliance with all applicable SEF rules beginning on Oct. 2, 2013, to the extent that they traded swaps subject to the trade execution requirement. However, the preamble of the final SEF rules included a footnote — namely, footnote 88 — that essentially required all multiple-to-multiple trading platforms to register as SEFs, even if they only offered for trading swaps not subject to the trading mandate, i.e., "permitted transactions."[354] This interpretation caused most non-U.S. trading platforms to exclude U.S. participants for fear of falling under the CFTC's SEF registration and other regulatory requirements, resulting in fragmented markets and separate liquidity pools and prices for similar transactions.[355]

Recommendations

Treasury recommends that the CFTC:

- consider rule changes to permit SEFs to use any means of interstate commerce to execute swaps subject to a trade execution requirement that are consistent with the "multiple-to-multiple" element of the SEF definition (CEA Section 1a(50)).[356] Such rule changes should be undertaken in recognition of the statutory goals of impartial access for market participants and promoting pre-trade price transparency in the swaps market;[357]
- reevaluate the MAT determination process to ensure sufficient liquidity for swaps to support a mandatory trading requirement; and
- consider clarifying or eliminating footnote 88 in its final SEF rules to address the associated market fragmentation.

---

353. Giancarlo White Paper, at 30.

354. Specifically, footnote 88 of the SEF Core Principles Rule states "The Commission notes that it is not tying the registration requirement in CEA section 5h(a)(1) to the trade execution requirement in CEA section 2(h)(8), such that only facilities trading swaps subject to the trade execution requirement would be required to register as SEFs. A facility would be required to register as a SEF if it operates in a manner that meets the SEF definition even though it only executes or trades swaps not subject to the trade execution mandate."

355. ISDA, *Footnote 88 and Market Fragmentation: An ISDA Survey* (Dec. 2013), available at: *http://www2.isda.org/attachment/NjE3Nw==/Footnote%2088%20Research%20Note%2020131218.pdf.*

356. 7 U.S.C. § 1a(50).

357. 7 U.S.C. § 7b-3(f)(2)(B); 7 U.S.C. § 7b-3(e).

Swap Data Reporting

One of the key goals of Dodd-Frank was to promote post-trade transparency for both market participants and regulators through the establishment of SDRs and trade reporting requirements. The full potential of swaps market transparency has been impeded, however, by the technical complexity of the CFTC's rules, which imposes unnecessary burdens on market participants, as well as by the failure of the CFTC to standardize reporting fields across SDRs and harmonize reporting requirements with other regulators, among other issues. Market participants have raised concerns, for example, about the numerous types of reporting required for each transaction, including real-time, primary economic terms, confirmation, snapshot, and valuation reporting, and the burdens that such requirements have imposed on reporting parties.

The current swap data reporting framework has resulted in an infusion of data accessible by both regulators and the public, but this data is often of questionable quality, making it difficult for regulators to make efficient use of it in overseeing the markets. Market participants have questioned, for example, whether the CFTC currently has the ability to manage and process the large volume of data collected and to extract useful information from it. Market participants have also called for greater harmonization of swap data reporting and swap data repository requirements between the SEC and CFTC, as well as between the United States and EU.

The CFTC has previously attempted to address some of these data quality issues, but these efforts were unrealized.[358] Most recently, the CFTC announced in July 2017 that it was launching a new review of the swap data reporting regulations in Parts 43, 45, and 49 of the CFTC's Regulations.[359] The CFTC's review is focused on two goals: "(a) to ensure that the CFTC receives accurate, complete, and high quality data on swaps transactions for its regulatory oversight role; and (b) to streamline reporting, reduce messages that must be reported, and right-size the number of data elements reported to meet the agency's priority use-cases for swaps data."[360] The CFTC also announced a "Roadmap to Achieve High Quality Swaps Data" in July 2017, which will address SDR operations and the confirmation of data accuracy by swap counterparties. The Roadmap will also address reporting workflows generally, including standardization of data fields and potential delayed reporting deadlines.[361]

While the post-crisis establishment of SDRs and swaps data reporting requirements has brought much-needed post-trade transparency to the previously opaque OTC derivatives market, full realization of the benefits of post-trade transparency by both market participant and regulators is unlikely without high-quality and timely data.

358. The CFTC's Technology Advisory Committee, for example, initiated an SDR data harmonization effort in April 2013. Further, in 2014, data experts from the Office of Financial Research teamed with CFTC staff to address additional data quality issues.

359. U.S. Commodity Futures Trading Commission, *Press Release No. 7585-17* (Jul. 10, 2017), available at: *http://www.cftc.gov/PressRoom/PressReleases/pr7585-17*.

360. Id.

361. U.S. Commodity Futures Trading Commission, *Roadmap to Achieve High Quality Swaps Data* (Jul. 10, 2017), available at: *http://www.cftc.gov/idc/groups/public/@newsroom/documents/file/dmo_swapdataplan071017.pdf*.

Recommendations

Treasury supports the CFTC's newly launched "Roadmap" effort as announced in July 2017 to standardize reporting fields across products and SDRs, harmonize data elements and technical specifications with other regulators, and improve validation and quality control processes.

- Treasury recommends that CFTC secure and commit adequate resources to complete the Roadmap review, undertake notice and comment rulemaking, and implement revised rules and harmonized standards within the timeframe outlined in the Roadmap.
- Treasury recommends that CFTC leverage third-party and market participant expertise to the extent necessary to develop a coherent, efficient, and effective reporting regime.

Financial Market Utilities

Overview and Regulatory Landscape

Financial Market Utilities (FMUs) exist in many markets to support and facilitate the transfer, clearing, or settlement of financial transactions. Their smooth operation is integral to the soundness of the financial system and the overall economy. FMUs cover a large number of systems and a larger number of system operators.

This section is organized around nine FMUs – eight of which have been designated by the Financial Stability Oversight Council as systemically important financial market utilities (SIFMUs) and a ninth that accounts for a substantial share of activity in its respective markets. These include central counterparties (Chicago Mercantile Exchange, Inc.'s (CME, Inc.) CME Clearing division; Depository Trust and Clearing Corporation's (DTCC) Fixed Income Clearing Corporation and the National Securities Clearing Corporation; Intercontinental Exchange, Inc.'s ICE Clear Credit LLC; LCH, Ltd., the only FMU covered that is not FSOC designated; and the Options Clearing Corporation); a central securities depository (Depository Trust Company), and payment and settlement systems (CLS Bank International and The Clearing House Payments Company, L.L.C.).

Treasury has arrived at the following conclusions:

- Each FMU is distinct, with its own market segment, products, business model, ownership, and governance structures.
- The regulatory reforms after the financial crisis, such as the Dodd-Frank clearing mandate and capital treatments for cleared derivatives, are only part of several reasons why FMUs, and in particular central counterparties (CCPs), are critical financial infrastructures. FMUs have historically played important roles in financial markets through clearing and other related functions, even decades before Dodd-Frank's enactment. There are also a number of economic incentives inherent to CCPs' business models that may contribute to a market participant's motivations to clear.
- Certain FMUs are highly interconnected to other U.S. financial institutions and facilitate significant transaction volumes and values. Risk concentrations in some FMUs have risen dramatically following the passage of Dodd-Frank. Distress at or failure of one of these FMUs could pose systemic risk. Because of this risk, the FSOC has designated eight as SIFMUs. However, the regulatory oversight and resolution regime for these institutions remains insufficient.
- SIFMUs may be authorized to access the Federal Reserve discount window in unusual or exigent circumstances under Dodd-Frank. As set forth in the Executive Order, our financial regulatory system must avoid creating moral hazard.[362] Private firms can not anticipate provisioning of emergency liquidity from the Federal Reserve in their risk management planning. Accordingly, while SIFMUs may be authorized to access the discount window in unusual or exigent circumstances under Dodd-Frank, a SIFMU must exhaust credible private sources of borrowing first.

362. Exec. Order No. 13772 [82 Fed. Reg. 9965 (Feb. 8, 2017)].

Core Functions and History

FMUs have been important infrastructures in financial markets for many years. The existence of clearinghouses dates back to the late 19th century when they were used to net payments in commodities futures markets.[363] In the United States, the New York Stock Exchange (NYSE) established a clearinghouse in 1892; outside the United States, securities exchanges established clearinghouses later in the 20th century.[364] Central securities depositories, which facilitate the safekeeping of securities, have existed in the United States since at least the 1970s.[365]

Today, FMUs are in place in nearly all major securities markets. A wide range of market participants, from end users using derivatives for hedging to institutional investors and large broker-dealers, use FMUs to mitigate risks in a variety of currency, securities, and derivative transactions, among other purposes. Because of the level and concentration of financial transactions handled by FMUs and their interconnectedness to the rest of the financial system, FMUs represent a significant systemic risk to the U.S. financial system. Much of this systemic risk is the result of inherent interdependencies, either directly through operational, contractual, or affiliation linkages or indirectly through payment, clearing, and settlement processes.[366] [367]

Central Counterparties

CCPs are a type of FMU that serve important risk-mitigating functions and have long been core components in a range of markets including exchange-traded derivatives and cash markets. CCPs simplify and centralize risk management for particular financial markets by assuming the role of buyer to every seller and seller to every buyer. CCPs are the counterparty for their direct clearing members, which include major derivatives dealer banks and other large financial institutions. These clearing members interact directly with the CCP both as principal and as agent for their clients, which range from smaller financial institutions to insurance companies and nonfinancial firms. In addition, a CCP reduces risks to individual participants through multilateral netting of trades, imposing risk controls on clearing members, and maintaining financial resources commensurate with risks it carries. Clearing organizations and their members must work together to strike an appropriate balance between the clearing organization's resources ("skin-in-the-game") and mutualized resources of clearing members.

---

363. Amandeep Rehlon, *Central Counterparties: What Are They, Why Do They Matter and How Does the Bank Supervise Them?*, The Bank of England Quarterly Bulletin, (2013 Q2), at 2, available at: *http://www.bankofengland.co.uk/publications/Documents/quarterlybulletin/2013/qb1302ccpsbs.pdf*.

364. Asaf Bernstein, Eric Hughson, and Marc D. Weidenmier, *Counterparty Risk and the Establishment of the New York Stock Exchange Clearinghouse*, NBER Working Paper Series (Sept. 2014), at 5, available at: *http://www.nber.org/papers/w20459*.

365. Bank for International Settlements, *Payment, Clearing and Settlement Systems in the United States* (2012), available at: *https://www.bis.org/cpmi/publ/d105_us.pdf*.

366. Authority to Designate Financial Market Utilities as Systemically Important (July 20, 2011) [76 FR 44763 (July 27, 2011)] ("FSOC FMU Final Rule").

367. Unless otherwise noted, information regarding the history, structure, governance, and volume figures for each FMU was received directly from the respective FMU.

CME Group Inc.: Chicago Mercantile Exchange, Inc.

CME Clearing, a division of the CME, Inc., operates one of the largest central counterparty clearing services in the world and provides clearing services for futures, options, and over-the-counter interest rate swaps and CDS.[368] Its futures and options are linked to interest rates, equities, foreign exchange, energy, agricultural commodities, and metals. CME, Inc. maintains three default funds for clearing members, one for futures and options, one for cleared interest rate swaps, and one for cleared CDS.[369] CME, Inc. was designated as a SIFMU by the FSOC in 2012.

Transaction volume has seen steady growth as the notional value and volume of contracts cleared at CME Clearing has risen every year over the past few years.

CME Clearing	2010	2016
Annual Volume (# of Futures Contracts Traded)	2,638 MM	3,153 MM
Annual Volume (# of Options Contracts Traded)	442 MM	789 MM
Annual Volume (# of Swaps Contracts Traded)	195	238,518
Annual Value (Notional Value of Swaps Contracts in USD)	$1,037 MM	$29,476,885 MM
Peak Daily Volume (# of Futures Contracts Traded)	22 MM	36 MM
Peak Daily Volume (# of Options Contracts Traded)	4 MM	8 MM
Peak Daily Volume (# of CDS Contracts Traded)	20	393
Peak Daily Volume (# of IRS Contracts Traded)	15	3,158
Peak Daily Volume (Notional Value of CDS Contracts in USD)	$15 MM	$2,361,639 MM
Peak Daily Value (Notional Value of IRS Contracts in USD)	$267 MM	$2,380,701 MM

Data as of year-end 2010 and 2016. Figures include index and single-name credit default swaps. Multi-lateral compression is reflected in the 2016 annual notional value of swaps contracts in USD and 2016 peak daily notional value of IRS contracts in USD.

The Chicago Mercantile Exchange was founded in 1898 as a not-for-profit corporation. In 2000, the Chicago Mercantile Exchange demutualized, adopting a for-profit structure and the members exchanged their ownership interests for stock in the newly formed CME, Inc. In 2002, Chicago Mercantile Exchange Holdings Inc. completed an initial public offering, the first U.S. exchange to be publicly traded.

CME Group, Inc., the parent company of Chicago Mercantile Exchange Inc., also owns four futures exchanges: Chicago Mercantile Exchange Inc., Board of Trade of the City of Chicago, Inc.,

368. On September 14, 2017, CME Group Inc. announced that it will exit the CDS clearing business by mid-2018.

369. CME Group Inc., *Annual Report 2016*, at 48, available at: *http://investor.cmegroup.com/investor-relations/secfiling.cfm?filingID=1156375-17-16*.

New York Mercantile Exchange, Inc., and Commodity Exchange, Inc. The CME organization offers trade repository services in the United States and around the world.

Depository Trust and Clearing Corporation: Fixed Income Clearing Corporation / National Securities Clearing Corporation

Fixed Income Clearing Corporation (FICC), a subsidiary of DTCC, plays a prominent role in the fixed-income market as the sole clearing agency in the United States, acting as central counterparty and provider of significant clearing and settlement services for cash settled U.S. Treasury and agency securities and the agency mortgage-backed securities market. FICC provides clearing, settlement, risk management, central counterparty services, and guarantee of trade completion. FICC was established in 2003 through a combination of previous government and mortgage-backed securities (MBS) clearing organizations. The company operates these clearing services through two divisions, the Government Securities Division (GSD) and the Mortgage Backed Securities Division (MBSD).

National Securities Clearing Corporation (NSCC), another subsidiary of DTCC, plays a prominent role in providing clearing, settlement and central counterparty services for nearly all broker-to-broker equity as well as corporate and municipal debt trades executed on major U.S. exchanges and other venues. Established in 1976, NSCC guarantees the settlement of matched trades, and as a central counterparty, is the legal counterparty to all of its members' net settlement obligations. Allowing market participants to settle on a net basis (rather than sending and receiving payments for each individual trade) reduces the value of payments that need to be exchanged by about 98%.[370] These efficiencies reduce the risks of settlement and the amount of liquidity in the settlement process and create a more uniform approach to managing counterparty risk. FICC and NSCC were designated as SIFMUs by the FSOC in 2012.

Transaction volumes for FICC and NSCC have been consistently high or increasing since the financial crisis. But, in contrast to derivatives clearing organizations that clear interest rate swaps and CDS, FICC and NSCC are not directly affected by the Dodd-Frank swaps clearing mandate. FICC and NSCC have nearly exclusive market share for the services they provide, and a large number of members are dependent on their services.

FICC (Fixed Income Clearing Corporation)	2010	2016
Annual Volume (# of GSD Contracts Traded)	34 MM	40 MM
Annual Volume (# of MBSD Contracts Traded)	3.2 MM	3.8 MM
Annual Value (Notional Value of GSD Contracts in USD)	$779,168 B	$761,323 B
Annual Value (Notional Value of MBSD Contracts in USD)	$104,245 B	$74,402 B
Peak Daily Volume (# of GSD Contracts Traded)	255,617	375,031
Peak Daily Volume (# of MBSD Contracts Traded)	23,098	26,308

370. See *http://www.dtcc.com/about/businesses-and-subsidiaries/nscc*.

Peak Daily Value (Notional Value of GSD Contracts in USD)	$4,058 B	$3,831 B
Peak Daily Value (Notional Value of MBSD Contracts in USD)	$920 B	$673 B

Data as of year-end 2010 and 2016.

NSCC (National Securities Clearing Corporation)	2010	2016
Annual Volume (# of Contracts Traded)	20,538 MM	25,771 MM
Annual Volume (Notional Value in USD)	$219,411 B	$243,627 B
Peak Daily Volume (# of Contracts Traded)	*	177 MM
Peak Daily Value (Notional Value in USD)	*	$1,911 B

Data as of year-end 2010 and 2016.
* Denotes a data point that the DTCC was unable to provide.

As noted above, FICC and NSCC are subsidiaries of DTCC, which has a range of operations, including securities depository services, clearing services, trade matching and settlement, trade repository, and data services. In total, DTCC handles on a consolidated basis over $1 quadrillion in transactions every year.[371]

Intercontinental Exchange, Inc./ ICE Clear Credit LLC

In 2009, ICE launched its CDS clearing business with ICE Clear Credit LLC's predecessor, ICE Trust U.S., then a New York limited liability trust company, clearing North American CDS indexes and later adding liquid single-names and sovereign CDS. In 2011, ICE Trust converted to a limited liability company, became registered with both the CFTC and the SEC, and began operating under the name ICE Clear Credit LLC (ICE Clear Credit). Today, ICE Clear Credit is ICE's largest wholly owned U.S. based subsidiary by volume and notional value of cleared trades, clearing a majority of the CDS products in the United States that are eligible for clearing by a central counterparty, including the active North American CDS indexes and certain liquid single names.[372] ICE Clear Credit was designated as a SIFMU by the FSOC in 2012.

As discussed earlier, the Dodd-Frank clearing mandate applies directly to clearing for certain CDS indexes.[373] ICE Clear Credit is dominant in market share in the U.S. index and single-name CDS cleared market. ICE Clear Credit handles a large volume of transactions, in terms of both volume and transaction value, which have markedly increased since 2010.

371. See DTCC press releases for a description of the company, including volume figures, available at: *http://www.dtcc.com/news/2017/august/29/major-japanese-trust-banks-adopt-dtccs-omgeo-alert-to-automate-replace-post-trade-processes*.

372. ICE Clear Credit also clears certain European, Asian-Pacific, and emerging market CDS.

373. U.S. Commodity Futures Trading Commission, *Press Release No. 6607-13* (Jun. 10, 2013), available at: *http://www.cftc.gov/PressRoom/PressReleases/pr6607-13*; U.S. Commodity Futures Trading Commission, *Press Release No. 7457-16* (Sept. 28, 2016), available at: *http://www.cftc.gov/PressRoom/PressReleases/pr7457-16*.

ICE (Intercontinental Exchange) Clear Credit	2010	2016
Annual Volume (# of Contracts Traded)	143,653	359,600
Annual Volume (Notional Value in USD)	$5,452 MM	$5,999 MM
Peak Daily Volume (# of Contracts Traded)	1,428*	2,782
Peak Daily Value (Notional Value in USD)	$43,046* MM	$104,053 MM

Data as of year-end 2010 and 2016. Figures include USD index and single-name credit default swaps.
* These figures are approximate peaks. ICE provided peak weekly information for 2010, and a daily figure was calculated by dividing the weekly figure by five.

ICE Clear Credit's ultimate parent is Intercontinental Exchange, Inc., a publicly traded company that operates a number of futures exchanges, clearinghouses, and other post-trade services. ICE was established in 2000 as an OTC energy marketplace listing OTC energy contracts (oil, natural gas, and power), providing an alternative to what was then a fragmented and opaque market structure.[374] ICE completed its initial public offering in 2005. Today, ICE's exchanges include futures, cash equities, equity options, and bond exchanges. ICE's other U.S. clearinghouse is ICE Clear U.S., originally established in 1915 as the New York Cotton Exchange Clearing Association. ICE Clear U.S. provides post-trade services across a wide range of products, including agricultural, currency, metals, credit, and domestic and equity index futures contracts. ICE also operates OTC markets for physical energy, swaps and CDS trade execution, and fixed income, and it offers a range of data services for global financial and commodity markets.[375]

London Stock Exchange Group Plc: LCH, Ltd.

LCH, Ltd. (LCH) is one of three clearinghouses that are part of LCH Group, a U.K.-based subsidiary of the London Stock Exchange Group (LSEG). LCH offers clearing services for major exchanges and platforms and several OTC markets.[376] LCH clears a variety of products through a number of clearing services, including LCH SwapClear (interest rate swaps), LCH RepoClear (repo and cash bond markets), LCH ForEx Clear (FX nondeliverable forward contracts in emerging market currencies), and listed derivatives and cash equities (including London Stock Exchange Derivatives Market, Euronext Derivatives Market, and NASDAQ's NLX). LCH is a registered

374. See biographical background of Jeffrey C. Sprecher describing the founding and growth of the Intercontinental Exchange, Inc., available at: *https://www.sec.gov/rules/other/2016/ice-trade-vault/ice-trade-vault-form-sdr-ex-c.1.pdf*.

375. For the list of products for which ICE operates OTC Markets, see: *https://www.theice.com/products/OTC*.

376. See *http://www.lch.com/documents/731485/762550/2016_Group_Accounts_for_website.pdf/4d998b1e-9843-4104-93da-5e52e140e2c6*. LCH LLC, established after Dodd-Frank, is the company's U.S.-based clearinghouse, but it has not cleared trades since June 2016. See *http://www.lch.com/documents/731485/762550/2016_Group_Accounts_for_website.pdf/4d998b1e-9843-4104-93da-5e52e140e2c6*. LCH SA is the firm's French-based clearinghouse, which acts as the clearinghouse for markets across Europe in CDS, equities and bonds, rates and commodity futures, equity and index futures and options, and OTC bonds and repo. See *http://www.lch.com/documents/731485/762550/2016_Group_Accounts_for_website.pdf/4d998b1e-9843-4104-93da-5e52e140e2c6*.

derivatives clearing organization since 2001 with the CFTC but is not an FSOC designated SIFMU.

The LCH Group was formed in 2003 following the merger of LCH, which was established in 1888 in London to clear commodity contracts, and Clearnet, which was established in 1969 in Paris to clear commodity contracts, forming LCH.Clearnet.[377] At the time, it was owned by clearing members and exchanges. In 2013, LSEG acquired a majority stake in LCH Group.

The Dodd-Frank clearing mandate applies to certain interest rate swaps.[378] LCH, through the SwapClear service, clears more than 90% of the cleared U.S. dealer market in interest rate swaps and 89% of the cleared U.S. client market in interest rate swaps (measured by cleared gross notional).[379] In swaps denominated in most major currencies, LCH's SwapClear platform clears more than 75% of the cleared market.[380]

LCH	2010	2016
Annual Volume (# of Contracts Traded)	766,000	4 MM
Annual Volume (Notional Value in USD)	$185,800 B	$666,000 B
Peak Daily Volume (# of Contracts Traded)	7,000	30,000
Peak Daily Value (Notional Value in USD)	$1,400 B	$5,600 B

Data as of year-end 2010 and 2016.

LCH Group's majority shareholder, LSEG, is a publicly traded company with four core divisions, including capital markets, post-trade services, information services, and technology.

Options Clearing Corporation

Options Clearing Corporation (OCC) was founded in 1973 and is the largest clearing organization for equity derivatives. It clears U.S.-listed options and futures on various types of financial assets such as common stocks, stock indexes, ETFs, certain American Depository Receipts, and commodities. OCC also serves as the only U.S. central counterparty for securities lending transactions. OCC's primary business is clearing; in 2016, 92% of the firm's revenue came from clearing fees.[381] OCC was designated by the FSOC as a SIFMU in 2012.

OCC handles a large volume of transactions, specifically in the equity options and futures markets. OCC is not active in the OTC derivatives market, and it has been less affected by the Dodd-Frank clearing mandate than other CCPs.

377. See *http://www.cftc.gov/files/tm/tmlchappendixa.pdf*.

378. U.S. Commodity Futures Trading Commission, *Press Release No. 6607-13* (Jun. 10, 2013), available at: *http://www.cftc.gov/PressRoom/PressReleases/pr6607-13*.

379. LSEG, Presentation to U.S. Treasury, LSEG U.S. Operations (July 2017), at 11.

380. See *http://www.lch.com/en/asset-classes/swapclear*.

381. Options Clearing Corporation annual report. The reduction in clearing fees to total revenue in 2016 was largely due to higher revenue in the form of investment income in 2016.

OCC (Options Clearing Corporation)	2010	2016
Annual Volume (# of Futures Contracts Traded)	27 MM	105 MM
Annual Volume (# of Options Contracts Traded)	3,899 MM	4,063 MM
Open Volume as of 12/31/2016 (# of Open Interest Futures Contracts)	*	$15 B
Value Exchanged During the Year (Premium Value from Options in USD)	$1,213 B	$1,214 B
Peak Daily Volume (# of Futures Contracts Traded)	*	1MM
Peak Daily Volume (# of Options Contracts Traded)	31 MM	30 MM
Peak Daily Open Interest Value (# of Open Interest Futures Contracts)	*	*
Peak Daily Premium Value Exchanged (Premium Value of Options in USD)	*	*

Data as of year-end 2010 and 2016.
* Denotes a data point that the OCC was unable to provide.

Central Securities Depository

A central securities depository is a facility or an institution that holds securities, which enables securities transactions to be processed by book-entry. Physical securities may be immobilized by the depository or securities can be dematerialized. In addition to safekeeping, they may also incorporate comparison, clearing, and settlement functions.[382]

Depository Trust and Clearing Corporation: Depository Trust Corporation

Depository Trust Company (DTC), a subsidiary of DTCC, provides depository and asset servicing for a wide range of instruments, such as money market instruments, equities, warrants, rights, corporate debt, municipal bonds, government securities, asset-backed securities and mortgage-backed securities. DTC's custodial services include safekeeping of instruments, record keeping, book entry transfer, and pledge of securities among DTC's participants. For example, DTC provides services to securities issuers, such as maintaining current ownership records and distributing payments to shareholders. DTC substantially eliminates the physical movement of securities by providing book-entry delivery of securities, which transfers ownership electronically among broker-dealers on behalf of beneficial owners of securities. This process improves the efficiency of post-trade operations, compared to the previous process of paper certificate delivery. DTC was established in 1973 as a central securities depository in response to issues inherent with paper securities settlement. At its inception, DTC was organized as a limited purpose trust company in New York.[383]

---

382. *Assessment of the Compliance of the Fedwire Securities Service with the Recommendations for Securities Settlement Systems* (Revised August 2009), Glossary of Terms, available at: *https://www.treasury.gov/resource-center/international/standards-codes/Documents/Securities%20Settlement%20Self-Assessment%208-09.pdf*.

383. See *http://www.dtcc.com/about/businesses-and-subsidiaries/dtc.aspx*.

In 1999, DTC became a wholly owned subsidiary of DTCC, administered as an industry-owned utility. Before the efficiencies that DTC created, the New York Stock Exchange had to close each Wednesday to allow for securities settlement. In addition to its depository and asset servicing activities, DTC also serves as a swap data repository. DTC was designated by the FSOC as a SIFMU in 2012.

DTC (Depository Trust Company)	2010	2016
Annual Volume (# of Contracts Traded)	198 MM	244 MM
Annual Volume (Notional Value in USD)	$137,248 B	$142,227 B
Peak Daily Volume (# of Contracts Traded)	1.3 MM	1.6 MM
Peak Daily Volume (Notional Value in USD)	$716 B	$800 B

Data as of year-end 2010 and 2016.

Payment and Settlement Systems

Payment settlement systems communicate information about individual transfers of funds and settle the actual transfers. Settlement means the receipt by the payee's depository institution of acceptable final funds, which irrevocably extinguish the obligation of the payor's depository institution. Settlement can occur on a gross basis, with each transfer being settled individually, or periodically on a net basis, with credits and debits offsetting each other.[384] Settlement systems are a critical component of the infrastructure of global financial markets. Settlement systems broadly include the full set of institutional arrangements for the confirmation, clearance, and settlement of trades and safekeeping of securities. The importance of settlement systems is highlighted by the fact that market liquidity is critically dependent on confidence in the safety and reliability of the settlement arrangements. Traders may be reluctant to trade if they have significant doubts about whether the trade will, in fact, settle.

The Clearing House: CHIPS

The Clearing House Interbank Payment System (CHIPS) is one of the two primary systems for interbank, large-value payment transfers; the other is Fedwire.[385] CHIPS is owned and operated by The Clearing House Payments Company, L.L.C. (TCH) and has 48 participants who, in turn, have correspondent banking relationships with many banks across the country and world. In January 2001, CHIPS began functioning as a real time, prefunded settlement system that takes advantage of a proprietary multilateral netting algorithm that allows for payments to be netted and settled more efficiently by tying up less liquidity. CHIPS accepts payments for 20 hours per day (9 p.m. to 5 p.m. ET). At the start of each day, CHIPS requires that each bank prefund, via Fedwire,

384. *Comptroller's Handbook: Payment Systems and Funds Transfer Activities* (March 1990), at 1-2, available at: *https://www.occ.treas.gov/publications/publications-by-type/comptrollers-handbook/payment-sys-funds-transfer-activities/pub-ch-payment-sys-funds-transfer-activities.pdf.*

385. See FFIEC: *http://ithandbook.ffiec.gov/it-booklets/wholesale-payment-systems/interbank-payment-and-messaging-systems/fedwire-and-clearing-house-interbank-payments-system-(chips).aspx.*

an account at the Federal Reserve Bank of New York before sending or receiving payments. This account is managed by TCH. Once the processing day begins, banks begin submitting payments into a central queue for processing. Using an algorithm, CHIPS matches, nets, and releases the payments to receiving banks, with approximately 90% of payments released within one minute. At the end of the processing day, unmatched payments may remain. These unreleased payments are aggregated and netted to determine a final closing position for each bank. Any bank that has a closing position requirement must at that time transfer funds into the CHIPS account via Fedwire.[386] TCH, on the basis of its role as operator of the CHIPS system, was designated by the FSOC as a SIFMU in 2012.

CHIPS and Fedwire compete for market share in the USD payments market, with Fedwire representing approximately 60% market share and CHIPS 40%. While CHIPS uses multilateral netting, Fedwire is a real-time gross settlement system. This means each transaction must be funded, cleared, and settled individually.

CHIPS (Clearing House Interbank Payments System)	2010	2016
Annual Volume (Total Transaction Value in USD)	$ 365 T	$ 364 T
Avg Daily Volume (Transaction Value in USD)	$ 1.4 T	$ 1.5 T
Avg Dollar Amount per Each Transaction	$ 4.0 MM	$ 3.3 MM
Annual Volume (# of Transactions)	90.9 MM	110.8 MM
Avg Daily Volume (# of Transactions)	360,805	441,616

Data as of year-end 2010 and 2016[387]

CHIPS is owned by TCH, which was established as a check clearinghouse in 1853. TCH operates four distinct payment systems: CHIPS, a real time payments system that is being launched, a check image exchange, and an automated clearing house. TCH is mutually owned by 25 of the largest domestic and international commercial banks.

CLS Bank

CLS Bank International (CLS) focuses on facilitating efficient and effective settlement in the foreign exchange market and was launched in 2002 to address settlement risk in the FX market.[388] Settlement risk in the FX market, where each trade is an exchange of one currency for another,

386. See generally: TCH at *https://www.theclearinghouse.org/payments/chips*; and FFIEC IT Examination Handbook (CHIPS)at *http://ithandbook.ffiec.gov/it-booklets/wholesale-payment-systems/interbank-payment-and-messaging-systems/fedwire-and-clearing-house-interbank-payments-system-(chips)/chips.aspx*.

387. See *https://www.theclearinghouse.org/-/media/tch/pay%20co/chips/reports%20and%20guides/chips%20volume%20through%20july%202017.pdf?la=en.*

388. See *https://www.cls-group.com/about-us/.*

represents the risk that a counterparty may not deliver the promised currency per the terms of the trade, on the specified date (generally two or more days after the economic terms of the trade are agreed). CLS provides trade matching, confirmation, and payment services that facilitate settlement. CLS's services allow each member to pay only the net amount it owes in each currency, rather than fund each trade individually, which makes settlement more efficient. CLS does not act as a central counterparty, nor does it, except in the most extreme cases, assume the risks of its members failing to perform. CLS is an Edge Act corporation based in New York. CLS was designated by the FSOC as a SIFMU in 2012.

CLS handles the equivalent of approximately $1.6 trillion in transactions every day or the equivalent of more than $403 trillion in transactions every year.[389] Transaction volumes handled by CLS grew significantly from its launch in 2002 until the financial crisis and have been roughly flat since the passage of Dodd-Frank. CLS handles a large volume of transactions, in both terms of trade count and transaction value.

CLS	2010	2016
Annual Volume (Total Transaction Value in USD)	$ 386 T	$ 400 T
Annual Volume (# of Transactions)	101.2 MM	130.3 MM
Avg Daily Volume (Total Transaction Value in USD)	$ 1.5 T	$ 1.5 T
Avg Daily Volume (# of Transactions)	389,000	501,000
Peak Daily Volume (Total Transaction Value in USD)	$2.2 T	$2.1 T
Peak Daily Volume (# of Transactions)	0.8 MM	1.1 MM

Data as of year-end 2010 and 2016.

Ownership and Governance

Historically, exchanges and clearinghouses were organized as mutual nonprofit associations.[390] Demutualization in the industry occurred in the 2000s, with exchanges transforming from mutual associations of their members to a for-profit shareholder-owned model. Today, the major U.S. FMUs are organized either as mutual enterprises that are member-owned (where participants and shareholders overlap) directly or indirectly via a parent holding company, or shareholder-owned, (where the parent is a publicly traded company) with membership and ownership separate.[391]

Participants of the FMUs generally have a voice in the governance of the FMU through membership on the board of directors and risk committees of the FMU, although the extent of member participation can vary between FMUs.

389. See *https://www.cls-group.com/news/cls-fx-trading-activity-june-2017/*.

390. See Paolo Saguato, *The Ownership of Clearinghouses: When "Skin in the Game" Is Not Enough, the Remutualization of Clearinghouses*, 34 Yale Journal on Regulation 601 (2017).

391. Id.

Financial Market Utility (FMU) Ownership And Governance

FMU	Business	Ownership Type	Parent Company	Member Participation
CHIPS	Payment system	Member-owned	TCH (private)	Board of Directors, Supervisory Boards
CLS Bank	Payment system	Member-owned	CLS Group Holdings (private)	Board of Directors
CME, Inc.	CCP	Shareholder-owned	CME Group, Inc. (public)	Multiple Risk Committees
DTC	CSD	Member-owned	DTCC (private)	Board of Directors, Risk Committee
FICC	CCP	Member-owned	DTCC (private)	Board of Directors, Risk Committee
ICE CC	CCP	Shareholder-owned	ICE, Inc. (public) (ultimate parent)	Board of Managers, Risk Committee
LCH SC	CCP	Shareholder-owned	LSEG (public) (ultimate parent)	Board of Directors, Risk Committee
NSCC	CCP	Member-owned	DTCC (private)	Board of Directors, Risk Committee
OCC	CCP	Member-owned (by exchanges)	OCC	Board of Directors, Board Committees

Source: Company filings, and data provided by the firms.

Regulation and Oversight of FMUs

Contagion and panic accelerated during the financial crisis due to losses connected to derivatives, particularly with respect to certain types of swaps, and the fear that losses would ripple throughout the financial system. While financial reforms such as mandatory central clearing of standardized derivatives were intended to increase transparency and reduce risk relative to the pre-crisis regime, they have also concentrated risk and increased the importance of CCPs in the U.S. financial system.

Problems at one FMU may trigger significant liquidity and credit disruptions at other FMUs or financial institutions.[392] As a result of the actions taken to address underlying causes of the crisis, clearinghouses assumed an even greater importance to the global financial system. For example, while approximately 15% of the swaps market was cleared in 2007, approximately 75% was cleared by 2016.[393]

Central clearing has long been a feature of risk management in the U.S. financial system, and strong risk management is key to the management of CCPs. The statutory framework for CCP

392. FSOC FMU Final Rule.

393. U.S. Commodity Futures Trading Commission, *Press Release No. 7409-16* (July 21, 2016), available at: *http://www.cftc.gov/PressRoom/PressReleases/pr7409-16*.

regulation has not adequately addressed the systemic risks previously noted, and instead mandated that additional products, which CCPs historically had little expertise in clearing, be centrally cleared. The eight FMUs that are designated as systemically important are subject to a heightened regulatory and supervisory regime.[394] The Federal Reserve, CFTC, and SEC have prescribed risk management standards governing the operations related to the payment, clearing, and settlement activities of the SIFMUs, to promote robust risk management, enhance safety and soundness, reduce systemic risk, and support the stability of the broader financial system.[395] These standards address risk management policies and procedures, margin and collateral requirements, participant or counterparty default policies and procedures, the ability to complete timely clearing and settlement of financial transactions, and capital and financial resource requirements.[396] SIFMUs are also required to provide notice of material changes to their rules, procedures, or operations to regulators for their review.[397] Despite this acknowledgement of the systemic importance of SIFMUs, further changes are needed in the statute to establish an appropriate regulatory environment. In addition, appropriate regulatory resources need to be dedicated to supervising SIFMUs.

It is imperative that our financial regulatory system prevent taxpayer-funded bailouts and limit moral hazard by addressing the systemic risks presented by FMUs. Under Dodd-Frank, the Federal Reserve may authorize a Federal Reserve Bank to establish and maintain an account for a SIFMU to deposit cash and provide certain additional services to the SIFMU.[398] Traditionally, such accounts were available to depository institutions. Through Title VIII, the authority was extended to SIFMUs given their importance to the financial system. While these accounts allow a SIFMU to deposit funds, they do not confer borrowing privileges and should not be considered implicit backing of an institution by the Federal Reserve. The Federal Reserve may also authorize a Federal Reserve Bank to provide a SIFMU with certain discount and borrowing privileges.[399] This action may occur only in "unusual or exigent circumstances," on the vote of a majority of the Board of Governors then serving, after consultation with the Treasury Secretary, and on a showing by the FMU that it is unable to secure adequate credit accommodations from other banking institutions.[400] As a result, while SIFMUs may be authorized to access the discount window in unusual or exigent circumstances under Dodd-Frank, a SIFMU shall exhaust credible private sources of borrowing before turning to the central bank to borrow in such exigent circumstances.

FMUs, specifically CCPs, are critical infrastructures in the U.S. financial system that continue to pose systemic risks, in part due to the regulatory reforms following the financial crisis, but also other factors. First, CCPs and other FMUs have been significant market participants for many years, even before Dodd-Frank, and are uniquely interconnected with other U.S. financial

---

394. See *https://www.treasury.gov/initiatives/fsoc/Documents/2012%20Appendix%20A%20Designation%20of%20Systemically%20Important%20Market%20Utilities.pdf.*

395. Dodd-Frank § 805(b) [codified at 12 U.S.C. § 5464(b)].

396. See, e.g., Dodd-Frank § 805(c) [codified at 12 U.S.C. § 5464(c)], 12 C.F.R. § 234.6(c) (Federal Reserve), 17 C.F.R. § 40.10 (CFTC), and 17 C.F.R. § 240.19b-4 (SEC).

397. Dodd-Frank § 806(e) [codified at 12 U.S.C. § 5465(e)].

398. Dodd-Frank § 806(a) [codified at 12 U.S.C. § 5465(a)].

399. 12 U.S.C. § 5465(b).

400. Id.

institutions. Second, while FMUs have always dealt with high transaction volumes and values, as depicted above, these have remained high or continued to increase. This has had the effect of continuing, or increasing, the systemic risk posed by these institutions. Finally, a number of factors inherent to the business model of major CCPs contribute to the incentives for market participants to clear, including mutualization of clearing members' risk, multilateral netting of exposures, and enhanced transparencies. However, these same advantages exacerbate the interconnecting risks these institutions pose.

Issues and Recommendations

'Advance Notice' Review Process

As previously noted, Dodd-Frank mandates that a SIFMU must provide notice 60 days in advance "to its Supervisory Agency of any proposed change to its rules, procedures, or operations that could, as defined in rules of each Supervisory Agency, materially affect, the nature or level of risks presented by the designated financial market utility."[401] Under this provision, any objection must be made by the supervisory agency within 60 days from the later of when the notice was filed, or when additional information was requested.[402] If there is no objection, the change may take effect; however, the supervisory agency may further extend the review period for an additional 60 days for novel or complex issues.[403] The Federal Reserve, CFTC, and SEC have each promulgated regulations implementing the advance notice statutory requirements.[404]

However, based on feedback from market participants provided during outreach meetings by Treasury, the process of obtaining federal regulatory approval for changes to a SIFMU's rules, procedures, and operations can take much longer than 60 days. Many changes to firms' rulebooks, procedures, and operations — even seemingly smaller changes — are submitted for approval through the advance notice review process, and the regulators have extended the review period well past the 60-day period specified in the statute. These review extensions can hamper the ability of the SIFMUs to bring new innovations to market, leaving the firms at a competitive disadvantage as they await approval from regulators.

Recommendations

Given their importance to the financial system and broader economy, it is important that SIFMUs be subject to heightened regulatory and supervisory scrutiny, and changes to their rules, operations, and procedures that may present material risks need to be closely reviewed by regulators. Accordingly, Treasury recommends that the agencies that supervise SIFMUs (the Federal Reserve, CFTC, and SEC) bolster resources devoted to these reviews. In particular, Treasury recommends that additional resources be allocated to the CFTC to enhance its supervision of CCPs.

401. Dodd-Frank § 806(e).
402. Id.
403. Id.
404. See, e.g., 12 C.F.R. § 234.6(c) (Federal Reserve); 17 C.F.R. § 40.10 (CFTC); 17 C.F.R. § 240.19b-4 (SEC).

Treasury also recommends that the agencies that supervise SIFMUs study how they can streamline the existing review process to be more efficient and appropriately tailored to the risk that a particular change may pose. This study may result in a number of potential process improvements that benefit innovation while still protecting financial stability. For example, the agencies might decide that when extending the review period because of novel or complex issues to provide, to the extent possible based on available information, an expected timeline for completion of their review. The agencies might also more closely coordinate throughout the review process to ensure one agency does not lag behind another in their review.

Federal Reserve Bank Account Access

As noted, Dodd-Frank provides that the Federal Reserve may authorize the Federal Reserve Banks to establish and maintain a central bank account for, and services to, each SIFMU.[405] The ability to deposit client margin at a Federal Reserve Bank is an important systemic risk mitigation tool. FMUs without such account access rely on a number of other alternatives for cash management, such as money market funds, repurchase agreements, and deposits at commercial banks. These private sources may be less reliable in times of market stress. Moreover, lack of access to a Federal Reserve Bank account means large amounts of U.S.-dollar margin may not be maximally safeguarded during times of market stress. Federal Reserve Bank account access may also provide an economic advantage to SIFMUs due to the more favorable interest rate (currently 1.25%[406]) which the Federal Reserve Banks may pay[407] compared to that paid by commercial banks.

Recommendations

It is recommended that the Federal Reserve review: (1) what risks may be posed to U.S. financial stability by the lack of Federal Reserve Bank deposit account access for certain FMUs with significant shares of U.S. clearing business, and an appropriate way to address any such risks; and (2) whether the rate of interest paid on SIFMUs' deposits at the Federal Reserve Banks may be adjusted based on a market-based evaluation of comparable private sector opportunities.

Resilience, Recovery, and Resolution

Resilience refers to the ability of a CCP to withstand clearing member failures and other market stress events.[408] Within the framework of resilience, CCP stress testing involves estimating potential losses under a variety of extreme but plausible market conditions, helping firms and regulators determine whether CCPs are maintaining sufficient financial resources to withstand stress events. CCPs also use stress tests to calibrate or adjust initial margin and guaranty fund requirements. If the stress test identifies a potential shortfall, a reduction in exposure or an increase in financial resources may be warranted. CFTC regulations require derivatives clearing organization (DCOs)

---

405. Dodd-Frank § 806(a).
406. See *https://www.federalreserve.gov/monetarypolicy/reqresbalances.htm*.
407. See Regulation HH, 12 C.F.R. § 234.6.
408. See Bank For International Settlements, Committee On Payments and Market Infrastructures, and Board of the International Organization of Securities Commission, *Final Report : Resilience of Central Counterparties (CCPs), Further Guidance on the PFMI* (July 2017), available at: *http://www.bis.org/cpmi/publ/d163.pdf*.

that are also SIFMUs, or those that voluntarily comply with the rules for systemically important DCOs and that clear products with a complex risk profile, to meet the "Cover 2" standard, as set out in the Committee on Payments and Market Infrastructures and the Board of the International Organization of Securities Commissions (CPMI-IOSCO) Principals for Financial Market Infrastructures.[409] The SEC has similar regulations with respect to clearing agencies. The principals also include minimum standards for initial margin collected by clearinghouses.[410] In November 2016, CFTC staff published a report on its first supervisory stress tests of the five largest DCOs registered with the CFTC and their largest clearing members that found the DCOs could withstand extremely stressful market scenarios and that risk was diversified across clearing members.[411]

Recovery refers to the ability of a CCP to continue to provide services to markets following a stress event without the direct intervention of a public sector resolution authority.[412] CFTC regulations require each DCO to maintain viable plans for: (1) recovery or orderly wind down necessitated by uncovered credit losses or liquidity shortfalls; and, separately, (2) recovery or orderly wind down necessitated by general business risk, operational risk, or any other risk that threatens the DCO as a going concern. The preparation of these recovery plans and wind-down plans requires DCOs to "identify scenarios that may potentially prevent [the DCO] from being able to meet its obligations, provide its critical operations and services as a going concern and assess the effectiveness of a full range of options for recovery or orderly wind-down."[413]

Resolution is the next step when recovery is unachievable.[414] If a SIFMU is resolved under Title II of Dodd-Frank, the FDIC would be the resolution authority. For CCPs, many issues related to the strategy for addressing CCP failure are still under discussion domestically and internationally. Cross-border crisis management groups (CMGs), which are comprised of CCP home and host supervisory and resolution authorities, have begun meeting to develop resolution planning and resolvability assessments for CCPs considered to be systemic in more than one jurisdiction. Earlier this year, the FDIC and CFTC participated in the first U.S. CMGs for CME, Inc. and ICE, to begin the resolution planning and information sharing process for these institutions. They have also participated in CMGs for LCH and its French affiliate, LCH S.A. Internationally, U.S. regulators, including the FDIC, CFTC, SEC, and Federal Reserve, have been active in developing granular guidance on CCP recovery and resolution through CPMI-IOSCO and Financial Stability Board (FSB) working groups.

---

409. See, e.g., U.S. Commodity Futures Trading Commission, *Press Release* (Feb. 10, 2016), available at: *http://www.cftc.gov/PressRoom/PressReleases/cftc_euapproach021016*.

410. Committee on Payment and Settlement Systems and Technical Committee of IOSCO, *Principles for Financial Market Infrastructures* (Apr. 2012), available at: *http://www.bis.org/cpmi/publ/d101a.pdf*.

411. Staff of the U.S. Commodity Futures Trading Commission, *Supervisory Stress Test of Clearinghouses* (Nov. 2016), available at: *http://www.cftc.gov/idc/groups/public/@newsroom/documents/file/cftcstresstest111516.pdf*.

412. See Committee on Payment and Settlement Systems and Board of IOSCO, *Recovery of Financial Market Infrastructures* (Oct. 2014), available at: *http://www.bis.org/cpmi/publ/d121.pdf* ("CPSS-IOSCO Recovery Guidance").

413. 17 C.F.R. § 39.39(b)(2)(c)(1).

414. See CPSS-IOSCO Recovery Guidance.

Recommendations

In the context of resilience, the CFTC's supervisory stress tests of five registered DCOs was an important first step in promoting resilience of CCPs. However, that exercise focused only on credit risk relating to the default of a clearing member. It is recommended that future exercises incorporate additional products, different stress scenarios, liquidity risk, and operational and cyber risks, which can also pose potential risks to U.S. financial stability.

The primary focus of recovery and resolution efforts must be the recovery of the CCP, such that the CCP can continue to provide critical services to financial markets, and the matched book of the failing CCP can be preserved. To this end, Treasury encourages the CFTC and FDIC to continue to coordinate on the development of viable recovery wind-down plans for CCPs that are SIFMUs. Furthermore, there have been notable efforts, both domestically and internationally, by regulators and market participants to prepare for the default of large clearing members. However, there may also be instances where a CCP experiences significant non-default losses, such as operational or business failures, including cyber, custodial failures, or investment losses. Accordingly, U.S. regulators, in coordination with their international counterparts, need to focus additional recovery and resolution planning efforts on non-default scenarios. In addition, U.S. regulators must continue to take part in CMGs to share relevant data and consider the coordination challenges that domestic and foreign regulators may encounter during cross-border resolution of CCPs. Finally, U.S. regulators must continue to advance American interests abroad when engaging with international standards-setting bodies such as CPMI-IOSCO and FSB.

Regulatory Structure and Process

Overview

The financial regulatory system in the United States consists of multiple federal agencies, as well as state regulators and self-regulatory organizations (SROs). In the Banking Report, Treasury provided a brief overview of the U.S. financial regulatory structure and its components. The analysis and recommendations in that report, however, were focused on banking regulation.

This chapter focuses primarily on the regulatory structure of U.S. capital markets. U.S. capital markets are distinct from, but interconnected with, the banking system. These capital markets consist, broadly speaking, of two segments: (1) the securities markets, which help foster capital formation by bringing together entities seeking capital with investors in the equity and fixed income markets, and (2) the derivatives markets, which facilitate the transfer and management of financial and commercial business risks through the use of futures, options, swaps, and other types of derivative instruments, as well as speculative risk-taking.

The U.S. capital markets regulatory system includes two federal regulators, the SEC and the CFTC.[415] Some industry participants are subject to regulation by SROs overseen by the SEC or CFTC. State securities regulators also play an important role in regulating the securities markets.[416] In addition, federal, state, and local prosecutors may engage in enforcement of criminal laws related to the capital markets.

Securities Laws and the SEC

Securities and Exchange Commission

Established in 1934, the SEC's mission is to protect investors, maintain fair, orderly, and efficient markets, and facilitate capital formation. This three-part mission reflects the economic purpose of securities markets, which is to promote long-term economic development by bringing together issuers of securities, i.e., borrowers or users of capital, and those with capital to invest. This transfer of resources is facilitated in part by requiring that offerings of securities be registered and that issuers disclose information that is material to investment decisions. These investor protections are intended to give investors sufficient insight into the operations of an issuer, and the risks of the investment, so that investors can make an informed decision to put their capital at risk in exchange for the opportunity to share in the borrower's success. The SEC is overseen in Congress by the House Financial Services and Senate Banking Committees.

In addition to regulating securities offerings, the SEC regulates market participants, including investment advisers, mutual funds and exchange-traded funds, broker-dealers, municipal advisors, and transfer agents. The agency also oversees 21 national securities exchanges, ten credit rating agencies, and seven active registered clearing agencies, as well as the Financial Industry Regulatory Authority (FINRA) and the Municipal Securities Rulemaking Board (MSRB). The

415. Market participants that operate as part of a bank or thrift holding company may be subject to additional regulation under consolidated supervision by the Federal Reserve.

416. State securities regulators are generally responsible for regulating investment advisers with less than $100 million in assets under management. States also may also require the licensing of certain financial professionals, including registered representatives and investment adviser representatives, and retain antifraud enforcement authority. States also regulate and require the registration of certain securities offerings.

SEC is responsible for selectively reviewing the disclosures and financial statements of public companies.[417] Of the top 100 public companies in the world, 77 have reporting requirements to the SEC.[418]

The SEC administers the federal securities laws, which consist of several major pieces of legislation and amendments to them that have been enacted over the last 85 years.

Federal Securities Laws	
Securities Act of 1933	Requires that issuers provide financial and other important information concerning securities being offered for public sale and prohibits deceit, misrepresentations, and other fraud in the offer and sale of securities. Offers and sales of securities must be registered with the SEC unless an exemption applies.
Securities Exchange Act of 1934	Empowers the SEC with broad authority over the securities industry, including the regulation of brokers, dealers, transfer agents, clearing agencies, and self-regulatory organizations. Prohibits fraudulent and manipulative conduct in securities markets and provides the SEC with disciplinary powers over regulated entities and persons associated with them. Also empowers the SEC to require periodic reporting of information by companies with publicly traded securities and to regulate proxy solicitations and tender offers.
Investment Company Act of 1940	Regulates investment companies (such as mutual funds that engage primarily in investing, reinvesting, and trading of securities) and their offerings of securities. Addresses conflicts of interest that arise in the operations of investment companies. Requires periodic investor disclosures by investment companies.
Investment Advisers Act of 1940	Requires that persons compensated for advising others about securities investments must register with the SEC and conform to regulations designed to protect investors. Since the Act was amended in 1996 and 2010, generally only advisers who have at least $100 million of assets under management or advise a registered investment company register with the SEC.
Sarbanes-Oxley Act of 2002	Mandated reforms to enhance corporate responsibility, enhance financial disclosures, and combat corporate and accounting fraud. Authorized the Public Company Accounting Oversight Board to oversee the activities of auditing firms.
Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010	Among other provisions, established the Financial Stability Oversight Council; removed certain exemptions from registration for advisers to hedge funds and certain other funds; regulated the swaps markets; created the SEC Office of the Investor Advocate; and amended the securities laws for enforcement, credit rating agencies, corporate governance and executive compensation, securitization, and municipal securities.
Jump-start Our Business Startups Act of 2012	Created the initial public offering on-ramp for emerging growth companies, removed prohibition on general solicitation and advertising for certain private offerings, permitted crowdfunding, and amended provisions for Regulation A and Section 12(g) of the Exchange Act.

417. See 15 U.S.C. § 7266 (codifying Section 408 of the Sarbanes-Oxley Act, which mandated that the SEC review reports filed under the Exchange Act by public companies on no less than a three year cycle).

418. U.S. Securities and Exchange Commission, *Fiscal Year 2018 Congressional Budget Justification and Annual Performance Plan,* at 3, available at: *https://www.sec.gov/reports-and-publications/budget-reports/secfy18congbudgjust* ("SEC 2018 Budget Request").

Financial Industry Regulatory Authority

FINRA's mission is to provide investor protection and promote market integrity through effective and efficient regulation of its member broker-dealers. FINRA adopts rules and regulations that apply to its members, including rules for business conduct, supervisory responsibility, finance and operations, and anti-money laundering.[419] FINRA administers exams for individuals seeking to work in the industry as a broker, such as the Series 7 exam to be a licensed general securities representative. FINRA operates the Central Registration Depository, which serves as the central licensing and registration system for broker-dealers and their registered representatives. FINRA examines its member broker-dealers for compliance with FINRA rules, the federal securities laws, and the MSRB rules and engages in surveillance of market activities to detect suspicious activities such as insider trading, fraud, and other misconduct. FINRA also operates the Trade Reporting and Compliance Engine which facilitates mandatory reporting of over-the-counter secondary market transactions in eligible fixed income securities.

Municipal Securities Rulemaking Board

The mission of the MSRB is to protect investors, state and local government issuers, other municipal entities and the public interest by promoting a fair and efficient market for municipal securities, through (1) the establishment of rules for dealers and municipal advisors; (2) the collection and dissemination of market information; and (3) market leadership, outreach, and education.[420] The MSRB supports market transparency by making trade data and disclosure documents available through its Electronic Municipal Market Access program. The MSRB relies on the SEC, FINRA, and federal bank regulators to conduct examinations and enforcement actions with respect to its rules.

Derivatives Regulation and the CFTC

Commodity Futures Trading Commission

The CFTC's mission is to foster open, transparent, competitive, and financially sound markets, to avoid systemic risk, and to protect market users and their funds, consumers, and the public from fraud, manipulation, and abusive practices related to derivatives and other products that are subject to the Commodity Exchange Act. The regulation of futures markets has its origins in 1922, when Congress acted in response to abuses in grain futures markets. Federal regulation was carried out by various agencies within the Department of Agriculture until legislation establishing the CFTC as an independent federal regulatory agency was enacted in 1974.

Today, the CFTC oversees the markets for futures, options on futures, and (since 2010) swaps under the authority of the CEA.[421] The CFTC's mission is to promote the integrity of these markets to avoid systemic risk and protect against fraud, manipulation, and abusive practices. The derivatives markets allow risks to be shifted from one party to another. Such risks may arise from uncertainty with regard to the cost or supply of physical commodities, energy, foreign exchange, interest rates, or other economic factors. Further, derivatives markets provide a critical price signaling function

---

419. Rules applicable to FINRA members are available at: *http://finra.complinet.com*.

420. Municipal Securities Rulemaking Board, *Annual Report 2016*, available at: *http://www.msrb.org/msrb1/pdfs/MSRB-2016-Annual-Report.pdf*.

421. Equity options, however, are regulated by the SEC.

for related cash commodity markets. The CFTC is overseen by the House and Senate Agriculture Committees. The CFTC has exclusive jurisdiction over the markets for commodity futures and options on futures.

The CFTC oversees derivatives clearinghouses, futures exchanges, swap dealers, swap data repositories, swap execution facilities, futures commission merchants, and other intermediaries. To promote market integrity, the CFTC polices the markets and participants under its jurisdiction for abuses and brings enforcement actions. The CFTC oversees industry self-regulatory organizations, including traditional organized futures exchanges or boards of trade known as designated contract markets.

By facilitating the hedging of price, supply, and other commercial risks, derivatives markets help to free up capital for more productive uses and complement the securities markets in supporting the broader economy.

National Futures Association

The National Futures Association (NFA) is a self-regulatory organization whose mission is to provide regulatory programs and services that ensure futures industry integrity, protect market participants, and help NFA members meet their regulatory responsibilities. The NFA establishes and enforces rules governing member behavior including futures commission merchants, commodity pool operators, commodity trading advisors, introducing brokers, designated contract markets, swap execution facilities, commercial firms, and banks.[422] NFA's responsibilities include registration of all industry professionals on behalf of the CFTC, monitoring members for compliance with its rules, and taking enforcement actions against its members that violate NFA's rules. NFA also reviews all disclosure documents from commodity pool operators (CPOs) and commodity trading advisers, annual commodity pool financial statements, and the policies and procedures that swap dealers are required to file with the CFTC.

Security Futures, Swaps, and Security-based Swaps

The CFTC and the SEC jointly regulate security futures products, which generally refer to futures on single securities and narrow-based security indexes.[423] Title VII of Dodd-Frank authorized the CFTC to regulate swaps and the SEC to regulate security-based swaps. The agencies share authority over mixed swaps. Title VII generally (1) provides for the registration and regulation of swap dealers and major swap participants, (2) imposes mandatory clearing requirements on swaps but exempts certain end users, (3) requires swaps subject to mandatory clearing to be executed on an organized exchange or swap execution facility, and (4) requires all swaps to be reported to a registered swap data repository and subject to post-trade transparency requirements.[424] A report by the Government Accountability Office found that, while the CFTC and the SEC have worked to

---

422. See *https://www.nfa.futures.org/about/index.html*.

423. U.S. Government Accountability Office, *Financial Regulation: Complex and Fragmented Structure Could Be Streamlined to Improve Effectiveness* (Feb. 2016), at 23 ("GAO Report (2016)").

424. Id. at 44.

harmonize some of the Title VII rules and related guidance, substantive differences exist between other rules.[425] The agencies have issued joint rules regarding mixed swaps.[426]

Regulatory Fragmentation, Overlap, and Duplication

A strong financial regulatory framework is vital to promote economic growth and financial stability and to protect the safety and soundness of U.S. financial institutions. Regulatory fragmentation, overlap, and duplication, however, can lead to ineffective regulatory oversight and inefficiencies that are costly to the taxpayers, consumers, and businesses. The convergence of the futures and securities markets has made coordinated oversight and regulation more critical.[427]

As more financial products have been developed that contain elements of both securities and derivatives, it has become increasingly difficult to distinguish between the two.[428] In addition, market participants are increasingly involved in both securities and derivatives markets. Institutional investors dominate trading in both markets, and financial intermediaries in the two markets, such as broker-dealers and futures commission merchants, are often affiliated.[429] The growth of the derivatives markets and the introduction of new derivative instruments further highlight the need to address gaps and inconsistencies between securities and derivatives regulation.[430] On the global regulatory front, having separate agencies for securities and derivatives regulation complicates discussions with foreign regulators, because other countries generally have a single regulator overseeing both markets; it also complicates discussions within global bodies such as the FSB.[431]

425. U.S. Government Accountability Office, *Dodd-Frank Regulations: Regulators' Analytical and Coordination Efforts* (Dec. 2014), at 37-41.

426. Further Definition of "Swap," "Security-Based Swap," and "Security-Based Swap Agreement"; Mixed Swaps; Security-Based Swap Agreement Recordkeeping (July 18, 2012) [77 Fed. Reg. 48208 (Aug. 13, 2012)].

427. For example, MF Global Holdings Ltd., which had both commodity and securities brokerage operations, filed for bankruptcy in 2011. The company's collapse resulted in a $1.6 billion shortfall in customer funds. A congressional staff investigation found that although regulated by both the SEC and the CFTC, the agencies failed to share critical information about MF Global with each other, leaving each regulator with an incomplete understanding of MF Global's financial health. See *Staff Report Prepared for Rep. Randy Neugebauer, Chairman, Subcommittee on Oversight & Investigations, Committee on Financial Services, 112th Congress* (Nov. 15, 2012), available at: *https://financialservices.house.gov/uploadedfiles/256882456288524.pdf* ("House Staff Report on MF Global").

428. See, e.g., GAO Report (2016), at 42.

429. See U.S. Department of the Treasury, *Blueprint for a Modernized Financial Regulatory Structure* (Mar. 2008), at 106-109, available at: *https://www.treasury.gov/press-center/press-releases/Documents/Blueprint.pdf* ("Treasury Blueprint (2008)").

430. U.S. Department of the Treasury, *Financial Regulatory Reform: A New Foundation* (June 17, 2009), at 49-51, available at: *https://www.treasury.gov/press-center/press-releases/Pages/20096171052487309.aspx* ("Treasury Foundation (2009)").

431. Only the SEC is a member of the FSB. The CFTC is not a member but participates in select FSB activities.

SEC and CFTC – Moving Beyond The Merger Debate

The division between the SEC and CFTC, which regulate securities and derivatives markets, respectively, is a unique feature of the U.S. financial regulatory system. By contrast, other major market centers typically have a single markets regulator with jurisdiction over both securities and derivatives markets. In recent years, regulation of U.S. securities and derivatives markets has increasingly overlapped as financial products and the market participants who trade them have converged. While the SEC and the CFTC have often worked well together, including engaging in several joint rulemakings required by Dodd-Frank, they have also been susceptible to jurisdictional disputes, which at times have prevented the agencies from working together effectively. Policymakers and other commenters periodically raise the question of whether there is a continued rationale for maintaining the SEC and the CFTC as separate market regulators. The issue remains relevant today in light of the Core Principles, including the need to rationalize the federal financial regulatory framework.

The SEC-CFTC merger debate

Principally, this debate centers on the question of whether the SEC and the CFTC should be merged into a single regulatory agency. In some cases, proposals to merge the two agencies have been prompted by specific market events, such as the October 1987 stock market crash[432] and the 2011 failure of MF Global.[433] Congress has also produced a number of proposals over the years to merge the SEC and CFTC, in whole or in part. Although Congress occasionally held hearings on some of these proposals — for example, H.R. 718 during the 104th Congress — none of the bills ever advanced in committee. Over the years, Treasury also has considered, and in certain cases published, proposals to merge the SEC and CFTC, most notably in its 2008 "Blueprint for A Modernized Financial Regulatory Structure" white paper.[434] Later, drafters of Dodd-Frank, rather than including a merger, decided to split jurisdiction over the OTC derivatives markets between the agencies, including a mandate for the agencies to write joint rules in certain areas and coordinate on others. The agencies successfully completed joint rulemakings further defining products and entities subject to the new OTC derivatives reforms, though there is more work to be done.

Is there a policy rationale for merging the SEC and CFTC?

The fundamental proposition of combining two separate entities is that the whole is greater than the sum of its parts. This is established by identifying sufficient "efficiencies" and "synergies" arising from the merger, which in turn must outweigh the costs and other losses that could result from their combination.

432. See *Report of the Presidential Task Force on Market Mechanisms* (Jan. 1988), at 59, 61-63.

433. See *House Staff Report on MF Global* at 79-81, 83.

434. Treasury Blueprint (2008). In the Blueprint, Treasury argued that combining the SEC and the CFTC into a single agency would "enhance investor protection, market integrity, market and product innovation, industry competitiveness, and international regulatory dialogue." Following the financial crisis, however, Treasury stopped short of recommending a merger of the SEC and the CFTC and instead called on the two agencies to make recommendations to Congress for changes to statutes and regulations that would harmonize regulation of futures and securities. See Treasury Foundation (2009).

What follows is the potential policy rationale for an SEC-CFTC merger from two viewpoints, operational and budget impacts as well as impact on markets:

Operational and Budget Impacts. It is likely that efficiencies could be realized through reduced overhead costs resulting from running a single entity rather than two separate regulators. For example, expenses for operating budget items such as rent and utilities, printing and reproduction, supplies and materials, among other areas, could be reduced in aggregate. Similarly, certain program and administrative functions of the SEC and the CFTC could be streamlined through consolidation of one or more of the offices of the inspector general, general counsel, legislative affairs, or public affairs. In addition, synergies could likely be realized in the two agencies' expenditures on information technology.

Overall efficiencies will be limited, however, because most of the core mission functions currently carried out by the SEC and the CFTC would still need to be performed by a combined agency. The SEC, for instance, considers the adequacy of corporate disclosure, public accounting, and securities registration — regulatory activities that have no analogues in the derivatives markets. By contrast, many key regulatory functions of the CFTC are not performed by the SEC, including surveillance of underlying commodities markets and regulation of domestic futures and derivatives clearing organizations at home and abroad. While some synergies in mission functions could be found, merging the SEC and the CFTC is unlikely to materially enhance the efficiency in which their core activities are carried out.

The SEC's budget for fiscal year (FY) 2017 amounted to $1.66 billion and 4,637 budgeted full-time personnel equivalents (FTEs).[435] The CFTC received appropriations for a FY 2017 budget of $250 million, or about 15% of the SEC's budget, which funds approximately 703 FTEs.[436] Based on public information on the CFTC's budget, and making some highly simplified assumptions, a hypothetical outcome from merging the two agencies can be illustrated. For example, consolidation of physical space, certain information technology, and inspector general functions would yield hypothetical savings of roughly 5% of the combined SEC and CFTC budgets. Viewed in the context of the overall U.S. federal budget of roughly $4 trillion, the potential savings are not enough on their own to justify a merger. The table following this inset summarizes this discussion.[437]

Impact on Markets. Proponents of a merger argue that combining the agencies would improve regulatory effectiveness and efficiency, eliminate duplicative regulatory burdens on market participants, enhance policing of market manipulation, and improve U.S. engagement in international standard setting bodies. Examples of market overlap include swaps and security-based

435. SEC 2018 Budget Request. Budget figures are FY 2017 annualized under continuing resolution.

436. U.S. Commodity Futures Trading Commission, *Budget Request Fiscal Year 2018* (May 2017), available at: *http://www.cftc.gov/idc/groups/public/@newsroom/documents/file/cftcbudget2018.pdf*. Budget figures are FY 2017 annualized under continuing resolution.

437. It should be noted that this example does not presume to be a thorough budget analysis but rather a high-level summary. A formal examination of the agencies' budgets could potentially show greater or lesser savings from operational efficiencies but even so would likely not be substantial enough to alter the analysis.

swaps,[438] security futures products,[439] and the markets for stocks, stock options, and stock index futures. Market participants and key market intermediaries in securities and derivatives also have converged. Indeed, a merger might eliminate some regulatory gaps, redundancies and conflicts in these cases. A merger might enhance supervision of key market participants such as broker-dealers, futures commission merchants, and swap dealers, while reducing the regulatory burden on regulated entities, though by how much is hard to quantify. It might also improve access to data to enhance oversight and surveillance by regulators of linked markets and activities or help eliminate disparate treatment of economically similar products, while reducing opportunities for regulatory arbitrage.

However, the extent to which these regulatory efficiencies and synergies can be realized may be limited. The securities and derivatives markets serve fundamentally different purposes: capital formation and investment versus hedging and risk transfer. While it may be appropriate to harmonize differences in approach to regulation of these markets in some areas, it is far from clear that reconciliation across all differences — for example, statutory and regulatory approaches to margin, protection and management of customer funds, customer suitability, insider trading, short sales, speculative trading, and product approval processes, among others — would be practical or advisable without risks to market health.

Although the United States is unique in its separation of securities and derivatives markets regulation, it also has the largest, deepest, most liquid financial markets in the world. No other major market center has securities or derivatives markets of comparable size, diversity, and sophistication. Our markets are mature and well established, and while our regulatory system has perhaps evolved by accident, it is a system that by and large has worked and has served the American economy well.

Treasury believes that merging the SEC and the CFTC would not appreciably improve on the current system. Instead, policymakers, regulators, and other stakeholders should focus on effecting changes that truly promote efficiency. Indeed, unnecessary supervisory duplication, jurisdictional conflicts that thwart innovation, and failures of regulatory accountability stand in contradiction to the Core Principles, as do developments that risk the competitiveness of U.S. companies in the financial markets or U.S. interests in international financial regulatory negotiations. Several of the issues discussed elsewhere in this report are aimed at prompting the SEC and the CFTC to take needed steps toward regulatory improvement to address these concerns. The agencies are encouraged, for instance, to harmonize their oversight and regulation of the swaps and security-based swaps markets with each other, as well as with non-U.S. jurisdictions to the extent feasible and appropriate. The SEC and the CFTC must be accountable for resolving regulatory differences and avoiding failures of regulatory coordination.

438. See the "Derivatives" chapter in this report for more detail on regulation of swaps and security-based swaps.

439. Security futures products are regulated as both securities and futures and include futures on single securities (e.g., single-stock futures) and narrow-based security indexes.

Possible Savings from Combined SEC and CFTC

	FY 2017 Budget	Savings from IT and Rent	Assumed Personnel Savings (OIG and other)	Combined
SEC	$1.66 billion	--	--	$1.66 billion
CFTC	$250 million	$72.8 million	$18.0 million	$159.2 million
	$1.91 billion	Combined potential savings < 5%		$1.82 billion

Source: SEC and CFTC FY 2018 budget requests.

Issues and Recommendations

Restoration of Exemptive Authority

Section 4(c) of the CEA provides the CFTC with general authority to grant exemptions "to promote responsible economic and financial innovation and fair competition."[440] Section 36(a) of the Exchange Act provides the SEC with authority to grant exemptions from the Exchange Act or any rule thereunder to the extent "necessary or appropriate in the public interest" and "consistent with the protection of investors."[441]

The CFTC has used its authority judiciously over the years to accommodate developments and innovations in the markets it oversees, such as helping to facilitate the emergence of electronic trading of futures contracts. Similarly, the SEC has used its exemptive authority to promote development and innovation in the securities markets.

Dodd-Frank amended CEA Section 4(c)(1) and Exchange Act Section 36(c) to limit the agencies' ability to exempt many of the activities covered under Title VII. Limitations on the exemptive authority with respect to the swaps requirements of Dodd-Frank was perhaps a measure to ensure that the agencies, while writing rules and implementing the new regulatory framework, did not unduly grant exemptions.

However, market participants have suggested that restoring the exemptive provisions to their original forms could allow the agencies to evolve with the marketplace and properly tailor their oversight to those activities posing the highest risk, facilitate emerging and innovative technologies and products that face high regulatory barriers to entry, and help both the industry and regulators modernize the market infrastructure.

For example, restoring Section 4(c) to its original form could help facilitate the recently announced "LabCFTC" initiative, which is intended to help the CFTC cultivate a regulatory culture of forward thinking, become more accessible to emerging technology innovators, discover ways to

440. 7 U.S.C. § 6(c).

441. 15 U.S.C. § 78mm.

harness and benefit from financial technology innovation, and become more responsive to rapidly changing markets.[442]

Recommendations

Both agencies have had an opportunity to observe the swaps markets and examine the changes in that market that have occurred since the enactment of Dodd-Frank. The agencies are now in a position to make appropriate judgments about the advisability, feasibility and necessity of any exemptions for defined categories of regulated entities or activities, consistent with the public interest, from the CEA or Exchange Act, including the requirements added by Dodd-Frank.

Treasury recommends that Congress restore the CFTC's and SEC's full exemptive authority and remove the restrictions imposed by Dodd-Frank.

Improving Regulatory Policy Decision Making

Treasury believes that there are a number of areas in which the agencies can improve their processes for making and implementing regulatory policy decisions. Treasury believes that such changes can be advanced administratively and could be enhanced through legislative reform as well.

Economic Analysis in Rulemaking

Economic analysis is widely recognized as a useful rulemaking tool. An appropriate economic analysis includes at least three basic elements: (1) identifying the need for the proposed action; (2) an examination of alternative approaches; and (3) an evaluation of the benefits and costs, both quantitative and qualitative, of the proposed action and the main alternatives identified by the analysis.[443]

Executive Order 12866 was issued in 1993 with the aim of making the federal regulatory process more efficient and reducing the burden of regulation.[444] Executive Order 12866 directs Executive Branch agencies to follow certain principles, including adopting a regulation only after a reasoned determination that the benefits of the intended regulation justify its costs. Subsequently, Executive Order 13563[445] was issued in 2011 to reaffirm Executive Order 12866 and supplement it with additional principles, such as retrospective analysis of existing rules.

As independent regulatory agencies, the CFTC and the SEC are not subject to Executive Orders 12866 and 13563. However, in July 2011, President Obama signed Executive Order 13579, which encouraged the independent regulatory agencies to comply with the provisions in the previous executive orders to the extent permitted by law.[446]

The CFTC and the SEC are subject to statutory requirements to conduct some form of economic analysis. Section 15(a) of the CEA requires the CFTC to consider the costs and benefits before

---

442. Acting Chairman J. Christopher Giancarlo, *LabCFTC: Engaging Innovators in Digital Financial Markets*, (May 17, 2017), available at: *http://www.cftc.gov/PressRoom/SpeechesTestimony/opagiancarlo-23*.

443. See, e.g., Office of Management and Budget, *Circular A-4 – Regulatory Analysis* (Sept. 17, 2003).

444. 58 Fed. Reg. 51735 (Oct. 4, 1993).

445. 76 Fed. Reg. 3821 (Jan. 21, 2011).

446. 76 Fed. Reg. 41587 (Jul. 14, 2011).

promulgating a regulation. As part of this process, CFTC must consider the protection of market participants and the public, efficiency, competitiveness, and financial integrity of futures markets, price discovery, sound risk management practices, and other public interests.[447] Under the provisions of various securities laws, the SEC is required to consider efficiency, competition, and capital formation when engaged in rulemaking.[448] Both agencies have had rules challenged in court on the basis of inadequate cost-benefit analysis.

The agencies have undertaken different approaches to implementing economic analysis. The SEC has published on its website its current staff guidance for conducting economic analysis in rulemakings.[449] The CFTC, on the other hand, has not publicly released current guidance on its economic analysis efforts.[450]

Recommendations

Treasury reaffirms the recommendations for enhanced use of regulatory cost-benefit analysis discussed in the Banking Report for the SEC and the CFTC.[451] Treasury supports efforts by the CFTC and SEC to improve their economic analysis processes.[452] Economic analysis should not be viewed solely as a legal requirement to be satisfied nor should the specific provisions of the federal securities laws or the CEA be viewed as a limitation on the scope of economic analysis to be conducted. Economic analysis of proposed regulations, and their underlying statutes, not only promotes informed decision making by the agencies but also assists the President, the Congress, and the public in assessing the effectiveness of regulations.

Treasury recommends that the CFTC and SEC, when conducting rulemakings, be guided by the Core Principles for financial regulation laid out in Executive Order 13772 as well as the principles set forth in Executive Orders 12866 and 13563, and that they update any existing guidance as appropriate. Treasury further recommends that the agencies take steps, as part of their oversight responsibilities, so that SRO rulemakings take into account, where appropriate, economic analysis when proposed rules are developed at the SRO level.

---

447. 7 U.S.C. § 19(a).

448. See 15 U.S.C. §§ 77b(b), 78c(f), 80a-2(c), and 80b-2(c).

449. Staff of the U.S. Securities and Exchange Commission, *Current Guidance on Economic Analysis in SEC Rulemakings* (Mar. 16, 2012), available at: *https://www.sec.gov/divisions/riskfin/rsfi_guidance_econ_analy_secrulemaking.pdf*.

450. A 2011 report by the CFTC inspector general included a 2011 CFTC staff memo on cost-benefit analysis as an appendix. See Office of the Inspector General, U.S. Commodity Futures Trading Commission, *A Review of Cost-Benefit Analyses Performed by the Commodity Futures Trading Commission in Connection with Rulemakings Undertaken Pursuant to the Dodd-Frank Act* (June 13, 2011), available at: *http://www.cftc.gov/idc/groups/public/@aboutcftc/documents/file/oig_investigation_061311.pdf*.

451. The Banking Report, at 62-63.

452. See Office of the Inspector General, U.S. Commodity Futures Trading Commission, *A Review of the Cost-Benefit Consideration for the Margin Rule for Uncleared Swaps* (Jun. 5, 2017), at 13, available at: *http://www.cftc.gov/idc/groups/public/@aboutcftc/documents/file/oig_rcbcmrus060517.pdf*; Jerry Ellig, *Improvements in SEC Economic Analysis since Business Roundtable*, Mercatus working paper (Dec. 2016), available at: *https://www.mercatus.org/system/files/mercatus-ellig-sec-business-roundtable-v1.pdf*.

Finally, Treasury recommends that the CFTC and SROs issue public guidance explaining the factors they consider when conducting economic analysis in the rulemaking process.

Using a Transparent, Common Sense, and Outcomes-Based Approach

As stated in Executive Order 12866, which is still in effect today, "The American people deserve a regulatory system that works for them, not against them: a regulatory system that protects and improves their health, safety, environment, and well-being and improves the performance of the economy without imposing unacceptable or unreasonable costs on society; regulatory policies that recognize that the private sector and private markets are the best engine for economic growth; regulatory approaches that respect the role of State, local, and tribal governments; and regulations that are effective, consistent, sensible, and understandable."

To maintain an efficient, effective, and appropriately tailored regulatory system, it is critical that agencies conduct periodic reviews of existing regulations. These retrospective reviews should identify rules that may be outmoded, ineffective, insufficient, or excessively burdensome, and agencies should move to modify, streamline, expand, or repeal them in accordance with what has been learned. Importantly, the retrospective reviews should use data to the maximum extent possible.

Recommendations

To enhance rulemaking transparency, Treasury encourages the SEC and the CFTC to make fuller use of their ability to solicit comment and input from the public, including by increasing their use of advance notices of proposed rulemaking to better signal to the public what information may be relevant.

Treasury recommends that the CFTC and the SEC conduct regular, periodic reviews of agency rules for burden, relevance, and other factors. Treasury recognizes and supports the efforts undertaken by the CFTC with Project KISS (for "Keep it Simple, Stupid") to conduct an internal review of rules, regulations, and practices to identify areas that can be made less burdensome and less costly.[453]

Treasury supports the goals of principles-based regulation and recommends that the SEC and the CFTC consider using this approach, to the extent appropriate and consistent with applicable law.

Finally, given the linkages between the derivatives markets and the capital markets, Treasury believes that the CFTC and the SEC should continue their joint outcomes-based effort to harmonize their respective rules and requirements, as well as the cross-border application of such rules and requirements.

Regulatory Guidance Outside of Rulemaking

In administering their respective laws and regulations, the CFTC and the SEC may provide regulatory guidance outside of the notice and comment process conducted pursuant to the Administrative Procedure Act. For example, staff from the CFTC and the SEC might issue guidance through an

453. Acting Chairman J. Christopher Giancarlo, *CFTC: A New Direction Forward* (Mar. 15, 2017), available at: *http://www.cftc.gov/PressRoom/SpeechesTestimony/opagiancarlo-20*.

interpretive bulletin or a list of frequently asked questions after a rulemaking to clarify regulatory expectations or to ensure the smooth implementation of a rule.

There are other mechanisms through which the CFTC or the SEC may publicly express new views that have the effect of de facto regulation, such as:

- The preamble of a final rule when such views were not disclosed at the proposal stage;
- Negotiated settlement of an enforcement action;
- Court filings in a litigated enforcement action or where the agency is participating as an amicus curiae;
- Commission opinion issued on appeal of an administrative enforcement action;
- No-action letters;
- Technical materials and guides;
- Comment letters to registrants or regulated entities;
- Deficiency letters in connection with examinations;
- Policy statements, risk alerts, and legal bulletins;
- Speeches and publications;
- Publications by international organizations, such as the Financial Stability Board, the International Organization of Securities Commissions, and the International Monetary Fund.

Guidance is a valid and useful tool, and there are appropriate circumstances in which guidance is helpful in assisting regulated parties in complying with underlying statutes or regulations. However, there is a serious risk of inappropriate use of guidance as a way to impose regulatory requirements and burdens outside of notice-and-comment rulemaking.

Recommendations

Treasury recommends that the CFTC and the SEC avoid imposing new requirements by no-action letter, interpretation, or other form of guidance and consider adopting Office of Management and Budget's Final Bulletin for Agency Good Guidance Practices.[454] Treasury also recommends that the CFTC and the SEC take steps to ensure that guidance is not being used excessively or unjustifiably to make substantive changes to rules without going through the notice and comment process. Treasury further recommends that the CFTC and the SEC review existing guidance and revisit any guidance that has caused market confusion or compliance challenges.

Update Definitions under the Regulatory Flexibility Act

When engaged in rulemaking, federal agencies are required to perform an analysis under the Regulatory Flexibility Act (RFA),[455] which requires them to consider the impact on small entities.

---

454. Final Bulletin for Agency Good Guidance Practices (Jan. 18, 2007) [72 Fed. Reg. 3432 (Jan. 25, 2007)].

455. 5 U.S.C. § 601 et seq.

Since 1982, the CFTC has excluded any designated contract markets, FCMs, and CPOs registered with the CFTC from being considered a small entity under the RFA.[456] The effect of the CFTC's approach is that none of these registered entities can ever be a "small entity" for purposes of the RFA analysis. Commodity trading advisors, floor brokers, and unregistered FCMs are neither automatically included nor excluded from the definition of "small entities." Instead, the CFTC has previously stated that, for purposes of RFA analysis, small entities would be addressed within the context of specific rule proposals, but without any specified definition.[457]

For the SEC, rules under the Securities Act and the Exchange Act[458] generally define an issuer or a person with total assets of $5 million or less as a small business or small organization. This threshold was last adjusted in 1986. Other small business definitions under the Exchange Act use monetary thresholds that were set in 1982. There are other thresholds for small entity definitions under the Investment Company Act and the Investment Advisers Act that have not been changed in many years.[459] The extremely limited scope of these definitions frequently excludes from the RFA analysis many entities that should arguably be viewed as a small entity.

Recommendation

Treasury recommends that the agencies undertake a review and update the definitions so that the RFA analysis appropriately considers the impact on persons who should be considered small entities.

Self-regulatory Organizations

Historically, regulation of the U.S. financial markets has entailed a combination of government regulation and industry self-regulation. In the derivatives and securities markets, SROs operate under the regulatory oversight of the CFTC or the SEC. Industry self-regulation can provide a mutually beneficial balance between the interests of the public and the regulated industry, particularly if the effects of the SRO are to strengthen investor protection and promote market integrity. SROs set standards, conduct examinations, and enforce rules against their members. SROs can establish conduct standards that may go beyond those otherwise required by law. For example, FINRA has a requirement that its members observe high standards of commercial honor and just and equitable principles of trade.[460]

Self-regulation by industry, however, can create a conflict between regulatory obligations and the interests of an SRO's members, market operations, or listed issuers, which necessitates appropriate governmental supervision.[461] SROs subject to oversight by the CFTC include the National Futures

---

456. Policy Statement and Establishment of Definitions of "Small Entities" for Purposes of the Regulatory Flexibility Act [47 Fed. Reg. 18618 (Apr. 30, 1982)].

457. Id. Note that individuals are not considered in the RFA analysis.

458. 17 C.F.R. § 230.157; 17 C.F.R. § 240.0-10.

459. 17 C.F.R. § 270.0-10; 17 C.F.R. § 275.0-7.

460. FINRA Rule 2010.

461. The Governance of Self-Regulatory Organizations (June 2, 2004) [69 Fed. Reg. 32326 (Jun. 9, 2004)] (CFTC); Concept Release Concerning Self-Regulation (Nov. 18, 2004) [69 Fed. Reg. 71256, 71256-58 (Dec. 8, 2004)] ("SEC SRO Concept Release").

Association, the commodity exchanges (designated contract markets), swap execution facilities, derivatives clearing organizations, and swap data repositories. SROs subject to oversight by the SEC include FINRA, the registered national securities exchanges, notice-registered securities future product exchanges (dual notice-registration with CFTC), registered clearing agencies, and the MSRB.

One benefit of SRO regulation is that SROs are more familiar with, and able to take into account, the complexities of the day-to-day business operations of regulated entities and the markets.[462] SROs engage in market surveillance, trade practice surveillance, and conduct audits and examinations of members for compliance with various rules, including financial integrity, financial reporting, sales practices, and recordkeeping.[463] SROs can investigate potential violations and bring disciplinary proceedings against members for violations of SRO rules. SROs are funded by various fees and assessments, not out of federal agency resources.[464] As an on-the-ground, front-line regulator, an SRO can be a more efficient and effective mechanism to protect the public against unlawful market activity.

On the other hand, the SRO model has been called into question by certain developments and trends. Some SROs, such as the national securities exchanges and designated contract markets, have transformed from member-owned, mutual organizations to for-profit, publicly traded companies. As such, concerns have been raised as to whether their obligations to their shareholders may conflict with their duties and powers to regulate public markets and their members. In addition, as a result of consolidation within the financial services industry, the economic importance of certain SRO members may create particularly acute conflicts.[465]

In outreach meetings with Treasury, some member firms stated that the SROs have gradually become less transparent and more opaque, arbitrary, and prescriptive in fulfilling their self-regulatory function, weakening the traditional connection with markets and their members. The increase in non-member involvement in governance of the SRO has led to a diminished influence of members, both at the board and committee levels, in determining SRO regulatory policy.[466] In this respect, SROs have become less like an industry-led self-regulator and more like a government regulator but without due process protections.

---

462. See, e.g., CFA Institute, *Self-Regulation in the Securities Markets* (Aug. 2013), at 2, available at: *http://www.cfapubs.org/doi/pdf/10.2469/ccb.v2013.n11.1* (observing that, although not perfect, the self-regulatory system is needed "in today's highly complex and technologically changing and evolving markets").

463. Self-Regulation and Self-Regulatory Organizations in the Futures Industry (Nov. 18, 2005) [70 Fed. Reg. 71090 (Nov. 25, 2005)].

464. The costs of funding SROs, however, may be borne indirectly by investors and end users in the form of higher costs.

465. SEC SRO Concept Release at 71259-60.

466. But see U.S. Securities and Exchange Commission, *Report Pursuant to Section 21(a) of the Securities Exchange Act of 1934 Regarding the NASD and the NASDAQ Market* (Aug. 8, 1996), available at: *https://www.sec.gov/litigation/investreport/nd21a-report.txt* ("the consequences for the Nasdaq market of this failure were exacerbated by the undue influence exercised by Nasdaq market makers over various aspects of the NASD's operations and regulatory affairs").

In addition, the increasing number of SRO rules and the potential for regulatory duplication and overlap with the CFTC or the SEC or with other SROs, increases operational complexity and costs for market participants and potentially creates inefficiencies in regulation. These regulatory costs are ultimately borne by investors and end users.

Recommendations

Treasury recommends that the CFTC and the SEC conduct comprehensive reviews of the roles, responsibilities, and capabilities of SROs under their respective jurisdictions and make recommendations for operational, structural, and governance improvements of the SRO framework. Such reviews should consider:

- Within specific categories of SROs, how to ensure comparable compliance by SROs with their self-regulatory obligations to avoid outlier SROs that do not fully comply with these obligations;
- Appropriate controls on SRO conflicts of interest;
- Appropriate composition, roles, and empowerment of SRO committees;
- Appropriate transparency regarding SRO fee structures to ensure alignment of fees with actual costs of regulation;
- Appropriate application and limitations on regulatory immunity and private liability to SRO regulatory operations as opposed to general operations, including commercial operations, of the SRO;
- Appropriate limitations on regulatory, surveillance and enforcement responsibilities entrusted to SROs, including limitations of regulatory activities to SROs' own markets and centralization of cross-market regulation within a single SRO and avoiding duplicative investigations, audits, and enforcement actions;
- Changes to the process for agency review and approval of SRO rulemakings to manage the volume and priority of such rulemakings in a manner consistent with applicable laws.[467]

As part of their reviews, Treasury recommends that the agencies identify any changes to underlying laws or rules needed to enhance oversight of SROs. Treasury also recommends that each SRO adopt and publicly release an action plan to review and update its rules, guidance, and procedures on a periodic basis. In this context, Treasury supports the current effort by FINRA to conduct a comprehensive, organization-wide self-assessment and improvement initiative.[468] Treasury encourages the NFA and other SROs to undertake similar projects.

---

467. See also Susquehanna Int'l Group v. SEC, No. 16-1061 (D.C. Cir. Aug. 8, 2017) (finding that SEC approval of a rule change from the Options Clearing Corporation did "not represent the kind of reasoned decisionmaking required by either the Exchange Act or the Administrative Procedure Act").

468. See *https://www.finra.org/about/finra360*.

International Aspects of Capital Markets Regulation

Overview

Cross-border financial integration enhances capital markets efficiency through better allocation of savings while stability is enhanced through better risk sharing. Because of these economic benefits, capital markets are increasingly global in nature, becoming highly integrated and interdependent. However, integration of capital markets also increases the potential for the cross-border transmission of shocks. This underscores the need to accompany the increasing role of nonbank financial intermediation and market-based financing with adequate regulatory and supervisory frameworks to safeguard financial stability.

Generally, given the size and global stature of U.S. capital markets, the U.S. regulatory approach is to provide investors and firms with a U.S. presence equal access to our markets on national treatment terms. Cross-border access is allowed to foreign registrants and financial institutions in a manner consistent with prudential and other public policy objectives. This provides a level playing field for market participants wanting to access and be active in our markets, the largest and most vibrant nonbank financial sector in the world. Regulatory frameworks that encourage diverse approaches with respect to products, investment strategies, and investment horizons help create vibrant markets, and variation across jurisdictions is not only acceptable but desirable. At the same time, conflicting frameworks, whether it be within a jurisdiction or between them, can fragment markets, lead to unnecessary costs, distort price discovery, and reduce consumers' options. In some cases, regulation can have far reaching and often unintended consequences for market participants in other jurisdictions that may have little connection to the jurisdiction promulgating the regulation or the issue being regulated. Internationally active financial institutions may be subject to overlapping, duplicative, and sometimes incompatible national regulatory regimes. Appropriate regulatory cooperation in bilateral and multilateral forums can advance U.S. interests by promoting financial stability, leveling the playing field for U.S. financial institutions, and reducing market fragmentation.

Since the financial crisis, regulators have worked to address these shortcomings by agreeing on common standards, where appropriate, and depending on a jurisdiction's preference, through findings of substituted compliance and regulatory equivalence. Findings of substituted compliance and regulatory equivalence are recognitions (generally unilateral) that foreign regulatory regimes achieve similar goals and that national regulatory approaches, while differing in certain respects, were of a high quality. For example, after consultation with the SEC in 2012 the European Securities and Markets Authority eventually reported to the European Commission (EC) its conclusion that the U.S. regulatory regime for credit rating agencies was equivalent to the EU's own system. Several months later, the EC formally rendered its equivalency determination for the U.S. credit rating agency regulatory regime.

Markets in Financial Instruments Directive II

The EU's Markets in Financial Instruments Directive (2004/39/EC, MiFID) has been applicable across the European Union since November 2007. It is a cornerstone of the EU's regulation of financial markets seeking to improve the competitiveness of EU financial markets by improving the single European market for investment services and activities and to ensure a similarly high degree of protection for investors in financial instruments. The MiFID II Framework was formally adopted on June 12, 2014, and many of its key elements will apply across Europe as of Jan. 3, 2018.[469]

One currently contentious cross-border aspect of MiFID II is the unbundling of financial research services and payments. Currently, fund managers receive the research at no cost because investment banks and brokers bundle the costs into the trading fees that are passed onto investors.[470] Under MiFID II, European fund managers will be required to pay investment banks and brokers directly for analyst research via two options: (1) paying for the research directly from their own accounts, or (2) creating separate research payment accounts funded by specific charges billed to clients. Asset managers will likely significantly reduce the amount of research they pay for, and brokers are expecting significant decreases in revenue for research services. MiFID II's research unbundling creates implementation challenges due to conflicts with U.S. policy on research provision, where U.S. brokers cannot directly sell research unless they are formally registered as investment advisers. Under MiFID II, U.S. brokers that are not registered investment advisers cannot provide research to European clients since MiFID II would require such clients to make direct payments for research services. Because many firms operate internationally, there is uncertainty in the market over how to comply with MiFID II. There is also confusion on whether U.S. asset managers can share analyst research freely within their firms if they have European footprints. The SEC and the European Commission are currently in discussions to develop solutions to this apparent conflict.

Issues and Recommendations

Advancing American Interests

To avoid fragmenting and harming these complex and diverse markets, U.S. agencies must continue to engage and cooperate bilaterally and multilaterally with other jurisdictions to work toward coherent regulation and supervision that protects consumers, manages systemic risk, and enhances financial stability. U.S. engagement in international forums should also continue to advance U.S. interests by enabling U.S. companies to be competitive in domestic and foreign markets. Additionally, a key objective and consideration of regulation and regulatory policy both domestically and in the international context is to maintain the competitiveness of U.S. capital markets. This means domestic regulation that promotes market efficiency and cost-effectiveness

469. See *https://www.esma.europa.eu/policy-rules/mifid-ii-and-mifir*.

470. See 15 U.S.C. § 78bb(e).

and international engagement to ensure that U.S. markets remain attractive to foreign investors and institutions.

Bilateral Regulatory Cooperation

Treasury coordinates a series of productive bilateral policy dialogues. These include dialogues with the European Union, Mexico, and Canada within the context of the North American Free Trade Agreement Financial Services Committee, and India. These discussions have helped to facilitate cooperation and coherent implementation of financial regulation.

Recommendations

Treasury recommends that U.S. regulators and Treasury sustain and develop technical level dialogues with key partners, informed by prior outreach to industry, to address conflicting or duplicative regulation. Treasury also recommends that U.S. regulators seek to reach outcomes-based, non-discriminatory substituted compliance arrangements with other regulators or supervisors with the goal of mitigating the effects of regulatory redundancy and conflict when it is justified by the quality of foreign regulation, supervision, and enforcement regimes, paying due respect to the U.S. regulatory regime. Treasury also assists the regulators, when appropriate, in navigating the challenges of reaching substituted compliance arrangements. Responsible comparisons of regulatory regimes require sufficient attention to the details and actual application of rules, and relying on compliance with minimum international standards is not itself necessarily sufficient. It is the responsibility of U.S. regulators to determine whether firms operating in the United States achieve the necessary outcomes for safety, soundness, and investor protection, as set out in domestic statute and regulations.

Multilateral Regulatory Cooperation

As noted in the Banking Report, U.S. engagement in international financial regulatory standard-setting bodies (SSBs) remains important to promote vibrant financial markets and level playing fields for U.S. financial institutions, prevent unnecessary regulatory standard-setting that could stifle financial innovation, and assure the competitiveness of U.S. companies and markets. Treasury recommends that the U.S. members of international standard setting organizations should enhance the efficiency of international standards by reducing conflicting cross-sectoral standards. To improve transparency and accountability, the SSBs should appropriately consider and account for the views and concerns of external stakeholders, including market participants, self-regulatory organizations, and other interested parties. The current processes for developing significant standards could be improved, and Treasury recommends increasing the number and timeliness of external stakeholder consultation and publicizing the schedule of major international meetings.

Recommendations

Treasury recommends that the U.S. members of SSBs continue to advocate for and shape international regulatory standards that are aligned with domestic financial regulatory objectives.

The American marketplace is like no other, and benefits from a diversity of providers and consumers of financial intermediation. Inappropriately applying approaches to regulation in U.S. capital markets that are ill suited to our jurisdiction or bank-centric would stifle otherwise vibrant markets while not efficiently enhancing financial stability or consumer protection. Treasury recommends that U.S. agencies remain alert to developments abroad and engaged in international organizations. To promote the effectiveness and efficiency of regulations, U.S. agencies should continue to regularly coordinate policy before and after international engagements. Direct coordination, at all relevant levels of an organization and across all U.S. agencies, will enhance the substantive basis of advocacy for U.S. market participants' interests when engaging abroad but also increase the force of our outreach. We are more effective when we speak with one voice and the full support of the U.S. regulatory system.

Good policy development should consider the interactions of regulation and also the proper alignment of incentives. Regulatory approaches that have worked in one context, such as a country or sector, should not be inappropriately applied elsewhere. Robust regulatory impact assessment and stakeholder consultation and input are key steps in understanding the likely effects of regulation. As a result, Treasury values the U.S. process of notice and comment under the Administrative Procedure Act, recommends that other jurisdictions adopt similarly robust comment procedures, and will work in international organizations to elevate the quality of stakeholder consultation globally.

Appendix A

Participants in the Executive Order Engagement Process

Participants in the Executive Order Engagement Process

Academics

- Adi Sunderam, Harvard Business School
- Anat Admati, Stanford Graduate School of Business
- Arnold Kling, Independent Scholar
- Arthur Wilmarth, Jr., George Washington University Law School
- Darrell Duffie, Stanford Graduate School of Business
- David Skeel, University of Pennsylvania Law School
- Jay Rosengard, Harvard Kennedy School
- Jim Angel, Georgetown University McDonough School of Business
- John Cochrane, Stanford University Hoover Institution
- John Taylor, Stanford University Hoover Institution
- Joseph Grundfest, Stanford Law School
- Lawrence White, New York University Stern School of Business
- Mark Willis, New York University Furman Center
- Monika Piazzesi, Stanford University
- Richard Herring, University of Pennsylvania, The Wharton School
- Roberta Romano, Yale Law School
- Robin Greenwood, Harvard Business School
- Sanjai Bhagat, University of Colorado Leeds School of Business

Consumer Advocates

- American Association of Retired Persons
- Americans for Financial Reform
- Center for Responsible Lending
- Consumer Action
- Consumer Federation of America
- Consumers Union
- Leadership Conference on Civil and Human Rights
- National Association for the Advancement of Colored People
- National Community Reinvestment Coalition

National Consumer Law Center	National Urban League
National Council of La Raza	U.S. Public Interest Research Group
National Disability Institute	

Regulators and Government Related Entities

California Public Employees' Retirement System	Independent Member with Insurance Expertise, FSOC
Conference of State Bank Supervisors	Municipal Securities Rulemaking Board
Consumer Financial Protection Bureau	National Futures Association
Delegation of the European Union to the United States of America	New York State Common Fund
Federal Deposit Insurance Corporation	North American Securities Administrators Association
Federal Housing Finance Agency	Office of Financial Research
Federal Reserve Bank of New York	Office of the Comptroller of the Currency
Federal Reserve Board	Teachers Retirement System of Texas
Federal Reserve Bank of Chicago	U.S. Commodity Futures Trading Commission
Financial Services Agency, Japan	U.S. Securities and Exchange Commission
Financial Industry Regulatory Authority	

Industry and Trade Groups

ABN AMRO Clearing	AllianceBernstein L.P.
Aegon N.V. (Transamerica)	Allstate Corporation
AFEX / GPS Capital	American Bankers Association
Aflac Inc.	American Council of Life Insurers

American Express

American Institute of Certified Public Accountants

American International Group, Inc.

American Investment Council

American Principles Project

Amerifirst Financial, Inc.

Andreessen Horowitz

Angel Capital Association

Angel Oak Home Loans

AQR Capital Management

Association for Financial Professionals

Association for Enterprise Opportunity

Association of Institutional Investors

Association of Mortgage Investors

Autonomous Research

AXA

Bank of America

Bank of New York Mellon

Barclays

Bayview Asset Management

Bernstein

BGC Partners

Biotechnology Innovation Organization

BlackRock

Blackstone

Bloomberg

BNP Paribas

BOK Financial Corporation

Bond Dealers of America

Boston Consulting Group

Bridgewater Associates

Business Roundtable

Cadwalader, Wickersham & Taft, LLP

Caliber Home Loans

Carlyle Group

Carnegie Cyber Policy Initiative

Center for Capital Markets Competitiveness, U.S. Chamber of Commerce

Center for Financial Services Innovation

Chatham Financial

Chicago Board Options Exchange

Chicago Mercantile Exchange

Chicago Trading Company

CHIPS	Cullen/Frost Bankers, Inc.
Chubb	Cypress Group
Citadel	D.E. Shaw
Citi	Davidson Kempner
Class V Group	Davis Polk & Wardwell LLP
Clayton Holdings, LLC	DoubleLine Capital
Cleary Gottlieb Steen & Hamilton LLP	Depository Trust and Clearing Corporation (DTCC)
CLS	Eby-Brown
CMG Financial Inc.	EKap Strategies LLC
CNH Industrial	Ellington Management Group, LLC
Coalition for Derivatives End-Users	Elliott Management Corporation
Coalition for Small Business Growth	Emergent Biosolutions
Columbia Investment Management	Equipment Leasing and Finance Association
Commercial Real Estate Finance Council	Equity Dealers of America
Community Bankers Association	Equity Markets Association
Community Development Bankers Association	Equity Prime Mortgage, LLC
Council of Institutional Investors	Fidelity Investments
Cowen & Co.	Financial Executives International
Credit Suisse	Financial Information Forum
Crowdfund Capital Advisors	Financial Services Roundtable
Crowdfund Intermediary Regulatory Advocates	Fitch Ratings Inc.
	Flagstar Bank

Ford Foundation

Francisco Partners

Franklin Templeton Investments

Futures Industry Association

GEICO Corporation

General Electric

Geneva Trading

Gibson, Dunn & Crutcher LLP

Global Financial Markets Association

Global Trading Systems

Glycomimetrics

Goldman Sachs

Goldstein Policy

Guaranteed Rate, Inc.

Hancock Whitney Bank

HBK Capital Management

Healthy Markets

Hehmeyer Trading

HomeBridge Financial Services Inc.

HSBC

Hudson River Trading

Hunt Consolidated, Inc.

ICF International, Inc.

Independent Community Bankers of America

Institute of International Bankers

Institute of International Finance

Intercontinental Exchange (ICE)

International Council of Shopping Centers

International Franchise Association

International Swaps and Derivatives Association

Invesco

Investment Company Institute

The Investors Exchange (IEX)

Janney Montgomery Scott LLC

Jones Walker LLP

Jordan & Jordan

JP Morgan

Katten Muchin Rosenman LLP

Keefe, Bruyette & Woods

KKR

KPMG LLP

Kroll Bond Rating Agency

Latham & Watkins LLP

Law Office of William J. Donovan

LCH

LCH Clearnet Group Ltd	Mortgage Bankers Association
Levy Group	NASDAQ
Liberty Mutual Group, Inc.	National Association of Corporate Treasurers
Lincoln Financial Bancorp, Inc.	National Association of Home Builders
LivWell	National Bankers Association
Loan Syndication and Trading Association	National Conference of Insurance Guaranty Funds
Loomis, Sayles & Co	National Federation of Independent Business
LSEG	National Organization of Life and Health Guaranty Associations
M&T Bank	National Restaurant Association
Managed Funds Association	National Retail Federation
Manulife Financial Corporation	National Venture Capital Association
Marvin F. Poer and Company	Nationstar Mortgage Holdings Inc.
Massachusetts Mutual Life Insurance Company	Nationwide Mutual Insurance Company
Mayer Brown, LLP	Natixis
MB Financial, Inc.	Navient
McGuireWoods LLP	NEX Markets
McKinsey & Company	New York Life Investors, LLC
MetLife Investors	Nomura
Mid-Size Bank Coalition of America	Northwestern Mutual Life Insurance Company
Modern Markets Initiative	NYSE
Moody's Corporation	
Moody's Investor Services	
Morgan Stanley	

Och-Ziff	Sanovas
Old National Bancorp	Santander
Oliver Wyman	Scale Venture Partners
Options Clearing Corporation	Securities Industry and Financial Markets Association
Orbital ATK	Security Traders Association
PentAlpha Capital, LLC	Small Business & Entrepreneurship Council
PHH Mortgage Corporation	Small Business Majority
PIMCO	Société Générale
Primary Residential Mortgage, Inc.	Standard & Poor's Financial Services LLC
Progressive Corporation	Starwood Mortgage Capital
Property Casualty Insurers Association of America	State Farm Mutual Automobile Insurance Company
Prudential Financial, Inc.	State Street
Pulte Mortgage LLC	Stearns Lending, LLC
Quantlab Financial, LLC	Steptoe & Johnson LLP
Quicken Loans Inc.	Structured Finance Industry Group
Redwood Trust Inc.	Sullivan & Cromwell LLP
Risk Management Association	SVB Financial Group
Rock Financial Corporation	SWBC Mortgage Corporation
Roosevelt Management Company	Swiss Re Ltd.
Royal Bank of Canada	TCF Financial Corporation
Runbeck Election Services	TD Group US Holdings
Sallie Mae	
Sandler O'Neill and Partners LP	

- Teachers Insurance and Annuity Association of America
- The Clearing House
- The Cypress Group
- Thomson-Reuters
- TIAA Global Asset Management
- Tradeweb
- Tradition
- Travelers Companies, Inc.
- Tullet Prebon
- Two Sigma Investments
- U.S. Chamber of Commerce
- UBS
- UMB Financial Corporation
- Union Home Mortgage Corporation
- United States Automobile Association
- Vanguard
- VantageScore Solutions, LLC
- Venable LLP
- Virtu Financial Inc.
- Waddell & Reed
- WeFunder
- Wellington Management
- Wells Fargo
- Wholesale Markets Brokers' Association
- Wilson Sonsini Goodrich & Rosati
- Wintrust Financial Corporation

Think Tanks

- American Enterprise Institute
- Aspen Institute
- Better Markets
- Bipartisan Policy Center
- Brookings Institution
- CATO Institute
- Committee on Capital Markets Regulation
- Competitive Enterprise Institute
- Heritage Foundation
- Hoover Institution
- Mercatus Center at George Mason University
- New America
- Pew Charitable Trust
- R Street Institute
- Urban Institute

Appendix B

Table of Recommendations

Table of Recommendations

Access to Capital

Recommendation	Policy Responsibility		Core Principle
	Congress	Regulator	
Public Companies and IPOs			
Treasury recommends that Section 1502 (conflict minerals), Section 1503 (mine safety), Section 1504 (resource extraction), and Section 953(b) (pay ratio) of Dodd-Frank be repealed and any rules issued pursuant to such provisions be withdrawn, as proposed by H.R. 10, the Financial CHOICE Act of 2017. In the absence of legislative action, Treasury recommends that the SEC consider exempting smaller reporting companies (SRCs) and emerging growth companies (EGCs) from these requirements.	Congress	SEC	D, F
As required by the Fixing America's Surface Transportation Act, Treasury recommends that the SEC proceed with a proposal to amend Regulation S-K in a manner consistent with its staff's recent recommendations.		SEC	F
Treasury recommends that the SEC move forward with finalizing its current proposal to remove SEC disclosure requirements that duplicate financial statement disclosures required under generally accepted accounting principles by the Financial Accounting Standards Board.		SEC	F
Treasury recommends that companies other than EGCs be allowed to "test the waters" with potential investors who are qualified institutional buyers (QIBs) or institutional accredited investors.		SEC	A, D, F
Treasury recommends further study and evaluation of proxy advisory firms, including regulatory responses to promote free market principles if appropriate.		SEC	A, C, F
Treasury recommends that the $2,000 holding requirement for shareholder proposals be substantially revised.		SEC	D, F, G
Treasury recommends that the resubmission thresholds for repeat proposals be substantially revised from the current thresholds of 3%, 6%, and 10% to promote accountability, better manage costs, and reduce unnecessary burdens.		SEC	D, F, G
Treasury recommends that the states and the SEC continue to investigate the various means to reduce costs of securities litigation for issuers in a way that protects investors' rights and interests, including allowing companies and shareholders to settle disputes through arbitration.		SEC, States	F
Treasury recommends that the SEC continue its efforts, when reviewing company offering documents, to comment on whether the documents provide adequate disclosure of dual class stock and its effects on shareholder voting.		SEC	A, D, F, G
Treasury recommends that the SEC revise the securities offering reform rules to permit business development companies (BDCs) to use the same provisions available to other issuers that file Forms 10-K, 10-Q, and 8-K.		SEC	A, D, F, G

Access to Capital

Recommendation	Policy Responsibility		Core Principle
	Congress	Regulator	
Disproportionate Challenges for Smaller Public Companies			
Treasury supports modifying rules that would broaden eligibility for status as an SRC and as a non-accelerated filer to include entities with up to $250 million in public float as compared to the current $75 million.		SEC	A, F, G
Treasury recommends extending the length of time a company may be considered an EGC to up to 10 years, subject to a revenue and/or public float threshold.	Congress	SEC	A, F, G
Treasury recommends that the SEC review its interval fund rules to determine whether more flexible provisions might encourage creation of registered closed-end funds that invest in offerings of smaller public companies and private companies whose shares have limited or no liquidity.		SEC	A, F, G
Treasury recommends a holistic review of the Global Settlement and the research analyst rules to determine which provisions should be retained, amended, or removed, with the objective of harmonizing a single set of rules for financial institutions.		SEC, FINRA	A, C, F, G
Expanding Access to Capital Through Innovative Tools			
Treasury recommends expanding Regulation A eligibility to include Exchange Act reporting companies.		SEC	A, F, G
Treasury recommends steps to increase liquidity for the secondary market for Tier 2 securities. Treasury recommends state securities regulators promptly update their regulations to exempt secondary trading of Tier 2 securities or, alternatively, the SEC use its authority to preempt state registration requirements for such transactions.		SEC, States	A, F, G
Treasury recommends that the Tier 2 offering limit be increased to $75 million.		SEC	A, F, G
Treasury recommends allowing single-purpose crowdfunding vehicles advised by a registered investment adviser. Treasury recommends that any rulemaking in this area prioritize alignment of interests between the lead investor and the other investors participating in the vehicle, regular dissemination of information from the issuer, and minority voting protections with respect to significant corporate actions.		SEC	A, F, G
Treasury recommends that the limitations on purchases in crowdfunding offerings should be waived for accredited investors as defined by Regulation D.		SEC	A, F, G
Treasury recommends that the crowdfunding rules be amended to have investment limits based on the greater of annual income or net worth for the 5% and 10% tests, rather than the lesser.		SEC	A, F, G
Treasury recommends that the conditional exemption from Section 12(g) be modified, raising the maximum revenue requirement from $25 million to $100 million.		SEC	F, G
Treasury recommends increasing the limit on how much can be raised in a crowdfunding offering over a 12-month period from $1 million to $5 million.		SEC	A, F, G

Access to Capital

Recommendation	Policy Responsibility: Congress	Policy Responsibility: Regulator	Core Principle
Maintaining the Efficacy of the Private Markets			
Treasury recommends that the SEC, FINRA, and the states propose a new regulatory structure for finders and other intermediaries in capital-forming transactions.		SEC, FINRA, States	A, F, G
Treasury recommends that amendments to the accredited investor definition be undertaken with the objective of expanding the eligible pool of sophisticated investors.		SEC	A, F, G
Treasury recommends a review of provisions under the Securities Act and the Investment Company Act that restrict unaccredited investors from investing in a private fund containing Rule 506 offerings.		SEC	A, F, G
Treasury recommends that federal and state financial regulators, along with their counterparts in self-regulatory organizations, work to centralize reporting of individuals and firms that have been subject to adjudicated disciplinary proceedings or criminal convictions, which can be searched easily and efficiently by the investing public free of charge.		SEC, CFTC, FINRA, States	A, G

Markets Structure and Liquidity

Recommendation	Policy Responsibility: Congress	Policy Responsibility: Regulator	Core Principle
Equities			
Treasury recommends that the SEC allow issuers of less liquid stocks, in consultation with their underwriter and listing exchange, to partially or fully suspend unlisted trading privileges for their securities and select the exchanges and venues on which their securities will trade.		SEC	C, F
Treasury recommends that the SEC evaluate whether to allow issuers to determine the tick size for trading of their stock across all exchanges and whether to additionally limit potential tick sizes to a small number of standard options to manage complexity.		SEC	C, F
Regarding Treasury's concern that maker-taker markets and payment for order flow may create misaligned incentives for broker-dealers: • Treasury recommends the SEC adopt rules to mitigate potential conflicts of interest due to maker-taker rebates and payment for order flow compensation arrangements. • Treasury supports a pilot program to study the impact reduced access fees would have on investors' execution costs or available liquidity. • Treasury recommends that the SEC exempt less liquid stocks from the restrictions on maker-taker rebates and payment for order flow if such exemptions promote greater market making.		SEC	C, F

Markets Structure and Liquidity

Recommendation	Policy Responsibility		Core Principle
	Congress	Regulator	
Equities			
Regarding market data rules: • Treasury recommends that the SEC and FINRA issue guidance clarifying that broker-dealers may satisfy their best execution obligations by relying on securities information processor (SIP) data rather than proprietary data feeds if the broker-dealer does not otherwise subscribe to or use those proprietary data feeds. • Treasury suggests that the SEC consider whether proposed self-regulatory organization (SRO) rules establishing data fees are "fair and reasonable," "not unreasonably discriminatory," and an "equitable allocation" of reasonable fees among persons who use the data. • Treasury recommends that the SEC consider amending Regulation NMS as necessary to enable competing consolidators to provide an alternative to the SIPs.		SEC, FINRA	C, F
Treasury recommends that the SEC consider amending the Order Protection Rule to give protected quote status only to registered national securities exchanges that offer meaningful liquidity and opportunities for price improvement. Treasury recommends that the SEC consider amending the Order Protection Rule to withdraw protected quote status for orders on any exchange that do not meet a minimum liquidity threshold. Treasury recommends that the SEC should consider proposing that any newly registered national securities exchange receive the benefit of protected order status for some period of time.		SEC	C, F
In order to reduce complexity in equity markets, Treasury recommends that the SEC review whether exchanges and alternative trading systems (ATSs) should harmonize their order types and make recommendations as appropriate.		SEC	C, F
Treasury recommends that the SEC adopt amendments to Regulation ATS substantially as proposed but revise aspects of the proposal to: (1) eliminate unnecessary public disclosure of confidential information, (2) require disclosure of confidential information only to the SEC and only if it would improve the SEC's ability to oversee the industry, (3) ensure that disclosures related to conflicts of interest are tailored to provide useful information to market participants, and (4) simplify the disclosures to reduce the compliance burden and to increase their readability and comparability across competing ATSs.		SEC	C, F

Markets Structure and Liquidity

Recommendation	Policy Responsibility		Core Principle
	Congress	Regulator	
Treasuries			
Treasury recommends closing the PTF data granularity gap by requiring trading platforms operated by FINRA member broker-dealers that facilitate transactions in Treasury securities to identify the customers in reports to TRACE of Treasury security transactions.		SEC, FINRA	C, G
Treasury supports the Federal Reserve Board's efforts to collect Treasury transaction data from its bank members.		FRB	C, G
To further the study and monitoring of the Treasury cash market, Treasury recommends that the CFTC share daily its Treasury futures security transaction data with Treasury.		CFTC	C, G
To better understand clearing and settlement arrangements in the Treasury interdealer broker (IDB) market and the consequences of reform options available in the clearing of Treasury securities, Treasury recommends further study of potential solutions by regulators and market participants.		SEC	B, C
Treasury reiterates its recommendation from the Banking Report to amend regulation to improve the availability of secured repurchase agreement (repo) financing.	Congress	FRB, FDIC, OCC	D, F
Corporates			
Treasury reiterates its recommendations from the Banking Report to improve secondary market liquidity.	Congress	FRB, FDIC, OCC, SEC, CFTC	C, F, G

Securitization

Recommendation	Policy Responsibility		Core Principle
	Congress	Regulator	
Capital			
Treasury recommends that banking regulators rationalize the capital required for securitized products with the capital required to hold the same disaggregated underlying assets.		FRB, FDIC, OCC	C, F
Treasury recommends that U.S. banking regulators adjust the parameters of both the simplified supervisory formula approach (SSFA) and the supervisory formula approach (SFA). • The p factor, already set at a punitive level that assesses a 50% surcharge on securitization exposures, should, at minimum, not be increased. • SSFA should recognize the added credit enhancement when a bank purchases a securitization at a discount to par value. • Regulators should align the risk weight floor for securitization exposures with the Basel recommendation.		FRB, FDIC, OCC	C, D, F
Treasury recommends that bank capital requirements for securitization exposures sufficiently account for the magnitude of the credit risk sold or transferred in determining required capital instead of tying capital to the amount of the trust consolidated for accounting purposes.		FRB, FDIC, OCC	C, F
Treasury recommends that regulators consider the impact that trading book capital standards, such as fundamental review of the trading book (FRTB), would have on secondary market activity. Capital requirements should be recalibrated to prevent the required amount of capital from exceeding the maximum economic exposure of the underlying bond.		FRB, FDIC, OCC	C, F
Treasury recommends that the Federal Reserve Board consider adjusting the global market shock scenario for stress testing to more fully consider the credit quality of the underlying collateral and reforms implemented since the financial crisis.		FRB	C, F
Liquidity			
Treasury recommends that high-quality securitized obligations with a proven track record receive consideration as level 2B high-quality liquid assets (HQLA) for purposes of the liquidity coverage ratio (LCR) and the net stable funding ratio (NSFR). Regulators should consider applying to these senior securitized bonds a prescribed framework, similar to that used to determine the eligibility of corporate debt, to establish criteria under which a securitization may receive HQLA treatment.		FRB, FDIC, OCC	C, F

Securitization

Recommendation	Policy Responsibility		Core Principle
	Congress	Regulator	
Risk Retention			
Treasury recommends that banking regulators expand qualifying underwriting exemptions across eligible asset-classes through notice-and-comment rulemaking.		FRB, FDIC, OCC	C, F
Treasury recommends that collateralized loan obligation (CLO) managers who select loans that meet prespecified "qualified" standards, as established by the appropriate rulemaking agencies, should be exempt from the risk retention requirement.		FRB, FDIC, OCC	C, F
Treasury recommends that regulators review the mandatory five-year holding period for third-party purchasers and sponsors subject to this requirement. To the extent regulators determine that the emergence period for underwriting-related losses is shorter than five years, the associated restrictions on sale or transfer should be reduced accordingly.		SEC, FRB, OCC, FDIC, FHFA, HUD	C, F
Treasury reiterates its recommendation that Congress designate one lead agency from among the six that promulgated the Credit Risk Retention Rulemaking to be responsible for future actions related to the rulemaking.	Congress		C, F
Disclosures			
Treasury recommends that the number of required reporting fields for registered securitizations be reduced. Additionally, Treasury recommends that the SEC continue to refine its definitions to better standardize the reporting requirements on the remaining required fields.		SEC	C, F
Treasury recommends that the SEC explore adding flexibility to the current asset-level disclosure requirements by instituting a "provide or explain regime" for prespecified data fields.		SEC	C, F
Treasury recommends that the SEC review the three-day waiting period for registered deals and consider reducing, dependent on securitized asset class.		SEC	C, F
Treasury recommends that the SEC signal that Reg AB II asset-level disclosure requirements will not be extended to unregistered 144A offerings or to additional securitized asset classes.		SEC	C, F

Derivatives

Recommendation	Policy Responsibility		Core Principle
	Congress	Regulator	
Harmonization Between CFTC and SEC			
Treasury recommends that the CFTC and the SEC undertake and give high priority to a joint effort to review their respective rulemakings in each key Title VII reform area. The goals of this exercise should be to harmonize rules and eliminate redundancies to the fullest extent possible and to minimize imposing distortive effects on the markets and duplicative and inconsistent compliance burdens on market participants. • As part of this review, the SEC should finalize its Title VII rules with the goal of facilitating a well-harmonized swaps and security-based swaps regime. • This effort should also include consideration of the prospects for alternative compliance regimes – for example, a framework of interagency substituted compliance or mutual recognition – for any areas in which effective harmonization is not feasible. • Public comment should be part of this process. Treasury recommends that Congress consider further action to achieve maximum harmonization in the regulation of swaps and security-based swaps.	Congress	CFTC, SEC	D, F, G
Margin Requirements for Uncleared Swaps			
Treasury recommends that U.S. regulators take steps to harmonize their margin requirements for uncleared swaps domestically and cooperate with non-U.S. jurisdictions that have implemented the Basel Committee on Banking Supervision-International Organization of Securities Commissions (BCBS-IOSCO) framework to promote a level playing field for U.S. firms. • The U.S. banking agencies should consider providing an exemption from the initial margin requirements for uncleared swaps for transactions between affiliates of a bank or bank holding company in a manner consistent with the margin requirements of the CFTC and the corresponding non-U.S. requirements, subject to appropriate conditions. • The CFTC and U.S. banking regulators should work with their international counterparts to amend the uncleared margin framework so it is more appropriately tailored to the relevant risks. • Where warranted based on logistical and operational considerations, the CFTC and the U.S. banking agencies should consider amendments to their rules to allow for more realistic time frames for collecting and posting margin. • The CFTC and the U.S. banking regulators should reconsider the one-size-fits-all treatment of financial end users for purposes of margin on uncleared swaps and tailor their requirements to focus on the most significant source of risk. • Consistent with these objectives, the SEC should repropose and finalize its proposed margin rule for uncleared security-based swaps in a manner that is aligned with the margin rules of the CFTC and the U.S. banking regulators.		CFTC, SEC, Banking Agencies	D, F

Derivatives

Recommendation	Policy Responsibility		Core Principle
	Congress	Regulator	
CFTC Use of No-Action Letters			
Treasury recommends that the CFTC take steps to simplify and formalize all outstanding staff guidance and no-action relief that has been used to smooth the implementation of the Dodd-Frank swaps regulatory framework. This should include, where necessary and appropriate, amendments to any final rules that have proven to be infeasible or unworkable, necessitating broadly applicable or multiyear no-action relief.		CFTC	F, G
Cross-Border Issues			
Cross-border Application and Scope: Treasury recommends that the CFTC and the SEC provide clarity around the cross-border scope of their regulations and make their rules compatible with non-U.S. jurisdictions where possible to avoid market fragmentation, redundancies, undue complexity, and conflicts of law. Examples of areas that merit reconsideration include: • whether swap counterparties, trading platforms, and CCPs in jurisdictions compliant with international standards should be required to register with the CFTC or the SEC as a result of doing business with a U.S. firm's foreign branch or affiliate; • whether swap dealer registration should apply to a U.S. firm's non-U.S. affiliate on the basis of trading with non-U.S. counterparties if the U.S. firm's non-U.S. affiliate is effectively regulated as part of an appropriately robust regulatory regime or otherwise subject to Basel-compliant capital standards, regardless of whether the affiliate is guaranteed by its U.S. parent; • whether U.S. firms' foreign branches and affiliates, guaranteed or not, should be subject to Title VII's mandatory clearing, mandatory trading, margin, or reporting rules when they trade with non-U.S. firms in jurisdictions compliant with international standards; and • providing alternative ways for regulated entities to comply with requirements that may conflict with local privacy, blocking, and secrecy laws.		CFTC, SEC	D, F

Derivatives

Recommendation	Policy Responsibility: Congress	Policy Responsibility: Regulator	Core Principle
Cross-Border Issues			
Substituted Compliance: Treasury recommends that effective cross-border cooperation include meaningful substituted compliance programs to minimize redundancies and conflicts. • The CFTC and SEC should be judicious when applying their swaps rules to activities outside the United States and should permit entities, to the maximum extent practicable, to comply with comparable non-U.S. derivatives regulations, in lieu of complying with U.S. regulations. • The CFTC and the SEC should adopt substituted compliance regimes that consider the rules of other jurisdictions, in an outcomes-based approach, in their entirety, rather than relying on rule-by-rule analysis. They should work toward achieving timely recognition of their regimes by non-U.S. regulatory authorities. • The CFTC should undertake truly outcomes-based comparability determinations, using either a category-by-category comparison or a comparison of the CFTC regime to the foreign regime as a whole. • Meaningful substituted compliance could also include consideration of recognition regimes for non-U.S. CCPs clearing derivatives for certain U.S. persons and for non-U.S. platforms for swaps trading.		CFTC, SEC	D, F
ANE Transactions: Treasury recommends that the CFTC and the SEC reconsider any U.S. personnel test for applying the transaction-level requirements of their swaps rules. • The CFTC should provide certainty to market participants regarding the guidance in the CFTC arrange, negotiate, execute (ANE) staff advisory (CFTC Letter No. 13-69), which has been subject to extended no-action relief, either by retracting the advisory or proceeding with a rulemaking. • In particular, the CFTC and the SEC should reconsider the implications of applying their Title VII rules to transactions between non-U.S. firms or between a non-U.S. firm and a foreign branch or affiliate of a U.S. firm merely on the basis that U.S.-located personnel arrange, negotiate, or execute the swap, especially for entities in comparably regulated jurisdictions.		CFTC, SEC	D, F

Derivatives

Recommendation	Policy Responsibility: Congress	Policy Responsibility: Regulator	Core Principle
Capital Treatment in Support of Central Clearing			
Treasury recommends that regulators properly balance the post-crisis goal of moving more derivatives into central clearing with appropriately tailored and targeted capital requirements. • As a near-term measure, Treasury reiterates the recommendation of the Banking Report and calls for the deduction of initial margin for centrally cleared derivatives from the SLR denominator; and recommends a risk-adjusted approach for valuing options for purposes of the capital rules to better reflect the exposure, such as potentially weighting options by their delta. • Beyond the near term, Treasury recommends that regulatory capital requirements transition from CEM to an adjusted SA-CCR calculation that provides an offset for initial margin and recognition of appropriate netting sets and hedged positions. • In addition, Treasury recommends that U.S. banking regulators and market regulators conduct regular comprehensive assessments of how the capital and liquidity rules impact the incentives to centrally clear derivatives and whether such rules are properly calibrated.		Banking Agencies, CFTC, SEC	D, F
Swap Dealer De Minimis Threshold			
Treasury recommends that the CFTC maintain the swap dealer de minimis registration threshold at $8 billion, and establish that any future changes to the threshold will be subject to a formal rulemaking and public comment process.		CFTC	F
Definition of Financial Entity			
To provide regulatory certainty and better facilitate appropriate exceptions from the swaps clearing requirement for commercial end users engaged in bona fide hedging or mitigation of commercial risks, Treasury would support a legislative amendment to CEA Section 2(h)(7) providing the CFTC with rulemaking authority to modify and clarify the scope of the financial entity definition and the treatment of affiliates. • Such authority should include consideration of non-prudentially regulated entities that currently fall under subclause VIII of CEA Section 2(h)(7)(c)(i) – i.e., entities that are “predominantly engaged… in activities that are financial in nature” – but which might warrant exception from the clearing requirement if they engage in swaps primarily to hedge or mitigate the business risks of a commercial affiliate. • Such authority should also be flexible enough to permit, for example, the CFTC to formalize its no-action relief for central treasury units (CTUs) in a rulemaking. • Further, any exceptions provided by the CFTC under such authority should be subject to appropriate conditions and allow the CFTC to appropriately monitor exempted activity. The conditions could include, for example, making the exception dependent on the size and nature of swaps activities, demonstration of risk-management requirements in lieu of clearing, and reporting requirements. Any legislative amendment should provide the SEC analogous rulemaking authority under Exchange Act Section 3C(g) with respect to exceptions from the clearing requirement for security-based swaps.	Congress	CFTC, SEC	D, F

Derivatives

Recommendation	Policy Responsibility		Core Principle
	Congress	Regulator	
Position Limits			
Treasury recommends that the CFTC complete its position limits rules, as contemplated by its statutory mandate, with a focus on detecting and deterring market manipulation and other fraudulent behavior. Among the issues to consider in completing a final position limits rule, the CFTC should: • ensure the appropriate availability of bona fide hedging exemptions for end users and explore whether to provide a risk management exemption; • consider calibrating limits based on the risk of manipulation, for example, by imposing limits only for spot months of physical delivery contracts where the risk of potential market manipulation is greatest; and • consider the deliverable supply holistically when setting the limits (e.g., for gold, consider the global physical market, not just U.S. futures).		CFTC	D, F
SEF Execution Methods and MAT Process			
Treasury recommends that the CFTC: • consider rule changes to permit swap execution facilities (SEFs) to use any means of interstate commerce to execute swaps subject to a trade execution requirement that are consistent with the "multiple-to-multiple" element of the SEF definition (CEA Section 1a(50)). Such rule changes should be undertaken in recognition of the statutory goals of impartial access for market participants and promoting pre-trade price transparency in the swaps market; • reevaluate the MAT determination process to ensure sufficient liquidity for swaps to support a mandatory trading requirement; and • consider clarifying or eliminating footnote 88 in its final SEF rules to address associated market fragmentation.		CFTC	D, F
Swap Data Reporting			
Treasury supports the CFTC's newly launched "Roadmap" effort, as announced in July 2017, to standardize reporting fields across products and SDRs, harmonize data elements and technical specifications with other regulators, and improve validation and quality control processes. • Treasury recommends that the CFTC secure and commit adequate resources to complete the Roadmap review, undertake notice and comment rulemaking, and implement revised rules and harmonized standards within the timeframe outlined in the Roadmap. • Treasury recommends that the CFTC leverage third-party and market participant expertise to the extent necessary to develop a coherent, efficient, and effective reporting regime.		CFTC, SEC	F

Financial Market Utilities

Recommendation	Policy Responsibility		Core Principle
	Congress	Regulator	
Treasury recommends that U.S. regulators that supervise systemically important financial market utilities (SIFMUs) bolster resources for their supervision and regulation, and that the CFTC be allocated greater resources for its review of CCPs. Treasury also recommends that the agencies study how they can streamline the existing advance notice review process to be more efficient and appropriately tailored to the risk that a particular change presented by a SIFMU may pose.	Congress	FRB, CFTC, SEC	D, F
Treasury recommends that the Federal Reserve review: (1) what risks are posed to U.S. financial stability by the lack of Federal Reserve Bank deposit account access for financial market utilities (FMUs) with significant shares of U.S. clearing business and an appropriate way to address such risks; and (2) whether the rate of interest paid on SIFMUs' deposits at the Federal Reserve Banks should be adjusted based on market-based evaluation of comparable private sector opportunities.		FRB	B
Treasury recommends that future central counterparty (CCP) stress testing exercises by the CFTC incorporate additional products, different stress scenarios, liquidity risk, and operational and cyber risks, which can also pose potential risks to U.S. financial stability.		CFTC	B
Treasury recommends that U.S. regulators continue to take part in crisis management groups (CMGs) to share relevant data and consider the coordination challenges that domestic and foreign regulators and resolution authorities may encounter during cross-border resolution of CCPs.		CFTC, FDIC, SEC	B, E
Treasury recommends that U.S. regulators continue to advance American interests abroad when engaging with international standard setting bodies such as The Committee on Payments and Market Infrastructures of the International Organization of Securities Commissions (CPMI-IOSCO) and Financial Stability Board's (FSB's) work streams.		CFTC, SEC, FRB, FDIC	E

Regulatory Structure and Processes

Recommendation	Policy Responsibility		Core Principle
	Congress	Regulator	
Restoration of Exemptive Authority			
Treasury recommends that Congress restore the CFTC's and SEC's full exemptive authority and remove the restrictions imposed by Dodd-Frank.	Congress		F, G
Improving Regulatory Policy Decision Making			
Treasury reaffirms the recommendations for enhanced use of regulatory cost-benefit analysis discussed in the Banking Report for the SEC and the CFTC.		CFTC, SEC	C, F, G
Treasury recommends that the CFTC and the SEC, when conducting rulemakings, be guided by the Core Principles for financial regulation laid out in Executive Order 13772, as well as the principles set forth in Executive Orders 12866 and 13563, and that they update any existing guidance as appropriate.		CFTC, SEC	C, F, G
Treasury recommends that the agencies take steps, as part of their oversight responsibilities, so that self-regulatory organization (SRO) rulemaking take into account, where appropriate, economic analysis when proposed rules are developed at the SRO level.		CFTC, SEC	C, F, G
Treasury recommends that the CFTC and the SROs issue public guidance explaining the factors they consider when conducting economic analysis in the rulemaking process.		CFTC, SROs	C, F, G
Treasury encourages the CFTC and the SEC to make fuller use of their ability to solicit comment and input from the public, including by increasing their use of advance notices of proposed rulemaking to better signal to the public what information may be relevant.		CFTC, SEC	C, F, G
Treasury recommends that the CFTC and the SEC conduct regular, periodic reviews of agency rules for burden, relevance, and other factors.		CFTC, SEC	C, F, G
Treasury supports the goals of principles-based regulation and recommends that the SEC and the CFTC consider using this approach, to the extent appropriate and consistent with applicable law.		CFTC, SEC	F, G
Treasury believes that the CFTC and the SEC should continue their joint outcomes-based effort to harmonize their respective rules and requirements, as well as cross-border application of such rules and requirements.		CFTC, SEC	D, E, F, G
Treasury recommends that the CFTC and the SEC avoid imposing new requirements by no-action letter, interpretation, or other form of guidance and consider adopting Office of Management and Budget's Final Bulletin for Agency Good Guidance Practices.		CFTC, SEC	C, F, G

Regulatory Structure and Processes

Recommendation	Policy Responsibility		Core Principle
	Congress	Regulator	
Improving Regulatory Policy Decision Making			
Treasury recommends that the CFTC and the SEC take steps to ensure that guidance is not being used excessively or unjustifiably to make substantive changes to rules without going through the notice and comment process.		CFTC, SEC	C, F, G
Treasury recommends that the CFTC and the SEC review existing guidance and revisit any guidance that has caused market confusion and compliance challenges.		CFTC, SEC	C, F, G
Treasury recommends that the agencies undertake a review and update the definitions so that the Regulatory Flexibility Act analysis appropriately considers the impact on persons who should be considered small entities.		CFTC, SEC	C, F, G
Self-Regulatory Organizations			
Treasury recommends that the CFTC and the SEC conduct comprehensive reviews of the roles, responsibilities, and capabilities of the SROs under their respective jurisdictions and make recommendations for operational, structural, and governance improvements of the SRO framework.		CFTC, SEC	C, F, G
Treasury recommends that the agencies identify any changes to underlying laws or rules that are needed to enhance oversight of SROs.		CFTC, SEC	C, F, G
Treasury recommends that each SRO adopt and publicly release an action plan to review and update its rules, guidance, and procedures on a periodic basis.		SROs	C, F, G

International Aspects of Capital Market Regulation

Recommendation	Policy Responsibility		Core Principle
	Congress	Regulator	
Treasury recommends that U.S. regulators and Treasury sustain and develop technical level dialogues with key partners, informed by previous outreach to industry, to address conflicting or duplicative regulation.		CFTC, FDIC, FRB, OCC, SEC, Treasury	D, E
Treasury recommends that U.S. regulators seek to reach outcomes-based, non-discriminatory substituted compliance arrangements with other regulators or supervisors with the goal of mitigating the effects of regulatory redundancy and conflict when it is justified by the quality of foreign regulation, supervision, and enforcement regimes, paying due respect to the U.S. regulatory regime.		CFTC, SEC	D
Treasury recommends that U.S. members of standard-setting bodies (SSBs) continue to advocate for and shape international regulatory standards aligned with domestic financial regulatory objectives.		CFTC, FDIC, FRB, OCC, SEC, Treasury	E
Treasury recommends that U.S. agencies should continue to regularly coordinate policy before as well as after international engagements.		CFTC, FDIC, FRB, OCC, SEC, Treasury	E
Treasury recommends that U.S. agencies to work in international organizations to elevate the quality of stakeholder consultation globally.		CFTC, FDIC, FRB, OCC, SEC, Treasury	D, E

2017-04856 (Rev. 1) • Department of the Treasury • Departmental Offices • www.treasury.gov