UK-US Financial Regulation: The Benefits of Greater Coherence

Ike Brannon
Julie Chon
Robert Jennings

August 6, 2018

Introduction

One decade on from the worst financial crisis in generations, the United Kingdom, United States, and European Union are each engaged in significant exercises of financial regulatory self-evaluation. As these jurisdictions review the historic regulations they adopted following the 2008 financial crisis, they should re-commit to the 2009 G20 leaders’ agreement to “act together” to raise capital standards, discourage excessive risk-taking, improve the over-the-counter derivatives market, and hold large global firms to account for the risks they take.

This paper examines where these jurisdictions, particularly the UK and US, took divergent paths to financial regulation and the economic implications of those differences. We highlight the economic benefits of greater regulatory coherence and recommend steps to improve cross-border cooperation.

We assert that the cornerstones of the 2009 G20 Leaders’ Statement—the regulation of global systemically important institutions (GSIFIs) and derivatives—offer the most promise for yielding better economic outcomes if the divergences are reduced. Based on actual capital markets events and academic literature, our paper demonstrates how further regulatory coherence in these two areas are needed to ensure the post-crisis economic progress in the UK and US. Since the two countries’ financial systems are interconnected through GSIFIs and derivatives, closer and more coherent oversight can result in better economic performance through a more stable financial system.

One reason for the strong and durable economy of the United States is undoubtedly the deep economic integration that exists across the disparate regions of the country. There are no tariffs within the U.S., the states’ economic and financial systems are inextricably tied to one another, a robust transportation network crisscrosses the country, and its strong federal government has created a great deal of regulatory coherence across the communities in the country.

A major goal for the creation of the EU was to achieve a similar level of economic integration across its member countries as well, which necessitated the implementation of a coherent system of rules that allowed commerce to move freely across borders. Accomplishing this

---

1 Ike Brannon is a senior fellow at the Jack Kemp Foundation. Julia Chon is a senior fellow at the Atlantic Council. Robert Jennings is professor emeritus at Indiana University.
integration boosted trade and investment as intended, and in turn helped to increase the rate of economic growth across its members. Its existence most likely made the damages done across the continent by the 2008-2009 financial crisis less costly.

The UK financial markets act as a sort of simulacrum between the U.S and EU markets, which--together--transact a majority of the globe’s financial market activity. We believe that it is possible for the United Kingdom to use its position to achieve a global financial market that is more transparent, robust, and integrated. A more coherent global financial market--that is, one that is both more closely integrated and operating under a more consistent regulatory regime--would bring myriad benefits to each country’s economy. Allowing capital to move easily and inexpensively between countries will result in less stranded capital and a more productive use of capital as well. It will lessen the amount of financial buffers needed to guard against potential financial calamities while reducing the overall odds of another such event occurring at all. Finally, it would lessen the chances of another financial crisis.

**Purpose of the study.** A key to providing such a global marketplace is coherent financial regulation. The purpose of this study is to:

1. Identify key areas of divergence in UK/EU and US financial regulation that give rise to significant and measurable economic outcomes; and
2. Recommend steps to enhance regulatory coherence in order to produce better economic results.

**Methodology.** Measuring the economic cost of financial regulatory divergence (as indeed the costs/benefits of financial regulation in general) is not an easy task. Regulators on both sides of the Atlantic often lack such analysis because of insufficient investment and a lack of attention to the task. From a technical perspective, the interaction between the various countries’ economies and regulations is intricate and the causal effects can be difficult to discern clearly.

Therefore, we used data from actual capital markets events and analytical tools from academic studies in an attempt to measure the economic outcomes of divergent financial regulation. Our search for divergences in regulation began with the G20 Leaders Statement in which the world’s largest economies agreed to act together to rein in the excesses that led to the 2008 financial crisis. We also used extensive interviews with regulators, practitioners, and academics in the UK, Europe, and the US.

**Topics of focus.** Based on these sources and our own study, we found that divergent implementation of the G20 agreement to regulate large global financial firms and derivatives resulted in divergent, significant, and measurable economic outcomes that could be improved through greater regulatory coherence. In addition, we believed it to be possible to suggest some broad outlines regarding the costs of divergences in financial-security market structure regulation.
We can divide the corpus of UK/US financial regulation into three broad categories: the first—and by far the largest—is where we have complete convergence between the two markets. The second is where there is divergence that economic theory tells us is economically costly but where data do not exist to quantify these costs. And the third is where there is regulatory divergence that imposes costs that are quantifiable. This is the focus of our research.

**Causes of divergence.** The UK and US are bound by a powerful financial and economic relationship—the US is the UK’s single biggest trading partner and the two countries are home to the leading financial centers in the world. The two countries’ financial systems are tightly interconnected via a massive volume of capital flows. British legal principles and practices that regulate private property ownership have shaped US commerce for centuries.

Despite these strong ties, the UK and US were subject to a variety of forces that pulled them in somewhat different directions as they implemented the G20 commitment to regulate GSIFIs and derivatives. The causes of differences included:

- Domestic politics and elections, and the differing pace of economic recovery in each country, which led to different interpretations of the G20 agreement.
- Differing timelines and processes for implementation, with the UK subject to both domestic and EU-level processes and economic forces (especially during the EU sovereign debt and banking crises).
- Competing domestic and cross-border regulatory interests, which resulted in the “gold-plating” of some international standards.
- The lack of effective coordinating mechanisms to assist jurisdictions overcome these problems.

**The costs of regulatory divergence are potentially significant and include:**

- **Economic costs:** The risk of another financial crisis of possibly greater magnitude is meaningful. Its cost would be high especially as fiscal and monetary buffers have already been extended in response to the recent Global Financial Crisis. Hence, coordinated action to manage/mitigate systemic risk is essential;
- **Higher costs of capital:** due to differential regulation and/or incomplete integration and inconsistent implementation of existing regulation;
- **Systemic costs:** Less stable sources of capital (long-term institutional investors’ appetite for risk versus shorter-term investors with higher risk tolerance); and
- **Duplicative compliance and trading costs.**

**Economic costs:** Closer coordination between the world’s most important financial hubs can be critical to delivering on the G20’s commitment to a more stable financial system. Contributing to the unforeseen intensity of the financial crisis was the inability of governments to assess the extent of systemic risk in the global economy. The potential costs of failing to achieve success in
assessing and managing systemic risk are substantial. For instance, the Basel Committee on Banking Supervision estimated that a one-percentage point reduction in the probability of a financial crisis provides a benefit of:

- 0.19% of global GDP if crises have no permanent effect on output,
- 0.63% of global GDP if crises have a long-lasting temporary or a small permanent effect on output, or
- 1.58% of global GDP if crises have a large permanent effect on output.

https://www.bis.org/publ/bcbs173.pdf

With 2018 global GDP estimated to exceed $80 trillion, even a very small increase in the probability of another financial crisis resulting from ineffective regulation imposes substantial potential costs; a perceived increase in the likelihood of another financial crisis of just one basis point (or .01%) would suggest additional annual costs between $1.5 and $12.6 billion. Even if newly added regulations regarding bank capital, operational activities, and resolution authority reduce the effects of another financial crisis by half, the costs of ineffectively monitoring systemic risk is large.

There are two broad approaches to take if we desire to insulate the global economy from another financial crisis. One would entail individual regulatory jurisdictions joining to establish a tightly coordinated regime of monitoring systemic risk and regulating the amount of such risk in the financial system. The other approach would be to leave systemic risk incompletely monitored (possibly because regulatory jurisdictions are unable or unwilling to cooperate) and attempt to insulate the economy from the effect of the risk being realized, via such things as extensive capital requirements or business operational limitations.

Higher costs of capital: One way to reduce systemic risk in the absence of full cooperation would be to require systemically important institutions to maintain capital positions sufficient to insure against another financial crisis, but this approach has its shortcomings. For starters, incremental capital is expensive for the institutions involved; the market capitalization of ten of the largest US banks and four large UK banks is approximately $2 trillion and the Capital Asset Pricing Model (CAPM), a key precept of finance theory, implies that the required rate of return on equity capital for banks is about 12%. Thus, every one-percentage point of additional

2 The US banks are Bank of America, Bank of New York Mellon, Capital One Financial, Citi, JP Morgan Chase, PNC, State Street, Suntrust, US Bancorp, and Wells Fargo. The UK banks are Barclays, HSBC, Lloyds, and RBS.

3 The CAPM states that the required rate of return on an investment is the risk free rate of return plus a risk premium that is the market risk premium (the return equity investments, on average, earn above the risk free rate) times the amount of portfolio risk an investment adds to the market portfolio (the security’s beta). Using a 10-year US Treasury rate of return of about 2.4% (year end 2017), a market risk premium of 8% (20 year average through year end 2017) and an average bank beta of about 1.2 yields a 12% required rate of return.
equity capital required by the bank ($20 billion) effectively “costs” these 14 banks approximately $2.4 billion per year compared to the relatively inexpensive after-tax cost of the debt it replaces.

**Systemic costs:** Another problem with uncoordinated capital requirements across regulatory jurisdictions (e.g., local capital requirements) is that it might not have the desired effect. Wilson Ervin, the global vice chair for Credit Suisse, put forth the argument that attempting to make home country banking sectors safer by requiring country-specific capitalization of banking subsidiaries can result in a situation where there is no mobile capital reserve to apply in times of a less-than-global crisis. Using a simulation in a situation where each of four hypothetical subsidiaries is fully ring fenced and there is no mobile capital reserve, the likelihood of failure becomes 5 to 15 times more likely than if there is an integrated bank with full capital mobility.⁴

**Trading costs:** In the capital markets arena, there are similar stakes to consider. The effective cross-border monitoring of derivative exposures brings with it similar benefits of avoiding another global financial crisis – indeed, derivatives have received a considerable amount of the blame for the 2008 catastrophe. Requiring the central clearing of many derivative transactions has fundamentally changed the interaction of counterparties and provided the framework for analyzing systemic exposures. With additional effort to coordinate the data collected across jurisdictions, aggregating global risk exposure can help regulators. In addition, complete transparency in derivatives pricing has the promise of bringing more competition to the market, potentially lowering the cost of firms using derivatives to reduce risk. If firms respond to lower hedging costs by increasing the amount of risk management, then they can put the capital currently dedicated to risk reduction to productive uses, spurring economic growth. In addition, the coordinated regulation of capital market structure can reduce regulatory arbitrage and unwanted effects on the cost of trading.

**Recommendations**

In addition to existing efforts to promote transatlantic regulatory cooperation such as the US-EU Joint Financial Regulatory Forum and numerous initiatives spearheaded by specific agencies such as the FDIC and Bank of England, we recommend three cooperative programs that we believe will promote more analytical capabilities and trust across the UK and US jurisdictions to yield more coherent regulations once the UK exits from the EU. First, we propose a formal, published annual joint regulatory study from the Bank of England and the Federal Reserve.⁴

---

⁴ See [https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3085649](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3085649). Clearly, Ervin’s analysis is highly stylized. For example, he assumes that regulatory jurisdictions can overcome the rational belief that they must exert local control to insure the safety of the domestic economy to defer to foreign regulators in matters of important regulatory functions. In addition, although the failure of a fully integrated firm can cause a global crisis, the failure of a local subsidiary does not predicate a global crisis. Ervin’s point is that there might be unintended consequences from the segregation of capital.
Such a report will provide transparency to regulators, legislators, and other interested parties. Second, we advance a transatlantic financial command center to monitor in close to real time developments in capital markets. Finally, we suggest a program where members of various UK and US regulatory bodies spend time in the other country’s comparable unit in order to become more aware of common issues and provide better coordination across jurisdictions. These can be modeled after existing regulatory secondment programs between the US Department of Justice and EU Anti-trust authorities and the US bank regulators and the Basel Committee.

**Background**

The United Kingdom is re-examining its financial regulatory approach concomitantly with its exit from the European Union, and upon leaving the EU in 2019, it will have additional regulatory flexibility. Deciding what that system should resemble is the subject of intense discussion.

Meanwhile, the US Treasury recently embarked upon its own examination to discern how it can make its own financial market regulation consistent with a set of seven Core Principles set forth by the Trump White House. What’s more, the European Commission issued an appeal to provide evidence regarding unnecessary, duplicative, and/or inconsistent regulatory burdens on economic growth.

These three governments played leadership roles in establishing new global regulatory standards after the 2008 financial crisis. Ensuring that they continue to coordinate closely as they refine their own sets of regulations should be of paramount importance to each, both to help maintain solid economic growth as well as prevent another financial market crisis.

Financial services account for over 10 percent of economic output in the UK, a share that is nearly fifty percent more than in the rest of the European Union. In the US, finance and insurance accounts for more than 7 percent of GDP. The industry employs more than 7 percent of the workforce in the UK and accounts for more than 4 percent of total employment in the US.

https://www.bea.gov/iTable/index_industry_gdpIndy.cfm
https://www.selectusa.gov/financial-services-industry-united-states

The UK’s status as one of the world's leading financial centers helps the country attract all sorts of other economic activity as well. The United Kingdom is the second largest recipient of foreign direct investment in the world, trumped only by the United States. The UK secured over 2,200 inward investment projects in 2016, an 11 percent increase from 2015.

Simply put, properly regulating the financial sector is paramount to the economic security of both countries and indeed the world—a lesson that the 2008 financial crisis made abundantly clear. As the UK and US embark on a review of financial regulations, each country should focus
on improving regulatory cooperation to ensure that regulatory incoherence does not unnecessarily inhibit productive economic activity. We examine key areas of existing regulatory divergence and the economic implications of those divergences. Both countries stand to gain economically if they further improve cooperation, and we offer three concrete steps to reach that goal.

Regardless of how its regulations evolve, the UK’s newfound regulatory flexibility will allow it to bring a greater, mutually beneficial alignment between the US and the EU. As changes in US and EU regulatory environments inevitably develop, the UK can act as a conduit for regulatory cooperation between its two largest trading partners.

**Regulatory Divergence #1**

1. A high degree of interconnectedness between UK and US financial institutions and systems necessitates a high degree of GSIFI regulatory coherence that can benefit both countries.

The UK and US were expeditious in setting up resolution frameworks and recapitalizing their banks after the financial crisis. However, prolonged uncertainty around the European sovereign debt and banking crisis dampened market confidence for UK banks and a divergent path to recovery emerged in the EU and UK versus the US. With the US financial system and institutions so intertwined with those of the UK, both countries stand to gain economically in the future if they are able to coordinate more effectively on crisis resolution. Both the UK and US host many foreign financial institutions that engage in substantial cross-border financial flows with their home country.

Every major bank in the world has a presence in the City of London; in fact, the amount of cross-border activity by banks located in the United Kingdom exceeds the cross-border business of banks headquartered in the United Kingdom. Banks located in the UK reported total cross-border lending worth $4.5 trillion, which ranks first worldwide among all banks located in BIS reporting countries, followed by Japan ($3.4 trillion) and the US ($3.1 trillion). The enormity of the financial activity occurring in London relies in no small part on the effective home regulation of those foreign banks, including US banks.

Banks based in the US reported the largest outstanding foreign claims on the UK ($460bn), followed by German ($404bn) and Spanish banks ($396bn). The UK banks’ consolidated foreign claims on the US ($724bn) were larger than those on other EU countries ($666bn). US dollar-denominated positions constitute 44 percent of the cross-border portfolios of banks located in the UK, well above the 33% share of euro-denominated positions. Simply put, the US gains when the UK financial system is well regulated and vice versa.

**Host country regulators need confidence in home country regulations.** The interconnectedness of US and UK financial markets was evident in the 2007 collapse of
Northern Rock and 2008 collapse of both Lehman Brothers and AIG and the ensuing contagion. Forcing highly interconnected financial firms into bankruptcy exacerbated the intensity of the crisis as the full interdependence among financial firms became evident. In order to limit systemic failure and taxpayer losses, the major world economies worked to provide for an alternative to bankruptcy in which regulators could resolve firm failures with a minimum of contamination to the financial system as a whole. Because of the importance of the ability to contain the effect of a failing financial institution on the broader economy, we focus on the perceived incoherence in resolution regimes between the UK and US.

The threat of home country contagion to the domestic economy explains why central banks and regulators frequently worry that foreign entities can adversely affect domestic financial stability. Sir Jon Cunliffe, Deputy Governor for Financial Stability at the Bank of England, articulated these concerns:

“Confidence in the regime for the resolution of international banks is of crucial importance to the UK. We are home to a number of major international banking groups. But equally, if not more important, we are host to a very large number of foreign banks, many of which have sizeable wholesale market operations in the UK. As the leading international financial center, we import considerable risks from other jurisdictions. It is therefore crucial to financial stability in the UK that we can rely on foreign banks operating in our jurisdiction having viable resolution strategies in line with international standards. Absent such assurance, we would need to ensure the entities operating here have greater resilience locally.”

Regulatory cooperation is necessary in order to address potential negative externalities of foreign financial institutions. The US also attempts to strike a balance between regulating its own financial institutions in line with international standards while addressing the potential negative externalities of foreign financial institutions. Title II of the Dodd-Frank Act authorizes coordination with foreign regulators to resolve an institution that poses a financial stability risk. The June 2017 US Treasury report on regulating banks and credit unions recommended, among other things, that the Financial Stability Oversight Council, or FSOC, be permitted to recommend a primary regulator to deal with multiple agencies, a reduction in the number of banks that need stress tests and living wills, the tailoring of enhanced prudential standards of Dodd-Frank to a bank’s risk profile as well as the liquidity coverage ratio, and a change in the calculation and interaction of the supplementary leverage ratio and the liquidity coverage ratio. In addition, it suggested removing what it deemed as gold plating from the Basel requirements. With respect to foreign banks, the report recommended tailoring requirements to the bank’s US risk profile (not global) as well as providing more deference to home country regulation.

Minimizing the public costs of bank resolution is a common goal. The UK and US share a common goal of limiting losses on taxpayers and minimizing the disruption to the financial
system when resolving a SIFI. Both countries, as part of the G20, committed to the Financial Stability Board’s Key Attributes of Effective Resolution Regimes, which require jurisdictions to:

- “Ensure they have designated resolution authorities with a broad range of powers to intervene and resolve a financial institution that is no longer viable, including through transfers of business and creditor-financed recapitalization (“bail-in” within resolution), that allocate losses to shareholders and unsecured and uninsured creditors in their order of seniority;
- “Remove impediments to cross-border cooperation and provide resolution authorities with incentives, statutory mandates and powers to share information across borders and achieve a coordinated solution that takes into account financial stability in all jurisdictions affected by a financial institution’s failure;
- “Ensure that recovery and resolution plans are put in place for all G-SIFIs, which are regularly reviewed and updated, under the control of top officials, and informed by rigorous annual resolvability assessments that assess the feasibility and credibility of resolution strategies for each G-SIFI;
- “Maintain Crisis Management Groups for all G-SIFIs, bringing together home and key host authorities and underpinned by institution-specific cross-border cooperation agreements.”

Resolution strategies in the UK and US share many important features thanks to close regulatory cooperation. The United Kingdom and United States both followed through expeditiously in implementing each of the Key Attributes. They established “transfer powers” that allow regulators (the BOE for the UK; the FDIC for the US) to transfer the assets and liabilities of a global SIFI to a newly created bridge company designated to provide continuity of operations. Both countries also adopted “bail-in” powers to impose losses on equity and debt holders that constrain the financial burden borne by taxpayers. In exercising those bail-in powers, both countries provide the “no creditor worse off than in liquidation” safeguard so that regulators treat creditors fairly when resolving a troubled institution.

Both UK and US regulators prefer to use the single point of entry (SPOE) approach to resolving a global SIFI, which means resolving and recapitalizing at the parent holding company level rather than separately resolving and recapitalizing each subsidiary. Recovery and resolution plans and crisis management groups have been put in place for all GSIFIs, and regulators in both countries have worked together through joint studies and working groups to share information across borders. Although the US Treasury Department is currently undergoing a review of the Dodd-Frank Act, the US resolution framework for GSIFIs is expected to largely remain intact. The recent Treasury Department report on the Orderly Liquidation Authority (OLA) reinforced this point. [Link](https://home.treasury.gov/news/press-release/sm0295)

The UK and US acted quickly to establish a robust resolution regime. Both domestic and EU-level processes determined the UK’s timing for implementing the FSB Key Attributes. At the

---

domestic level, the UK was a pioneer in establishing an orderly resolution process that
minimizes costs to the public, which it did by introducing the bail-in recapitalization option. The
Banking Act of 2009 implicitly provided for bail-in by allowing regulators leeway to alter
contracts. The Independent Commission on Banking recommended the introduction of an
explicit bail-in tool to promote financial stability in 2011, and in 2013, the Banking Reform Act
gave the Bank of England a further option for resolution that allowed for bailing-in creditors.

In addition to these statutes, the Parliamentary Commission on Banking Standards (PCBS) also
recommended bail-in powers in a 2013 report.

https://www.gov.uk/government/consultations/bail-in-powers-implementation-including-
draft-secondary-legislation/bail-in-powers-implementation

All of this early work by the UK government not only served to implement the 2011 Key
Attributes in a timely fashion domestically but also influenced resolution and bail-in strategies
that were later adopted at the EU and international levels.

In the US, the Dodd-Frank Act of 2010 granted the FDIC the authority to use receivership
powers to resolve failed financial institutions and SIFIs as an alternative to bankruptcy. Title II
of the Dodd-Frank Act created a new fund, the Orderly Liquidation Authority (OLA) to provide
the FDIC the cash needed to operate firms during resolution. The OLA is funded after a failure
occurs. The Treasury lends the FDIC money to resolve the institution. If there is a net cost,
then the FDIC imposes a fee on surviving large institutions. The FDIC establishes a bridge
comp
any to facilitate the orderly wind down of the failed firm and transfers financial contract
to the bridge company or third parties.

While the UK and US established their resolution powers relatively quickly, the EU took
several years longer as it fought the sovereign and banking crisis. The EU did not adopt its
framework for complying with the FSB Key Attributes--the Bank Recovery and Resolution
Directive (BRRD)--until 2014 (effective January 2015), well after the 2008 financial crisis and
European sovereign debt and banking crisis hit its nadir. As the European crisis ensued, policy
and regulatory uncertainty manifested itself via deflated valuations for financial instruments
throughout the EU, including in the UK despite the UK’s relatively quick actions to strengthen its
banks. We posit that the market, possibly unfairly, inadequately distinguishes between UK
institutions and those on the Continent.

In July 2011, David Cooksey, chairman of UK Financial Investments, the entity charged with
holding the UK government shares in RBS and Lloyds and preparing them for a return to private
ownership, remarked that:

“The past year has seen significant and ongoing reform of the international and
domestic system of banking regulation, including increasing capital requirements, more
effective resolution regimes... The current share prices of Lloyds Banking Group and
RBS reflect the ongoing uncertainty about banks’ recovery prospects, particularly in view of the current problems in the Eurozone, as well as the long term impact on value as a result of these regulatory changes.”

Prolonged regulatory and economic uncertainty in the EU weighed on investor confidence and made bank recapitalizations more expensive. Bank stock valuation data show that, towards the end of 2011, US bank valuations began a path of sustained recovery while economic and regulatory uncertainty continued to weigh on UK and European bank valuations. The regulatory and economic uncertainty in Europe suppressed valuations, which made it costlier for UK and European banks to raise the capital they needed to meet the new regulatory requirements. Richard Thompson, the head of valuations for PwC, observed that:

“[W]ith valuations suppressed, relatively small changes in sentiment can lead to significant percentage changes in market capitalization. This volatility reinforces negative sentiment towards the sector, fueling a lack of confidence and an unwillingness to extend medium and long term funding. As we saw in 2008, lower equity values can also form part of a dangerous feedback loop as attempts to address calls for increased capital in the form of rights issues lead to an erosion of confidence.”

The implementation of a new regulatory regime that imposes higher costs without a commensurate reduction in risk can lead to a similar problem, we submit.

The prolonged EU crisis and regulatory uncertainty contributed to divergent recovery paths for UK/EU banks compared to US banks. The valuation problem and its attendant capital constraints were a preoccupation of the whole alphabet soup of regulators. For instance, the ECB worried that a sustained profitability wedge between the European and US banks would impinge upon European banking sector stability because of the higher capital costs imposed. The IMF also weighed in on the problem of low bank profitability, which, it noted, could erode bank soundness and increase systemic risk if left unaddressed. It also observed that weak bank valuations reduce banks’ capacity to build capital buffers through retained earnings.

6 Cooksey, David “UKFI Annual Report and Accounts 2010/11,” July 18, 2011. Included in his list of regulatory changes were increased capital requirements, a levy on banks’ balance sheets, and an imposed resolution regime. Thus, the resolution issues is, in his opinion, is one, but only one, of the contributory causes to depressed bank valuations.

7 Thompson, Richard, et al “PWC Valuation Index: Tracking the Market to Understand Value,” October 2011. Mr. Thompson includes a paragraph discussing the effect of bank resolution regimes. He states that resolution “…is one of the factors that could drive banks’ unsecured funding costs higher..., which will further depress returns.”


believe that regulatory uncertainty and divergence with the US contributes to the differential in valuations. The result no one wants (save for US bank shareholders) is that the higher costs of UK banks pushes more capital from them to US banks, which means that less investment occurs in the UK.

Valuation gaps persist to the present. This chart from the ECB’s May 2017 Financial Stability Review shows a significant gap between euro area and US banks’ valuations, partly reflecting the better profitability prospects of US banks:

**Country dispersion of banks’ valuations partly explained by profitability prospects**

**Twelve-month-ahead return on equity expectations and price-to-book ratio in major advanced economies**

(Q1 2017; x-axis: percentages per annum; y-axis: ratio)

![Chart showing valuation gaps between euro area and US banks](https://www.ecb.europa.eu/pub/pdf/other/financialstabilityreview201705.en.pdf)

**Source:** Thomson Reuters Datastream.
**Notes:** The chart shows weighted averages across listed banks included in Thomson Reuters Datastream’s country bank indices.

The chart below shows succinctly what ECB Vice-President Vítor Constâncio observed is “a continuing wedge between euro area and US banks (that) may partly reflect the greater challenges euro area banks are facing in restoring profitability and adjusting to a post-crisis intermediation model.”
Funding costs declined once the regulatory and economic uncertainty around the euro crisis subsided. Both the IMF and ECB explain that bank valuations reflect legacy and business model challenges, exacerbated by a low interest rate environment, variations in the pace of economic recovery, and uncertainty around the euro crisis and new bank regulations. Funding costs rose sharply during the height of the euro crisis even for UK banks, despite the fact that the UK is not part of the euro or perceived as fiscally vulnerable as other EU countries. As demonstrated in the chart below (produced by the IMF), the increased funding costs are evident in credit default swap spreads for subordinated bank debt. These swap spreads only began to narrow after uncertainty about the euro crisis subsided. By contrast, the spreads for US subordinated bank debt experienced far less dramatic moves, as US banks were outside the zone of EU regulatory uncertainty.

**Bail-in, but how and when?**

**Different approaches to bail-in have resulted in different economic outcomes.** In addition to the differences in the timing and EU-level processes, different methods in applying bail-in have also led to somewhat different economic outcomes in the UK and US. When using its resolution authority to unwind a financial institution the Bank of England prefers a bail-in to using its transfer powers because of concerns that it will be difficult to separate the critical functions of the SIFI from those that are less critical. By contrast, the FDIC’s approach transfers all of the operations of the SIFI to the bridge without discerning between critical versus less critical functions, leaving less room for regulatory interpretation and uncertainty. Additionally, the UK (and EU) approach imposes bail-in prior to the insolvency of an institution; whereas the US imposes bail-in only after the bridge company has been established, approximately 6-9 months after creating the bridge. The EU/UK framework allows action to prevent the collapse of an institutions whereas the US framework requires that all institutions subject to resolution must be closed and resolved.
The idea behind the US closed bank bail-in is to have a completely new company with a restructured balance sheet. On the other hand, the EU/UK framework is based on open bank bail-in in which the existing institution is recapitalized and does not undergo a formal insolvency. The US approach uses closed bank bail-in, meaning that all creditors are bailed-in by having their claims impaired in proportion to the institutions’ losses and the creditors’ seniority under the statutory claims hierarchy. It does not include an explicit bail-in tool because all liabilities are subject to impairment and bail-in to cover losses after closure.

The UK approach requires the resolution authority to conduct a valuation of the business over the ‘resolution weekend’ and then decide on the extent of the bail-in (size of haircut for creditors). The US approach requires the FDIC to decide over the ‘resolution weekend’ which parts of the failed bank are transferred to the bridge company, and which left behind (along with which creditors). Depending on the exact sequencing (including of any legal challenges that any creditors may bring), creditors find out how big a loss they are facing at different times – even if the actual losses turn out to be the same.

The UK/EU’s strategy of imposing losses on debt and equity holders prior to insolvency can make recapitalization from private sources more expensive. Investors, anticipating a potential impairment of their securities, will raise the cost of capital. When Cyprus bailed in senior bondholders in 2013, UK banks experienced one of the largest spikes in credit default swap spreads among banks in the EU despite the fact that the UK was not perceived as fiscally vulnerable as Portugal, Italy, Spain, and France, which also experienced spikes in CDS spreads. A European Systemic Risk Board (ESRB) working paper attributes the move in CDS spreads in UK and other EU banks’ CDS to political spillover: The market perceived that a bail-in in Cyprus increased the probability of a bail-in of bank bondholders in other countries subject to EU regulation. There were no comparable funding shocks in the US during this period, largely because US banks were outside of the zone of EU regulation and US regulators had not invoked a surprise bail-in on a systemically important financial institution. Thus, investors in US banks did not interpret the Cyprus bail-in as changing the likelihood of unanticipated similar actions in the US banking system.

A bail-in approach that includes more opportunity for regulatory interpretation and uncertainty can damage investor confidence and lead to a drop in investment and employment. As explained above, one of the key transatlantic differences is that the UK/EU framework allows bail-in prior to insolvency whereas the US only imposes bail-in after an institution has collapsed, the FDIC has taken it over and created a bridge company (approximately 6-9 months after creating the bridge). The US resolution therefore takes place within a predictable framework because the institution’s fate has been settled whereas the European approach “anticipates” a certain path for the institution—there is more room for regulatory interpretation in that latter approach. Also, the FDIC’s approach transfers all of the operations of the SIFI to the bridge without discerning between critical versus less critical functions, leaving less room for regulatory interpretation and uncertainty.
Although the US OLA and resolution functions have not yet been tested after the 2008 crisis, numerous bail-in examples in Europe demonstrate how complicated it is to administer when regulatory and policy uncertainty persist. For example, the ESRB working paper avers that, although the Cyprus bail-in occurred before the BRRD went into effect, negative economic implications persisted. In addition to increasing investor uncertainty regarding the situations in which banks will be recapitalized, the EU’s bail-in strategy led to an economically significant drop in investment and employment by small and medium size enterprises. Just days before the BRRD officially went into effect the Portuguese government announced the bail-in of certain Banco Espirito Santo senior bondholders as well.

A study published by scholars from the European Banking Authority and the Cass Business School found that a one standard deviation increase in firm exposure to the bail-in shock leads to a 2.3% drop in investment and a 0.6% reduction in employment for the average firm. The report concluded “the bail-in had negative real economy consequences, with affected firms reducing investment and employment, while increasing precautionary cash holdings.”

An ongoing review of bail-in rules provides an important opportunity to harmonize across the UK/EU and the US to reduce the negative economic impact. ECB Vice President Vítor Constâncio remarked that he “fully supports the change of culture from easy public bailouts to a new culture of private bailing-in […] Yet, we need to bear in mind that it is not only direct public support for banks that has a cost for taxpayers, but also financial instability – indeed, the costs of the latter may be higher.”

The IMF called upon the EU to review the risks that can be caused by the bail-in strategy in its next review of BRRD implementation, which is expected to be completed by the summer of 2018. The regulatory reviews taking place in the UK, US, and EU each presents an important opportunity to reach a consensus about when a bail-in should take place and provide more clarity to the public about how bail-ins will be triggered. Developing a more coherent bail-in strategy can reduce the costs and risks and produce economic gains across borders. This enhanced regulatory coherence is critical not only so that UK and European banks can improve their own performance, but also for US banks that are highly interconnected with the UK can benefit from financially stable counterparts.

The building blocks for regulatory coherence exist. The commonalities between the UK and US resolution frameworks manifest robust regulatory cooperation. Rigorous domestic regulatory and legislative efforts as well as cross-border initiatives such as joint studies between the US

---


11 Victor Constancio, “Challenges for the European Banking Industry,” Lecture given to the University of Navarra, July 2016. (Published on the ECB website).
FDIC and Bank of England, as well as the UK-US-EU Trilateral Principals Level Exercise, and international regulatory venues helped to achieve these largely harmonized outcomes. However, key differences in the timing as well as the processes involved with stabilizing the financial sector after the 2008 financial crisis, the emergence of the sovereign-bank financial crisis in Europe, and differences in the method for applying specific FSB Key Attributes such as the bail-in principle all contributed to a divergence in economic performance of UK banks relative to US banks. Given the already robust cross-border financial activity between the UK and US, strengthening regulatory cooperation to achieve more predictability and transparency in bank resolution will benefit both countries.

One additional benefit of a greater coherence in resolution strategies is that it would result in a greater likelihood that the regulators in each country would trust each other and cooperate successfully in the event of a crisis. If there is a coherent playbook to which each country hews, then it becomes easier for countries to trust one another and cooperate, which raises the chance of a successful resolution and reduces the odds that one country or another will be forced to resort to a bailout.
Comparison Chart of EU/UK and US Resolution and Bail-In Rules

Both the US and EU/UK frameworks begin with the premise that these regulatory solutions to failed banks should only be used where bankruptcy is impossible without harming financial stability.

<table>
<thead>
<tr>
<th>United States</th>
<th>Europe</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. G-SIBs required to submit annual resolution plans under Title I of Dodd-Frank</td>
<td>European G-SIBs required to provide information to resolution authorities on periodic basis</td>
</tr>
<tr>
<td>FDIC prepares resolution plans under Title II of Dodd-Frank (not transparent)</td>
<td>European resolution authorities prepare resolution plans under BRRD</td>
</tr>
<tr>
<td>Title I plans must demonstrate resolvability under Bankruptcy Code without public capital support or access to Fed LOLR facility</td>
<td>N/A</td>
</tr>
<tr>
<td>Failure to submit credible Title I plan subject to severe sanctions</td>
<td>N/A</td>
</tr>
<tr>
<td>7 out of 8 U.S. G-SIBs have identified SPOE as preferred strategy in Title I plans</td>
<td>N/A</td>
</tr>
</tbody>
</table>
## Resolution Planning
United States vs Europe (Cont’d)

<table>
<thead>
<tr>
<th>United States</th>
<th>Europe</th>
</tr>
</thead>
<tbody>
<tr>
<td>FDIC has issued public notice requesting comment on SPOE as possible strategy under Title II of Dodd-Frank</td>
<td>Bank of England has published paper clearly identifying SPOE as preferred strategy under English SRR</td>
</tr>
<tr>
<td>Title II may only be lawfully invoked if institution is failing or likely to fail or bankruptcy filing made and bankruptcy would result in serious adverse effects on U.S. financial stability and Title II would avoid or mitigate those effects</td>
<td>Resolution action may only be taken if institution is failing or likely to fail, but no conditions relative to normal insolvency laws</td>
</tr>
<tr>
<td>Bankruptcy filing permissible at any time, as long as in good faith. No balance sheet or liquidity insolvency tests.</td>
<td>N/A</td>
</tr>
</tbody>
</table>

---

## Resolution Planning
United States vs Europe (Cont’d)

<table>
<thead>
<tr>
<th>United States</th>
<th>Europe</th>
</tr>
</thead>
<tbody>
<tr>
<td>In addition to LCR, U.S. G-SIBs encouraged to have sufficient HQLA to self-fund SPOE resolution, without assuming access to Fed LOLR facility</td>
<td>No such requirement in addition to LCR</td>
</tr>
<tr>
<td>U.S. G-SIBs encouraged to have clearly identified triggers for bankruptcy filing so that projected capital and liquidity resources will still be sufficient to meet projected needs to complete SPOE</td>
<td>N/A</td>
</tr>
<tr>
<td>If Title II invoked, FDIC may provide liquidity to bridge company in SPOE, which may pass on liquidity to bank and broker-dealer subsidiaries</td>
<td>If BRRD invoked, central bank may provide LOLR liquidity to bank or broker-dealer subsidiaries</td>
</tr>
</tbody>
</table>

---

**Davis Polk**
II. Harmonization of Derivatives and Capital Markets Regulation: Gaps in markets oversight can be overcome by strengthened information sharing

The reforms initiated by the 2009 G20 Leaders Summit focused on four key areas. In addition to making financial institutions more resilient, ending too-big-to-fail, and transforming shadow banking into market-based finance, the G20 also agreed to enhance the stability and transparency of the over-the-counter derivatives market that played a key role in the financial crisis. Specifically, they agreed, “All standardized OTC derivative contracts should be traded on exchanges or electronic trading platforms, where appropriate, and cleared through central counterparties by the end of 2012 at the latest. OTC derivative contracts should be reported to trade repositories” (see Leader’s Statement, G20, September 25, 2009, paragraph 13). This includes interest rate and credit default swaps in the US and a wider set of derivatives in the EU.

Central clearing provides improved collateralization and transparency via regulated clearinghouses. Central counterparties (CCP) spread the risk of an individual firm’s default across all member firms and simplify to a considerable extent what was previously a complex
and opaque web of exposures. CCPs represent a major success from the summit. Work remains, however, to capture fully the benefits from data collection.

There are two primary objectives for collecting such data: To provide regulators with information to help them address vulnerabilities in the derivatives market and to make pricing transparent so that users of derivatives can discern whether they are receiving fair prices. In order to achieve these goals, the data must be easy to access, analyze, and aggregate.

Unfortunately, the trade repositories effort has yet to produce the transparency policymakers had envisioned and is instead contributing to unnecessary costs and confusion. Various trade repositories have different data inputs and there is a lack of agreement on the formatting of similar data across trade repositories. Abad et al (2016) finds a surfeit of inaccurate and/or incomplete data, and they conclude that about 27% of interest rate swap records have implausible or missing values, and that 34% of the records for credit default swaps have the same problem.

Duffie (2017) concludes that “data repositories for the swaps market have not come close to meeting their intended purposes,” and is not optimistic that it ever will, and opines that “until the jurisdiction-level trade data repositories are better constructed and can be used in a linked manner, the promise of the derivatives data repository initiative will remain substantially unfulfilled.” The Financial Stability Board (2017) reached a similar conclusion, noting, “Significant challenges remain to be overcome before all relevant authorities in FSB member jurisdictions are in a position to fully and efficiently access, aggregate, and analyse trade repository data.”

II.A. A Role for the UK in Harmonizing Regulations for Trade Repositories

Achieving harmony between the US and UK trade repositories, which are some of the most widely used worldwide, would lead to tangible economic benefits for financial institutions, markets, and, potentially, growth prospects in each country. In addition, the UK is in a position to provide leadership in making trade repository data more easily accessible given its close association with the US, its historical involvement with the EU’s regulatory regime, its role as a premiere financial market center, and its upcoming increased regulatory flexibility. To the extent that these rules converge, the users of trade repository data can achieve the maximum benefit and eliminate any costs resulting from inconsistent reporting requirements. As UK regulators begin their less constrained consultations, they can help trade repositories

---

12 Abad (2016) Table 4.

13 Ibid Table 7.

worldwide agree upon common data fields as well as consider eliminating duplicative and inconsistent regulation.

### II.B. Potential Benefits of more Transparent Data on Trade Repositories

To the extent that regulatory agencies can more effectively monitor global systemic risk exposure, they decrease the likelihood of another global financial meltdown. Being able to view individual firm’s exposures and their interconnectedness with other firms allows regulators a head start in identifying potentially problematic vulnerabilities and addressing them with the involved firms. Given the stakes in terms of global GDP, even a small improvement in the ability to monitor has large social benefits. As noted in the Introduction, a single basis point decrease in the probability of another crisis has a benefit of between $1.5 billion and $12.6 billion according to BIS (2010).

In addition, a concerted push by the UK and US to reduce the gaps and flaws in data reporting could result in more price transparency for derivatives users (not just regulators), which could lead to more hedging by firms and a lower cost of capital. That might also result in a more efficient allocation of real investment, ultimately boosting the global economy. The benefits from pushing transparency beyond the regulatory agencies to the users of derivatives is substantial.

We estimate the benefits from improving the transparency of market prices for derivatives products by examining the academic literature related to a transparency event in the US corporate bond market and other research studying the link between firm hedging and cost of capital. Our thesis is that if trade repositories provided easy-to-access pricing data it would force the suppliers of financial products to compete more aggressively for business, lowering the cost of derivative use and, potentially, increasing hedging activity as well.

Beginning in 2002, the Transaction Reporting and Compliance Engine (TRACE) led to the public reporting of trade prices for most US corporate bonds. The result was a substantial reduction in bid-ask spreads but a mixed effect on overall liquidity. Bessembinder et al (2006) document that execution costs fell by about half for covered bonds and one-fifth for non-covered bonds, and Bessembinder and Maxwell (2008) credit TRACE with setting the stage for the development of electronic bond trading platforms that further reduced trading costs.

A redistribution of trading profits from security dealers to the investors/users of financial products transfers profits from financial firms to firms that are making real, socially productive economic investments. In addition, a real social gain derives from the dynamics associated with the lower cost of trading. To that end, publicizing the data in trade repositories in an easily usable format to allow derivative users to obtain better pricing and cheaper transactions costs might result in an increase in hedging activity. This is a beneficial outcome because improved
risk management (in this case, via hedging) generally results in a lower cost of capital and higher economic activity.

We know that non-financial firm derivatives users have a lower cost of capital than do firms that do not use derivatives. For instance, Gay, Lin, and Smith (2011) find that derivatives use is associated with a lower cost of equity capital by 24-78 basis points and Chen and King (2014) estimate that derivatives users have a 23 basis point reduction in the cost of debt capital.

We can estimate how equity valuations might respond to a 25 basis point decrease in the cost of equity capital using the equity valuation multiple formula of $1/(k – g)$, where $k$ is the cost of equity capital and $g$ is the growth rate in--for this example--dividends. The S&P 500 multiple at the end of 2017 was about 25.1, which implies a spread between $k$ and $g$ of .0398 (i.e., $1/.0398 = 25.1$). If that spread falls by .0025, the multiple would increase to 26.78, amounting to a 6.7% increase in equity value for affected firms.

On the debt side, Chen and King (2014) perform a similar analysis and find that the .0025 annual savings from the reduced capital costs created by the increased hedging activity engendered would represent a savings of $2.23 million per bond issue.

Likewise, risk management via derivatives use can influence economic activity as well. Being able to reduce uncertainty inexpensively allows firms to invest with more confidence, freeing resources previously dedicated towards risk attenuation for more productive uses. Analyzing the relation between the use of OTC derivatives and GDP growth, Bodnar, Frotun, and Marquez (2017) conclude “a one-time 10% contraction in OTC derivatives induces a contraction in GDP that after 10 years reaches 0.2% of GDP.” Although the authors’ data focuses on OTC derivatives because of the period their study considered, gains accrue because lowering spreads serves to increase the use of derivatives, which reduces the cost of capital and boosts investment and economic growth. Thus, the benefit is from the hedging benefit of derivatives regardless the clearing process.

II.C. Enhanced derivatives transparency can boost GDP in the UK and US

We use the preceding literature to provide an estimate for the economic growth created by enhanced derivatives transparency. Suppose that the introduction of transparent derivatives pricing data decreases trading costs enough so that an additional 1% of global equity and debt capitalizations use derivatives to hedge and gained the 25 basis point reduction documented above in cost of capital. To put that in perspective, last year the aggregate value of global equity markets totaled about $98 trillion and global public corporate debt markets about $26 trillion. If companies save 25 basis points on their costs of capital in both markets by initiating

---

hedges motivated by the lower transactions costs, that suggests an annual savings of $3 billion a year (gross of costs to hedge).

Furthermore, reversing the Bodnar, Frotun, and Marquez (2007) conclusion, we estimate a 1% expansion in the use of derivatives induces a 0.02% increase in global GDP, amounting to $16 billion per annum.

Considerable work is underway to help remedy the current trade repository shortcomings. For example, agencies have developed Legal Entity Identifiers (LEIs), Unique Product Identifiers (UPIs), and Unique Trade Identifiers (UTIs). LEIs will correctly identify each counterparty to a trade eliminating confusion about who is on each side of a given transaction. UPIs and UTIs will eliminate confusion regarding the derivative product traded and uniquely identify the transaction. With proper implementation and other remedial actions, these efforts should have a significant effect on the usefulness of trade repository data. What is still lacking, however, is a complete agreement on the data items collected and their definitions and the infrastructure to make derivative prices transparent to derivative users. Cooperation between the UK and the US is important because of the major portion of the trade repository business controlled by UK and US firms.

In addition, it might be worthwhile to reconsider the European requirement that both counterparties to the derivative trade report the trade. It is unclear what the regulatory process gains from the additional level of reporting; for instance, Osiewicz et al (2015) study the consistency between the two reports and finds that 41% of interest rate swaps and 47% of credit default swaps are unmatched.

**Regulatory Divergence #3**

III. **Capital market structure regulatory incoherence presents an opportunity for UK-US coordination to minimize potential adverse effects on trading**

III.A. **Background for regulatory incoherence in the capital markets**

The Markets in Financial Instruments Directive (MiFID I) went into effect November 2007 with the goal of increasing the competitiveness and efficiency of European equity security markets and reducing the cost of trading for investors. MiFID I shared many goals with the US Securities and Exchange Commission’s 2005 Regulation National Market System, which was “designed to achieve the objectives of efficient, competitive, fair and orderly markets that are in the public interest and protect investors” (SEC Release No. 34-51808). The competition fostered by MiFID I produced a market where considerable trading volume occurred away from traditional security exchanges. In many ways, the European market began to resemble the US equity market with fragmentation across many varies of trading venues, considerable volume on non-
transparent (dark) trade execution facilities, and with an increased presence of new trading technologies such as high frequency trading.

Beginning in January of this year an augmented Markets in Financial Instruments Directive and the Markets in Financial Instruments Regulation, jointly know as MiFID II, went into effect to extend the benefits of MiFID I to markets other than equity and to address perceived problems caused by market fragmentation and dark and OTC trading. MiFID II focuses on five key areas: internal organization and governance of firms in the security industry, market structure, market transparency, investor protection, and reporting and oversight. Investor protection initiatives include efforts to address conflicts of interest, regulations addressing limiting inducements and cross selling, and supervision aimed at ensuring independent investment advice. On the investor protection front, MiFID II allows disclosure, a mainstay of US regulation, only as a last resort.

The EC, largely as a response to the financial crisis, has diverged from an equity market that shared many similarities to the US equity market. The EC chose a different post-crisis response, we posit, because benefits from the competition induced by MiFID I might not have been passed on to investors, the market has become increasingly complex and fragmented with new financial products and new trading technologies, and because of perceived weaknesses in investor protections (European Commission 2011 page 2). Therefore, MiFID II moves EU-US markets from a state of relative coherent regulation to one with increased divergence. There are likely to be costs imposed on markets as they move from an equilibrium under the former more coherent set of rules to a new equilibrium under the current more divergent rules.

Two components of the directive that are incongruent with current US regulations and potentially disruptive to the current market structure equilibrium appear to be the unbundling of payments for research and trading services and the requirement that a broad range of financial instruments trade on a restrictive set of transparent venues. We expect these two developments to have far-reaching effects. Although the unbundling of payments for research and trade execution will better align the interests of professional investors and their clients, it also has the potential to reduce revenues to investment banks that traditionally make markets for publicly traded financial securities. The requirements and restrictions on how financial securities trade in Europe, while potentially providing additional transparency, might have unintended consequences that adversely affect the liquidity of trading. Unless closely monitored, these changes might raise the cost of trading, harming the very investors who were to benefit.

The capital market’s responses to this divergence in regulation requires careful monitoring on both sides of the Atlantic. Deleterious changes in market quality suggest that regulators in both jurisdictions revisit cooperative efforts to mitigate such outcomes.
III.B. Economic Implications of Capital Market Regulatory Incoherence

Separating payments for research and execution services directly contradicts current US practices. Notwithstanding the Securities and Exchange Commission’s temporary safe-harbor declaration, investment banks will be forced to change their research models going forward. The banks will need to maintain separate regulatory structures for European and non-European clients, develop a hybrid model that pleases both regulatory regimes, or (pending permanent US regulatory relief) convert to the European model. Regardless of the path chosen, there will be direct and indirect costs that might affect banks choices about the services they provide. The expectations in the market seem to be that payments for research and trading will converge toward MiFID II in the coming years. We are less sure about any convergence between the US and MiFID II regulations governing trading venues and trade reporting. To the extent that inconsistencies in the rules regarding the structure of trading induce regulatory arbitrage, fragment trading geographically, and/or impose additional costs on banks, causing them to pull back from trading and market making, liquidity might suffer. Both UK and US regulatory agencies should engage with the financial community and each other so that both financial centers operate under rules that minimize a possible contraction in liquidity.

It is unclear what the market response will be to this new divergence: it is possible that some trading will migrate to the US market where it would not be subject to the same MiFID II restrictions, resulting in fragmented liquidity. It also is possible that US market makers will reduce trading with European clients to avoid dual reporting and being subject to the more restrictive continental regulation. Again, regulators should be mindful to work with each other and the professional community to minimize deleterious effects.

III.B.1. A summary of potential costs of market adjustments to disequilibrium imposed by differences in regulation

As noted above, the two most significant incoherencies between MiFID II and US regulation are differences in the mechanisms to pay for research and differences in the structure of security markets. Although we expect the US to converge to the EU model for research payments, there are costs associated with the process of resolving the current inconsistency. The divergence in market structures under the two regulatory regimes, with its potential costs, will be ongoing. Costs associated with resolving these incongruences include loss of trading revenue, duplicative compliance costs, and inefficient/suboptimal trading practices.

There are additional reporting and market structure differences between the regulatory regimes that have the potential to amplify the effect of MiFID II on broker-dealers’ willingness to make markets. For instance, MiFID II requires considerable pre-trade transparency--such as

16 UBS (2017, pg. 1) “Within a year of two of MiFID’s implementation, we expect competitive pressure will lead asset managers (AMs) to fund research internally in markets beyond Europe.”
providing quotes to potential customers—that is not part of the US market for many financial instruments. Likewise, MiFID II limits trading that occurs away from fully transparent execution venues—specifically targeting equity dark pools.

UBS (2017) forecasts a base case decrease in trading revenue for 2018 of about $2.7 billion, with a range of $1.1 to $5.2 billion. In assessing probabilities, they feel that the worst-case scenario is much more likely than the best-case outcome. For a longer-term perspective, they use the decline in fixed income, currency, and commodity (FICC) trading revenues post Financial Crisis regulation – from 2010 through 2016, FICC trading revenues fell 28%.

To assess the likely operating costs of MiFID II, UBS (2017) examined the actual costs associated with MiFID I, and from that, it estimated one-time operating cost increases of $80-$120 million and higher ongoing costs of $14-$21 million per year for the industry as a whole. Determining how much of this is duplicative because of the difference in regulations between the US and EU is far from straightforward, but we view these numbers as upper bounds for any cost of divergence.

III.B.1.a The effect of lower trading profits

We explore whether the decline in profitability of market makers associated with prior regulation resulted in reduced liquidity for affected financial securities. Specifically, we looked at several academic studies that examine the effect of the Dodd-Frank Act requirement of the public dissemination of pricing for derivatives that previously traded over-the-counter. We then use these results to provide broad guidance regarding the cost of adjusting to the differences in EU/US regulation.

Loon and Zhong (2016) examine how Dodd-Frank affects the transactions costs and liquidity of index credit default swaps and find that liquidity improves. Specifically, they discern that index CDS have lower trading costs, less price impact, and tighter price dispersion. Likewise, Benos et al (2017) examine plain vanilla interest rate swaps that Dodd-Frank mandates trade on public swap execution facilities and concludes that liquidity improves and execution costs drop as a result. Trebbi and Xiao (2015) also concluded that broad-based measures of liquidity have not worsened.

However, academic research is not uniformly positive about the liquidity effects associated with recent regulation. Dealers decreased their capital commitment to the corporate bond market since Dodd-Frank (Anderson and Stulz (2017) and Schultz (2017)). Bessembinder et al (2017) and Bao et al 2016) find that bank-affiliated dealers (subject to Dodd-Frank) drive the decline in overall dealer participation while dealers not bank-affiliated increase their participation.

Choi and Huh (2017) examine changes in trading costs of corporate bonds around the implementation of the Dodd-Frank Act and note that, while some trades are “natural” buyer-
to-seller initiated, other trades require a dealer to take an inventory position. They find that the cost of trades requiring a dealer to assume an inventory position increased ten to thirteen basis points in the post-regulation period compared to the pre-crisis period and four to seven basis points compared to the post-crisis but pre-regulation period.

If we were to assume that fixed income markets would respond to the additional transparency requirements of MiFID II similar to the markets most directly affected by Dodd-Frank, some academic work would lead us to expect an overall tightening of bid-ask spreads and a reduction in trading costs. Even a modest reduction would be significant: A one basis point reduction in trading costs in the $26 trillion corporate bond market would easily offset the estimated costs of additional regulation. Bessembinder (2006) estimates a corporate bond turnover rate of ten percent, which means that a one basis point decrease in bid-ask spreads would result in $260 million in trading cost savings globally ($26 trillion times ten percent times one basis point).

However, the research by Choi and Huh suggests that if the bond market cannot improve the success in matching natural buyers and sellers, then large trading cost increases would ensue. Applying their four to seven basis point increase in this context would result in $1.04 billion to $1.82 billion in additional annual costs globally.

III.B.2 Discussion of ongoing effects of differential regulation

What will the new equilibrium be with divergent market structures between Europe and the US? That is at best a very difficult question to address. Heterogeneous investors prefer differential types of execution venues. Index funds might prefer a bilateral trading option where their reputation as an uninformed investor can lead to better executions. Informed traders such as hedge funds might prefer numerous dark venues where they can hide their intentions. Retail traders (or their brokers) likely prefer a place where they can execute small trades cheaply. EU regulations strictly limit dark trading in general and eliminate other types of execution venues (e.g., broker crossing networks). In the US, these venues receive much more regulatory latitude. It is possible that trading will fragment across geographic/regulatory jurisdictions.

Although studies of the effects of regulatory incoherence across jurisdictions are not readily available, the academic literature has studied the effect of changes in market institutions including some of the differences that will exist between the EU and US markets going forward. For instance, Henershott and Mendelson (2000) conclude theoretically that the introduction of a crossing network to a dealer market provides improvements in narrower bid-ask spreads and more efficient pricing until the crossing network gains “too much” market share, at which point pricing becomes less efficient. Ye (2012), again in an analytical model, argues that the crossing network enhances price discovery but can lead to wider bid-ask spreads. Finally, Gresse (2006) empirically examines competition between the LSE’s SEAQ dealer market and the POSIT crossing network using data from July 2000 to June 2001 and finds that dealers get substantial
risk-sharing benefits from the crossing network that outweigh costs associated with the crossing network leading to lower bid-ask spreads. Other research finds that similar types of trade-offs exist for various bilateral trading mechanisms (see, e.g., Seppi (1990), Grossman (1992), Smith et al (2001) and Booth et al (2002)).

Thus, the academic literature suggests that market structure institutions such as crossing networks and bilateral trading arrangements have significant effects on trading costs and pricing efficiency. Current EU-US regulations along these and other dimensions differ. If the current divergent regulations between the EU and US mean that difference emerge in trading costs and/or pricing efficiency among brokers-dealers, investors/traders and securities, then will there be costs borne by or benefits received by the ultimate investor? Although that question may be impossible to answer in any detail, it seems reasonable to conclude that trading will adjust to (and possibly arbitrage across) the now divergent set of regulations. Continued vigilance by both regulatory bodies regarding the adjustment process is warranted.

III.C. Other potential unintended consequences of diverging regulation

The most difficult task of any regulatory action is attempting to anticipate every possible reaction to a rule change that disrupts an existing capital market equilibrium.

A report by the investment banking firm Jefferies (2017) poses several potential unintended consequences of MiFID II that might have costs for the market. One question that seems particularly relevant for UK and US regulators to monitor is whether investment banks will maintain research coverage of small and mid-cap firms or firms in out-of-favor sectors.

Several academic studies attempt to estimate the cost of losing analyst coverage, with two that seem particularly relevant. Kelly and Ljungqvist (2012) study what happens to the stock market valuation of firms that lose analyst coverage due to the failure or merger of an investment bank. They document that firm equity values fall by 1.12%-2.61% when the firm loses a single analyst due to the closure of a sell-side firm. Bowen et al (2008) finds that seasoned equity offerings are less underpriced relative to the prior day’s closing price the greater the number of analysts following the firm issuing the new equity capital. The reasoning for this, they suggest, is that additional analysts generate information that is useful in valuing the security offering. Their results suggest that underpricing decreases by 1.19 percentage points comparing firms without analyst coverage to firms with as few as three analysts.

In order to gain an estimate of the cost of a widespread loss of analyst coverage, we can consider the impact this would have on the value of small capitalization firms in the economy by taking the MSCI small capitalization portfolio as representative of these “small cap” firms. MSCI’s small capitalization portfolio represents about 14% of the total market. Given that the total valuation of the combined UK-US equity market is roughly $40 trillion, this suggests an aggregate small capitalization firm value of $5.6 trillion. A one-percentage point decrease in
value in that market due to loss of analyst coverage is $56 billion. Clearly, strategies to maintain analyst coverage have a potentially important role.

**IV. Strategies for Closer UK-US Regulatory Coordination**

Establishing greater UK and US regulatory coordination would create a multiplicity of economic benefits. First, it would help both countries implement their G20 regulatory commitments more effectively and thereby reduce the risk of another major financial crisis. Second, it would reduce the cost of capital for their financial institutions, making it easier to attract more stable sources of capital and use their balance sheets to support more economic activity. Third, it would insure the continuing smooth functioning of what are currently some of the deepest, most efficient, and lowest trading-cost financial securities markets in the world. Our suggestions supplement the current US-EU Joint Financial Regulatory Forum (JFRF), which involves many regulatory agencies at a high level. This Forum can continue once the UK leaves the EU and we believe that adding the UK to this Forum post-Brexit as a third party will help maintain continuity.

We believe that the UK and US can effectuate closer coordination through the following strategies:

**Annual joint regulatory study:** The Bank of England and the Federal Reserve should publish annual joint studies to share data about major financial sector developments and work together to standardize data collection in the US and UK. Such an exercise would provide regulators with a greater awareness of events in each other’s jurisdictions, transparency regarding deliberations among regulators, and an opportunity to confront unresolved issues such as the usefulness of trade repository data, dual reporting requirements, the ongoing performance of capital markets, and GSIFI resolution processes. Although officials from the Bank of England and the Federal Reserve interact frequently with one other through various regulatory venues, the public has little insight into the deliberations.

Publishing these joint studies on a regular basis would provide the public with valuable insight into those interactions as well as a degree of accountability related to cross-border regulatory issues. Joint studies have already been successfully produced by the US Federal Deposit Insurance Corporation and the Bank of England to examine specific issues around resolution, so a precedent already exists. Obviously, regulators will continue to have important, sensitive regulatory conversations via private channels.

**Transatlantic financial command center:** A transatlantic financial command center or markets surveillance room co-hosted by Treasuries and prudential and capital market regulators should be created to monitor ongoing market events. The US Treasury already has a markets room that provides an in-depth market analysis to US government officials and interacts with international financial institutions. In this scenario, a team within the US Treasury markets
room (or perhaps a repurposed OFR) and from HM Treasury would supply brief reports to each other monthly, tracking key market indicators and regulatory issues. These reports would help alert each other to the issues and events that are being tracked on both sides of the Atlantic while also providing a basis for higher-level discussions, as needed. Included in these analyses should be ongoing assessments of the quality of financial-security capital markets. These reports can remain confidential so that officials can have the freedom to be open with one another. The annual joint studies described above would be a better forum for public discussion.

**Regulatory secondment program:** We propose a transatlantic regulatory secondment program that would allow regulators and policymakers to gain insight into one another’s jurisdictions. These rotations would enable regulators to gain a better understanding of the institutions they regulate and the other agencies that are involved with policymaking. Including such financial markets agencies such as the SEC, FINRA, and CFTC in the US and the FCA in the UK would improve the monitoring of developments in the capital markets. These programs can be modeled after existing domestic secondment programs or else the Federal Reserve and Bank of England international affairs divisions can manage a program modeled after the US Department of Justice Visiting International Enforcer Program. Such a program can promote exchanges, trust, and information among a broad cross-section of regulators and economic policymakers. [https://www.justice.gov/opa/speech/assistant-attorney-general-makan-delrahim-delivers-remarks-college-europe-brussels](https://www.justice.gov/opa/speech/assistant-attorney-general-makan-delrahim-delivers-remarks-college-europe-brussels)

Ongoing regulatory reviews in the UK, US, and EU—encouraged by the IMF and other international bodies—provide an important opportunity to build upon the progress made over the last ten years to stabilize the global financial system and economy. Given the increasingly inter-connectedness of the world’s major economies, this is a particularly powerful opportunity to reinforce global efforts to ensure that regulations are working in harmony across borders.

---

The Center for Financial Stability (CFS) is a private, nonprofit institution focusing on global finance and markets. Its research is nonpartisan. This publication reflects the judgments and recommendations of the author(s). They do not necessarily represent the views of members of the Advisory Board or Trustees, whose involvement in no way should be interpreted as an endorsement of the report by either themselves or the organizations with which they are affiliated.

The authors of this study were commissioned and paid by the Government of the United Kingdom for their work on the project. CFS received no compensation whatsoever.
References


Jefferies, Unintended consequences; Questions on the eve of MiFID II implementation, Jefferies Prime Services White Paper, November 2017.


UBS, MiFID II’s domino effect: Headwinds likely to impact market beyond Europe and last years, Global Financial Services, October 2, 2017.