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The Rise-and-Fall of Leading International Financial Centers: Factors and Application

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THE RISE-AND-FALL OF LEADING INTERNATIONAL FINANCIAL CENTERS: FACTORS AND APPLICATION

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This Note will look at the role of four broad factors that correspond with the rise-and-fall cycles among leading international financial centers. The four factors are: trust in a financial center's abilities; the central banking and monetary policy systems of the center's home nation; the home nation's landscape of financial policy and regulation; and the overall stability of the financial center itself. First, this Note will undertake a broad historical survey of the shifts in prominence from Amsterdam to London, from London to New York, and from New York back to London to define the scope of these factors through analyzing how they have manifested and evolved over time. In order to further understand the limits of these factors, this Note will also analyze two historical instances where two cities vied for the position of the leading international financial center, Paris versus London and Tokyo versus New York, and no corresponding shift occurred, despite the manifestation of some of the factors. In addition, to understand the role of politics in influencing these factors, this Note will also consider the shift between the financial centers of Frankfurt and Berlin during the nineteenth century. After defining the scope of the factors through this broad historical survey, this Note will analyze the presence of these factors in the modern international financial system in light of Brexit in order to assess their predictive capabilities. Lastly, this Note will consider the future relevance of international financial centers as a critical structure within the international financial system, and whether the factors might shed any light on the likelihood that emerging disruptive technologies might render international financial centers obsolete.

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Introduction

An international financial center is a centralized location where various financial intermediaries, both foreign and domestic, come together to coordinate their activities.[1] At present, London is arguably the leading international financial center.[2] However, in the wake of the Brexit referendum on June 26, 2016, there has been much speculation regarding the future of London's position within the international financial system.[3] While there are a number of candidates with the potential to surpass London,[4] accurately assessing the likelihood of London faltering in its position, or the actual strength of these candidate financial centers, is quite difficult. In searching for guidance in making this assessment, history may provide some assistance. While the adage that past performance is no guarantee of future results undoubtedly applies in this line of inquiry, by looking broadly across history at the rise-and-fall cycles among leading international financial centers, one can identify a set of correlative factors: trust in a financial center's capabilities; the central banking and monetary policy systems of the center's home nation; that nation's landscape of financial policy and regulation; and the overall stability of a financial center itself.[5] While these factors are by no means exhaustive, and more often

1. *See* Youssef Cassis, *International Financial Centres*, *in* The Oxford Handbook of Banking and Financial History 293, 293 (Youssef Cassis et al. eds., 2016).

2. *See*, *e.g.*, Mark Yeandle, 21 Global Financial Centres Index 4 tbl.1 (2017) [hereinafter GFCI 21] (showing London as the highest rated international financial center on its index evaluating the relative strength of such financial centers).

3. *See, e.g.*, Tom Campbell, *Can Post-Brexit London Survive as Europe's Cultural and Financial Capital?*, Guardian (Jan. 23, 2017, 2:07 AM)), https://www.theguardian.com/ cities/2017/jan/23/post-brexit-london-economic-self-sabotage (speculating as to how the Brexit negotiations may impact London's status as a financial center, among other things).

4. *See, e.g.*, Gavin Finch, *Dublin Is Best EU City for Bankers Fleeing Brexit, Study Says*, Bloomberg (Mar. 22, 2017, 3:11 AM)), https://www.bloomberg.com/news/articles/ 2017-03-22/dublin-is-best-eu-city-for-bankers-fleeing-brexit-study-says; Jonathan Ford, *London and New York Lose Ground to Asian Rivals in Finance Rankings*, Financial Times (Mar. 26, 2017), https://www.ft.com/content/63aa3a1c-10b6-11e7-a88c-50ba212dce4d (providing a list of potential cities within the European Union where bankers might move post-Brexit and identifying the possibility that Brexit may result in some financial activity leaving Europe entirely for New York or Asian financial centers, like Singapore or Hong Kong).

5. These general factors are consistent with those that have been previously identified by other scholars as having relevance in determining the relative strength of an international

than not tend to intermingle among one another, understanding and applying these factors facilitates better predictions about which financial centers, if any, might surpass London.

Addressing first the factor of trust, while trust may be viewed by some as a fundamental feature of the financial system generally,[6] it also plays an instrumental role in driving the rise-and-fall cycles of leading international financial centers. Through analyzing the various manifestations of trust across these cycles, the key elements of trust that emerge are: perceptions of the center's experience; relationships between the center's financial institutions and foreign ones; and the center's connections to other markets, both foreign and domestic.

A financial center's experience has multiple dimensions, including the experience of individual firms with certain kinds of transactions, and, more broadly, the perceived experience of the financial center itself, based on the kinds of transactions the center has historically managed. Additionally, experience manifests through immigration flows into the center, as the influx of foreign traders effectively imports experience into the center. Assessment of a center's relationships which historically focused on interpersonal relationships more broadly, now focuses specifically on business connections. Lastly, a center's market connections typically manifest through connections both to a strong domestic economy as well as international markets. However, as London's rise in the late twentieth and early twenty-first century helps to illustrate, the center's connections to international markets became significantly more important with the globalization of financial activity.

The central banking and monetary policy of a given center's home nation plays an instrumental role in either shifting the gravity of the international financial system toward, or away from, the center. In particular, an effective central bank has been critical in determining a given financial center's relative rise or decline ever since London overtook Amsterdam in the early nineteenth century. Equally critical has been monetary policy, too, which is often indistinguishable from the element of central banking. While this latter point is largely due to the substantial degree of control that modern central banks have over monetary policy, monetary policy has stood apart from central banking with respect to the strength of the

financial center throughout history. *See*, *e.g.*, Youssef Cassis, Capitals of Capital: The Rise and Fall of International Financial Centers 1780–2009, 286–92 (Jacqueline Collier trans., 2010) [hereinafter Capitals of Capital] (describing "staying power and change," which includes aspects of stability and trust, "the monetary factor," and the relationship between "state and finance" as being relevant factors in analyzing the historical rise-and-fall of international financial centers).

6. *See*, *e.g.*, Olivier Coispeau, Finance Masters: A Brief History of International Financial Centers in the Last Millennium 285 (2016) ("Finance people support trustworthiness not only because they think this is a just and moral cause, but also because of the glow they get from the idea of being trusted, and for some because they realise that ultimately the market can only build on trust. . . . [A]s a few hundred years of banking history has shown, trustworthiness comes first as the foundation of any longstanding financial hub.").

center's currency. However, even though currency strength has historically had an impact on the overall strength of a given international financial center, in light of more recent developments this aspect of monetary policy seems to have been severed from influencing the relative strength of a financial center.

National financial policy, which is often intertwined with central banking and monetary policy systems manifests most often through the depth and quality of the regulatory framework within a financial center and a center's openness to promoting innovation or alternative focus on safety and soundness within its financial sector. Throughout history a given nation's political stances have had a profound effect on the relative strength of a financial center, as certain stances have been incredibly influential in determining not only the course of financial regulation, but also the course of central banking policy and where a financial center might come to be located within the nation. However, the historical record discussed below suggests that the ideal balance of state involvement in financial policy remains largely ambiguous, at least with respect to influencing the relative position of an international financial center, as both extensive and minor state involvement have at times both benefited and harmed the position of an international financial center.

Addressing fourth the factor of stability, historically this factor has often served a largely catalytic role in the progression of rise-and-fall cycles. At least in earlier rise-and-fall cycles, there would often be a significant war that would bring about the two-part effect of weakening the former leading international financial center, while strengthening the ascendant financial center. However, in more recent cycles the element of war has yielded to the element of economic crises, which now appear to have a more substantial impact in catalyzing a shift, though perhaps with the additional effect of making such shifts less obvious than they were in previous cycles. Furthermore, there is the possibility that Brexit-like events may come to represent a new class of destabilizing events that could affect a center's stability in the future. At this stage, however, the potential destabilizing effects of Brexit are far too speculative to accurately categorize such an event as truly ranking alongside wars and economic crises as the kind of destabilizing event that could catalyze a shift in prominence among leading international financial centers.

Applying this basic framework regarding the factors, this Note seeks to further conceptualize them to analyze the likelihood that London might be surpassed by a capable ascendant financial center and to assess the future relevance of international financial centers as a key structure within the international financial system. To accomplish this goal, Part I of this Note will undertake a broad historical overview of the rise-and-fall cycles among leading international financial centers to better define the four factors through case-specific examples. Part I will also consider additional historical cases, specifically the overtaking of Frankfurt by Berlin, the failed attempt by Paris to overtake London, and the failed attempt by Tokyo to overtake New York, to better illustrate some unique ways in which the factors may manifest, as well as their potential limitations. Then, building on this historical background, Part II will apply the factors to the state of the international financial system in the wake of Brexit. Through this application, this Note will seek to understand what the factors might reveal about the strength of London's position as the leading international financial center and the likelihood that another financial center, specifically, Frankfurt, New York, or Singapore will surpass London. In contrast to this discussion, Part III will briefly analyze the future importance of international financial centers as a key structure within the international financial system in light of emerging disruptive technologies and consider what guidance historical parallels and the factors might provide in this inquiry. Lastly, Part IV will conclude.

I. Historical Overview

A. *Amsterdam to London*

By modern standards, Amsterdam emerged as the first true international financial center during the seventeenth century.[7] Crucial to Amsterdam's emergence was its connection to a strong domestic commercial and trading economy, which was brought about by the city's status as a central trading port in Europe.[8] Moreover, state financial policies in the Netherlands helped to reinforce and strengthen the financial activities that were developing in Amsterdam during this period by encouraging the development of a number of key financial innovations, such as the creation of the world's first stock exchange.[9] In addition to supporting innovation, this governmental support also contributed to the city developing a reputation abroad as an efficient provider of various financial services that were central to the international financial system during this period, including trade financing and issuing loans to foreign governments.[10] However, despite Amsterdam's early emergence as an international financial center, the city would come to be surpassed in prominence by London by the end of the eighteenth century.[11]

The factor of trust helps illustrate how London began to overtake Amsterdam around the mid-eighteenth century. During this time, London gradually came to surpass Amsterdam as a central trading port in Europe,[12] and, while London was still greatly lacking experience in executing international financial transactions relative to Amsterdam, the increase in commercial traffic to London brought with it a concomitant increase in the volume of financial activity coming into the city. Moreover, during this

7. *See* Capitals of Capital, *supra* note 5, at 9.

8. *See id.*

9. *See* Coispeau, *supra* note 6, at 106.

10. *See* Paul Kennedy, The Rise and Fall of the Great Powers 78 (1988).

11. *See* Coispeau, *supra* note 6, at 115–117.

12. *See* Capitals of Capital, *supra* note 5, at 10.

period, private bankers and traders began to realize that London presented seemingly limitless growth opportunities in its financial sector, while the financial sector of Amsterdam, by comparison, had been starting to show signs of nearing the limits of its capacity.[13] This perception led to some financial institutions either establishing branch offices in London, or moving their offices entirely from Amsterdam to London, including some of the most prominent firms in Europe at that time.[14] Beyond these shifting perceptions among financial institutions, this migration of firms to London brought critical business relationships within London's financial sector, while simultaneously depriving Amsterdam of those same relationships that had departed. Furthermore, this migration effect was magnified by the fact that, during this period, most banks and financial institutions were family-owned, and these family-owners would often conduct most of their business and financial activities through extensive interpersonal relationship channels that spanned out internationally.[15]Thus, as these family-owned firms migrated from Amsterdam to London, so too did their extensive interpersonal business networks.

Looking next at central banking and monetary policy, while the Amsterdam Wisselbank had emerged as arguably the first true central bank during the city's initial rise as a financial center,[16] the London-based Bank of England would eventually come to surpass it in terms of prominence due to structural and functional advantages. In terms of structural advantages, the Bank of England was established as a joint-stock company, with its directors beholden only to its private shareholders, while the Amsterdam Wisselbank was beholden to various governmental entities and the Dutch East India Company.[17] In turn, the Bank of England's joint-stock company structure enabled the central bank to be far more responsive to the changing economic and financial demands of its constituents relative to the Amsterdam Wisselbank.[18] As for functional advantages, the Bank of England was also able to provide a greater range of services relative to the Amsterdam Wisselbank. For example, the Bank of England facilitated the multilateral clearing of international payments between merchants, which subsequently lead to the Bank of England surpassing the Amster-

13. *See* Joost Jonker & Keetie Sluyterman, At Home on the World Markets: Dutch International Trading Companies from the 16th Century Until the Present 124 (2001).

14. *See id.*

15. *See* Capitals of Capital, *supra* note 5, at 38. These interpersonal relationship channels would often arise from direct family relationships or religious affiliations.

16. *See*, Stephen Quinn & William Roberds, *The Big Problem of Large Bills: The Bank of Amsterdam and the Origins of Central Banking* (Fed. Res. Bank of Atlanta, Working Note No. 2005-16, 2005).

17. Ann M. Carlos & Larry Neal, *Amsterdam and London as Financial Centers in the Eighteenth Century*, 18 Fin. Hist. Rev. 21, 31–32 (2011).

18. *See id.* at 32.

dam Wisselbank as a major clearing center within European payments system.[19]

Monetary policy does not appear to have been as instrumental in the transition. While there do not seem to be clear reasons for this phenomenon, one possible explanation might be that the central banks of this era were still relatively novel, and, as a result, these banks did not yet have access to the range of influential monetary policy tools that modern central banks come to possess as lenders of last resort.[20] However, it is worth noting that these early central banks, even without their modern monetary policy tools, still played a key role in the rise of London over Amsterdam.

Though financial policy in the Netherlands had originally played a crucial part in the emergence of Amsterdam as the first leading international financial center, English financial policy would come to play a two-part role in simultaneously promoting the position of London while undermining that of Amsterdam. Considering first how English financial policy worked to promote London, one of the most significant contributions of English financial policy came through the establishment of a strong system of public credit, which enabled domestic investors to invest and trade in a rapidly growing amount of English sovereign debt and thereby bolstered the overall strength of the English economy.[21] The strength of the English public credit system, in turn, was supported by the Bank of England, which served as an efficient system through which long-term English sovereign debt could be traded and repaid, and guarantees of such debt obligations from Parliament, which were backed by Parliament's power to raise additional taxes from a relatively vast domestic reserve of taxable wealth.[22] English financial policy also promoted London through the ability of private bankers to lobby politicians for favorable regulatory treatment. This practice arose primarily because of the geographical proximity of London's financial market to the seat of English political power, which enabled private bankers to establish and leverage close ties with politicians.[23]

Considering second how English financial policy worked to undermine the position of Amsterdam, the most overt English policy that targeted Dutch financial activities was the auditing of Dutch investments in English national funds, which had the effect of pressuring these investors to either

19. *See* Michael S. Barr et al., Financial Regulation: Law & Policy 868 (2016) (citing Charles Goodhart, The Evolution of Central Banks 5 (3d ed. 1981) and Andreas M. Andreades, History of the Bank of England 73 (4th ed. 2013)) (The Bank of England also benefited from its political status as the English government's preferred bank, and its ability to "issue banknotes against the government's debt and deal in bills of exchange and gold or silver bullion."); *see also* Coispeau, *supra* note 6, at 138.

20. *See* Barr et al, *supra* note 19, at 868–70; Capitals of Capital, *supra* note 5, at 45.

21. *See* Coispeau, *supra* note 6, at 138; Kennedy, *supra* note 10, at 81.

22. *See* Kennedy, *supra* note 10, at 80.

23. *See* Capitals of Capital, *supra* note 5, at 21.

withdraw their holdings from, or conceal their holdings within, the English financial sector.[24] In addition, more indirect policies that undermined Amsterdam's position came in the form of protectionist mercantile policies, which had the effect of undermining the strength of Dutch trade,[25] and social policies that encouraged the resettlement of individuals, in particular Jewish individuals, from Amsterdam to London.[26] While on a surface level these indirect policies appeared to be designed to direct forms of activity toward London that were not explicitly related to finance, the ancillary effect in redirecting trade flow and shifting interpersonal networks to London nonetheless brought significant benefits to the city's financial sector at Amsterdam's expense.

One final point regarding state financial policy is that, during this period, the Dutch government also underwent its own shift in attempting to overcome the challenges that were facing Amsterdam's financial sector. For example, the Dutch government created new supportive institutions such as the Associatie Cassa, which was the country's first joint-stock bank, and the Bank of the Netherlands, which was modeled after the Bank of England.[27] However, rather than being created with a focus on strengthening Amsterdam's position in international finance, these new institutions were instead created with a focus on the Dutch domestic economy.[28] Some have argued that this kind of inward shift in state financial policy, from focusing on international markets to domestic ones, is a typical characteristic of an international financial center in decline.[29]

Lastly, stability played a catalytic role in London surpassing Amsterdam. Specifically, the disparate effects of a series of wars on Amsterdam and London created a leadership vacuum within the international financial system, which London readily filled. With respect to Amsterdam, the effects of the Anglo-Dutch wars and the Napoleonic wars, both individually and in the aggregate, were devastating to the city's status as an international financial center and served to hasten the city's decline in prominence. With respect to the Anglo-Dutch wars, these initially began as a result of the English mercantilist protectionist trade policies that attempted to hamper Dutch trading supremacy.[30] Eventually, however, these wars would culminate in the Fourth Anglo-Dutch War, where the Dutch navy suffered a humiliating defeat, and subsequently left the

24. *See* Coispeau, *supra* note 6, at 116.

25. *See id.* at 114–15.

26. *See id.* at 115.

27. Capitals of Capital, *supra* note 5, at 14.

28. *See id.*

29. *See, e.g.*, *id.* This policy shift toward focusing on the Dutch domestic economy was not exclusive to the governmental institutions of the Netherlands, either. In fact, during this period the number of firms involved in domestic trade increased substantially relative to the number of international banking houses and merchant firms. *See id*.

30. *See* Coispeau, *supra* note 6, at 114.

Netherlands on the verge of civil war.[31] The aftermath of the Fourth Anglo-Dutch War also led to an economic crisis in the Netherlands that further undermined the strength of Amsterdam as a financial center. During this economic crisis, the Amsterdam Wisselbank, in an effort to salvage the near-failing Dutch East India Company, supplied the company with large advances under the direction of the city authorities of Amsterdam.[32] However, these advances were made in violation of the Wisselbank's charter, and when news of this violation leaked to the public the credit value of Wisselbank instruments plummeted, subsequently leading to a run on the bank by foreign depositors.[33] However, despite the devastating effects of these earlier events, the true death-knell for Amsterdam as the leading international financial center came about when the Napoleon invaded the Netherlands, thus beginning the period of French occupation. During the occupation, Amsterdam lost a substantial portion of its market share in financing international trade and issuing foreign loans, which the city was unable to recover even after the occupation had ended.[34]

By contrast, the same conflicts that undermined Amsterdam's position provided London with substantial benefits and strengthened its position as an international financial center. With respect to the Anglo-Dutch wars, England benefitted both from the reduction of the Dutch's overall trading capacity and the economic crisis that subsequently came to devastate the Netherlands. For example, many assets were moved directly from Amsterdam to London in the run that began after foreign investors discovered the Wisselbank's illicit advances to the failing Dutch East India Company.[35][36] In addition, the Napoleonic Wars benefitted London's status as a financial center since, on a more general level, the French military's policy of wealth and property seizure prompted mainland European nobles to move their assets to England as a safe harbor.[37] Lastly, the French occupation of the Netherlands completed the rise-and-fall cycle between Amsterdam and London since, with Amsterdam unable to continue efficiently providing financial services during the occupation, many European states had no choice but to turn to London when seeking to engage in international financial transactions.[38]

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31. *See* Capitals of Capital, *supra* note 5, at 19; Jonker & Sluyterman, *supra* note 13, at 125.

32. *See* Jonker & Sluyterman, *supra* note 13, at 125.

33. *See id.*

34. *See* Capitals of Capital, *supra* note 5, at 12.

35. *See* Jonker & Sluyterman, *supra* note 13, at 125.

36. *See id.*

37. *See* Coispeau, *supra* note 6, at 117.

38. *Id.* at 116–17; *see also* Capitals of Capital, *supra* note 5, at 20.

B. *Exploring the Factors Contours–London versus Paris*

After the fall of Amsterdam, London remained the leading international financial center until New York surpassed it after the Second World War.[39] However, while no other financial centers were able to surpass London prior to the Second World War, there were some noteworthy developments among other financial centers. Two episodes in particular, the unsuccessful attempt of Paris to overtake London as the leading international financial center and Berlin's successful overtaking of Frankfurt as the leading regional financial center in the German states, merit further consideration, as they provide valuable insight into the contours and limitations of the factors put forward in this Note. In this section, this Note will analyze the factors in the context of the unsuccessful attempt of Paris to overtake London. In the next section, this Note will analyze the factors in the context of Berlin's successful overtaking of Frankfurt.

Beyond being the only other serious attempt by another international financial center to overtake London prior to New York's rise in the early-to-mid-twentieth century,[40] Paris's unsuccessful attempt to overtake London provides an interesting perspective on the factors. Specifically, it helps to illuminate both the limits of the factors as well as how the component elements of the factors interact with one another. What makes Paris's unsuccessful attempt interesting is how, at first glance, the city appeared to have acquired a number of advantages that implicated the factors. However, due to other factors at play during this period, Paris was unable to surpass London before its own series of crises hit and ended its chances of becoming the leading international financial center.

First, with respect to trust, Paris managed to match and eventually overtake London as a major exporter of capital, hub for foreign exchange, and international clearing center.[41] While there were some significant non-financial economic factors behind Paris's ability to assume these leading roles, the two principal financial elements fueling these developments were France's trade relationships with England and other European nations and the trust foreign parties had in the strength of the franc. Considering first France's trade relationships, during this period France occupied a unique position in that it was the only nation in Europe that had both unfavorable trade balances with most European nations and a favorable trade balance with England.[42] Since most other European nations had unfavorable trade balances with England or had become debtors to France due to its rising prominence in the foreign loan market, Paris was able to

39. *See* Capitals of Capital, *supra* note 5, at 143.

40. *See*, *e.g.*, *id.* at 60–61 (noting the rareness, in general, of periods during which two or more financial centers competed for the position of the leading international financial center).

41. *See id.* at 62–63; Alain Plessis, *When Paris Dreamed of Competing with the City . . .*, *in* London and Paris as International Financial Centres in the Twentieth Century 42–43 (Youssef Cassis & Éric Bussière eds., 2005).

42. *See* Plessis, *supra* note 41, at 42–43.

leverage its unique position to become a major clearing center for settlements within Europe.[43] Although also related to central banking and monetary policy, the confidence that foreign nations and investors had in the franc during this period contributed greatly to Paris's rise in prominence as an international financial center. Most notably, for example, foreign nations that borrowed in Paris's financial sector would often index their currency to the franc as a way to attract French investors.[44]

However, despite Paris's rise to prominence in some fields of international finance, during the mid-nineteenth century the relative strength of most international financial centers relied more heavily upon the volume of their trading activities and market connectivity; and, in the field of international trade, London still vastly outstripped Paris in terms of both prestige and connectivity.[45] In part, London's superiority in international trade was due to the fact that Paris's landlocked position significantly hampered its ability to effectively compete against London in trade.[46] By not being able to effectively compete with London, Paris's efforts to overtake London were significantly undermined because the areas of international finance where Paris was able to compete with, and even surpass, London did not implicate the area of finance upon which the strength of London's financial sector primarily relied. Compared to when London overtook Amsterdam, where London's encroachment into various areas of finance that had previously dominated by Amsterdam had the additional effect of undermining the strength of the Dutch financial sector, Paris's encroachment into the areas of capital exportation, foreign exchange, and settlement clearing lacked the same negative impact with respect to the strength of London's financial sector, and instead merely created a division of labor between the two centers.[47]

Central banking and monetary policy also favored Paris due to the strength of the French central bank, the Banque de France, and, as mentioned above, the perceived strength of the franc. The Banque de France provided Paris's financial sector with significant competitive advantages through its large specie reserves, which had been amassed in part because of a hoarding policy within the bank itself, and in part because of France's "invisible export surplus" from activities like tourism, capital inflows, income from such capital, and profits from various service industries.[48] Through these vast specie reserves and the central bank's policies regarding their usage, the Banque de France enabled Paris to become the leading center for liquidity regulation in the international financial system.[49] In

43. *See* Capitals of Capital, *supra* note 5, at 64.

44. *See id.* (noting how nations like Austria-Hungary and Spain adopted monetary units linked to the franc).

45. *See id.* at 61.

46. *See id*. at 62.

47. *See* Capitals of Capital, *supra* note 5, at 63.

48. *See id.* at 64–65; Plessis, *supra* note 41, at 44.

49. *See* Plessis, *supra* note 41, at 44–45.

addition, these specie reserves buttressed the perceived strength of the franc by improving the currency's stability, reliability, and convertibility through substantial gold-backing.[50] Lastly, due in large part to how Paris's unique trading position in Europe enabled the city to become a major international clearing center, the franc was also adopted by other nations as a "continental reserve and settlement currency" in Europe, which further strengthened Paris's position as a financial center.[51]

While these elements helped to strengthen Paris's position within the international financial system, they were not sufficient to elevate Paris above London. For one, the Banque de France, despite being a key international liquidity provider, appeared to be at best on par with the Bank of England in terms of importance in the international financial system because the Bank of England held equally massive reserves of specie relative to the Banque de France, and, unlike the Banque de France, also had the ability to draw in vast sums of foreign capital as needed.[52] Moreover, in terms of relative currency strength, the pound sterling maintained a significant edge over the franc in that, despite the franc's perceived strength, the pound nevertheless retained its status as the primary currency for settlements within the international payments system.[53] The closest the franc came to overtaking the pound sterling as a leading currency was when France introduced the Latin Monetary Union initiative, which sought to bring about the creation of a universal currency based on the franc.[54] Had this union been widely accepted in Europe, the franc could have potentially surpassed the pound sterling as a leading currency. However, despite some countries initially supporting the initiative, the plan to expand the union's membership gradually lost momentum and was eventually terminated after England refused to join.[55]

Intermingling with the prior two factors, state financial policy permeates through many of the elements that enabled Paris to challenge London's position. This was largely because of a prevailing political climate in France that strongly encouraged the development of the financial sector of Paris, ideally to a level where it would be able to surpass London.[56] For example, certain significant policy decisions of the Banque de France, such as its specie hoarding policy, were politically inspired, and yielded valuable benefits for Paris's financial sector, such as increased currency stability and prominence as an international liquidity provider, as mentioned above.[57] Other politically-backed initiatives included the initia-

50. *See id.* at 45.

51. *See id*. at 42.

52. *See id.* at 45; CAPITALS OF CAPITAL, *supra* note 5, at 65.

53. *See* Plessis, *supra* note 41, at 45; A.S.J. Baster, *The International Acceptance Market*, 27 AM. ECON. REV. 294, 294 (1937).

54. *See* CAPITALS OF CAPITAL, *supra* note 5, at 65.

55. *See id.* at 65–67.

56. *See id*. at 64; Plessis, *supra* note 41, at 43.

57. *See* Plessis, *supra* note 41, at 44–45.

tive for an expanded Latin Monetary Union, as well as the adoption of various deregulatory policies in the French securities market as part of an attempt to attract greater investment activity to Paris.[58] However, these state financial policies, at most, only managed to bring Paris close the level of London, and were not sufficient to enable Paris to overtake it. Furthermore, some contemporary commentators were skeptical as to how much stability these politically motivated policies actually provided Paris's financial sector. Specifically, these skeptics believed that the high degree of political involvement made the position of Paris's financial sector far more volatile, while London, by contrast, enjoyed greater financial stability due to its relative independence from political involvement and, instead, its greater reliance on commerce.[59]

Lastly, perhaps the most important factor regarding why Paris was unable to surpass London was stability. While London was able to surpass Amsterdam in the wake of the Anglo-Dutch wars and the Napoleonic wars, there was no such destabilizing element of war to bolster Paris's efforts to overtake London. Moreover, while the Banque de France's vast specie reserves provided Paris with a great degree of economic stability and likely enabled it to weather economic shocks during this period better than London may have been able to, any impacts London might have suffered from such shocks were likely mitigated significantly because the Banque de France would often provide the Bank of England with critical liquidity support during these economic shocks.[60] Instead, the defeat of the French army in the Franco-Prussian War in 1870 caused a series of destabilizing events that impacted the Parisian financial sector and undermined its position in the international financial system.[61] For example, following France's defeat, the Banque de France was obligated to suspend convertibility and payments of specie for eight years, which had the two-part effect of both reducing Paris's former position as the leading international liquidity regulator and also shifting a greater volume of international payments transactions to London.[62] Furthermore, in order to finance the war indemnity demanded by Germany, France was required to liquidate a substantial portion of its portfolio of foreign securities, thereby limiting the nation's ability to continue operating as a major capital exporter and, in turn, further ceding Paris's international financial market share to London.[63]

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58. *See id.* at 43; Capitals of Capital, *supra* note 5, at 64.

59. *See, e.g.*, Walter Bagshot, Lombard Street: A Description of the Money Market 34 (1896) ("The pre-eminence of Paris partly arose from a distribution of political power, which is already disturbed; but that of London depends on the regular course of commerce, which is singularly stable and hard to change.").

60. *See* Capitals of Capital, *supra* note 5, at 108 (noting the self-interested motivations the Banque de France had for providing such liquidity support to the Bank of England); Plessis, *supra* note 41, at 45.

61. *See id.* at 43.

62. *See id.*; Bagshot, *supra* note 59, at 32–34.

63. *See* Capitals of Capital, *supra* note 5, at 67; Plessis, *supra* note 41, at 43.

C. *Exploring the Factors Contour–Frankfurt to Berlin*

Berlin's successful overtaking of Frankfurt as the leading financial center in the German states is unique in that it does not actually involve a rise-and-fall cycle among leading international financial centers; rather, the cycle occurs entirely within a single country. The unique intrastate context of this cycle is instructive because it sheds a different light on the relative roles played by each of the factors that would be harder to discern in an international cycle. For example, compared to the rise-and-fall cycles between Amsterdam and London or Paris and London, where the element of war had a profound and catalytic impact, stability plays a much more muted role in Berlin's overtaking of Frankfurt. Rather, the factor carrying the most significance in this case is that of state financial policy and, more specifically, the element of political influence. Considering how the factors may manifest in future rise-and-fall cycles among leading international financial centers post-Brexit, the case of Berlin's overtaking of Frankfurt may provide useful insight as to how intragovernmental politics, such as those in a body like the European Union, might influence where an ascendant financial center emerges.

First, to briefly address stability, prior to Berlin surpassing Frankfurt as a financial center, there had been a relatively lengthy unification process among the individual German states that culminated in the Franco-Prussian War of 1870.[64] However, unlike the wars that had previously served as catalysts in the cases of London surpassing Amsterdam and Paris failing to surpass London, there was almost no substantial economic fallout to one or the other's benefit or detriment. Rather, the Franco-Prussian War arguably brought both centers increased stability through the formation of the newly unified German state.[65] Despite Berlin and Frankfurt likely benefitting from this increased stability, the political consequences of German unification would eventually come to significantly undermine Frankfurt's position as a financial center while simultaneously promoting Berlin's.

During this period financial policy in Germany was largely dominated by Prussia, which used its dominant influence to promote Berlin as Germany's primary financial center over Frankfurt. From a purely political standpoint, this favoritism was due in no small part to Berlin being both the capital of both Prussia and the newly unified German state. However, this favoritism also appeared to be due in part to Frankfurt's own political leanings prior to German unification, which had been in tension with Prussian political interests. Accompanying the relocation of the political capital of Germany, there were also corresponding efforts to relocate the German economic and financial capitals to Berlin as well.[66] Some notable points of

64. *See* Charles P. Kindleberger, *The Formation of Financial Centers: A Study in Comparative Economic History*, *in* Princeton Studies in Int'l Finance 24 (no. 36, 1998).

65. *See id.* at 27–28.

66. One contemporary during this period, Georg von Siemens, who was the general manager of newly founded Deutsche Bank, noted the importance of Berlin post-unification,

tension between the viewpoints of the Frankfurt and Prussia were in their respective relationships with Austria, and in their views on financial interest-alignment with Paris and London, as the other major financial centers of this period. Specifically, while Frankfurt had maintained close relations with Austria and leaned towards aligning its financial interests with Paris, Prussia had fought and defeated Austria during the German unification process in the Austro-Prussian War in 1866 and chose instead to align its financial interests with London.[67] As a result, the post-unification political dynamic in Germany, largely dominated by Prussian interests, was one which both favored Berlin and disfavored Frankfurt, and this dynamic also played a significant role in determining how the remaining factors of trust and central banking and monetary policy played out.

Beginning with trust, while Berlin was by no means a brand new financial center, prior to German unification Frankfurt had significantly outstripped Berlin in terms of financial sector experience and international relationships.[68] However, once the shift in political backing towards Berlin had occurred, individuals began to redirect their business to Berlin in a substantial way, which had negative impacts on even the largest private banks in Frankfurt.[69] Beyond this redirection of activity due to political favoritism, there were also other elements of a perceived trust difference that gave Berlin an even greater advantage over Frankfurt. For example, during this period there was a perception among individual clients that the bankers of Berlin possessed greater "nimbleness and skill" than their counterparts in Frankfurt, which likely contributed in part to the aforementioned migration of clientele.[70] Furthermore, around this time the international financial system developed an interest in industrial securities, particularly railroad issuances.[71] This preference weighed in favor of Berlin's financial sector, as the city had prior experience in managing industrial securities from before the unification of the German states, while Frankfurt's financial sector, by comparison, had continued to focus on foreign government loans and state security issuances.[72] Thus, Berlin, having been more forward-looking and innovative in its development of experi-

as evidenced by "the eagerness with which the Frankfurt capital market [came] to meet [Berlin]." *See id.* (citing KARL HELFFERICH, GEORG VON SIEMENS, EIN LEBENSBILD AUS DEUTSCHLANDS GROSSER ZEIT 34 (1956)).

67. *See* CAPITALS OF CAPITAL, *supra* note 5, at 71.

68. *See id.* at 71–72.

69. *See* Kindleberger, *supra* note 64, at 27 (citing HELMUT BÖHME, DEUTSCHLANDS WEG ZUR GROSSMACHT, STUDIEN ZUM VERHALTNIS VON WIRTSCHAFT UND STAAT WIIHREND DER REICHSGRIINDERZEIT, 1848-1881 219 (1966)).

70. *See id*. (citing Helfferich, *supra* note 66, at 27).

71. *See* CAPITALS OF CAPITAL, *supra* note 5, at 54–55 (briefly overviewing the railway finance boom in international finance).

72. *See* Kindleberger, *supra* note 64, at 27 (citing BERNHARD BROCKHAGE, ZUR ENTWICKLUNG DES PREUSSISCH-DEUTSCHEN KAPITALEXPORTS, ERSTER TEIL, DER BERLINER MARKT FAR AUSLANDISCHE STAATSPAPIERE, 1816 HIS ZUM 1840 56 (1910)); *see also* CAPITALS OF CAPITAL, *supra* note 5, at 72.

ence in the issuance of industrial securities, was in a better position to capture this shift in activity within the international financial system, while Frankfurt, having been more backward-looking in its continued reliance on foreign loans, fell behind.

Looking lastly at central banking and monetary policy, the political element of state financial policy also tipped the balance in favor of Berlin. The primary way in which the factor of central banking and monetary policy manifested during this transition was in the establishment of the German monetary union, which brought about the establishment of a central bank, the Reichsbank, in Berlin, and the adoption of the mark as a common currency within Germany.[73] With respect to the Reichsbank, the structure of the bank, in particular, evidenced a high degree of political favoritism, as the bank's supervisory board was chaired by the chancellor of the Reich, whose directives were then binding on the chair of the executive board.[74] Moreover, of the fifteen-member central committee which represented the shareholders of the Reichsbank, nine members were required to be residents of Berlin.[75] On a more general level, however, the adoption of both of these measures through the German monetary union had the effect of depriving Frankfurt of its own monetary autonomy, which the city had previously enjoyed prior to the unification of the German states.[76] Thus, all of the factors, as influenced by this element of political influence, enabled Berlin to overtake Frankfurt as the leading financial center in Germany. Furthermore, Berlin would retain this position until the end of the Second World War, when Frankfurt would reemerge as the financial capital of West Germany.[77]

D. *London to New York*

Returning to analyzing the rise-and-fall cycles among leading international financial centers, as mentioned above, London retained its position as the leading center until the mid-twentieth century when New York rose to overtake it. New York's rise has a number of unique features that help to illustrate the evolution of the factors put forth in this Note. For one, the international financial system in which this rise-and-fall cycle unfolded was far more globalized than it had been during London's rise over a century

73. *See* Capitals of Capital, *supra* note 5, at 71; U.S. Senate Nat'l Monetary Comm., 61st Cong., The Reichsbank: 1876–1900 43–46 (1910), https://fraser.stlouisfed.org/files/docs/historical/nmc/nmc_408_1910.pdf.

74. *See* Capitals of Capital, *supra* note 5, at 71. While this evidence of fairly direct political favoritism was present in the structure of the Reichsbank, the bank was still structured as a private organization. *See id.* at 72 n.128.

75. *See id.* at 72 n.128.

76. *See id.* at 72.

77. *See* Kindleberger, *supra* note 64, at 24.

earlier.[78] Specifically, international trade, and the financing thereof, had become even more critical as a source of activity within financial centers, and the growth of foreign investments and free movement of capital had begun to hint at the emergence of a truly international capital market system.[79] Moreover, as discussed in greater detail below, the factor of stability began to undergo a transformation of its own, as the impact of economic crises began to take on a more prominent role in catalyzing cycles. As noted above in discussing the rise of London over Amsterdam and Paris's failed attempt at surpassing London, the impact of economic crises on the rise-and-fall cycles among the leading international financial centers, while critical, often played a secondary role to the impact of wars. This disparity in impact was largely due to the fact that these early economic crises were often a direct byproduct or knock-on effect of a war's aftermath rather than standalone events. However, during the rise-and-fall cycle between New York and London, while the relative position of the New York's financial sector was undoubtedly furthered by the devastating effects that both the First and Second World Wars had on London's financial sector, the destabilizing effects of the Great Depression also had a substantial impact on the rate at which the city would surpass London. Had it not been for the occurrence of the Great Depression, New York might have surpassed London as an international financial center in the years following the First World War, assuming it had not done so already;[80] but, because of the Depression, the rise of New York would ultimately be delayed until after the conclusion of the Second World War.

In analyzing how New York came to overtake London, the role of trust for New York parallels its role during London's rise to prominence over Amsterdam. One parallel is how the New York financial market initially developed as a means to accommodate the city's commercial and trading markets.[81] Where New York's rise distinguishes itself from London with respect to this parallel, though, is that, while both cities were handling a substantial volume of international transactions at this time, New York proved more successful in drawing and managing foreign investment into the United States' economy.[82] This distinction arose during the early twentieth century, as the United States experienced rapid growth in its economy while it simultaneously developed into a major capital im-

78. *See generally* Capitals of Capital, *supra* note 5, at 41–42, 74–81 (providing an overview of the developments in the global economy that had taken place over the course of the 20th century).

79. *See id.* at 74–77, 131.

80. *See* Hugh Rockoff, *Until It's Over, Over There: The U.S. Economy in World War I* 20–21 (NBER Working Note No. 10580, June 2004).

81. This Note will not explore the development of the New York financial center, generally, as that would go well beyond the scope of its topic. However, for background on why New York emerged as the primary financial center for the United States, *see, e.g.*, R.G. Albion, The Rise of New York Port (1815–1860) (1939); *see also* Kindleberger, *supra* note 64, at 52–56.

82. *See* Capitals of Capital, *supra* note 5, at 160.

porter.[83] As the leading financial center within the United States, New York was thus able to take on a role as the primary gateway for foreign capital being invested into the United States' economy.[84] However, in addition to being a major capital import center, New York would also come to surpass London as a major capital export center because of increased public investment in foreign stocks, supported by the experience and international connections of New York's financial institutions.[85] With respect to these connections, for example, the founders of some of New York's most prestigious financial institutions had extensive interpersonal relationships with foreign financial centers and vast experience in international finance, much to the city's benefit.[86] Beyond these elements of relationships and experience, the international market connections of New York were broadened further as more foreign banks sought to establish a foothold within the city during the early twentieth century, with a focus on international trade financing.[87] Eventually, the development of these financial institutions, both domestic and foreign, would lead to New York coming to host a substantial range of specialist financial firms, which may be viewed by some as a typical characteristic of a large international financial center.[88] As a final point regarding trust, and related to stability, the First World War significantly improved the overall perception of New York as an international financial center equal, if not superior, to London. This shift in perception was largely due to London's weakened economic state relative to New York in the wake of the War.[89] However, because of the Great Depression, and also to a lesser extent because of New York's lack of experience as an international financial center, New York's rise above London would not occur until after the Second World War.[90]

Looking next at central banking and monetary policy, New York's rise in prominence was significantly impacted by the role of the Federal Re-

83. *See id.* at 114–15, 204.

84. *See id.* at 114.

85. *See id.* at 155.

86. *See id.* at 115–18. J.P. Morgan and his namesake bank, J.P. Morgan & Co., could be considered exemplars of this phenomenon, as J.P. Morgan had connections with to London and Paris financial markets through partnerships he held at J.S. Morgan & Co. and Morgan, Harjes & Cie (positions which he, in turn, had inherited from his father). *See id.* at 117 (citing Kathleen Burk, Morgan Grenfell 1838–1988: The Biography of a Merchant Bank 62 (1990)).

87. *See* Mira Wilkins, The History of Foreign Investment in the United States, 1914–1945 274 (2009). The particular focus of these institutions on international trade was due in part to state and federal laws that prohibited foreign banks from taking retail deposits, and requirements that all directors of a national bank be citizens of the United States. *See* Barr et al., *supra* note 19, at 722.

88. *See* Capitals of Capital, *supra* note 5, at 205.

89. *See* Rockoff, *supra* note 80, at 21.

90. *See* Coispeau, *supra* note 6, at 154–55.

serve System.[91] On a fundamental level, the creation of the Federal Reserve System in 1913, and in particular the Federal Reserve Bank of New York, was a boon for New York, as the city's financial institutions came to have the backing of a lender of last resort.[92] Moreover, the Federal Reserve Bank of New York came to occupy a unique role within the sphere of international finance, due in no small part to the efforts of its first president, Benjamin Strong. In particular, early on, Strong worked to develop the Federal Reserve Bank of New York's ties to foreign central banks, aided by his connections with then-governor of the Bank of England, Montagu Norman.[93] In addition, Strong was responsible for pioneering the monetary policy technique of open market operations, which significantly increased the stability of the United States economy by enabling the Federal Reserve to regulate liquidity and credit availability.[94] Over time, the Federal Reserve Bank of New York's international connections and prominence would continue to grow until eventually, by the end of the Second World War, it came to assume the responsibilities of being both the United States' primary correspondent bank in dealing with foreign central banks and governments and for managing the U.S. Treasury's and other Federal Reserve banks' foreign exchange and transfer operations.[95] By contrast, the role of the Bank of England within the international financial system would diminish substantially from its pre-1914 status, when it was regarded as the primary coordinator among world central banks,[96] largely due to the weakening of the pound sterling.

The Bank of England took key steps to increase its regulatory authority as means to promote stability and counter the detrimental effects of the First World War.[97] However, despite these efforts the weakening of the pound sterling nonetheless undermined London's financial sector, largely because the strength of the pound as an international reserve currency had

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91. This Note will not explore the development of the Federal Reserve System, generally, as that would go well beyond the scope of its topic. However, for background on how the Federal Reserve System came to be developed, see Barr et al., *supra* note 19, at 42–47.

92. *See* Capitals of Capital, *supra* note 5, at 124.

93. *See id.* at 124, 157.

94. *See* Liquat Ahamed, Lords of Finance: The Bankers Who Broke the World 170–71 (2009); *see also* Barr et al., *supra* note 19, at 873–74 (explaining the role and mechanics of open market operations in monetary policy).

95. *See id.* at 205. While there were a number of factors that contributed to the Federal Reserve Bank of New York occupying such a prominent position within the Federal Reserve System, a key turning point that arguably cemented New York as the monetary and financial heart of the United States was occurred in 1942 when the president of the Federal Reserve Bank of New York was made a permanent member of the Federal Open Market Committee. *See* 12 U.S.C. § 263; (originally enacted as Act of July 7, 1942, ch. 488, § 263, 49 Stat. 705); *see also* Michele Fratianni, The Evolutionary Chain of International Financial Centers 26 (Oct. 2007) (unpublished manuscript) (citing Allan H. Meltzer, A History of the Federal Reserve, Volume 1: 1913–1951 599 (2003)). https://papers.ssrn.com/sol3/papers.cfm?abstract_id=1006590.

96. *See* Capitals of Capital, *supra* note 5, at 82–83.

97. *See id.* at 164–65.

been one of the key foundations supporting London's position as the leading international financial center.[98] In particular, during the First World War England was forced to suspend the pound sterling's convertibility to gold due to the fact that the international gold standard system had ceased to function at the onset of hostilities.[99] While the pound sterling's stability was maintained during the war through both financial support from the United States and index-linking the pound to the dollar, when American financial support was ended after the War the pound's exchange rate began to float, ushering in a period of relative "monetary chaos."[100] In an effort to restore stability, England's political leaders intervened in monetary policy by reestablishing the pound sterling's gold convertibility and indexing the pound's value to its pre-war parity, amid much controversy.[101] However, this political decision to reestablish pre-war parity gave rise to a general perception that the pound sterling had become overvalued, which subsequently led to a loss of confidence in the currency's true stability.[102] This loss of confidence intensified in the wake of the Great Depression, as the effects of the depression began to cascade into the international financial system, and eventually triggered a bank run on the Bank of England through an increase in the frequency of gold withdrawals.[103] Subsequent events of both political and financial turmoil accelerated these withdrawals until the English government was prompted to intervene in monetary policy once more and suspend the pound sterling's gold convertibility.[104] Though at this time London's financial sector was still suffering relatively more from the lingering effects of the First World War, the English government's move to abandon the gold standard so quickly after having reestablished gold convertibility was the final step towards breaking the market's confidence in the stability of formerly-dominant pound sterling.[105] As time progressed, the dollar would come to assume the pound sterling's former role as an international reserve currency, and thereafter would play a fundamental role in establishing New York's position as the leading international financial center after the Second World War, similar to how the pound had previously been fundamental in establishing London's position.[106]

Moving next to the factor of state financial policy, as an initial matter, one unique feature of New York that distinguishes it from London, Paris, Amsterdam, and even Berlin is that the city is the first modern example of a leading international financial center that is not also located within the

98. *See id.* at 184.
99. *See id.* at 152–53.
100. *See id.* at 153.
101. *See id.* at 162.
102. *See id.* at 184.
103. *See id.*
104. *See id.* at 184–85.
105. *See id.* at 185.
106. *See id.* at 204.

political heart of its home nation. This difference was likely brought about by a historical distrust of centralized government and banking within the United States, which prompted a separation of the nation's political and financial centers.[107] Furthermore, New York remains as the only example of a leading international financial center that is not also the political heart of its home nation, suggesting both the difficulty, yet possibility, that future international financial centers that are not located in the political heart of their home nation might also rise to similar prominence.

Considering more concrete state financial policy measures, the political involvement of the English government in monetary policy, as discussed above, contributed in part to undermining the strength of London as an international financial center, despite the government's likely well-intentioned rationale for intervening. By comparison, state financial policy in the United States would undergo a significant evolution during this period as the federal government began to increase its role in regulating the nation's financial system as a means to increase stability and combat growing abuses in the market.[108] For one, the creation of the Federal Reserve System through the Federal Reserve Act of 1913 was a critical step towards not only increasing the stability of the United States economy as a whole, but also for strengthening New York's position as an international financial center through the presence of the Federal Reserve Bank of New York, as discussed above.[109] Moreover, in the wake of the Great Depression, the New Deal's financial reforms brought about another wave of increased federal regulation in the United States' financial system to increase stability and transparency in the market.[110] However, while these financial policy choices benefitted New York as a financial center through increased stability and transparency, these arguably were not the most significant financial policies that would come to enable New York to surpass London as an international financial center. Rather, the state financial policies that would come to enable New York to become the leading international financial center were those dealing with the United States' stance towards assuming a true leadership role within the realm of international finance.

Before and during the First World War, the political climate in the United States was such that the nation was hesitant to fully commit itself to the international financial system.[111] This reluctance proved especially

107. *See, e.g.*, Barr et al., *supra* note 19, at 32–37, 42–45 (describing, in historical context, some of the political tensions that existed between those who advocated for a true central bank and those who advocated for a more decentralized banking structure).

108. The expansion of the United States' federal government's role in financial regulation during the early twentieth century represented a significant shift in the nature of state financial policy within the United States. Though this Note will not explore the earlier history of state financial policy within the United States, for an overview of this history, *see id.* at 32–41.

109. *See id.* at 42–45.

110. S*ee id.* at 47–52 (for an overview of some significant New Deal financial reforms).

111. *See* Kindleberger, *supra* note 64, at 61.

problematic during the inter-war and post-war periods when circumstances became increasingly evident that England, with London as its financial heart, could no longer serve as the leader of the international financial system.[112] Some scholars have even gone so far as to suggest that the Great Depression was, at least in part, a consequence of this reluctance by the "most promising candidate" for the position of the leading international financial center, New York, to take responsibility from London after it lost the capacity to continue its crucial role in serving the needs of the international financial system.[113] However, in the years before, during, and after the Second World War, the United States increasingly changed its political stance to embrace a greater willingness to assume the mantle of leadership within the international financial system.[114] Thus, compared to the United States' previous reluctance, by the end of the Second World War the United States, with New York as its financial heart, was significantly involved with, and committed to, its leadership role within the international financial system, evidenced in part by its central involvement in the post-war Bretton Woods System.[115]

Though touched on in the discussion above regarding how the other factors manifested during New York's rise, the factor of stability maintained its crucial role as a catalyst during this cycle, albeit with some noteworthy developments. Considering first similarities with past cycles, the First and Second World Wars, like the Anglo-Dutch war and French occupation during London's previous rise, had a two-part effect of destabilizing the former leading international financial center, London, while simultaneously providing the ascendant financial center, New York, with an opportunity to expand its influence abroad. Specifically, the World Wars undermined the strength of London in that its capacity to serve the international financial system was substantially diminished,[116] while New York, backed by the United States' strong domestic economy and central banking system, was able to step in and fill the leadership vacuum created by London's reduced capacity, albeit with some initial difficulties.[117]

Beyond these direct effects of the World Wars, perhaps a more interesting aspect of New York's rise above London is what appears to be a shift in the importance of the element of economic crises in indicating how

112. *See id.*; *see also* Charles P. Kindleberger, The World in Depression, 1929–1939 296–97 (1973).

113. *See* Kindleberger, *supra* note 64, at 61 ("[T]he 1929 Depression was the consequence of an ineffective transition of the financial center from London to New York. No new center rose to challenge the old ones and to wrest financial supremacy or responsibility from them. Instead, in this instance an old center lost the capacity to serve as the center of the world financial system, and the most promising candidate for the position was unwilling or unable to fulfill the responsibilities.").

114. *See id.*; Capitals of Capital, *supra* note 5, at 204.

115. *See* Michael S. Barr, *Who's in Charge of Global Finance?*, 45 Geo. J. Int'l L. 971 976–77 (2014).

116. *See* Kindleberger, *supra* note 64, at 61.

117. *See id.*

and when a shift in prominence might occur. As touched on in the above discussion, the Great Depression had a wide range of impacts on the way in which this cycle unfolded, ranging from prompting certain regulatory responses in both the United States and England, to outright delaying New York eventual overtaking of London, despite the latter having a significantly weakened position. Furthermore, compared to past economic crises that influenced shifts among leading international financial centers, such as those that resulted directly from the Fourth Anglo-Dutch War in the case of Amsterdam or from the Franco-Prussian War in the case of Paris, the case for whether the Great Depression may be viewed as having resulted directly from the First World War is much less clear.[118] Rather, there were a number of issues within the United States' financial system during this period, independent of the First World War, that also contributed significantly to the onset of the Great Depression; thus, suggesting that the Depression should not be viewed as being a mere knock-on effect of a preceding war.[119] Following New York's rise above London, this shift towards economic crises having greater influence over the factor of stability became much more apparent, particularly as the international financial system became more globalized, while war took on a much less influential role as the post-World War period began.

E. *Exploring the Factors Contours–Tokyo versus New York*

Before looking at the last significant rise-and-fall cycle among leading international financial centers, when London reclaimed its former position from New York, the case of Tokyo's rise to prominence in the late twentieth century as the first non-Western, modern international financial center to vie for the leading center status merits consideration as a means to better understand the nature of the factors. For one, the speed with which Tokyo emerged as a possible candidate for the leading financial center position was remarkable relative to that of the other leading international financial centers, and was likely due in no small part to Japan's latecomer advantages.[120] Moreover, the case of Tokyo is also interesting in that, dur-

118. One way in which this argument might be framed is that the Great Depression resulted from New York failing to assume London's role as the leading international financial center, with London being unable to continue fulfilling its role as the leading international financial center because of the detrimental effects the First World War had on the city's financial capabilities. *See id*.

119. For an overview of activities within the United States' financial sector itself that contributed to the onset of the Great Depression, *see* Barr et al., *supra* note 19, at 47–48.

120. Latecomer advantages are the economic benefits that developing economies benefit have when catching up with more industrialized nations. These benefits can include the "introduction of technology and process innovation" through importation and improved engineering, the ability to avoid market risks by studying and adopting foreign business models, and increased incentives for "innovation and quality control" as a result of competition with foreign markets. *See* Shigeru T. Otsubo, Professor, Nagoya University, Post-War Developments of the Japanese Economy 15 (Apr. 2007),http://www.gsid.nagoya-u.ac.jp/sotsubo/Postwar_Development_of_the_Japanese%20Economy(Otsubo_NagoyaU).pdf.

ing the peak of the city's rise in the 1980s, some scholars had already begun to perceive Tokyo as close to emerging as, if not already, the leading international financial center,[121] despite the fact that the factors did not appear to significantly weigh against New York at the time. Underlying Tokyo's rapid rise and the perception of its financial supremacy, the factors appear to have manifested in unique ways, indicating how the factors began to evolve following the Second World War. Furthermore, the case of Tokyo also provides a potential blueprint for how a non-Western financial center in the developing world could perhaps rapidly rise to the position of the leading international financial center in the future.

With respect to trust, during Tokyo's rise the elements of market connections, relationships, and experience all appeared to manifest in a somewhat similar manner to how they had manifested in previous cycles. However, unlike these previous rise-and-fall cycles, the rate at which these elements manifested in the case of Tokyo occurred at a blistering pace. Starting with the element of market connections, Tokyo's growth as a financial center was largely supported by Japanese industry and the city's connections to a strong domestic economy, similar to how the financial sectors of London and New York had developed earlier.[122] Moreover, the growth of Japanese industry after the Second World War was remarkable, as in roughly thirty years the Japanese economy managed to rebuild itself from near-total ruin to being one of the largest and fastest growing economies in the world.[123] While Japan's latecomer advantages likely contributed significantly to its rapid development, Japan also benefitted from the fact that, despite the ruinous effects of the Second World War, it still had a relatively well-established industrial infrastructure and a well-educated population that was motivated to rebuild the nation.[124] In addition, during this post-war period, Japan was able to fully focus its national energies on reconstruction and economic development over defense spending, due in part to the protection arrangements it had with the United States.[125] Thus, under these circumstances, the Japanese economy was able to grow at a rapid rate, and the benefits of this growth would subsequently be translated into advantages for Tokyo's financial system, given the city's central role within the Japanese domestic economy.[126]

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121. *See, e.g.*, Kennedy, *supra* note 10, at 466 (likening Tokyo's rise to the position of the world's "leading banking" center as following the earlier examples set by Amsterdam, London, and New York); *see also* Kathleen Burk, *Money and Power: The Shift from Great Britain to the United States*, *in* Finance and Financiers in European History, 1880–1960 359 (Youssef Cassis ed., 1992) (noting that the US was slowly but surely being overtaken by Japan as the world financial power).

122. *See* Capitals of Capital, *supra* note 5, at 238.

123. *See* Kennedy, *supra* note 10, at 416–18; Otsubo, *supra* note 120, at 4, 13.

124. *See* Kennedy, *supra* note 10, at 416–17.

125. *See id.* at 459; Capitals of Capital, *supra* note 5, at 239.

126. *See* Capitals of Capital, *supra* note 5, at 238–39.

Beyond the support that Tokyo received from its connections to a strong domestic economy, the factor of trust also appeared to manifest in some new ways, as well. One example is that, with respect to market connections, Tokyo was, to an extent, naturally situated to become a leading financial center because of its geographic location, as the city was able to serve as a time bridge between the financial markets North America and Europe.[127] Another example is that, with respect to the element of experience, while the Tokyo financial sector did not appear to benefit from an established base of financial experience or an initial influx of foreign financial institutions, the Japanese, inspired by the United States' model of finance, were nonetheless able to translate industrial market growth into financial center growth through their own efforts.[128] Even though in the 1980s many major foreign financial institutions would come to establish branch offices in Tokyo, by this time the city's financial sector was already thriving, with five of Japan's largest commercial banks then being regarded as ranking among the largest banks in the world.[129] However, while Tokyo's ability to establish its own experienced financial sector base without an influx of foreign talent is impressive, it is also worth noting that the lag in foreign financial institutions branching into Japan was also largely the result of strict regulatory controls over the flow of cross-border capital and access to Tokyo's financial sector.[130]

As an element of the factor of state financial policy, the Japanese government's strict regulatory controls over financial activity played a major role during the early phase of Tokyo's rise. These regulatory controls were so extensive that it would arguably be impossible to discuss the factor of central banking and monetary policy independently from state financial policy because of the nearly autocratic control the Ministry of Finance and the Bank of Japan held over the Japanese financial system.[131] For example, during this period the Japanese government employed policies such as artificially devaluing the yen and maintaining low interest rates in order to fuel growth within the domestic economy, while simultaneously retaining approval authority over almost all transactions involving capital flows entering or exiting Japan.[132] On the monetary policy side, the Bank of Japan forwent open market operations, due in part to a lack of sovereign bonds issuances as part of a balanced budget policy, in favor of the extensive use

127. *See* Coispeau, *supra* note 6, at 177. Of note, Tokyo also benefitted from its location in its status as a major port city within Japan, similar to Amsterdam, London, and New York before it.

128. *See* Capitals of Capital, *supra* note 5, at 238–39.

129. *See id.* at 238–41.

130. *See* Yusuke Kashiwagi, Chairman, Bank of Tokyo, The Emergence of Global Finance, The 1986 Per Jacobsson Lecture 7–8 (Sept. 28, 1986), http://www.perjacobsson.org/lectures/1986.pdf.

131. *See* Capitals of Capital, *supra* note 5, at 239.

132. *See* Kennedy, *supra* note 10, at 459; Kashiwagi, *supra* note 130, at 7; Capitals of Capital, *supra* note 5, at 239.

of its discount rate, loans, and "window guidance" to commercial banks.[133] Through this policy framework, the Bank of Japan was able to exercise a high degree of control over the extent to which Japanese commercial banks could issue loans by reducing or increasing its own loans to those banks, which effectively enabled the Bank of Japan to regulate the volume of all Japanese economic activity.[134] By the 1970s, however, the Japanese government, under pressure from an economic slowdown, gradually began to relax its regulatory policies, thereby opening Tokyo's financial sector to more liberal and increased international activity.[135]

While a high degree of governmental control was a defining feature during the earlier phase of Tokyo's rise, after the Japanese government began to liberalize and deregulate its financial sector, Tokyo's role in the international capital market system and the strength of the yen would develop into defining features of the city as an international financial center. First, with respect to Tokyo's role in the international capital market system, the city was widely viewed as a major capital exporter but not so much as a major capital importer.[136] In line with these views, Tokyo's financial sector became a significant source of financing for foreign individuals, especially through the ability of Tokyo-based financial institutions to engage in maturity transformations by taking in short-term capital investments and issuing long-term loans in return.[137] The sustained growth of the Japanese economy also fueled the rise of the yen as a key currency within the international monetary system.[138] While for a time there was some speculation that Japan could surpass the United States as a key currency nation, there was also the belief that Japan still lacked the potential to accomplish such a feat, and, instead, would take on a supplementary role within a burgeoning multi-key currency system.[139] Over time, the latter of these two views would be proven more or less correct, as the yen would assume a role as the third leading international currency alongside the dollar and the euro.[140]

Stability, relative to the other factors, played a much more critical role during Tokyo's rise because of the double-edged manner in which it manifested. On the strengthening edge, in an interesting development, the element of war was both present and arguably had a beneficial impact on Tokyo's initial growth as a financial center. While the effects of the Second World War had left much of Japan and its economy in ruin, the subsequent reconstruction efforts had a significant impact in mitigating the long-term damaging effects of the war, and thus enabled Japanese industry to begin

133. *See* Capitals of Capital, *supra* note 5, at 239.

134. *See id.*

135. *See* Kashiwagi, *supra* note 130, at 8.

136. *See id.*

137. *See id.* at 9.

138. *See id.* at 10.

139. *See id.*

140. *See* Capitals of Capital, *supra* note 5, at 268.

its rapid rise.[141] Moreover, Japanese industry also benefitted significantly from increased defense spending by the United States during the Korean War, which further stimulated growth among Japanese export industries.[142] However, aside from these strengthening benefits, the element of war did not have much of an impact on Tokyo's rise as an international financial center, or, on a more general level, Japan's rise as an economic power, especially when contrasted with the detrimental effects that had accompanied previous manifestations of this element. Rather, the element of economic crises, which came to manifest through the Japanese real estate and stock market bubbles bursting, had a much more profoundly detrimental effect on Tokyo's rise by halting the tremendous momentum that Tokyo had built up towards overtaking New York.[143]

The Japanese real estate and stock market bubbles arose because of substantial expansions within the Japanese credit markets and rising asset prices after the government implemented deregulatory policies that liberalized and opened the Japanese financial sector to increased international activity.[144] Moreover, while state financial policies triggered the initial formation of the bubbles, their expansion was perpetuated by a feedback loop where higher asset prices and expansions of credit came to be supported by a general anticipation among actors within the Japanese financial sector of further asset price and credit increases.[145] By 1990, however, when the Governor of the Bank of Japan intervened in the Japanese financial sector to tighten credit availability, out of concern regarding the control of inflation, this expansionary loop that had fed the growth of the market bubbles was cut off, subsequently leading to the bubbles bursting.[146] In the aftermath, the Japanese real estate and stock markets experienced a sharp decline in value, and growth rates within the national economy have since been only slightly positive or negative—a far cry from the robust expansion witnessed during Tokyo's initial rise to prominence.[147]

In some respects, the bursting of the real estate and stock market bubbles in Japan parallels how the Great Depression hampered New York's

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141. *See* Kennedy, *supra* note 10, at 418.

142. *See id.*

143. *See* Capitals of Capital, *supra* note 5, at 268–70.

144. *See* Franklin Allen & Douglas Gale, *Bubbles and Crises*, 110 Econ. J. 236, 236–37 (2000). For perspective, in the stock markets, the Nikkei 225 index rose from around 10,000 in 1985 to 38,916 in 1989 before the bubble burst. *See id.* at 237. In the real estate markets, the few hundred acres in Tokyo where the Imperial Palace is located were valued in 1989 at a price roughly equivalent to all of the land in California. *See* Jeffrey A. Frankel, *The Japanese Financial System and the Cost of Capital*, *in* Japanese Capital Markets: New Developments in Regulations and Institutions 21–77 (Shinji Takagi ed., 1993) (citing Jeffrey Sachs & Peter Boone, Japanese Structural Adjustment and Balance of Payments (NBER Working Note No. 2614, June 1988)).

145. *See* Allen & Douglas, *supra* note 144, at 247.

146. *See id.* at 236–37, 247.

147. *See id.* at 237.

earlier rise above London. However, unlike the mere delaying effects that the Great Depression had on New York's rise and the depression's arguable connection to the First World War,[148] the real estate and stock market bubbles in Japan appear to be the first instance in which an economic crisis that was wholly unrelated to a war managed to completely halt the ascendance of a promising candidate financial center.[149] Therefore, the case of Tokyo's rise and subsequent failure to surpass New York because of the bursting of the real estate and stock market bubbles presents a marked shift in the evolution of the factor of stability, in that the element of economic crisis can no longer be viewed as merely a knock-on effect of a much more impactful war. Rather, moving from the late twentieth century into the early twenty-first century, the element of economic crisis appears to surpass the element of war in terms of significance.

F. *New York to London*

Finishing this historical overview of the rise-and-fall cycles among top international financial centers, the case of London overtaking New York presents the most recent iterations of the factors. As a preliminary matter, this cycle is unique as compared to earlier cycles in that there was not a definitive moment where London surpassed New York. Rather, there is some debate as to when exactly London managed to wrest the position of the leading international financial center back from New York, depending on the metric one employs.[150] One possible explanation is that London only managed to reclaim its former status by gradually slipping past New York, rather than by leaping ahead, because the major destabilizing event that did occur during this cycle, the Financial Crisis of 2008, had severe negative impacts on both financial centers, and thus resulted in neither being able to gain a significant advantage over the other sufficient to demonstrate a more abrupt shift.[151] Another explanation, also related to the absence of a catalytic effect, is that this cycle was more about London's rise back into prominence than it was about New York being a financial center in decline. As explained below, both financial centers were experiencing significant growth during the late twentieth and early twenty-first centuries, due largely to increased globalization and innovation in the in-

148. *See* Kindleberger, *supra* note 64, at 61.

149. *See* Capitals of Capital, *supra* note 5, at 268–70.

150. *Compare, e.g.*, Kindleberger, *supra* note 64, at 61–62 (stating that London overtook New York in the 1970s with the advent of the Eurodollar markets and foreign branching by American firms into London to engage in regulatory arbitrage); *with* Mark Yeandle et al., The Competitive Position of London as a Global Financial Centre 6–7 (Nov. 2005) [hereinafter "Yeandle (2005)"] (showing that between 2003 and 2005 London had just managed to achieve a narrow lead above New York as the leading international financial center).

151. *Compare, e.g.*, Yeandle (2005), *supra* note 150, at 6–7, *with* 15 Mark Yeandle & Nick Danev, The Global Financial Centers Index 5 (2014) [hereinafter "GFCI 15"] (showing New York overtaking London); *and* 18 Mark Yeandle, The Global Financial Centers Index 4 (2015) [hereinafter "GFCI 18"] (showing London overtaking New York).

ternational financial system. Under this view, then, the reason that London was able to reclaim its former position from New York was that London managed to capture a greater proportion of the financial activity created by these developments within the international financial system, while New York's strength remained more reliant upon the continued growth and strength of the United States' economy than its own position as an international financial center.[152] By looking primarily at the factors of trust, central banking and monetary policy, and state financial policy, one can see how the evolving nature of international finance, on a more general level, subsequently led to these factors manifesting in novel ways. Furthermore, by seeing how a shift may occur during a period where the factor of stability is unable to catalyze a shift in prominence among leading international financial centers, one can understand how the significance of the factor of stability may evolve in future cycles.

Compared to previous iterations of this factor, trust appears to have undergone a significant evolutionary shift during London's rise above New York, due in large part to globalization before and during this period.[153] The increased internationalization of financial activities redefined how market connections might expand or limit the prominence of an international financial center. Specifically, the significance of market connections to a strong domestic economy appears to have become less important relative to that of strong connections to foreign economies in determining the relative prominence of an international financial center, much to London's benefit and New York's detriment.[154] While the strength of the United States economy may have provided New York's financial sector and the financial institutions based therein with a great deal of sway in setting the overall tone of international finance,[155] London appears to have benefitted from a phenomenon, otherwise referred to as the "Wimbledon effect," where the strength and success of the city as a financial center has come to be largely dependent on financial activity brought in by foreign institutions.[156] In turn, the result of this phenomenon has been that London, as

152. *See* Cassis (2016), *supra* note 1, at 310; s*ee also* Capitals of Capital, *supra* note 5, at 288 ("[A]lthough London holds top ranking for international financial activities, it drops back to third place, behind New York and Tokyo, if national financial activities are included.").

153. *See, e.g.*, Cassis (2016), *supra* note 1, at 309–10 (noting how globalization was one of a set of factors that had a significant impact on the nature of activities within the international financial system during the late twentieth and early twenty-first centuries).

154. *See, e.g.*, Int'l Monetary Fund, Monetary & Exchange Affairs Dep't, Offshore Financial Centers (Background Note, June 23, 2000) ("In terms of assets, London is the largest and most established such center, followed by New York, the difference being that *the proportion of international to domestic business is much greater in the former*.") (emphasis added), https://www.imf.org/external/np/mae/oshore/2000/eng/back.htm.

155. *See* Cassis (2016), *supra* note 1, at 310.

156. *See id.* (citing generally Richard Roberts & David Kynaston, The City State: how the Markets Came to Rule our World (2001)); *see also* Yeandle (2005), *supra* note 150, at 16 ("We could argue that London has the advantage of the "Wimbledon Effect", i.e. being seen as a place of fair dealing and regulation for locals and overseas partici-

an international financial center, has managed to achieve a level of prominence that otherwise would be considered disproportionate relative to England's actual economic weight worldwide.[157] However, to an extent, this evolution may also be regarded as a double-edged sword for certain leading international financial centers. For instance, on the one edge, as explained above, a financial center like London may be able to rise to the position of the leading international financial center even though its domestic economy is not the largest or most significant one worldwide by attracting a high volume of activity from foreign financial institutions. On the other edge, though, a strong domestic economy appears to have the potential to insulate an international financial center's status within the global hierarchy of such financial centers, where a financial center lacking such insulation becomes heavily dependent on the uninterrupted importation of financial activity from foreign institutions in order to maintain its status.[158] Therefore, in the case of London, while this evolution in the element of market connections has helped it to surpass New York, were the flow of financial activity from foreign institutions to be disrupted or otherwise reduced, the city's status as the leading international financial center would most likely be severely undermined.

Beyond the element of market connections under the factor of trust, London's rise back into prominence also benefitted from developments in the elements of experience and relationships. First, with respect to the element of experience, though London had fallen behind New York in the wake of the Second World War, the city maintained its status as a significant financial center because, for the most part, the financial institutions and primary sources of expertise within the London financial sector were still intact despite the war's destruction.[159] This retention of experience proved to be especially beneficial for London as new financial innovations, such as the Eurodollar market described below, readily found London to be a suitable hub for activity because of the city's deep financial traditions.[160] In addition to the retention of experience, London also held an advantage over New York in its ability to import additional expertise through more accommodating immigration laws and a history of welcoming foreign traders.[161] Thus, while New York and London are both regarded as having highly skilled workforces,[162] the United States' relatively

pants."). The Wimbledon Effect is named such as a reference to the English tennis tournament, and the fact that, while England hosts the tournament, its winners are primarily foreign athletes. *See, e.g.*, *Death by a Thousand Cuts*, The Economist (Jan. 7, 2012) ("This 'Wimbledon effect', in which Britain provides the courts but not necessarily the players . . . ."), http://www.economist.com/node/21542398.

157. *See* Capitals of Capital, *supra* note 5, at 287.

158. *See* Cassis (2016), *supra* note 1, at 310.

159. *See* Capitals of Capital, *supra* note 5, at 209.

160. *See id.* at 266–67.

161. *See* Coispeau, *supra* note 6, at 166–67, 204.

162. *See, e.g.*, Yeandle (2005), *supra* note 150, at 18.

strict immigration policies arguably undercut New York's competitiveness in attracting talent and allowed the more-welcoming London to attract much greater volumes of foreign talent.[163] As for relationships, in the wake of the Second World War, London had managed to retain its extensive international banking network, and this network continued to grow as innovations in finance and the effects globalization during the late twentieth century increased the number of services the city's financial sector was able to offer.[164] However, in contrast with past cycles, where commercial and interpersonal relationships were intrinsically linked in strengthening the position of a leading international financial center, the expansion of London's network of relationships among foreign banks was fueled almost entirely by commercial financial interests.[165] Thus, while interpersonal connections may have helped establish the initial foundations for London's international relationship network in previous cycles, by the time London reclaimed its position as the leading international financial center, commercial relationships became more critical in determining the balance of this element under the factor of trust.

Like the factor of trust, the factor of central banking and monetary policy also underwent a significant change during the period of London's rise, largely because of the effects of new innovations in the city's financial sector and globalization. Arguably, the most significant change was that the link between the relative strength of a given international financial center and the strength of such a center's native currency was largely severed, which came to benefit London's status as an international financial center immensely.[166] On a general level, this severing phenomenon was caused primarily by both the worldwide movement of currencies to a system of floating exchange rates, instead of continuing to maintain a system of fixed exchange rates under the gold standard, and the overall liberalization of international capital movements.[167] As a result of these changes, London's strength as a financial center was no longer significantly tied to that of the pound sterling. Instead, the relative strength of London became more dependent on the ability of the city's financial sector to attract and clear transactions denominated in foreign currencies, such as the dollar.[168]

An illustration of this change, and how London came to benefit from it, can be found in the emergence of the Eurodollar market in the mid-to-

163. *See* Coispeau, *supra* note 6, at 166–67, 204.

164. *See* Capitals of Capital, *supra* note 5, at 210, 224. By the time London surpassed New York as the top international financial center around the early twenty-first century, the city hosted just under twice as many foreign banks as New York. *See* Yeandle (2005), *supra* note 150, at 54 ("London also has the most foreign banks (486) compared with . . . New York (253).").

165. *See* Capitals of Capital, *supra* note 5, at 267–77.

166. *See id.* at 290.

167. *See id.*

168. *See id.*

late twentieth century.[169] For background, the Eurodollar market was essentially a short-term money market for dollars held outside the United States that initially arose primarily as a regulatory arbitrage technique, among other non-financial causes.[170] Specifically, American financial institutions began to deposit dollars overseas to avoid the caps Regulation Q set on the interest rates paid on deposits, as well as other capital controls, and essentially led to the creation of an international capital market to circumvent these regulatory restrictions.[171] There are two primary reasons why London was a major beneficiary of this new arbitrage-oriented capital market. The first reason is that English banks were able to offer much higher interest rates on deposits than American banks subject to Regulation Q because of the prevailing high interest rates in England during this period.[172] The second reason is that London's financial sector had deep historical expertise and the requisite capacity for managing these kinds of international capital market transactions, further enabling the city to become a home for the emerging Eurodollar market.[173] Furthermore, buttressing the emergence of this capital market were the Bank of England's relatively liberal policies towards permitting the financial institutions of London to engage in Eurodollar market transactions, especially compared to their European counterparts.[174] In particular, the Bank of England adopted policies that differentiated their regulatory treatments of international financial activities on behalf of foreign clients in dollar, or other foreign currency, denominations, and domestic financial activities in pound sterling denominations. By leaving the former relatively unregulated and the latter more tightly regulated,[175] the Bank of England sought

169. The Eurodollar markets were one subset of a larger system of "Euromarkets," which was comprised of various types of money markets for dollars held outside the United States. While this section will focus primarily on the Eurodollar market, there were also the Eurobond and Eurocredit markets. For further background on the Euromarkets and their emergence, *see id.* at 219–23; *see also* Cassis (2016), *supra* note 1, at 309.

170. *See* Cassis (2016), *supra* note 1, at 309.

171. *See* Capitals of Capital, *supra* note 5, at 219–20; s*ee also* Kennedy, *supra* note 10, at 62.

172. *See* Capitals of Capital, *supra* note 5, at 220; s*ee also* Catherine R. Schenk, *International Financial Centres 1958–1971: Competitiveness and Complementarity*, *in* European Banks and the American Challenge 85 (Stefano Battilossi & Youssef Cassis eds., 2002).

173. *See id.* at 223.

174. *See* Cassis (2016), *supra* note 1, at 308.

175. *See id.* (citing generally Niall Ferguson, High Financier: The Lives and Time of Siegmund Warburg (2010); Stefano Battilossi, *Introduction: International Banking and the American Challenge*, *in* European Banks and the American Challenge (Stefano Battilossi & Youssef Cassis eds., 2002); Catherine R. Schenk, *The Origins of the Eurodollar Market in London*, 35 Explorations in Econ. Hist. 221–38 (1998); *see also* Ian Kerr, A History of the Eurobond Market: The First 21 Years (1984).

to encourage and protect the development of the Eurodollar market in London.[176]

England's more industry-friendly approach to regulation, as compared to that of the United States, would also have a significant role in London's rise above New York. While both governments would gradually relax some of their stricter regulatory policies during the late twentieth century,[177] London nevertheless managed to retain an edge over New York by being viewed by market participants as having a relatively superior regulatory framework through its effective balancing of regulator competence, enforcement, and the overall level of regulation.[178] With respect to regulator competence, financial institutions largely favored England's financial sector regulator, the Financial Services Authority ("FSA"), as a more responsive, single point of supervisory contact, especially compared to United States' system of overlapping federal and state regulators, often with conflicting sector coverage and policy views.[179] Moreover, the way in which the FSA functioned, relative to United States' regulators, was viewed as more flexible and industry-friendly. To this point, the FSA had primarily implemented principles-based regulatory guidance, which established relatively clear, output-driven guidance for how financial institutions should conduct their business.[180] Additionally, the FSA implemented general policy guidelines regarding the ways in which the regulator itself would conduct its own activities, which provided financial institutions with greater certainty as to the possible courses of action the FSA might take under certain scenarios.[181] By comparison, the United States' regulators developed a less flexible, largely input-driven, and more prescriptive rules and compliance-based approach, and also lacked a common set of principles-based regulatory guidance for how the regulators themselves would conduct their own activities.[182] While these rules and compliance-based regulations did in fact yield benefits towards increased stability within the United States' financial sector, the regulatory model as a whole appeared to undermine New York's competitiveness as an inter-

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176. *See*, *e.g.*, Schenk, *supra* note 172, at 85 ("It is par excellence an example of the kind of business which London ought to be able to do both well and profitably. That is why we, at the Bank [of England], have never seen any reason to place any obstacles in the way of London taking its full and increasing share. If we were to stop the business here, it would move to other centres with a consequent loss of earnings for London.") (citing Humphrey B. Mynors, Letter to Sir Charles Hambro (1963)).

177. *See, e.g.*, Capitals of Capital, *supra* note 5, at 244–48 (discussing the trend towards deregulation in both England and the United States during the 1980s and 90s).

178. *See* Centre for the Study of Fin. Innovation, Sizing up the City–London's Ranking as a Financial Centre 15–16 (2003) [hereinafter "CSFI"]; McKinsey & Co., Sustaining New York's and the US' Global Financial Services Leadership 78–81 (Jan. 2007), http://www.nyc.gov/html/om/pdf/ny_report_final.pdf.

179. *See* McKinsey & Co., *supra* note 178, at 81–82.

180. *See id.* at 82.

181. *See id.*

182. *See id.* at 83.

national financial center through increased, yet avoidable, transaction costs.[183]

London also had an edge over New York in that the FSA's method of enforcement was viewed by financial institutions as being more receptive and geared towards producing better results, while the United States' approach was viewed as being far more fragmented with a number of undesirable knock-on effects.[184] While some regulators within the United States' regulatory framework, such as the New York Federal Reserve Bank, were viewed by financial institutions as being more effective in their use of collaborative issue resolution procedures, there were nevertheless a number of other regulators that were viewed in the aforementioned negative light.[185] In fact, some policies of financial regulators in the United States were viewed by financial institutions as being so draconian that the institutions felt they were all but coerced into redirecting their business through less litigious jurisdictions like London.[186]

Furthermore, English policymakers struck a better balance than the United States' policymakers regarding the appropriate level of regulation through avoiding the implementation of overly burdensome regulations, while also maintaining sufficient regulatory coverage to instill confidence in the stability of the financial institutions operating within London's financial sector.[187] By comparison, and to New York's detriment, the United States' regulatory structure was viewed by financial institutions as

183. *See id.* ("Although there are benefits from an increase in compliance-related expenditures, the [Securities Industry Association ("SIA")] report found that 'a substantial portion of these increased costs were avoidable, reflecting, among other things: duplication of examinations, regulations and supervisory actions; inconsistencies/lack of harmonization in rules and regulations; ambiguity; and delays in obtaining clear guidance.'") (citing SIA Research Reports, 7 (Feb. 22, 2006)).

184. *See* McKinsey & Co., *supra* note 178, at 84. These knock-on effects included more punitive resolutions, increased publicity of enforcement actions, and more costly enforcement, due largely to the possibility of multiple enforcement actions at the federal and state level, as well as the possibility of both criminal and civil penalties in different jurisdictions.

185. *See id.* at 84–85.

186. *See id.* at 85. A notable example of such a policy was the Department of Justice's Thompson Memorandum, which authorized federal prosecutors to weigh the decision of a corporation whether or not to waive its attorney-client privilege as a factor when considering seeking a federal indictment. *See* U.S. Dept. of Justice, Office of the Deputy Att'y Gen., Memorandum on Principles of Federal Prosecution of Business Organizations, 7 (Jan. 20, 2003). Though the Department of Justice would largely reverse its stance in the McNulty Memorandum, the change still left financial institutions without a safe harbor from reprisals when sharing the findings of internal investigations with the appropriate regulators. *See* U.S. Dept. of Justice, Office of the Deputy Att'y Gen., Memorandum on Principles of Federal Prosecution of Business Organizations 8–11 (2006); *see also* McKinsey & Co., *supra* note 178, at 85.

187. *See* CSFI, *supra* note 178, at 15–16. The CSFI study noted that, in some sectors of the financial market where the FSA did not have enough regulatory coverage, business had actually turned away from London in search of a market where there was greater regulatory coverage, suggesting that a certain level of regulation carries with it reputational advantages for the financial institutions operating within a given regulatory framework.

being more burdensome and lacking harmony with other international regulatory systems.[188] In particular, during London's rise above New York, two areas where financial regulation in the United States was viewed as being less hospitable were in the corporate governance requirements laid out in the Sarbanes-Oxley Act and in the United States' accounting standards under the Generally Accepted Accounting Principles ("GAAP"). With respect to the Sarbanes-Oxley Act, while many financial institutions viewed the act's corporate governance and transparency reforms as being positive developments in regulation, they also believed the costs of compliance and potential penalties far outweighed whatever benefits the act provided.[189] Due to this cost-benefit imbalance, a number of foreign financial institutions, which would have otherwise qualified for listing on New York's stock exchanges, opted to remain unlisted.[190] As for the United States' accounting standards under GAAP, financial institutions viewed the divergences between GAAP and the International Financial Reporting Standards ("IFRS") as giving rise to unintended consequences in practice, such as the reporting of figures that did not accurately reflect economic reality, and thus placed New York at a slight competitive disadvantage relative to London on this front.[191] However, as noted below, it is worth noting that while London's regulatory framework benefitted the city during its rise above New York, in the wake of the Financial Crisis of 2008, the reputation of London's regulatory framework would come to be severely tarnished as the crisis unfolded due to perceived oversights and insufficient regulatory coverage.[192]

Finally, considering stability, while in some respects the Financial Crisis of 2008 continued the trend of economic crises becoming more a significant destabilizing element relative to wars, during this cycle the factor manifested in a rather unique way because of increased levels of globalization. Specifically, even though the destabilizing effects of the element of an economic crisis were abundantly present through the Financial Crisis of 2008, which was arguably the worst financial crisis since the Great Depression,[193] the effects of this crisis did not actually catalyze the shift in prominence between London and New York. Rather, unlike the previous crises discussed above, such as the Great Depression and the Japanese real es-

188. *See* McKinsey & Co., *supra* note 178, at 86.

189. *See* McKinsey & Co., *supra* note 178, at 87.

190. *See id.*

191. *See id.* at 86, 89.

192. *See, e.g.*, 4 Mark Yeandle et al., The Global Financial Centres Index 2–4 (2008) [hereinafter "GFCI 4"] (discussing how the collapse and subsequent poor handling of Northern Rock's nationalization led to an increase in negative perceptions about the quality of London's regulatory framework).

193. *See* Coispeau, *supra* note 6, at 257–58. This Note will not explore the full extent of the causes, impacts, and subsequent responses to the Financial Crisis of 2008, as that would go well beyond the scope of its topic. However, for further, general background on the Financial Crisis of 2008, *see* Barr et al., *supra* note 19, at 58–63; *see also* Capitals of Capital, *supra* note 5, at 280–85.

tate and stock market bubbles, both financial centers, among others, had their positions severely weakened by this crisis, resulting in neither being able to gain any significant advantages over the other. For example, in the wake of the Financial Crisis the financial sectors of both London and New York were negatively impacted by fallout from the failure of major financial institutions such as Lehman Brothers.[194] Both had their home governments engaging in substantial bailouts to prevent further failures from occurring among their most significant financial institutions.[195] Both were impacted by widespread job losses that were not just limited to the financial sector.[196] Finally, both had their reputations as leading financial centers severely tarnished,[197] among a host of other severe economic and social impacts. In this way, the Financial Crisis of 2008 may represent yet another evolutionary step with respect to the factor of stability, in that the catalytic effects of this factor may come to be more muted in the modern international financial system because the effects of economic crises have come to be felt on a more widespread and global level, in a more contemporaneous fashion, and with more uniform degrees of severity.[198] Under this development, it may be very difficult, if not impossible, for a future ascendant financial center to gain any advantages from the negative effects of an economic crisis, as the high degree of international connectivity necessary to rise to the position of the leading international financial center would expose the aspirant financial center to the same negative effects that would render the former leading financial center vulnerable to being surpassed.[199]

An alternative view of this phenomenon could be that the destabilizing effects of economic crises may still have a catalytic effect on rise-and-fall cycles through the responses of individuals, financial institutions, and governments in their wake. In other words, rather than the direct impacts of an economic crisis catalyzing an abrupt shift in prominence, the indirect effects of a crisis, such as political backlash, reactionary regulatory reforms, and declining public trust in financial institutions, may come to be

194. *See* Capitals of Capital, *supra* note 5, at 284.

195. *See id.* Some of the more notable bailouts included the English government's bailouts of HBOS and the Royal Bank of Scotland, and the United States government's bailouts of AIG, Goldman Sachs, and Citigroup, among others.

196. In the United States, "the unemployment rate more than doubled to 10%" in the wake of the crisis. *See* Barr et al., *supra* note 19, at 61. By comparison, in England the unemployment rate rose from around 5% to around 8% in the wake of the crisis. *See* Cecilia Campos et al., Impact of the Recession 9 (Office for Nat'l Statistics 2010/11).

197. *See* GFCI 4, *supra* note 192, at 2–4.

198. *See* Capitals of Capital, *supra* note 5, at 282.

199. For perspective on how increased international connectivity could impact ascendant financial centers in the future, see generally Shiv Chowla et al., *How Have World Shocks Affected the UK Economy? in* Q2 Quarterly Bulletin (Bank of England 2014), *available at* http://www.bankofengland.co.uk/publications/Documents/quarterlybulletin/2014/qb14q206.pdf, which discusses the various transmission channels that made England particularly vulnerable to the effects of the Financial Crisis of 2008.

the more significant catalysts. With respect to London's rise, while it had arguably crept past New York to reassume its role as the leading international financial center even before the Financial Crisis of 2008,[200] whether and how long the city will retain this position will likely be determined by these lingering, indirect effects of the crisis, and how much instability they have injected into London's financial system.

II. Post-Brexit and the Next Potential International Financial Center

A. *The Position of London Post-Brexit*

In considering how the next rise-and-fall cycle among leading international financial centers may come about, the first step is to assess the position of the current leading financial center, London. Though London retains many of the advantages that helped it to surpass New York in the late twentieth and early twenty first century, Brexit and England's impending withdrawal from the European Union will likely have a significant impact on whether the factors will remain in London's favor or come to weigh against it. Currently, however, because the Brexit negotiations have only just begun, exactly how London's position as the leading international financial center may be affected, or the balance of the factors may shift, is speculative at best. While some have commented that the pervasive uncertainty surrounding London's future status may come to undermine the city's position even before the terms of England's withdrawal from the European Union are fixed,[201] in actuality London's financial sector has remained remarkably stable in the wake of the Brexit referendum.[202] Therefore, this section will contemplate how the balance of the factors may shift for or against London post-Brexit, and whether, based on London's current position, those shifts would leave London vulnerable to being surpassed by a potential candidate for the leading international financial center position. The next section will then evaluate a selection of these potential candidates to see whether, based on the factors, they legitimately have a chance of surpassing London.

Considering first the factor of trust, to summarize from the discussion above, London has thus far benefitted from the following qualities: the ability to attract a high volume of foreign financial activity to its markets through the so-called "Wimbledon effect," the ability to attract a greater

200. *See, e.g.*, Yeandle (2005), *supra* note 150, at 6–7 (showing that between 2003 and 2005 London had achieved a narrow lead above New York as the top international financial center).

201. *See, e.g.*, Katie Allen, *Majority of Managers Think Brexit Uncertainty will Affect UK Economy*, The Guardian (Dec. 27, 2016, 7:01 PM), https://www.theguardian.com/business/2016/dec/28/majority-of-managers-think-brexit-uncertainty-will-affect-uk-economy.

202. *See* Int'l Monetary Fund, World Economic Outlook 1 (2016) [hereinafter "WEO 2016"] ("[B]eyond a sharp depreciation of the pound, broader market reaction to the Brexit vote has generally been contained, with equity valuations and risk appetite recovering after an initial drop . . . .").

number of foreign traders to work in the city due to relatively welcoming immigration policies, and London-based financial institutions having an expansive network of international relationships. A common thread among these trust-based benefits is they appear to turn on the ability of London's financial sector to maintain a predominantly international orientation, especially because London lacks the support of a relatively massive domestic economy, which could insulate its status as the leading international financial center. While post-Brexit London would likely be able to retain the benefits of an experienced domestic workforce in its financial sector, along with the presence of some foreign firms,[203] there is a significant risk that increased operational costs may prompt some financial institutions to shift their business activity away from the city, if not prompt their departure entirely.[204]

The most likely source of such increased operational costs would be the loss of London's access to the European Union's single passport system, which allows foreign financial institutions, after having established an authorized office in London, to offer cross-border services and open branches across other member states without needing to obtain additional regulatory approval from local authorities.[205] In addition, if Europe may be viewed as being London's de facto domestic economy,[206] the loss of the city's access to the European Union's single passport system would likely negatively impact any status-insulating effects that the city's ties to the European economy may have previously provided. As for Brexit's potential impacts on London's more welcoming immigration policies, the city's withdrawal from the European Union will likely impact its ability to continue to expand the experienced workforce within its financial sector, in part because the city would lose access to the European Union's freedom of movement for workers.[207] Moreover, London's ability to attract foreign talent to its financial sector may also be negatively impacted by political movements seeking to impose substantial restrictions on immigration into

203. *See* Isaac Wohl, Exec. Briefings on Trade: The Impact of Brexit on Financial Services 2 (USITC 2016), *available at* https://www.usitc.gov/publications/332/executive_briefings/wohl_ brexit_and_financial_services_final.pdf.

204. *See* Simeon Djankov, The City of London After Brexit 6 (PIIE Policy Brief No. PB17-9, Feb. 2017).

205. *See* Ansgar Belke et al., *Policy Uncertainty and International Financial Markets: The Case of Brexit 6* (Ruhr Econ. Notes Papers No. 657, Oct. 2016), *available at* http://hdl.handle.net/10419/148386.

206. *See, e.g.*, Yeandle (2005), *supra* note 150, at 17 ("The size of North America's onshore market guarantees New York's success. On the other hand, we could argue that Europe is London's domestic market as North America is New York's.").

207. The freedom of movement of workers "includes the rights of movement and residence for workers, the rights of entry and residence for family members, and the right to work in another Member State and be treated on an equal footing with nationals of that Member State." *See* Marion Schmid-Drüner, *Free Movement of Workers*, *in* EUR. PARLIAMENT: FACT SHEETS ON THE E.U. (Dec. 2016), http://www.europarl.europa.eu/atyourservice/en/displayFtu.html?ftuId
U_3.1.3.html.

England.[208] Despite these potential negative impacts, London may be able to preserve its status by pivoting towards attracting more financial activity from other international regions, such as Asia or the Middle East,[209] or by adopting a more business-friendly regulatory framework with more targeted regulations, akin to Singapore, that would continue to attract a high volume of foreign financial activity to the city.[210]

Considering central banking and monetary policy and state financial policy, while the reputation of London's regulatory framework suffered in the wake of the Financial Crisis, the English government has since enacted a number of key regulatory reforms in an effort to restore trust and confidence in its financial sector.[211] Moreover, it is possible that, post Brexit, further restructuring within London's regulatory framework could mitigate the negative effects of its withdrawal from the European Union. However, while London has benefitted from the efforts of the Bank of England, among other central banks, to keep the international financial system stable in the wake of the Brexit referendum,[212] there is a substantial risk that the prior success of the referendum will inspire additional inward-oriented policy shifts that would further distance London from the international financial system and undermine the city's strength as an international financial center.[213]

Next, with respect to stability, the Brexit referendum itself could be considered to be a new kind of destabilizing element.[214] As the referendum was a political novelty, English policymakers must now conduct extensive reevaluations regarding the nation's relationships and make a

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208. *See, e.g.*, Shearman & Sterling LLP, Brexit: Free Movement of Persons 1 (Client Publication, Aug. 5, 2016) ("According to polling, much of the UK electorate was concerned about the essentially unrestricted nature of EU immigration to the UK."), http://www.shearman.com/~/media/Files/NewsInsights/Publications/2016/08/Brexit-Free-Movement-of-Persons-FIAFR-080516.pdf.

209. *See* Djankov, *supra* note 204, at 6.

210. *See* Barnabas Reynolds, A Blueprint for Brexit: The Future of Global Financial Services and Markets in the UK 27–29 (Politeia 2016), http://www.politeia.co.uk/wp-content/uploads/2016/11/Barnabas-Reynolds-A-Blueprint-for-Brexit-2.pdf; *see also Brexit: UK 'Could Change Economic Model' if Single Market Access Denied*, BBC (Jan. 15, 2017), http://www.bbc.com/news/uk-politics-38628428.

211. For a broad overview of English post-crisis regulatory reforms, *see* British Bankers Assoc., Reforms Since the Financial Crisis (BBA Briefing Jan. 2016), https://www.bba.org.uk/news/reports/bba-briefing-reforms-since-the-financial-crisis/.

212. *See* WEO 2016, *supra* note 202, at 8, 30 (noting the Bank of England's actions in the wake of the referendum vote, which included "cut[ting] the policy rate, boost[ing] quantitative easing, and undert[aking] a number of other initiatives to support sentiment"); Int'l Monetary Fund, Uncertainty in the Aftermath of the U.K. Referendum 5 (July 2016) [hereinafter "WEO Update 2016"].

213. *See* WEO 2016, *supra* note 202, at 1 ("[T]he [Brexit] vote is not only a symptom of fraying consensus on the benefits of cross-border economic integration amid weak growth but could catalyze pressures for inward-looking policies elsewhere as well.").

214. *See, e.g.*, WEO Update 2016, *supra* note 212, at 2 (describing some of the initial economic shocks that occurred in the wake of the Brexit referendum).

number of significant policy decisions that will undoubtedly impact the future of English finance.[215] In turn, this has injected a substantial amount of destabilizing uncertainty regarding the future position of London as an international financial center. However, the initial market shocks that followed in the wake of the Brexit referendum have largely stabilized as market participants wait to see the actual results of the Brexit negotiations. Thus, barring any unforeseen economic crises or the outbreak of a war, the effect of Brexit on London's stability remains uncertain.

However, the specter of the Financial Crisis was still arguably present through its lingering effects on the English economy leading up to the Brexit referendum, and it will likely continue to be present during the Brexit negotiations. While economic recovery as a whole within England had been relatively anemic as compared to past recoveries,[216] most of the post-crisis recovery benefits that had been realized had largely flowed to London, due in no small part to its status as the leading international financial center.[217] As a result, a significant number of English voters who supported the Brexit referendum were also those who were likely still suffering from the lingering effects of the Financial Crisis, and may have made their decision in part out of resentment for the unequal realization of post-crisis recovery benefits.[218] The continuation of low interest rates and lower economic growth projections may yet come to have a negative impact on London's position as an international financial center.[219] Specifically, while lower long-term interest rates may have the beneficial effect of stimulating increased economic activity, these lower interest rates also reduce the profits of financial institutions, and may incentivize greater risk taking as these institutions attempt to reach for greater yields.[220] Thus, to an extent, this situation is the opposite of the high interest rate environment that attracted greater financial activity to London and contributed to the city's previous rise above New York, and also increases the city's exposure to further economic shocks or crises if institutions begin to engage in greater risk taking to boost their flagging profits.

Lastly, as a brief summary, while the exact ways in which the factors might indicate the relative strength or vulnerability of London's position will likely remain uncertain until the terms of the Brexit negotiations are fixed, at a glance, it would appear as if London will likely become vulnera-

215. *See* Belke et al., *supra* note 205, at 5.

216. *See generally* Jon Cunliffe, Dep'y Gov. for Fin. Stability, Bank of England, The UK Economy Post Crisis: A Series of Unfortunate Events?, Speech at the at Centre for International Business Studies (Feb. 24, 2016) (describing some of the factors contributing to the slowness of England's recovery following the Financial Crisis of 2008) (transcript available at http://www.bankofengland.co.uk/publications/Documents/speeches/2016/speech884.pdf).

217. *See* Agust Arnorsson & Gylfi Zoega, *On the Causes of Brexit* 4–5, 7 (CESifo Working Note No. 6056, Aug. 2016).

218. *See id.* at 17–18.

219. *See* WEO 2016, *supra* note 202, at 20.

220. *See* Office of Financial Research, Financial Stability Report 3 (2016).

ble to being surpassed. This potential vulnerability is due in part to the risk that, post-Brexit, a number of trust-related advantages that London currently benefits from may come to be undermined, if not lost entirely. Furthermore, this potential vulnerability is also due in part to the risk that a destabilizing economic crisis may yet come to impact London's financial sector, especially given the current macroeconomic climate. While central banking, monetary policy, and state financial policy may be able to mitigate some of the negative impacts that London could face, the effectiveness of such measures remains speculative, and may not even occur if English financial policies become more inward-oriented. Therefore, assuming that there is in fact a capable candidate financial center, it does appear likely that London may become vulnerable to being surpassed as the leading international financial center in the near future.

B. *Looking for Potential Challengers to London–What the Factors Reveal*

If London's is made vulnerable by the outcome of the Brexit negotiations, for London to be surpassed there will also likely need to be a promising candidate financial center that would be capable of assuming the responsibilities required of the leading international financial center. From the previous rise-and-fall cycles, particularly that of New York's rise above London, there appears to be a condition that, in order for a smooth transition of responsibility within the hierarchy of international financial centers to occur, the most promising candidate financial center must affirmatively seize responsibility from the former, but weakened, leading international financial center. Thus, for London to be surpassed, it would likely not be sufficient for the city to be merely weakened post-Brexit for a transition to occur. Rather, there would also need to be a substantially contemporaneous rise in the prominence of another competing financial center that would be able to assume London's leading position in the international financial system. While there have been numerous suggestions as to the identities of these potential candidates, located both within European Union[221] and in other regions of the world,[222] this Note will narrow its analysis to evaluating the potential of one promising candidate from each of the three international regions where some have suggested that a potential candidate might emerge: Frankfurt from the European Union; New York from North America; and, Singapore from Asia.

Frankfurt. Looking first at Frankfurt, the city has been widely suggested as a potential candidate to replace London as a leading financial center post-Brexit, at least within the European Union.[223] From a histori-

221. *See, e.g.*, Finch, *supra* note 4 (providing a list of potential cities within the European Union where bankers could move to post-Brexit).

222. *See, e.g.*, Ford, *supra* note 4 (identifying the possibility that Brexit may result in financial activity leaving Europe for Asian financial centers like Singapore or Hong Kong).

223. *See, e.g.*, James Shotter et al., *Frankfurt Takes Early Lead in Brexit Race to Poach City Jobs*, Financial Times (Mar. 21, 2017) (describing the strong position of Frankfurt rela-

cal perspective, however, this suggestion is far from novel, as some had speculated as recently as the mid-1990s that Frankfurt would come to surpass London as a financial center in the future.[224] However, at that time such speculation about Frankfurt's ability to surpass London proved to be overly optimistic, and, based on the factors, this prediction in the wake of Brexit may yet again overestimate the ability of Frankfurt's financial sector to surpass London's.

Considered broadly, the factors of central banking and monetary policy and state financial policy appear to be largely behind Frankfurt's perceived strength to surpass London. Primarily, this is due to the many forms of support the city has received from political entities throughout its rise back into prominence, which in some respects is a reversal of how previously, following the unification of the German states, political forces had worked to undermine Frankfurt's position as a financial center. Looking first at Frankfurt's rise back into prominence more generally, the city reclaimed its position as a leading financial center within Germany following the Second World War, when Allied forces decided to establish the headquarters of the new West German central bank, the Bundesbank, in Frankfurt.[225] This decision led to an increased concentration of German financial activity within Frankfurt, as the leading German banks established their headquarters within the city.[226]

The next significant wave of political support for Frankfurt would come after the formation of the European Union, when a number of the E.U.'s key regulatory institutions for financial and monetary policy also established their headquarters within the city, including the European Central Bank and the European Insurance and Occupational Authority, among others.[227] Thus, in light of this more recent development, Frankfurt is the de facto epicenter of financial and monetary policy regulation within the European Union.[228] As a final point of consideration, Frankfurt's position within the European Union, more generally, is likely further strengthened by virtue of its status as a German city, given Germany's dominant role within the governance structures of the E.U.[229] Despite these substantial political advantages buttressing Frankfurt's strength as an international financial center, indexes that compare Frankfurt against

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tive to other European financial centers in competing for financial business post-Brexit), https://www.ft.com/content/fc39820c-05a2-11e7-ace0-1ce02ef0def9.

224. *See* Capitals of Capital, *supra* note 5, at 272.

225. *See id.* at 216.

226. *See id.* at 217.

227. *See id.* at 272; Michael Kimmer, Bankenverband, Frankfurt as a Financial Center and Brexit 4 (Aug. 18, 2016), https://bankenverband.de/media/files/2016-08-18-Frankfurt_and_Brexit-EN.pdf.

228. *See* Kimmer, *supra* note 227, at 4.

229. *See* Josef Janning & Almut Möller, Leading from the Centre: Germany's New Role in Europe 2 (ECFR Policy Brief No. 183, July 2016), *available at* http://www.ecfr.eu/page/-/ECFR_183_-_GERMAN_LEADERSHIP2.pdf.

other leading international financial centers indicate that Frankfurt is not as strong as one might think.[230] In explaining this conclusion, the other factors of trust and stability provide guidance.

Starting with trust, while Frankfurt benefits to an extent from the element of relationships, as brought in from foreign banks based within the city, and also its ability to offer foreign banks access to the single passport framework in the European Union, the overall percentage of foreign banks within Frankfurt, relative to London, is substantially lower.[231] Moreover, Frankfurt is vastly outstripped by London in terms of its ability to build and support a financial sector capable of fulfilling the role of the leading international financial center, due primarily to London's much larger population size, which is necessary to support a sufficiently large workforce in its financial sector,[232] and London's ability to attract more foreign talent through greater international orientation and lower language barriers.[233] As for stability, while in the wake of the Financial Crisis the European Union as a whole enacted a number of significant regulatory measures designed to promote and increase financial stability within the E.U., Germany and other member states are still being affected by lingering effects of the crisis, such as sluggish recovery in economic growth rates.[234] Moreover, the ongoing sovereign debt crisis in Europe, while having much more severe effects on the nations directly impacted by this crisis,[235] has also had negative effects on other member states within the Eurozone, including Germany.[236] Lastly, in considering the possibility that a Brexit-like event may constitute a new kind of destabilizing element with the potential to weaken the position of an international financial center, Frankfurt may yet be impacted by ongoing political movements within the European Union as more nationalistic political parties seek to withdraw from the E.U.'s membership.[237]

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230. *See, e.g.*, GFCI 21, *supra* note 2, at 4 (showing Frankfurt ranked twenty-third among leading international financial centers, and ranked fifth among Western European financial centers).

231. *See* Kimmer, *supra* note 227, at 8 (indicating that, at the end of 2015, 51.1% of London's banks were foreign banks, while 37.9% of Frankfurt's banks were foreign banks).

232. *See id.* (indicating that, in 2014, the population of London was around 8.5 million, while the population of Frankfurt was around 700 thousand).

233. *See* Capitals of Capital, *supra* note 5, at 273.

234. *See* WEO 2016, *supra* note 202, at 21.

235. *See generally* Edwin M. Truman, *The IMF and Euro Area Crises* (PIIE Policy Brief No. PB16-13, Sept. 2016) (recounting the ongoing effects of the sovereign debt crisis in the European Union and resolution issues).

236. *See generally* Claudia Broyer et al., *Impact of the Euro Crisis on the German Economy* (Allainz Econ. Research & Corp. Development Working Note No. 154, Sept. 25, 2012) (identifying some of the negative effects that the sovereign debt crisis has had on the German economy, including pushing down interest rates and German government bond yields).

237. *See, e.g.*, Jefferson Chase, *10 Things You Need to Know about the AfD*, Deutsche Welle (Jan. 1, 2017) (discussing the Alternative for Germany's anti-European Union policy stance), http://dw.com/p/2W7YF.

Therefore, based on the factor-based analysis of Frankfurt's current position, it does not seem likely that the city will surpass London any time soon. As a caveat, though, one way in which Frankfurt might be able to strengthen its position, and thus become able to surpass London, would be if political forces within Germany and the European Union placed their full support behind making Frankfurt the next leading international financial center. In this way, the situation would parallel how political forces in the newly unified German states triggered the earlier shift of Berlin overtaking Frankfurt to become the leading financial center of Germany. However, whether political forces within the European Union would be capable of such unity is doubtful, especially as individual member states try to advocate for their own cities to be seen as viable candidates to replace London as the next leading financial center of the European Union.[238]

New York. While London was able to surpass the New York previously due to marginal advantages in each of the factors, New York nevertheless has maintained a relatively close position behind London within the hierarchy of international financial centers.[239] Moreover, despite the negative impacts of the Financial Crisis, the relative position of New York has remained relatively unchanged.[240] However, there appear to be a number of critical lingering effects from the Financial Crisis that weaken New York's position. For one, with respect to trust, because the causes of the crisis were so deeply rooted in the financial institutions of the United States, New York, by implication, suffered a fairly severe reputational impact in the aftermath of the crisis.[241] In addition, with respect to state financial policy and stability, post-crisis regulatory reforms within the United States, heralded by some as bringing in much-needed regulation,[242] have nevertheless undermined the profitability of many financial institutions and might in itself cause future economic instability.[243] Moreover, the broad requirements of these new regulations have led New York-based

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238. *See, e.g.*, Max Colchester et al., *European Cities Battle for London's Finance Crown After Brexit Vote*, WALL ST. J. (July 1, 2016, 12:00 AM) (describing they early efforts by Paris and Dublin to compete with Frankfurt in attracting financial institutions looking to leave London after Brexit), https://www.wsj.com/articles/eu-finance-cities-pounce-on-london-after-brexit-vote-1467345602.

239. *See, e.g.*, GFCI 21, *supra* note 2, at 4 (showing New York only two points behind London in their index ranking).

240. *See* Cassis (2016), *supra* note 1, at 313.

241. *See* GFCI 4, *supra* note 192, at 4 (explaining that a major reason for New York's drop in its index score was due to reputational impacts following the onset of the Financial Crisis of 2008).

242. *See, e.g.*, Natasha Sarin & Lawrence H. Summers, Have Big Banks Gotten Safer? 2 (BPEA Conference Draft, Sept., 2016) (providing a brief overview of some financial and political leaders positive feedback regarding the regulatory reforms).

243. *See id.* at 34 ("We find that a substantial part of the reason banks have become riskier and effectively more leveraged is a decline in their franchise value. And while we do not study the question in any depth it appears plausible that a large part of the reason for declines in franchise value is regulatory activity and the prospect of future regulation. There

financial institutions to invest more of their resources into hiring compliance staff than finance professionals. This also has the potential to undermine the long-term competitive position of New York as a financial center.[244] Lastly, with respect to central banking and monetary policy, the Federal Reserve Board's hesitance to raise interest rates evidences uncertainties regarding the true strength of the United States economy despite its impressive post-crisis growth in areas such as employment, which in turn raises questions about the overall stability of New York's position going forward.[245]

Beyond these issues, though, New York also faces the risk of potentially having its position as a financial center undermined due to political shifts that could further alter the balance of the factors. With respect to the factors of central banking and monetary policy and state financial policy, it appears likely that the Trump administration and Republican-controlled Congress will make efforts to relax some of the more stringent post-crisis regulations, which, at least in the first couple months of the new administration, had generated largely positive responses among investors.[246] However, with respect to these same factors, there is a substantial risk that, were the Trump administration and Republican-controlled Congress to relax or entirely repeal the post-crisis regulatory reforms of the Dodd-Frank Act, another economic crisis, originating in either the United States or abroad, may arise with devastating consequences.[247] Considering also potential new policy enactments, the Trump administration has hinted at the implementation of a series of protectionist policies, which in turn would severely undermine New York's position as an international financial center by restricting the flow of international financial activity to the city.[248] Further, the impact of such new policy enactments might also implicate trust and affect New York's ability to attract experienced financial professionals to its financial sector, as these policies may likely impose

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is a possibility that by further eroding bank franchise value, further regulatory actions could actually increase systemic risk.").

244. *See* GERSON LEHRMAN GRP., AT RISK: NEW YORK'S FUTURE AS THE WORLD FINANCIAL CAPITAL 23 (2015).

245. *See* WEO 2016, *supra* note 202, at 32.

246. *See, e.g.*, Gillian Tan, *Banking on Trump*, BLOOMBERG GADFLY (Nov. 9, 2016, 3:20 PM) (describing the initial stock market surge that followed President Trump's election and some of its causes), https://www.bloomberg.com/gadfly/articles/2016-11-09/bank-stocks-go-nuts-for-trump-and-risk-going-overboard.

247. *See generally* Edwin M. Truman, International Financial Cooperation Benefits the United States (PIIE Policy Brief No. PB17-10, Feb. 2017) (describing the negative effects that weakening or repealing the Dodd-Frank Act might have on economic crisis prevention and management in the United States and internationally).

248. Marcus Noland et al., *Impact of Clinton's and Trump's Trade Proposals*, *in* ASSESSING TRADE AGENDAS IN THE US PRESIDENTIAL CAMPAIGN 37–38 (PIIE Briefing No. 16-6, Sept. 2016) (stating how protectionist policies in the United States could trigger retaliation by foreign nations).

further restrictions on immigration,[249] and thus exacerbate an issue that had previously undermined New York's ability to compete against London.

Considering in the aggregate New York's ability to surpass London to become the leading international financial center once again, the city's position is not unlike that of London itself, in that whether it will emerge as a promising candidate depends primarily upon future decisions by policymakers. However, in this regard New York might have a slight advantage over London because the policy decisions that could affect New York's strength as a financial center would be made almost entirely by the United States' government and regulatory agencies, rather than being made as a product of negotiations between multiple governments and regulatory bodies. However, despite whatever advantages this distinction may provide New York, these policy decisions are nonetheless what will likely determine whether New York emerges as a viable candidate to surpass London. Therefore, for the time being, the likelihood of New York surpassing London remains speculative, as the most significant elements that could help or hinder New York's chances have not yet been determined.

Singapore. Despite the fact that Singapore is a relative newcomer when compared to the other financial centers discussed above,[250] the nation now ranks highly among the most prominent international financial centers.[251] In light of Singapore's meteoric rise to its now prominent status, some have speculated the country may be able to attract even greater financial activity in the wake of Brexit, and emerge as the next leading international financial center.[252] Considering the balance of the factors this speculation is not all that farfetched, though it may yet prove to be too optimistic.

Of all the factors, the most revealing with respect to the strength of Singapore's status as an international financial center is that of state financial policy. This is because, ever since Singapore claimed independence in 1965, governmental authorities within the nation have engaged in a systematic effort to establish Singapore as an international financial

249. *See, e.g.*, Liz Hoffman, *Wall Street Responds to Trump Immigration Ban*, WALL. ST. J.: MONEYBEAT (Jan. 30, 2017, 11:26 AM) (describing the critical responses from the CEOs of multiple financial firms to the January immigration ban), http://blogs.wsj.com/moneybeat/2017/01/30/wall-street-responds-to-trump-immigration-ban/.

250. Around the 1910s Singapore was just emerging as a financial center and had only reached the level of a significant regional financial center by the 1970s. *See* Geoffrey Jones, *International Financial Centres in Asia, the Middle East and Australia*, *in* FINANCE AND FINANCIERS IN EUROPEAN HISTORY 1880–1960 406–07, 410 (Youssef Cassis ed., 2002). A regional financial center is one that provides "financial services to an entire region, which might be very large ([e.g.,] 'Asia' or the 'Pacific Rim')." *See id.* at 406.

251. *See* GFCI 21, *supra* note 2, at 4 (showing Singapore as the third-ranked international financial center on its index, only twenty points behind New York).

252. *See, e.g.*, *id*. at 32 ("Singapore seems to be the place that European and North American financiers are focusing on right now.") (quoting an anonymous survey respondent, who is a Head of Investment Banking at a Frankfurt-based firm); Shotter et al., *supra* note 223 (noting the argument that financial institutions may shift their activities from London to Singapore post-Brexit to take advantage of high economic growth in Asia).

center.[253] Early on in Singapore's development, this effort involved the government providing various business incentives and preferential tax treatment to drive the creation of the Asian Dollar Market within the nation, which was crucial in fueling its initial development into an international financial center.[254] As Singapore has continued to develop, its government has also continued to offer an internationally competitive tax framework, along with promoting efficient regulatory and legal frameworks for the nation's financial sector.[255] For example, in the case of financial regulation, Singapore has developed a reputation for very timely adoption, and strict implementation, of new global standards.[256] This reputation, in turn, has proven to be a benefit for Singapore,[257] especially in the wake of the Financial Crisis as industry perceptions on the importance of effective financial regulation have shifted.[258]

In tandem with the factor of state financial policy, the factor of central banking and monetary policy also weighs in favor of Singapore, due in large part to its government's strong stance on financial policy and goal of establishing Singapore as an international financial center. Critical to Singapore's monetary policy system is its central bank, the Monetary Authority of Singapore ("MAS"), which, by law, acts as the nation's prudential supervisor, resolution authority, and lender of last resort, in addition to being responsible for various other regulatory tasks and objectives.[259] In

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253. *See* Cassis (2016), *supra* note 1, at 312.

254. *See* V. Le Leslé et al., *Why Complementarity Matters for Stability—Hong Kong SAR and Singapore as Asian Financial Centers* 9 (IMF Working Note No. WP/14/119, July 2014).

255. *See id.* at 11, 17.

256. *See id.* at 28; *see also* Int'l Monetary Fund, Singapore Financial System Stability Assessment 9 (IMF Country Rept. No. 13/325, Nov. 2013) [hereinafter "Singapore FSSA"] ("Singapore is one of the largest financial centers in the world. Apart from its large and diversified domestic banks, it hosts major international banks attracted by Singapore's efficient market infrastructure and its well-established reputation for the rule of law and effective supervision.").

257. For perspective, in 2012 Singapore received a top rating of 5 in the Economist Intelligence Unit's evaluation of the nation's financial regulatory system, and in 2013 received favorable rating in S&P's Banking Industry Country Risk Assessment (BICRA) analysis, being placed in group two among the countries of other leading international financial centers. *See* Leslé et al., *supra* note 254, at 41 (citing to the relevant analyses).

258. *See id.* at 28 (arguing that in the wake of the Financial Crisis of 2008, what may be considered an appropriate balance between lighter-touch regulation and more effective regulations focused on promoting safety and soundness has been shifting in favor of more effective regulation, as well-regulated financial centers may be viewed as safe havens during future crises).

259. *See* Singapore FSSA, *supra* note 256, at 26. Specifically, the MSA is responsible for the following tasks: "conduct[ing] monetary and exchange rate policy[;] act[ing] as the integrated supervisor of the financial sector (including systemically important [financial market infrastructures] and macroprudential policies)[;] and is the resolution authority for financial institutions." Moreover, the MSA has the following objectives: "maintaining price stability conducive to sustainable economic growth; fostering a sound and reputable financial center and promoting financial stability; ensuring the prudent and efficient management of Singa-

some respects, the structure of the MAS as a single point of regulatory contact within the financial system of Singapore parallels the earlier structure of the FSA in England, which financial institutions had previously found to be preferable, especially when compared to a more fractured regulatory structure like that in the United States. However, structurally speaking, the powers of the MAS extend even further than those of the FSA through the incorporation of central banking functions. In this regard, the MAS shares similarities with the United States' Federal Reserve System, in that the United States' central banking system is also responsible for prudential and supervisory tasks at the federal level, and with supervising financial institutions designated as systemically important by the Financial Stability and Oversight Council.[260]

There are some concerns, however, regarding the potential impact of political involvement within the MAS, especially given its broad regulatory mandate over Singapore's financial system. One notable example of the intertwining of political elements within the MAS's structure can be observed within the organization of the board of the MAS. Specifically, the board of the MAS is accountable to a designated minister-in-charge of the MAS, who is in turn accountable to the Singaporean Parliament.[261] Furthermore, while the minister-in-charge is directly responsible for managing some of the MAS's key resolution tools, is it possible for one individual to simultaneously hold multiple governmental positions in addition to their position as the minister-in-charge of the MAS, such as chairperson of the MAS, minister of finance, deputy prime minister, or all of the above.[262] These intertwining responsibilities and incentives surrounding the minister-in-charge of the MAS can cause delayed regulatory responses or conflicting positions between the minister-in-charge and the MAS itself.[263] Such conflicts or delays could have devastating impacts on the Singaporean financial system in the event of a crisis because of MAS's supervisory responsibility over the system. In addition, this structure of potentially conflicting political relationships echoes the inefficiencies that plagued the bygone Amsterdam Wisselbank, which was also partially caused by conflicting interests between the multiple political bodies that were involved in its governance.

As for trust, at a glance Singapore appears to have numerous elements working in its favor. Singapore has developed a reputation among foreign financial institutions as being one of the primary gateways into the Asian

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pore's official foreign reserves; and growing Singapore as an internationally competitive financial center." *See id.* at 19.

260. *See generally* Bd. of Governors of the Fed. Reserve, The Federal Reserve System Purposes & Functions (10th ed. Oct. 2016) (providing a detailed overview of the regulatory and central banking functions of the Federal Reserve System), *available at* https://doi.org/10.17016/0199-9729.10.

261. *See* Singapore FSSA, *supra* note 256, at 26.

262. *See id.* at 26 n.29.

263. *See id.* at 26.

financial system, with deep financial expertise and offering a wide array of supporting service industries.[264] Moreover, in considering the element of relationships, there is a substantial foreign bank presence within Singapore, including branches of several global systemically important banks,[265] along with a robust foreign exchange market, despite the fact that the nation's currency is not widely considered to be a significant international reserve currency.[266] However, in terms of market connections, while Singapore resembles London in its Wimbledon effect-like reliance on international financial activity, the nation's current level of interconnectivity with foreign markets lags behind that of comparable financial centers.[267] Furthermore, on a more general level, forecasts regarding Singapore's economic growth have been negatively impacted by a recent slowdown in Asian trade, primarily because of Singapore's strong reliance on its trade ties within the region.[268]

Lastly, with respect to stability, though Singapore has developed a reputation for being a safe haven during economic crises,[269] the reliance of its financial sector on international activity leaves the nation's financial sector exposed to cascading risks that originate from deteriorating economic conditions or policy shifts within other regions.[270] To an extent, this stability risk has manifested already through Singapore's reduced economic growth forecast because of the recent slowdown in Asian trade, as mentioned above. Furthermore, there is also a risk that Singapore's chances to become a viable candidate for surpassing London may be negatively impacted by cascading risks associated with Brexit once its longer-term effects materialize.[271]

Thus, Singapore's strength as a financial center is based largely in state financial policy and central banking and monetary policy through the immense political and regulatory support underlying the nation's development as an international financial center. Moreover, considering trust, Singapore's financial sector has both a strong international reputation and solid base of experience. While its market connections may yet lag behind those of other prominent international financial centers, they are ex-

264. *See* Leslé et al., *supra* note 254, at 25.

265. *See id.* at 8–9, 25–27.

266. *See id.* at 12.

267. *See id.* at 7–8 (evaluating interconnectivity using "eigenvector centrality, defined as weighted average of all counterparties' centrality"). While its current level appears to be lagging behind comparable international financial centers, Singapore's connectivity is expected to continue growing well into the future. *See id.* at 32.

268. *See* WEO 2016, *supra* note 202, at 11, 21.

269. *See* Leslé et al., *supra* note 254, at 32–33.

270. *See* Singapore FSSA, *supra* note 256, at 6.

271. *See, e.g.*, Tharman Shanmugaratnam, Deputy Prime Minister and Minister for Finance, Singapore Ministry of Finance, Reply to Parliamentary Questions on the Impact of Brexit on Singapore (July 11, 2016) (speculating on how the longer-term effects of Brexit may impact Singapore) (transcript available at http://www.mof.gov.sg/news-reader/articleid/1672/parentId/ 59/year/2016).

panding. Where the strength of Singapore's position might be undermined, though, is with respect to potential policy dissonance within its central bank, the MAS, due to heavy political involvement and instability through cascading risks originating within other international regions. Of these two weaknesses, the latter poses more dire risks, as the strength of Singapore's position is so intimately tied to the prevailing economic and policy conditions of regions outside of the nation's direct control. Especially in the wake of Brexit, which has the potential to be severely destabilizing depending on the terms that govern England's withdrawal, Singapore's position as a viable candidate is more precarious than one might think based on the balance of the other factors. In fact, it appears to be more likely that a destabilizing post-Brexit event of sufficient magnitude to render London vulnerable to being surpassed would also have a severe cascading impact on Singapore itself, and thus impair its chances of surpassing London.

III. The Future of International Financial Centers

A. *Historical Parallels to the Decentralization of Financial Activity*

Beyond the effects that Brexit may have on the hierarchy of international financial centers, a far more fundamental question remains regarding the future of international financial centers more generally. Will international financial centers continue to remain relevant within the international financial system going forward? In addressing this question, one of the primary threats facing international financial centers appears to be innovations in disruptive technologies, such as internet-based financial services and blockchain technology, that have the potential to catalyze greater fragmentation and decentralization of services within the international financial system.[272] While international financial centers are not at risk of disappearing in the near-term,[273] whether this will continue to be the case is largely uncertain. Therefore, to understand the impacts that emerging disruptive technologies could have on the international financial system, and whether such impacts could lead to the obsolescence of international financial centers, this section will briefly contemplate these recent technological developments and the decentralization of financial activity in light of historical parallels and current trends. The next section will con-

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272. The term "disruptive technology" refers to innovations, such as the internet, that "typically demonstrate a rapid rate of change in capabilities in terms of price/performance relative to substitutes and alternative approaches, or they experience breakthroughs that drive accelerated rates of change or discontinuous capability improvements[,] . . . have broad reach [of impact[,] . . . have the potential to create massive economic impact[,] . . . [and] have the potential to dramatically change the status quo." See McKinsey & Co., Disruptive technologies: Advances that will Transform Life, Business, and the Global Economy i, 2–3 (May 2013), http://www.mckinsey.com/business-functions/digital-mckinsey/our-insights/disruptive-technologies. The term was coined by Clayton M. Christensen. *See* Clayton M. Christensen, The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail (1997).

273. *See* Cassis (2016), *supra* note 1, at 314.

sider the impacts of these emerging disruptive technologies, with a focus on those of blockchain technology, through the application of the factors to see what they may reveal about the likelihood that disruptive technologies will render international financial centers obsolete.

The potential for emerging disruptive technologies to decentralize financial activity is actually the latest iteration of a familiar event within the international financial system. While these recent innovations arguably lack any clear precedent,[274] the event of an increase in the decentralization of financial activity is by no means a novel phenomenon. Rather, this event has been seen in earlier periods where an ascendant financial center would come to encroach upon the activities of an established financial center, thus increasing decentralization within the financial system. As mentioned in the historical analysis above, this kind of event was seen during Paris's attempt to overtake London, as Paris became a prominent clearing center and liquidity provider within the European financial system. While Paris's heavy encroachment into these areas of finance increased the level of decentralization within the international financial system to an extent, it was insufficient to catalyze a full fragmentation of activity. Instead, what resulted was the creation of a division of labor between Paris and London.

Thus, history suggests that a complete decentralization of financial activity as a result of emerging disruptive technologies is highly unlikely. This conclusion is further supported by the current structure of some global regions of financial activity. For example, the United States' financial system currently resembles these historical parallels, in that, despite the emergence of additional financial centers, such as the rise of Miami as a key center for financial activity from the Caribbean and Latin America,[275] and the rise of the West Coast financial centers of Silicon Valley and Los Angeles, which have recently been supported by the growing FinTech sector,[276] among others,[277] New York has thus far retained its

274. *See id.*

275. *See, e.g.*, Jan Nijman, *Miami's Rise as a World City*, 28 Urban Geography 92, 96 (2007) (discussing Miami's development as the "leading city in the Caribbean and Latin American economies" for "trade, banking, corporate decision-making, and communication.").

276. *See, e.g.*, GFCI 21, *supra* note 2, at 4 (showing San Francisco and Los Angeles as the sixth and nineteenth highest rated international financial centers on its index evaluating the relative strength of such financial centers); *see also id*. at 20 ("Los Angeles seems to be the place to be in North America. FinTech has made a big mark here and the venture fund crowd have moved in.") (quoting an anonymous investor based in Los Angeles); Deloitte, Connecting Global FinTech: Hub Review 2016 44–45 (showing Silicon Valley as a highly rated FinTech hub based on its index), http://thegfhf.org/wp-content/uploads/2016/10/Connecting-Global-FinTech-Hub-Review-2016-.pdf.

277. *See, e.g.*, Joel Kotkin & Mike Shires, *Welcome to Y'all Street: The Cities Challenging New York for Financial Supremacy*, Forbes (Aug. 11, 2016, 3:38 PM) (discussing the emergence of financial centers in various regions throughout the United States, such as the South and Southwestern regions), https://www.forbes.com/sites/joelkotkin/2016/08/11/welcome-to-yall-street-the-cities-challenging-new-york-for-financial-supremacy/#287079f21b52.

position as the key center for financial activity within the United States. However, by contrast, the Asian financial system appears to be more vulnerable to decentralization, in part because the region lacks a clear key center for financial activity. This lack of a key center has come about because there is intense competition between significant established financial centers, such as Singapore, Hong Kong, and Tokyo,[278] as well as the ascendant financial centers within Australia and mainland China,[279] for financial activity within the region. Lastly, while in the wake of Brexit Europe appears to be vulnerable to an increase in financial activity decentralization despite the presence of London as an established international financial center,[280] as discussed above, there is still some potential that a regional financial center such as Frankfurt could emerge as a candidate to take London's place, if needed, and continue the more centralized model of international finance.

B. *Disruptive Technology versus International Financial Centers*

Taken together, these historical parallels and current trends reinforce is the idea that financial centers possess an inherent "sticky" quality, in that "once a particular [center] has the infrastructure, people, and institutions required, the costs of moving and losing these benefits may outweigh the gains from being closer to power."[281] Under this view, even if emerging disruptive technologies have the potential to render international financial centers obsolete, whether or not they will be successful in doing so will likely turn on the ability of these technologies to provide benefits that significantly outweigh merely maintaining the status quo. In assessing this possibility, the factors may provide some limited insight on how the advantages of emerging disruptive technologies, such as blockchain technology, compare against those of established international financial centers.

However, unlike the previous applications of the factors conducted earlier in this Note, underlying the application of the factors in this inquiry is a fundamental difference in the kinds of benefits that these respective models of financial services can provide. Specifically, with respect to international financial centers, and financial centers more generally, these centralized models of financial services can generate benefits from what are

278. *See* GFCI 21, *supra* note 2, at 4 (showing Hong Kong and Tokyo as the fourth and fifth highest rated international financial centers on its index evaluating the relative strength of such financial centers).

279. *See id*. (showing Sydney and Shanghai as the eighth and thirteenth highest rated international financial centers on its index evaluating the relative strength of such financial centers).

280. *See generally* PricewaterhouseCoopers, Brexit and the Cost to Europe of Fragmenting Financial Services (Oct. 2016) (speculating on a scenario where financial services become more fragmented within the European Union post-Brexit), http://www.pwc.de/de/brexit/assets/brexit-and-the-cost-to-europe-of-fragmenting-financial-services.pdf.

281. *See* Dame Clara Fuse, External Member, Bank of England, A Changing World; is Global Still Good? 7 (Feb. 11, 2016) (transcript available at http://www.bankofengland.co.uk/publications/Documents/speeches/2016/speech883.pdf).

known as agglomeration economies, or "economies of scale arising from having an industry cluster in a particular location,"[282] which might generate benefits including: "information spillovers;" access to specialized equipment or services; the "[a]bility to hire experts from rival close-by firms;" and increased market liquidity.[283] By contrast, disruptive technologies can generate decentralization benefits that might include: lowered communication costs; greater spreading of local market knowledge; and access to "low-cost rental space in locations selected by individual service providers."[284] By keeping in perspective these fundamental differences between the benefits that each model of financial activity might provide, the factors can be applied to compare the relative strengths of leading international financial centers.

First, the factor of trust weighs in favor of international financial centers for the time being. Of the various elements of the factor of trust, the most significant element weighing in favor of international financial centers over emerging disruptive technologies is that of experience, due in no small part to a lack of familiarity with these technologies within the financial industry. While some financial institutions have begun to experiment with emerging disruptive technologies, such as using blockchain technology to facilitate trade finance transactions,[285] there is still a fair amount of unfamiliarity within the financial industry itself regarding the exact uses and limitations of these new technologies.[286] Moreover, regarding experience, and also related to the element of relationships, given the various legal and operational considerations that accompany international financial transactions, the use of an expert intermediary may still have signifi-

282. *See id.* at 5.

283. *See* ROBERT E. GROSSE, THE FUTURE OF GLOBAL FINANCIAL SERVICES 199–200 (2004).

284. *See id*.

285. *See The Blockchain Revolution in Trade Finance*, BARCLAYS: INSIGHT & RES. (Sept. 2016)), https://www.barclayscorporate.com/insight-and-research/trading-and-exporting/blockchain-revolution-in-trade-finance.html. (providing an overview of Barclays's letter of credit transaction executed using blockchain technology).

286. *See, e.g.*, PRICEWATERHOUSECOOPERS, REDRAWING THE LINES: FINTECH'S GROWING INFLUENCE ON FINANCIAL SERVICES 12 (Global FinTech Rept. 2017) [hereinafter "PWC 2017"] (showing that among global survey respondents only 20% were "very familiar" with blockchain technology, while only 4% were "extremely familiar"), https://www.pwc.com/jg/en/publications/pwc-global-fintech-report-17.3.17-final.pdf; *see also Trade Finance: The Blockchain Revolution*, TREASURY TODAY (Sept. 2016) [hereinafter "Treasury Today"] (quoting Shona Tatchell, Head of Innovation, Trade & Working Capital, Barclays Bank PLC) ("There is still a great deal of education that needs to be done in the various markets around the world to make all parties involved in the trade ecosystem comfortable with [blockchain] technology . . . . Blockchain is a truly collaborative asset, so it is incumbent on all of us who believe in the power of this technology to ensure that its message is correctly communicated and to work collaboratively with all parties involved in the trade world to give it the best chance to succeed."), https://www.barclayscorporate.com/content/dam/corppublic/corporate/Documents/Trading-and-Exporting/trade-innovation-article.pdf.

cant value within the current international financial system.[287] These intermediaries, in turn, benefit substantially from the agglomeration economies that international financial centers are able to provide through improving their access to various legal, accounting, and other back-office services necessary to facilitate their business,[288] reducing their coordination costs,[289] and reducing information asymmetries among these intermediaries through greater access to industry knowledge.[290]

By contrast, in considering the factor of trust in light of the elements of relationships and market connections, emerging disruptive technologies appear to hold some advantages over international financial centers. Particularly in the case of blockchain technology, transactions executed over a blockchain network are capable of being carried out entirely on the distributed and decentralized network without the need of a centralized intermediary.[291] As a result, unlike international financial centers, the strength of disruptive technologies as a medium for facilitating the flow of international financial activities is not contingent on its connections to any particular market, domestic or foreign, and instead relies upon the relationships among institutions and individuals incorporated into a given transaction network.[292] Therefore, as these decentralized transaction networks expand, and as familiarity and confidence in these emerging technologies grows within the financial industry, there is a distinct possibility that these elements may tip the balance of trust in favor of disruptive technologies over international financial centers.

The factor of central banking and monetary policy also weighs in favor of international financial centers for the time being. However, this advantage is only to a lesser extent the result of central banks or monetary policy explicitly favoring international financial centers over emerging disruptive technologies; rather, this advantage arises more from the current compatibility of central banking and monetary policy with the centralized model of financial activity that international financial centers provide, and the lack thereof with the decentralized model that emerging disruptive technologies provide. In particular, there is concern that emerging disruptive technologies, such as blockchain technology, may undermine the abil-

287. *See* Andreas Adriano & Hunter Monroe, *The Internet of Trust*, 53 FIN. & DEV. 44, 47 (2016).

288. *See* Fuse, *supra* note 281, at 5 ("[Agglomeration benefits] means playing host to a raft of quality professional services – legal, accountancy, advisory and specialised IT; these are needed to facilitate the effective provision of financial services.").

289. *See* Peter Maskell, *Towards a Knowledge-based Theory of the Geographical Cluster*, 10 INDUS. & CORP. CHANGE 921, 932 (2001).

290. *See id*.

291. *See* Treasury Today, *supra* note 286.

292. *See, e.g.*, Wolfgang Lemacher & Jesse Mcwaters, *How Blockchain can Restore Trust in Trade*, WORLD ECON. FORUM. (Feb. 1, 2017), https://www.weforum.org/agenda/2017/02/blockchain-trade-trust-transparency/ (discussing that one hurdle to the widespread proliferation of blockchain-based transactions is convincing institutions and individuals to join the network).

ity of central banks to adequately monitor financial activity and hinder their ability to execute effective monetary policy measures.[293] However, some have also suggested that developments in blockchain technology could eventually benefit central banks in their implementation of monetary policy by, for example, streamlining central bank settlement procedures,[294] or even through writing monetary policy procedures into the blockchain's code.[295] If these developments prove to be effective, were central banks to then embrace such blockchain technology among other disruptive technologies, it is likely that the balance of the factor of central banking and monetary policy may also come to weigh in favor of disruptive technologies over international financial centers.

State financial policy also weighs in favor of international financial centers because, like central banking and monetary policy, state financial policies have not yet embraced these new technologies. Moreover, in considering state regulatory policies more broadly, emerging disruptive technologies are also arguably at a greater disadvantage relative to international financial centers as they often implicate other areas of regulatory concern, such as data protection and privacy, which are currently perceived among financial industry participants as being some of the most significant obstacles facing the adoption of such technologies.[296] However, also similar to the factor of central banking and monetary policy, emerging disruptive technologies may yet come to gain an advantage over international financial centers if state policymakers were to embrace them. For example, in the case of blockchain technology, there is some speculation that blockchain transaction networks could be structured to enable regulators to come in at a high level as needed to engage in efficient system-wide monitoring.[297] Furthermore, there is also the potential that regulatory rules could be written into the blockchain's code to enable ex ante control over financial transactions by only allowing permissible transactions to be executed over the transaction networks, as opposed to relying entirely upon ex post monitoring for breaches.[298] On a more general level, the developing "RegTech" field also presents an opportunity for state policymakers to incorporate new technologies into their regulatory framework,

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293. *See, e.g.*, Adriano & Monroe, *supra* note 287, at 47 ("Some are asking whether bitcoin and other blockchain applications could eventually undermine monetary policy and financial stability—but the consensus is that there is no immediate risk."); *see also* Fuse, *supra* note 281, at 5, 8 (noting both how regulators are able to "take a holistic, systemic view of threats to financial stability" when financial activity clusters in centers, while decentralization could undermine regulatory efficacy through "a destructive trend to deep fragmentation").

294. *See* Adriano & Monroe, *supra* note 287, at 47.

295. *See* Joichi Ito et al., *The Blockchain Will Do to the Financial System what the Internet Did to Media*, HARVARD BUS. REV. (Mar. 8, 2017), https://hbr.org/2017/03/the-blockchain-will-do-to-banks-and-law-firms-what-the-internet-did-to-media.

296. *See* PWC 2017, *supra* note 286, at 13.

297. *See* Adriano & Monroe, *supra* note 287, at 47.

298. *See* Ito et al., *supra* note 295.

which would likely tip the balance of this factor in favor of emerging disruptive technologies to an even greater extent.[299] While there is a risk that such a high-level of technological incorporation would result in the reduction of meaningful regulatory discretion,[300] the possibility remains that such a level of incorporation into the framework of financial regulation could tip the balance of the factor of state financial policy in favor of disruptive technologies.

Lastly, with respect to the factor of stability, international financial centers hold an advantage over emerging disruptive technologies when considering safety and soundness concerns merely because, for the time being, the destabilizing risks that an international financial center faces are more familiar, while the risks that emerging disruptive technologies may face are much less certain. Specifically, while emerging disruptive technologies are not likely as vulnerable to the elements of war, economic crises, or Brexit-like events like international financial centers are, such technologies are vulnerable to various cybersecurity threats. For example, in the case of blockchain technology, there is a possibility that, in the absence of adequate security measures, hackers could hijack a given transaction network to facilitate the spread of malware throughout the network, and that such malware would be very difficult to remove from the network once injected into it.[301] Such a destabilizing threat, which would exploit the advantages of a decentralized transaction network by turning it into a cyberattack vehicle,[302] may undermine the overall appeal of emerging disruptive technologies over international financial centers, even if the balance of the other factors were to tip in favor of such technologies. Therefore, the question as to whether emerging disruptive technologies can come to emerge as a clearly superior conduit for international financial activity relative to international financial centers will turn significantly on the development of security measures that would adequately ensure the safety and soundness of such technologies.[303]

Based on the analysis above, international financial centers do not appear to be at risk of losing their agglomeration benefits even as more emerging technologies come to be incorporated into the international financial system. Rather, the factors would likely come to weigh in favor of emerging disruptive technologies more because of their efficiency improv-

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299. *See* PWC 2017, *supra* note 286, at 13.

300. *See, e.g.*, Ito et al., *supra* note 295 ("This is not to say the choices Bitcoin currently offers are perfect. In fact, many economists disagree with Bitcoin's hard money rule, and lawyers argue that *regulation through code alone is inflexible and doesn't permit any role for useful discretion*.") (emphasis added).

301. *See Interpol Cyber Research Identifies Malware Threat to Virtual Currencies*, Interpol: News & Media (Mar. 26, 2015), https://www.interpol.int/News-and-media/News/2015/N2015-033; *see also* Hunton & Williams, *Blockchain, Cybersecurity and Global Finance*, Privacy & Information Security Law Blog (Sept. 30, 2015), *available at* https://www.huntonprivacyblog.com/2015/09/30/blockchain-cybersecurity-and-global-finance/.

302. *See* Hunton & Williams, *supra* note 301.

303. *See, e.g.*, PWC 2017, *supra* note 286, at 9.

ing benefits than because of international financial centers losing their agglomeration benefits. As a result, and in line with the argument regarding the inherent "sticky" quality of financial centers described above, there is the potential that, rather than becoming entirely obsolete, international financial centers will instead incorporate such technologies into their structure to capture both the efficiency-improving benefits of these technologies and the agglomeration benefits of financial centers. In turn, whether such incorporation would maintain the existing model of there being larger, leading international financial centers with increased interconnectivity due to technology, or whether the existing model will shift more towards something like a series of regional networks composed of relatively smaller financial centers, will likely depend significantly on the policy choices made by regulators and the overall adaptability of international financial centers to these emerging disruptive technologies.

Conclusion

Over the course of history, there have been multiple rise-and-fall cycles among leading international financial centers, as the leading position has shifted from Amsterdam, to London, to New York, and back to London. From these rise-and-fall cycles, one can identify a set of common factors, the manifestation of which appears to correlate with such cycles: trust; central banking and monetary policy; state financial policy; and stability. By considering the relevant elements that signaled the manifestation of each individual factor in these historical rise-and-fall cycles, one can come to understand the scope and limits of these factors, as well as how they may blend and intermingle with one another. Understanding of the scope and limitations of these factors allows for their application in a prospective manner to compare the strength of the current leading international financial centers. By applying these factors in the wake of the Brexit referendum, while London appears to still be the current leading international financial center, there are substantial uncertainties surrounding whether the city will retain that position in the near future. Depending on the terms agreed upon through the Brexit negotiations, there is a distinct possibility that London's position within the hierarchy of international financial centers will be made vulnerable, thus creating the opportunity for another financial center to surpass it.

However, previous cycles suggest that an ascendant center must be able to seize the leading position from the former leading financial center, rather than merely ascending by virtue of the former leading financial center being in decline. In other words, it is not sufficient that Brexit merely weakens London for its position to be overtaken; rather, there must also be the concomitant rise of another financial center that has the capacity to assume the role of being the next leading international financial center. With respect to this consideration, the factors also provide some guidance in assessing the strength of a candidate financial center's position. Through analyzing the relative strength of three candidate financial centers from different global regions, Frankfurt from the European Union, the New York from North America, and Singapore from Asia, it becomes apparent that while each of these centers possess certain advantages over London, each also possess certain vulnerabilities that may yet manifest and undermine their respective positions. For Singapore and Frankfurt, these uncertainties appear to be tied more directly to effects of Brexit and the results of England's withdrawal negotiations. For New York, while it may also be impacted by Brexit, the uncertainties it faces are more directly tied to domestic policy shifts from within the United States. Therefore, because of Brexit's novelty and the uncertainty surrounding its long-term impacts, as well as uncertainty surrounding the global political climate on a more general level, circumstances suggest that, for the time being, the guidance the factors can provide in predicting the next rise-and-fall cycle among leading international financial centers is quite limited.

Lastly, in considering the future of international financial centers and the impact that emerging disruptive technologies might have, historical precedent, though somewhat limited, suggests that there is an inherent "sticky" quality within the structure of financial centers. Moreover, the factors suggest that, in the near-term, international financial centers may yet hold advantages over these emerging disruptive technologies. However, the factors also suggest that, in the longer term, emerging disruptive technologies may provide greater advantages over international financial services. Whether these emerging technologies will subsequently lead to international financial centers becoming entirely obsolete is less certain because these centers will likely still retain their agglomeration benefits even if technology offers a more efficient model of finance. Therefore, rather than becoming entirely obsolete, international financial centers may fuse with these technologies to create a new model of financial services that captures both the efficiency improvements of technology and the agglomeration benefits of financial centers.