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Euro Clearing After Brexit: Shifting Locations and Oversight

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Abstract

This paper investigates the impact of moving Central Counterparty Clearing (CCP) houses that clear euro-denominated transactions to the Eurozone after the withdrawal of the United Kingdom from the European Union. Prior to Brexit, the City of London had a dominant position in euro-clearing, but in the aftermath of Brexit, clearing houses might decide to move to the EU27. Such a move would provide the EU27 with significant opportunities but also presents serious challenges. The development of a EU27 financial hub and the possibility to increase oversight over euro-denominated financial transactions, which were partly at the roots of the financial and Eurozone crisis, could strengthen the market-shaping of European financial markets. However, localizing euro-denominated transactions in Europe could potentially give rise to efficiency losses and a higher risk for companies and investors. Furthermore, the European regulatory framework currently faces certain weaknesses, obstructing the regulatory potential of the EU. Consequentially, there exists an important trade-off with regards to shifting locations that needs to be at the forefront of the discussions and the negotiations when dealing with Brexit.

1. Introduction

The withdrawal of the United Kingdom (UK) from the European Union will have a significant impact on the economies of both the UK and the EU. Assessing the impact of Brexit on each of the different sectors of the economy is a difficult task, and will crucially depend on the future relationship agreement between the UK and the EU that will need to be finalized at the end of the current transition period. One industry that will be profoundly affected is the financial industry.

Part IV of the Political Declaration setting out the framework for the future relationship between the European Union and the United Kingdom refers to financial services, but gives little indication on what the future relationship may look like in this field. It states that "The Parties are committed to preserving financial stability, market integrity, investor and consumer protection and fair competition, while respecting the Parties' regulatory and decision-making autonomy, and their ability to take equivalence decisions in their own interest." It notes the parties have equivalence frameworks in place to recognise each other's regulatory and supervisory regimes and agree to close and structured cooperation on regulatory and supervisory matters. Beyond this, the Withdrawal Agreement and Political Declaration give little guidance on what the UK's relationship will be in these fields post-Brexit.

While there have been discussions about the UK becoming "Singapore-on-Thames", that is a low-tax, low-regulation economy, after Brexit, the UK will likely retain a level of regulatory alignment with the EU. Valdis Dombrovskis, Commission Executive Vice President for an Economy that Works for People, recently commented that "[t]he more systemically important the market is for the EU, the more we import potential risks, [and] the closer the regulatory alignment that is expected." Further, as the UK and EU are under pressure to secure a future relationship agreement in a narrow window, it is likely that issues of trade will be brought to the forefront. Although financial services represent a large and

important part of the UK economy, it remains unclear whether this will be included in a 'bare-bones' agreement.

One area that is of particular importance for both the EU and UK is the future of Counterparty Clearing (CCP) in Europe. The City of London has become the premier location for European CCPs and their clearing houses. Clearing houses are financial institutions that take on counterparty credit risk between parties to a transaction and settle (clear) trades in financial transactions. Once a financial transaction has been approved by the two parties (a buyer and a seller), they submit the transaction to a CCP. The CCP then acts as an intermediary and assumes the role of both buyer and seller of the financial contract to reconcile transactions between two parties. For example, a transaction between firms A and B becomes two trades: A-CCP and CCP-B (for an in-depth overview of the working of CCPs, see Pirrong, 2011 and Rehlon and Nixon, 2013). Consequently, clearing houses perform the broad functions of clearer and guarantor of financial transactions. In doing so, they reduce the settlement risk and provide valuations regarding the creditworthiness of parties, and can be deemed too important to fail (Elliott, 2013, Wendt, 2015) due to their interconnectedness with financial institutions and markets and their high concentration. As the CCP acts as a guarantor for transaction participants' failure, the involvement of a CCP reduces default risk for transactions. Clearing houses therefore provide vital functions to financial markets and are a prerequisite for the creation of a financial centre.

In Europe, London's infrastructure has allowed it to become the premier location for the clearing of Euro-denominated financial transactions. Specific to euro clearing, the cleared financial contracts on behalf of member firms or participants are tied to the underlying value of a financial instrument denominated in euros. It has been estimated that up to 1 trillion euros of euro-denominated interest rate derivatives, one of the most popular financial instruments, are cleared in London every day. London trade accounts for about 70% of the European market in these derivatives, followed at great distance by France (11%) and Germany (6%) (UK Government Actuary's Department, 2017). This has resulted in the establishment of a large financial industry in London dealing with euro clearing. It has been estimated that this trade provides London with up to £80 billion a year. It further provides a significant number of jobs (estimates by Batsaikhan et al., 2017 put the number at around 30.000 jobs).

Now that the UK has withdrawn from the EU, and as the UK and EU turn to negotiating their future relationship, it is unclear whether the London financial industry will be able to continue clearing Euro-denominated financial transactions. Several European rivals of the London Stock Exchange have been making moves towards attracting the euro-clearing business. As the change of location might result into the fragmentation of a London as the main financial centre, the business of clearing euro-denominated transactions has become a battle for the future of financial markets and their location. Politicians of several EU27 Member States have expressed their desire to move euro-clearing to locations such as Frankfurt, Paris, Dublin, and Amsterdam. As will be discussed below, it seems reasonable to expect that Brexit will lead to at least a partial migration of CCPs from London to the EU27. While the moving of CCPs to the Eurozone may provide potential benefits for the EU27, this also involves a number of important trade-offs. Localizing euro-denominated transactions in Europe could potentially give rise to efficiency losses and a higher risk for companies and investors. Furthermore, the European regulatory framework currently faces certain weaknesses, obstructing the regulatory potential of the EU.

The paper approaches these questions utilizing two main approaches to the study of European finance (Howarth and Quaglia, 2018). The first approach addresses questions from a supra-nationalist lens, focusing on how transnational actors shape European financial policy. Such actors in this context include the European Commission, the European Securities and Markets Authority, the European Commission, as well as international regulatory bodies. The second approach focuses more broadly on inter-governmental approaches whereby EU Member States pursue their domestic interests. International financial centres, such as London, where transnational actors interact are subject to national interests are difficult to study from these scholarly approaches (Lavery al. n2018). This paper

combines insights from these discussions in order to shed light on what kind of policy the EU should undertake when dealing with the transnational financial market.

Most studies to date have focused on the impact of Brexit on the UK's financial sector generally. This contribution focuses on the clearing of euro-denominated financial transactions, and on the opportunities and challenges for the EU's single financial market after Brexit. . The clearing of euro-denominated transactions in the UK has been a long-standing point of discussion between the Eurozone, and its institutions, and the UK. Now that the UK has left the Union, and the future relationship is under intense discussion, this issue has become increasingly important. As CCPs are a prerequisite to the establishment of a strong financial centre, this paper focuses on this specific type of financial institution. The future of other financial institutions, such as banks or insurance companies, fall outside the scope of this article. We argue that, to reap the benefits of moving euro-clearing into the EU27, more work is needed with regards to oversight and supervision of CCPs. Moreover, moving euro-clearing into the EU27 might bring with it challenges regarding the fragmentation of the industry. Due to the importance of London as a global financial centre, the future of euro clearing can also have wider effects on future regulation beyond the EU. The next section describes how London became the natural monopolist in providing clearing services. The paper then continues by discussing the cooperation and contestation between the UK and the other EU members in the establishment of the single financial market. It then addresses the economic and regulatory opportunities and challenges for the EU in moving clearing houses to the EU 27. We argue that due to political disagreements in the EU 27, CCPs might be unable to centralize and benefit from economies of scale and scope. Such fragmentation exposes the UK and EU to significant costs and risks, and may undermine consistent supervision and harmonization.

2. The Rise of London as European Clearing House Centre

Traditionally, clearing houses were established as a way to settle cheques at a single place rather than having to physically clear cheques at each of the other banks individually. Consequently, clearing houses initially acted as a forum that eased the process of moving cash (or equivalent) from the bank on which a cheque was drawn to the bank in which it was deposited.

Financial exchanges began to use clearing houses in the latter half of the 19th century. The functioning of clearing houses was expanded to include the bridging of the time between delivery and payment, which in a pre-digital world meant that it could take some time to physically transfer certificates, in particular in international transactions. By the start of the 20th century, many U.S. stock exchanges frequently used clearing houses. At that time, London was the only European stock exchange working with a clearing house, giving it a significant first mover advantage. The result is that London far outsizes other European financial districts in terms of foreign-registered monetary financial institutions, making it the international finance hub in the EU. It is also the place where most EU area and third country institutions (mostly US and Swiss) have set up a large presence, as foreign financial firms currently benefit from the fact that the UK license gives them access to a European passport (see Schoenmaker, 2017). European financial integration thus greatly benefited the open and competitive UK financial sector.

The role of clearing houses was further expanded in the wake of the 2008 financial crisis. At the 2009 G20 meeting in Pittsburgh, the leaders of the G20 decided that all standardized derivatives contracts should be traded on exchanges and cleared by clearinghouses (Wouters, Van Kerckhoven and Odermatt, 2013). This decision was taken as a result of the observation that there existed a lack of transparency with regards to large bilateral positions in derivative transactions (Rehlon and Nixon, 2013). The collapse of Lehman Brothers and the near collapse of AIG, both major participants in the OTC derivatives market, is testament to this. During the crisis, CCPs proved to be rather resilient in the face

of defaults of major financial institutions (Cecchetti et al., 2009). Clearing houses played an important role in guaranteeing the functioning of the market in times of panic and crisis as they had in earlier times as well (Timberlake, 1984). They ensured that the collapse of some institutions did not result in a global domino effect. Domanski et al. (2015) add that banks operating in systems where a larger portion of transactions are cleared by CCPs are less likely to suffer a significant deterioration of solvency when the crisis hit. Because of the G20 decision, London was able to further strengthen its position as the prime international financial hub in the EU due to its leading role in interest rate over-the-counter derivatives (75% of all transactions denominated in euro) (Batsaikhan et al., 2017). Moreover, the G20 decision resulted in the need to novate a wide variety of over-the-counter derivatives, ensuring that clearing is essentially and increasingly so, the backbone of modern financial markets.

3. Cooperation and Contestation in the Single Market

The UK's relationship with the process of European integration has been turbulent since it joined the EU (Bulmer and Quaglia, 2018). This has not been different with regards to the development of the single financial market. The UK, together with Ireland, the Netherlands, Luxembourg and the Scandinavian states formed the market-making coalition, and always desired a more open and market-driven integration of financial markets. The competing market-shaping coalition, with a larger focus on regulating financial markets at the EU level, included France, Germany, Belgium, Italy and the other Mediterranean countries. The market-making coalition has always been a key player and supporter in the development of the single financial market and in particular, the UK has had a strong influence in shaping the single financial market and making regulations more market-friendly than desired by some of the other EU Member States. The UK's fierce opposition to the EU's proposed financial transaction tax is an example of the sharp difference in views between the UK and other Member States.

London's place as a hub has of course benefited the UK, as it became the premier financial centre in the EU. As a result, British policy-makers have always invested a considerable amount of technical and human resources in order to influence the regulatory debate in the EU (Posner and Veron, 2010). The UK and its market-making coalition had a great influence in the drafting of the Lamfalussy directives, the Solvency II directive and the Payment Systems directive (Howarth and Quaglia, 2017).

In particular after the financial crisis, the EU drafted a variety of new regulations limiting the UK's influence as legislation imposed more prescriptive and burdensome requirements on financial entities (Wouters and Van Kerckhoven, 2011). This affected the clearing of euro-denominated financial trades as well. Years before Brexit, in January 2009, then French Minster Christine Lagarde stated that euro-denominated transactions needed to be cleared in the euro area (Reuters, 2009). In 2011, the European Central Bank (ECB) followed suit and specified that large-scale CCPs dealing with euro-denominated trades should be fully incorporated in the euro area, where the full operational and managerial control should be located (ECB, 2011). It was deemed that these clearing houses are of systemic importance to the euro area. However, this location policy was immediately contested by the UK as the ECB's policy recommendation would discriminate against non-Eurozone countries who are part of the EU. It would restrict the free movement of capital and infringe upon the right of establishment. The European Court of Justice eventually stated that the ECB did not have the legal powers to require such a move as the ECB lacks explicit regulatory competence with regards to the securities clearing systems, which could only be obtained via an amendment of the Treaty on the Functioning of the European Union (General Court of the European Union, 2015). In doing so, the ECJ did not explicitly address the question of discrimination.

As the EU strengthened oversight by implementing new rules and adding new institutions, market-shaping came to dominate over the market-making approach. The two major additions in this respect with regards to clearing houses, was the establishment of a financial regulatory agency, the European Securities and Markets Authority (ESMA) in 2011 and a body of European legislation for the regulation of over-the-counter derivatives and central counterparties, the European Market Infrastructure Regulation (EMIR) in 2013. The supervisory role was thus assigned to ESMA, which allowed the ECB to focus again more narrowly on monetary policies. ESMA provides opinions and drafts legislation, on which the European Parliament and the Council decide. As a result, the current set-up is similar to the situation in the UK, with a supervisory (but more independent) Financial Conduct Authority (FCA) and the Bank of England.

Consequently, the UK came to be seen as a delaying force, for example, with regards to legislation on hedge funds, rating agencies and the Financial Transaction tax. In recent years, the UK can thus be categorized as a pivotal outlier, often obstructing progress with regards to the oversight of financial markets. It can thus be expected that without the UK, the EU27 can move forward more quickly towards more market-shaping legislation.

As the EU moves forward, the UK might need to have to follow up in implementing the more demanding European rules in its domestic legislation. After the Brexit vote, UK CCPs recognized rather quickly they were potentially going to lose their EU passport. As an alternative, they argued that UK legislation should be deemed equivalent with the EU, as EU rules require that European firms can only do business with, or be members to, clearing houses that are either within the Union or are recognized by the EU to be 'equivalent' (European Market Infrastructure Regulation, 2012, para. 6). Without action or agreement, UK-based clearing houses risk to be neither.

If this is the case, UK-based CCPs might face more EU-based oversight aiming to shape financial markets more extensively. For example, the European Commission has already proposed to give the ESMA powers to assess out-of-EU clearing houses. If these are were to impose a systemic risk to Europe's financial stability, they will have to adhere to requirements making them compliant with the European Market Infrastructure Regulation (EMIR). Currently, the four UK-based CCPs are recognized by the EU and must comply with the requirements of the EMIR. The Bank of England acts as the competent authority but an EMIR college of regulators, with ESMA and the ECB as members already oversees the functioning of the UK CCPs. Note also that most of the UK CCPs are active on a global scale, and are thus supervised by several market regulators in different countries.

The EU has further proposed a draft law that instructs its regulators to check on "systemic" foreign clearing houses that handle large amounts of euro-denominated assets. If a foreign clearing house's home regulator - the Bank of England in the case of the United Kingdom - fails to cooperate with EU supervisors, the Union would require the clearing of transactions for EU customers to relocate to the EU (Reuters, 2018). This equivalence approach ensures that CCPs are monitored by both their home countries and in the country where they are active (as is currently done with EU-based CCPs operating in the US). In this case, now that the UK has exited the EU, UK based CCPs will have to apply for equivalence from the European Commission in order to be able to continue their operations (EMIR, 2012, para. 25) after approval by the ESMA, which is a time-consuming exercise. At the same time, the resolution of CCPs has been high on the European agenda for quite some time (Elliott, 2013; Priem, 2018). On 28 November 2016, the European Commission presented its proposal for a regulation on the recovery and resolution of central counterparties .[1] The text is still being discussed, and currently is supported by the UK treasury. Lannoo (2017) argues that this change even came about as a result of Brexit, as European legislators want to strengthen their supervisory powers. The impact of this piece of

[1] Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on a framework for the recovery and resolution of central counterparties and amending Regulations (EU) No 1095/2010, (EU) No 648/2012, and (EU) 2015/2365.

legislation on future negotiations cannot be underestimated, but as it is currently still under development, future research will have to address its impact on the Brexit negotiations.

Both the UK and the European Commission identified the issue of CCPs as a clear systemic risk in the case of a no-deal Brexit. On December 19, 2018, the European Commission decided to grant temporary equivalence to UK CCPs (European Commission, 2018b; ESMA, 2018b). ESMA already stated that it was preparing to recognize British clearing houses on 23 November 2018 (ESMA 2018a) after a communication of the European Commission (European Commission, 2018a). On 23 December 2019, ESMA announced that it would extend the recognition decisions for UK CCPs (ESMA 2019). The recognition of the UK-based CCPs by the ESMA would come into effect in the case of a no-deal Brexit. This was timely since clearing houses require 90 days notification in order to end membership. This would allow UK CCPs to continue providing clearing services. On the other side of the Channel, HM Treasury and the Bank of England already put such a temporary recognition in place for non-UK CCPs (Bank of England, 2019). However, this equivalence recognition is only temporary and will need further detail with regards to the necessary cooperation and information-sharing. This temporary equivalence will only last for one year (ESMA, 2018b) but has been extended until the end of the transition period. Under the existing equivalence rules, recognition is unilaterally decided upon, and revoked, by the EU at any given time. This temporary equivalence rule might just allow the EU to require relocation but to do so in a managed and controlled way.

This would follow the line of thought of several European leaders. A relocation would provide the EU27 with the potential to attract a large share of the financial market (Dörry and Dymski, 2018). Both UK based and other foreign CCPs currently based in the UK (mostly from the US and Switzerland) could have to move to the euro area and a European hub for clearing will need to be established. Bearing in mind the monopolistic nature of CCPs, politicians of several EU27 Member States are actively advocating for their national financial centres. As early as 5 September 2016, German Chancellor Angela Merkel, stated in a speech that moving euro clearing was a plausible move and endorsed Frankfurt as the new financial hub in the euro area (Express, 2018). Over the summer of 2018, French President Emmanuel Macron invited European financial chiefs to Paris to promote the city as a finance centre and to try to snatch business away from London after Brexit. On November 23, 2018, the governor of the Banque de France, François Villeroy de Galhau, stated that this temporary recognition should not last more than a year, and endorsed Paris to become the new market hub (Banque France, 2018). Paris and Frankfurt are historically seen as the second tier financial centres, which are dominated by the triad New York, Tokyo and London. They are embedded within the EU27's most powerful Member States, and host key European regulatory and supervisory authorities: the ECB and the European Insurance and Occupational Authority (EIOPA) in Frankfurt and the ESMA and the European Banking Authority (EBA) in Paris. Lavery et al. (2018) argue that diversity, path dependency, territory, and regulatory stability shape the emerging competition between Frankfurt and Paris. Some CCPs have already been tempted to move their operations to the euro area in light of the uncertainty about potential additional burdens that might arise after Brexit. Deutsche Bank has already moved half of its euro clearing activities from the UK to Frankfurt. This has allowed the Deutsche Boerse-owned Eurex to achieve a market share of 8% of euro clearing, up from virtually zero in 2017 (Independent, 2018). In the same vain, LCH has shifted their euro-denominated repo activity from London to Paris and the Chicago Board Options Exchange went live in Amsterdam. Cécile Nagel, CEO of EuroCCP, stated that "[t]he direction of travel is clear, there is going to be ongoing effort to drive more activity into continental Europe" and that "[b]eing located in the Eurozone if you're a European CCP clearing denominated product, that is going to help in the medium- to long-term." (TheTrade, 2020). That the transfer to the EU27 is happening is also indicated by data released by Eurex, which shows an increase in both the number of transactions as well as their overall size compared to previous years (Eurex, 2019, 2020). Moreover, Eurex Clearing drafted a profit-sharing scheme on interest rate swaps, which means it shares its profits with member banks (Reuters, 2017). In November 2018, it even announced plans to

extend this profit-sharing scheme to foreign exchange derivatives and repurchase agreements (Global Custodian, 2018).

Moving the financial centre of the EU (partly) from London to may bring with it benefits for the EU27, in terms of promoting financial stability, tax revenue, employment, and the benefits of establishing a financial hub. Yet this will not be an easy task. The battle to attract parts of the London financial centre might lead to fragmentation of the industry and hamper the market-shaping attempts of the EU. A similar move from London to Frankfurt happened in the 1990s, when the market for the future on the Bund moved entirely from LIFFE, a London-based derivatives exchange, to DTB, a Frankfurt-based exchange. In that specific case of financial market history, it was shown that liquidity can be kept in the market even with abrupt changes.

4. Potential for fragmentation in market clearing

There is currently no existing euro equivalent to the large centralized London based clearing houses. The LCH.Clearnet is a subsidiary of the London Stock Exchange Group (LSE.L) and clears the majority of euro-denominated transactions. The biggest euro area clearing CCPs are Eurex Clearing (GER), LCH SA (the Paris subsidiary of LCH Clearnet) (FRA), EuroCCP (NDL), and CCG (ITA). However, these are not at the level of their UK counterparts as they are more limited in product coverage (for example EuroCCP only clears securities) and currency coverage (LCH SA and CCG only clear euro-denominated products). Moreover, the euro area CCPs also tend to focus on different product offerings. German Eurex could, if it expands significantly, take over part of the London-based clearing activities as it is significantly experienced in clearing a wide variety of currencies and products, but its share of the global euro-denominated OTC derivatives market is even much smaller than the share of France (2% versus 13%, Batsaikhan et al., 2017). As of 2020, Eurex notional outstanding market share in clearing longer-dated euro swap contracts has risen fourfold since the start of the partnership program.

The limited size of these euro area clearing houses is problematic for the working of CCPs. First, fragmentation of the financial sector could lead to duplication of resources and higher transaction costs. Specific to clearing houses, fragmentation could lead to higher costs. Clearing activities require each party to the agreement to put down collateral in two ways: the initial margin and the variation margin. By requiring these margin deposits, CCPs are able to 'mutualize' credit risks, most importantly the default risk. The initial margin is required when signing the agreement and is decided upon an estimation of the riskiness of the underlying transaction. Variation margins reflect changes in the riskiness as the transaction comes closer to maturity. The updates of variation margins are typically conducted at least once per day. By requiring these margins, CCPs offer a greater transparency of the risks, reduced processing costs, and greater certainty in cases of default by a member. These margin requirements create the most significant challenges with regards to relocating UK based CCPs. CCPs rely on economics of scale and scope for their functioning. Economics of scale cause risk to go down if a higher volume of transactions is cleared. They thus create incentives for concentration and vertical integration. As long as negative shocks are sufficiently small, a more densely connected financial network enhances financial stability (Acemoglu et al., 2015). Moreover, demands for collateral lowers if more is cleared, as long as there is no proliferation of CCPs (Dufffie, Scheicher and Vuillemey, 2015). Economics of scope require a higher number of different transactions to be cleared by the same CCP. When multiple derivatives classes are cleared, it is always more efficient to clear them through one CCP rather than through several CCPs (Duffie and Zhu, 2011; Duffie et al., 2015).

Due to these inherent economies of scale and scope, payment and settlement systems tend to concentrate on very few large-scale providers or even monopolies. This has been the case with the UK-based CCPs. In contrast, the European CCP market currently suffers from fragmentation that results in inefficiencies and higher costs. Current continental European CCPs do not reach the necessary scale to realize economics of scale and scope. The UK government estimates that margins for financial transactions

might go up significantly if the decision is made to shift the location from London to continental Europe ($83 billion if remaining in the UK, $161 billion if shifted) (UK Government Actuary's Department, 2017). This would push up costs for European consumers and companies; and might increase risk, as smaller pools might not be able to absorb losses to the same extent.

The issue of fragmentation could be addressed if one of the European cities were to grow significantly in size and attract most of the clearing house business. However, seeing the political atmosphere and the fact that both Paris and Frankfurt are already significant, albeit small, financial centres renders the development of a single EU27 financial centre virtually impossible. Both cities are also specialized in specific parts of the financial services that have to be cleared. Moreover, third country financial institutions, mostly branches of US and Swiss clearing houses, seem so far not be willing to move to the EU27. The call of the European Commission to bring all third-country business under supervision of ESMA has infuriated the US authorities. As a complete move from London to one of the EU27 contenders will thus not be easy and is not expected to happen in the foreseeable future, fragmentation of the industry over different countries is likely to occur. As indicated before, this can also be observed with recent location decisions of several financial institutions.

The issue is that fragmentation, and the ambitions of different leaders to attract the clearing house business might hurt the market-shaping potential of a move to the EU. This can only be mitigated by either choosing a single location in Europe that is capable of attracting third countries, or by continuing to supervise UK CCPs through European legislation. Both options carry significant challenges.

5. Macroeconomic oversight

This section explores whether the current legal framework in the EU is strong enough to address the potential disruptive impact of fragmentation on the EU's ability to shape markets. Financial market infrastructure affects the stability of the financial system and the global economy through its design but also through its location. This relates to the settlement assets the infrastructure uses, the legal regime under which it operates, and the role of governance, overseers and other stakeholders in crisis situations. The large share of euro-denominated transactions taking place in the UK as a non-euro area country raises questions with regards to the ability of the Euro area to supervise these. These concerns are only getting more traction after the decision of the UK to leave the EU.

The EU27 might be particularly concerned with the potential inappropriate design or malfunctioning of offshore infrastructure. International oversight arrangements can mitigate the loss of direct influence, but according to the ECB (2011) only to some extent. Now that the UK has left the EU, the EU needs to draft a new approach towards the regulation of clearing houses in London. Brexit could leave the EU with few tools to steer and supervise UK clearing houses depending on the outcome of the negotiations.

Moreover, London-based clearing houses have in the past already upset the EU. During the Eurozone debt crisis, the LCH decided to raise its margin requirements for Spain and Ireland, thus aggravating the impact of the Eurozone debt crisis on these countries. CCPs are for-profit centres, and since there are only few of them the market is rather competitive. This might lead to an underinvestment in the mitigation of risks to the wider system, which can only be addressed by drafting appropriate legislation.

The EU's regulatory framework currently is not developed enough to provide harmonized oversight. National central banks within the EU have different legal rules, risking competition on regulatory and supervisory practices between Member States, potentially resulting in a race to the bottom (ESMA, 2017). There might also be an issue with access to comprehensive and timely information, as national governments might favour the survival of their domestic industries rather than the broader European interest. Currently, most oversight of the markets is conducted by the Bank of England and the UK

Financial Conduct Authority. Both UK and European legislation follow the global standards set by the Committee on Payment and Settlement Systems (CPSS) and the International Organization of Security Commissions (IOSCO). The current principles for financial market infrastructure published by CPSS-IOSCO consolidate previous requirements and raises the minimum standards and as such form a keystone for legislation.

Further regulation is based on the ISDA (International Swaps and Derivatives Association) Master Agreements. The ISDA, the trade body for the derivatives market, publishes the Master Agreement to be the standard document used to govern over-the-counter derivatives transactions. Almost all ISDA Master Agreements between counterparties in the EU are currently governed by English law and the jurisdiction of English courts (ISDA 2018). In June 2018, the ISDA published French and Irish versions of the 2002 Master Agreement as a response to counterparties who "want to retain specific benefits of EU legislation—for example, protections under certain EU national insolvency laws that require use of an EU member-state-law agreement in order to receive those protections." (ISDA, 2018). There is discussion about whether English law Master Agreements can continue to be used post-Brexit, or whether EU-law governed agreements will be used. At this stage, there is still considerable uncertainty. The advantage of using English law would be that the well-established legal practices can continue (contracts and case law). This is also what market participants would presumably prefer (Batsaikhan, 2017), but might go against EU27 Member States preferences.

The EU27 could decide to take Brexit as an opportunity to further develop its legal financial framework. The European Market Infrastructure Regulation (EMIR), adopted in 2012, is one of the most important EU post-financial crisis pieces of legislation. It covers clearing of financial instruments (for example derivatives) and the prudential and supervisory requirements on central counterparties. From the point of view of the ECB, Brexit might create an opportunity and even a necessity to accelerate the development of its financial markets and oversight and consequently its resilience against shocks. It might provide impetus in addressing some of the shortcomings of the comparatively light-touch regulatory framework in the UK. In the words of Christine Lagarde: "The years are over when Europe cannot follow a course because the British will object. Now the British are going, Europe can find a new elan." (Wintour, 2016) In the case of a Brexit, the ECB already issued its preference for a change of location. Article 22 of the Statute of the European Systems of Central Banks and the European Central Bank states that: the ECB and national central banks may provide facilities, and the ECB may make regulations, to ensure efficient and sound clearing and payment systems within the Union and with other countries. This oversight role is thus deemed to be restricted to the Euro area. In 2017 and in light of Brexit, the ECB has already recommended to adapt this article to include [… and clearing systems for financial instruments…] (ECB, 2017). In a post-Brexit world this allows the ECB to develop more strict oversight and a more stringent legal framework with regards to clearing systems for financial instruments. The ECB on 20 March 2019 withdrew its recommendation as it felt that it had been seriously distorted by the proposed amendments to recommendation drafted by the Council and the Parliament. The ECB argued that under these amendments, the ECB would not be able to enjoy regulatory powers with respect to CCPs, which was exactly the aim of the recommendation (ECB, 2019).

At the same time, the EU has agreed to amend the original EMIR legislation. This allows the EU to conduct more stringent supervision of third-country CCPs operating in the EU (EMIR 2.2). This will be based on the system of equivalence and introduces a proportionate approach: some CCPs established outside the EU may be of such systemic importance that they require additional conditions to mitigate the potential risks. It further should establish a CCP Executive Session within ESMA, which will be responsible for monitoring and supervising all third-country CCPs by the Commission. EMIR 2.2 further should enhance the recognition regime for third country CCPs (TC-CCPs). It introduces a dedicated regime for the third country CCPs which are determined to be, or likely to become,

systemically important for the financial stability of the European Union (EU) or of one or more of its Member States.

However, only third-country clearing houses will be supervised by ESMA in the EU, while their local central counterparties (CCPs) would continue to be overseen by national authorities. This means that the business that might transfer from London to the EU27 risks to be less centrally supervised than it currently is. This could lead to fragmented and uncoordinated supervision, involving both national and EU bodies. As Germany, France and Italy prefer to maintain this current system, attempts to harmonize supervision might continue to fail.

The current decision to offer equivalence to UK-based CCPs might give the ECB the time to work on the regulatory framework in preparation of a potential shift of location. At the same time, their failed attempt aiming to move forward in terms of legislation, might result in a failure of the EU to impose more market-shaping legislation to address potential fragmentation and a race to the bottom.

In addition, ESMA and other bodies still need to build up their supervisory expertise in this domain. These mechanisms are rather recent and need to be reviewed and gather more experience.

At the international level, the EU27 might also be able to move forward more quickly regarding global financial regulatory frameworks, but will lack the clout of the UK. These new tensions have already been witnessed at the G7 (Wouters and Van Kerckhoven, 2019).

In the short run, the market-shaping potential of the EU could be undermined by the political stances of its Member States, and result in a race to the bottom, resulting in significantly more freedom for financial businesses. This is enabled due to some weaknesses in the current regime dealing with CCPs. However, in the long run, the EU could potentially push for more market-shaping legislation.

6. Conclusions

Brexit will have a serious impact on the financial industry, in particular on UK-based clearing houses. Over the last decades, London has become the natural monopolist in providing these services due to its early mover advantage and the economics of scale and scope in the offering of these services. As a result, most euro-denominated financial transactions are cleared in the UK, and the UK's market-making approach has influenced most legislation. This, in particular after the financial crisis, has been contested by the market-shaping forces within the EU. Some of the forces advocating a stronger role for EU legislation feel that the market-making approach renders the euro area more vulnerable in the advent of a crisis. Brexit has only strengthened these concerns as the location of the UK-based CCPs might make it more difficult for the EU to intervene which has led to calls to move the operational and managerial functions of CCPs to the continent. Currently, the decision was taken to grant UK-based CCPs equivalence, which allows them, for some time, to continue their operations. This equivalence period might allow the EU27 to develop a financial hub ready to compete with the UK and provide the ECB with enough time to strengthen and move forward in improving the European regulatory framework with regards to supervision and oversight. This would address two of the major concerns: EU27 CCPs are too small to work efficiently and the legal framework is partly based on the UK's regulations. If the EU's regulatory framework is strengthened, it could mitigate the risk of a race to the bottom, whereby the EU's market-shaping potential is minimised.

Political interests currently make it difficult to advance significantly towards realizing this potential. European leaders are currently battling over the location of CCPs as these could form the first step towards attracting and developing a EU27 financial hub in their domestic countries. Companies, wary of the risk of potential hiccups in their operations are already slowly moving part of their operations outside of the UK. This fragmentation imposes significant extra costs and risks. As long as harmonized rules and consistent supervision are lacking, and political disagreement continues, CCPs might be

unable to centralize and benefit from economies of scale and scope. This comes at a cost for European consumers and companies. The exact impact thereof, in terms of service levels, fees and operational costs needs to be assessed in future research. However, it is clear that the withdrawal of the UK from the European Union may not only weaken the UK economy, but also lead to weaker regulations and higher costs, hurting the EU, the UK, and their citizens.

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