Management, Society & Technology

Financial Services leaving London to settle in Amsterdam or Paris

To what extent do transaction costs influence the transition of Financial Firms leaving London to settle in Amsterdam or Paris?

University of Twente
Student: Bram de Rouw
Number: S2007762
First supervisor: Shawn Donnelly
Second supervisor: Annika Jaansoo
Date: 30-06-2021
Word count: 11954

Table of content

Abstract

This thesis, will aim to answer the following research question: To what extent do transaction costs influence the transition of Financial Firms leaving London to settle in Amsterdam or Paris? Transaction costs will explain the behavior of financial firms in relocating in Amsterdam or Paris. In this research the Transaction Cost Theory (Williamson, 1993) (TCT) will be complemented by theories on financial market integration by Howarth and Quaglia (2018) and the fragmented financial industry by Scott Lavery (2018). An analysis will be established based on qualitative secondary data, consisting of peer-reviewed scientific articles, financial firms' statements, newspapers and official documents of national regulators and the EU. The analysis will provide a comparison between Amsterdam and Paris aiming to answer the question whether transactions costs are the driving factors in relocations. This question will be analyzed by a systematic approach with three central hypotheses derived from the theories. Assuming that firms are focused on achieving lowest possible financial costs. That we can expect more movement once the factors influencing transaction costs become more important and that these factors will initiate relocations to Paris or Amsterdam. Based on these hypotheses, a certain effect of movement can be expected towards a certain financial center. In this research London's financial center will serve as a measuring stick to which transaction costs in Amsterdam and Paris will be tested to determine the correctness of the hypotheses and to answer the research question.

Introduction

It has been five years ago since the United Kingdom voted to leave the EU. Since then, it took four years to officially leave the trading bloc and until 24 December 2020 to sign the agreement on the terms of a new trade deal. The financial services between the UK and the EU are still intertwined and this interdependence results in a struggle (Kalaitzake, 2020).

The most important setback for financial firms is the denial of access to the EU Single Market. The EU and the UK have been and are trying to find a solution on a common agreement on the regulation of cross-border EU-UK financial services. Setting up an equivalence regime could avoid market fragmentation and UK financial firms would still be able to provide some financial services to the EU. However, these discussions did not prove to be successful and on 31st of January 2020 the UK became a ‘Third Country’ (Pennesi, 2020). Large international financial firms used the UK as an entrance towards the EU’s Single Market. According to Vaghela financial services firms started moving their assets in advance of the Brexit (2020). Financial services firms operating in the UK have shifted about 7,500 employees and more than $1.6 trillion of assets to the European Union (Vaghela, 2020). Ernst & Young (EY) have made a more in-depth investigation of this shift from London to the EU. According to their analysis a total of 97 financial firms relocated to the European Union (2020). This is already almost one-sixth of the remaining 607 financial companies present in London in January 2021 (Statista, Financial Services Companies, 2021). Up to February 2021, this increased to 47 firms relocating operations entirely or partly to Amsterdam from London in response to Brexit, according to preliminary data compiled by think-thank New Financial (Wilkes, 2021). Which is a little lower than the 88 firms that have moved business to Paris and the 56 to Frankfurt.

Since the failure of a trade agreement, other financial centers have become even more crucial in transnational networks of global finance. Financial centers in the EU are internationalized but nevertheless embedded in local and national networks (Kalaitzake, 2020). EU studies show that this international orientation limits the logic of competition between European financial centers (Howarth & Quaglia, 2018). To emphasize this, growing economic interdependence and transnational exchange are emerging features at the EU level (Lavery, 2018). However, Brexit is likely to disrupt this logic of international dependency. It initiates a moment of ‘regulatory decoupling’ between the UK and the EU, but also on EU level where Brexit will generate competition by producing new barriers to trade (Lavery, 2018). These adjustments on trade barriers are why financial firms will likely move to avoid barriers, and cost avoidance takes priority. In this paper I will analyze the influence of transaction costs on the movement of financial firms based on the Transaction Cost Theory (Williamson, 1993) for two major financial markets, Amsterdam and Paris. Additionally, to examine the role of transaction costs in London as well as on EU level, two theories provided by Howarth & Quaglia and Scott Lavery will be combined to explain the role of (inter-) governmental actors on (inter-) national level.

The theory section will deal with the differences that can be distinguished between the financial centers London, Amsterdam and Paris. These differences will provide an overview of the factors that push financial firms from London to a new financial center, so called push factors. In addition to that, the mechanism used by national governments on EU level to influence the movement are outlined. These differences in mechanism typifying different financial centers are assessed in the analysis. The analysis will combine the theoretical framework with recent documents to provide insights in the causal relation between transaction costs and movement of financial firms. This is done because national governments seek to influence this relationship by adjusting national regulations to increase the attractiveness of their financial center. Besides the assessment of the influence of transaction costs on the movement, this research will provide a basis for assessing such occurrences for firm's behavior in future crisis situations and uncertainties. To analyze this, the following Research Question will be answered:

To what extent do transaction costs influence the transition of Financial Firms leaving London to settle in Amsterdam or Paris?

This research will focus on Amsterdam and Paris as new financial centers, to increase insights between national differences in regulations and transaction costs the following underlying questions will be analyzed, a brief description on the answerability of these questions will be given in the conclusion of this thesis.

1. **How do (inter)national governmental actors influence transaction costs for financial service firms?**
2. **Which transaction costs make Amsterdam and/or Paris attractive for financial firms?**

Theory

The theoretical framework of this thesis will be built on the Transaction Costs Theory (TCT) by Williamson (1993), and will be applied to Brexit by assessing recent research in this field by Scott Lavery (2018) and Howarth & Quaglia (2018) and academic literature. By following the logic of the TCT this research can set conditions in which we can expect movement of financial services firms outside London. It serves as a starting point to which recent research will be assessed to address its applicability in the aftermath of Brexit. The first part of the theory section will provide insights in the underlying theory and its relation to each other and the aim of this thesis. After that, I will formulate hypotheses about the movement of financial firms based on the theories and the influence of transaction costs in this movement.

Brexit is a new situation for the EU, since no previous state have left the Union. And as the brief introduction shows, London is witnessing a push of financial services firms. At the same moment other countries are trying to pull the financial firms towards them. London and its features of transaction costs London will be used as a measuring stick to test differences with Amsterdam and Paris. These features forming transaction costs in London are defined by Howarth & Quaglia (2018) and divided in: The concentration of expertise, the UK's light-touch regulatory framework, advantages linked to the use of English common law and the established financial infrastructure. These features made London the most popular financial center in Europe (2018). The battle that is present on EU level among member states will aim at adjusting transaction costs to attract financial firms on national level (2018). Howarth & Quaglia identify the role of national authorities in increasing or reducing the financial market integration that triggers this battle on EU level (2018). Howarth & Quaglia show that nation states tend to regulate financial markets in their own way, which could cause for the Netherlands and French to make national adjustments to attract financial services firms (2018). Hence, this research argues the presence of an intergovernmentalism approach for EU countries.

The Netherlands has a large and globally interconnected financial system. Multiple authorities and supervisory mechanism try to maintain and enhance this system. Similar as in France, the supervision in banking consists of the Single Supervisory Mechanism (SSM), consisting of the European Central Bank (ECB) and national supervisory authorities. In addition to that, the Financial Stability Committee (FSC) was established in the Netherlands for advisory reasons. The French government already emphasized their interest in financial services after the Brexit Referendum with the statement of the French Ministry of Finance to encourage UK firms to relocate operations to Paris (Howarth & Quaglia, 2018). Paris also gives accommodation to the European Securities and Markets Authority (ESMA). The ESMA is responsible for ensuring supervisory convergence in relation to European Capital markets (Lavery, 2018). Furthermore, the European Banking Authority (EBA) relocated to Paris after Brexit.

Hosting large EU financial authorities gives Paris an advantage as a financial center that already contains the entire infrastructure that is required for financial firms.

Scott Lavery (2018) tries to step back from the importance of a conventional supra-nationalist and inter-governmentalism approach as explained by Howarth & Quaglia (2018). The emerging competition between EU financial centers should be analyzed by interrogated relations in economic geography according to Lavery (2018). Drawing on literature on economic geographic Lavery establishes a ‘financial centers’ perspective on the battle over financial services. The influence of nation-states on this economic geography can be explained by Scott Lavery’s three principals (2018). First, new entry barriers will be generated on EU level to limit or deny access for UK banks and institutions to access the EU Single Market. Second, political pressures influence relocations of businesses within the Single Market. Third, Brexit is likely to create new regulatory challenges, especially in terms of supervision (2018). Lavery, here, assesses the working hypothesis that when factors as those described above gain importance, we can expect more movement from financial firms (2018). In his research, Lavery defines transaction costs and their importance from both a financial firms’ and governmental perspective.

These different views on the governmental influence on financial centers will be embedded in Williamson’s Transaction Cost Theory (1993). This theory suggests that the choice of organization’s locations is based on achieving economic efficiency by minimizing costs, which implies that firms move to the location with the least transaction costs. Williamson (1993) argues that characterizing transaction costs heavily depends on governance structures and can be matched with institutions on national level. Economizing and safeguarding on transaction costs essentially are the two objectives in tension for national governments. Generally, an increase in one would result in a reduction in the other. The assumption that governance structures influence the status of transaction costs as described by the TCT will be used as a basis for assessment in the analysis. The hypothesis, expecting that firms will move to the most attractive environment based on transaction costs is strengthened for Brexit by Lavery’s research on firm’s behavior. Lavery argues that Brexit will likely impose more transaction costs for firms in London which causes relocations from London towards the EU Single Market (2018). Howarth & Quaglia follow up by providing the behavior on nation states on EU level to influence these relocations.

In this research, the aim is to determine whether the TCT assumptions can be confirmed in this analysis on the movement of financial firms. TCT’s argument is strengthened by the before mentioned theories that provide clarity on governmental actors as well as their influences on transaction costs in the aftermath of Brexit. The battle among member states to attract financial firms shows that nation states are using specific factors to influence transaction costs. (Howarth & Quaglia, 2018). Essentially all governmental actions that are willingly or unwillingly affecting transactions costs and thereby initiating relocations will be considered as push factors. This leads to the first Hypothesis about the expected increase in movement when the transaction costs increase in a financial center (E.g., push factors).

H1: Push factors within transaction costs determine the timing of movement of financial services.

The second Hypothesis can be derived from the Transaction Costs Theory. Williamson argues that relocations will be initiated by changing environments. The second hypothesis will be assessed by combining Williamson's argument with recent academic research that address Brexit.

H2: Financial firms are focused on achieving lowest possible financial costs, combined with the best possibilities to operate within a given location

In this research, the aim is to determine whether these hypotheses can be confirmed. The confirmation of the hypotheses will enable this research to provide an answer towards the role of transaction costs as argued in the research question. A comparative analysis will be executed between the financial centers London, Amsterdam and Paris. London will function as a measuring stick against Amsterdam and Paris in testing differences in transaction costs. Eventually these differences will show how financial firms are behaving towards transaction costs. This will determine whether financial firms will choose to relocate based on transaction costs, and this will be confirmed by testing the following hypothesis.

H3: Advantages in the financial expertise, regulations, tax and financial infrastructure will cause relocations to the most beneficial financial center.

Data and documents

An outline of the financial centers London, Amsterdam and Paris will be given based on the identified transaction costs factors by Howarth & Quaglia (2018). With the following factors the financial centers will be characterized: The concentration of expertise, the regulatory framework, advantages linked to the use of law and the established financial infrastructure. The concentration of expertise will be analyzed by investigating the concentration of market activity and the availability of skilled personnel per financial center. The regulatory framework will be analyzed by the regulatory stability within the nation-state the financial center is located, combined with the advances for financial services companies related to a regulatory landscape. Law usage will be analyzed per financial center by looking at the tax system and remuneration policies. Lastly the financial infrastructure will be analyzed through the ability to operate in a financial center, which will distinguish differences between financial services. Furthermore, the presence of financial regulatory institutions will be taken into consideration.

H1 arguing the movement based on push factors within transaction costs will be measured by national governments interests in adjusting these factors as explained by the 'battle' over finance by Howarth & Quaglia (2018). The total change per financial center in transaction costs indicates the importance attached to these factors by national governments. The adjustments made by national governments will be derived from official documents of (inter) national regulators and academic articles in European financial regulation. H2 argues the achievement of lowest possible financial costs. This involves the most beneficial transaction costs for a financial firm to operate in. Transaction costs will be operationalized in a qualitative way by using a descriptive cost-benefit analysis because transaction costs can range from very beneficial to very costly. In this approach, Amsterdam and Paris will be compared with London by taking into consideration Howarth and Quaglia's scientific article that refers to the features that outline the transaction costs present in London. Next to that, data on different financial centers will be retrieved from UK, Dutch and French newspaper articles. For example, the "The Economist", "The Financial Times" and "Het Financieel Dagblad" will be used, within these newspapers most recent articles will be used with a preference to articles from 2021. This will give insights in the sort of transaction costs that make a specific financial center attractive. To assess this, official documents from Financial Ministries and national regulatory and supervisory authorities will be analyzed. This will create the comparison between the financial centers in regulations, taxes and policies. H2 will be assessed after H1 since the different factors that influence transaction costs must be explained first to establish an appropriate descriptive cost-benefit analysis. H3 relates the most beneficial financial center based on the factors mentioned above with the actual relocations of financial firms. Hence this assessment will continue upon the outcomes for H2. The outcomes of assessing H2 will give an indication for the transaction costs per financial center. Based on these outcomes and the expectation based on the TCT that firms will relocate once this becomes beneficial, we can determine whether H3 can be confirmed. To analyze the actual relocations, observations on firm's statement and newspaper articles will be used. The most recent insights in the relocations from London to Amsterdam or Paris will be used, to qualify this, multiple sources will be taken into consideration. Especially sources coming from 2021 will be used because these will provide information on the situation after the loss of a trade agreement for the UK.

Since the situation is very recent, primary data is not very accurate, rather fluctuating and limited available which poses threats to external and internal validity and reliability. To somewhat mitigate these threats, this research will focus on secondary data. To gather sources, search criteria consisting of several key words will be used; Brexit, financial services, regulation, London, Amsterdam and Paris. A comparative case study is effective because it fits well into the timeframe of the research and a diverse set of views must be obtained to get an appropriate comparison between the cities of London, Amsterdam and Paris. This offers the possibility to combine recent articles with newer findings in this field with underlying past theories as the Williamson TCT (1993). This research will embed recent articles of Howarth & Quaglia and Lavery in Williamson TCT to address its basis in practice. There is not a lot of quantitative data available due to the recency of Brexit and its finalization in January 2021, hence I focus on a qualitative assessment of available information. The choice for secondary data is based on the effectiveness in the data gathering process. Secondary data will be retrieved mainly from the internet. This will mainly consist of peer reviewed articles, observations made from firm's statement, newspaper and official documents of national and EU regulators to conduct a comparative case study. To prevent selection and attribution bias, I look at different scientific theories to assess the situation. Since the focus is on three financial centers, with many stakeholders involved, different perspectives on different areas are necessary to prevent bias. Research in related fields can give interesting insights because current theory is still being rooted in older theories of transaction cost economics, and hence the behavior of firms, as well as their statements are still based in those theories. These theories will provide the necessary information to establish the research as explained above, to test the hypotheses and eventually answer the Research Question.

This research has some limitations. First, since the Brexit situation is very recent some predictions in this research might not come true. Predictions made in this research stemming from the data sets and articles can only indicate a trend. Currently, the UK has lost access to the EU Single Market, but this might be changed by a future establishment of an equivalence regime. However, this loss of access enables this thesis to research the influence of transaction costs in such a financial crises situation. Furthermore, this research is limited due to the use of national articles. Although it is important to use different sets of secondary literature, the French perspective is limited because the analysis of Paris is mostly based on literature in English instead of original French documents.

Analysis

It is important to draw a distinct look at the developments after Brexit for the four factors influencing transaction costs per financial center. These factors are defined in the previous section and consist of the concentration of expertise, the regulatory framework, advantages linked to the use of common law and the established financial infrastructure. Because Brexit is still very actual and ongoing it is important to illustrate the changes that occurred. This analysis per financial centers will enable this thesis to continue testing the relevant hypotheses for the research question.

Concentration of expertise

Originally London functions as the European financial hub that serves between international finance and the EU. For example, out of the US investment banks European operations, 90% was located in London (Van Kerckhoven, 2021). An important setback for London, operating as the nexus between international finance and the EU is the loss of passporting rights. The loss of passporting rights directly influences the concentration of financial services companies. Passporting enables a financial firm to get authorization to operate by the regulatory body of an EU Member State to apply for a passport to operate in the European Economic Area (EEA) (Heneghan & Hall, 2020). This further enhanced London's attractiveness as a destination for financial services provider (Heneghan & Hall, 2020). The concentration of expertise in London is reviewed through its financial market and employment in the financial sector. London possesses financial, legal and accounting expertise to facilitate banking activities. Where operations tend to be large, cross-border and high-profile (Massoudi, 2015). London is argued as the fulcrum for internationally oriented financial firms in Europe (Howarth & Quaglia, 2018). The significant attractiveness for international finance can be recognized by more than the presence of asset management firms, investment banks and brokerages. In compliance with the UK's regulatory framework, London locates a well-organized infrastructure of analysis, accounting and law firms specialized in financial services. Combined with a historically received significant protection from the UK government (Van Kerckhoven, 2021). They create the stability within London's financial infrastructure which minimized possible repercussions for London after Brexit (Howarth & Quaglia, 2018). These firms essentially assist London's expertise, by maintaining and enhancing its attractiveness for international finance and Euro-denominated financial transactions (Van Kerckhoven, 2021).

Historically, the availability of skilled personnel was evaluated as the most important factor distinguishing London over other Financial Centers in Europe by individuals engaged in the financial industry (Yeandle, Mainelli, & Berendt, 2005). Complemented by the cosmopolitan status, derived from hosting foreign financial services companies, of London's Financial Center (E.g., US banking) (2005). More recent research by the City of London Corporation shows that the UK has a high financial services concentration, whereas London possesses a strong and distinctive concentration of financial services firms and jobs, concentrating 78% of the UK financial services industry (Davison, 2017). Jobs have not always kept pace with the growth of the City. The employment of the largest foreign financial services companies is expected to be at risk from Brexit, partly due to the loss of passporting rights (Times, 2020).

In-depth research in the employment in the financial industry in the UK shows a decrease in total jobs in the financial industry from 1.11 million to 1.10 million jobs between 2014 and 2020 (Statista, 2020). However, the decrease from 1.11 million jobs in the financial industry to 1.10 million jobs in 2017 does not show a significant decrease in employment rates since the Brexit decision in the UK. For London's financial center, in 2014, 345,000 employees were working in the financial services sector (Statista, 2015), this number has increased to 363,000 in 2017 (Hill, 2017) and 402,000 in 2020 according to the UK Parliament (2021). More important is the official denial of market access to the EU single market on 1st of January 2021 (Council, 24 December 2020), which could cause more negative changes in the UK financial market employment. Recent studies show that after the 1st of January 2021 some 7,400 jobs have been relocated in new financial centers in the EU (Jones, 2021). Data on sector-specific relocations is still very limited readily available due to its recency. These still are small-scale relocations in relation to the total number of 1.1 million jobs in the financial industry in the UK. The impact of Brexit has not (yet) had serious consequences for the employment in UK's financial industry. London, in specific, had to deal with most of the relocations. Since the concentration in London is so immense, the impact of these relocations has not been significant so far. Instead of significant relocations in jobs, assets are shifted towards the EU instead since the 1st of January 2021. Since no equivalence regime was established, and the UK lost their access to the EU single market, €6.5 billion of deals shifted to the EU, which was about half of the amount of business normally handled by London banks and brokers (Stafford, 2021).

In the aftermath of Brexit, Amsterdam seems to be the benefiter of London in the realm of share trading. Since January 2021 Amsterdam is the biggest share trading center (Jones, 2021). The trading volume in Amsterdam has quadrupled within one month in January 2021 because of Brexit, while London's trading volume is less after Brexit. This significant change in Amsterdam is mainly visible in equity and stock trading (Vervuurt, 2021). In this sector, an average of €9.2 billion shares were traded a day on Euronext Amsterdam in January, which is four times more than in December (Stafford, 2021). The total shares traded a day surpassed London's €8.6 billion shares a day, a huge decrease for London. Table 1 below graphically shows the increases and decreases in Amsterdam and London stock exchanges between December 2020 and January 2021. The end of the equivalence regime and the official end of passporting rights on January 1st 2021 is the most significant cause for these differences.

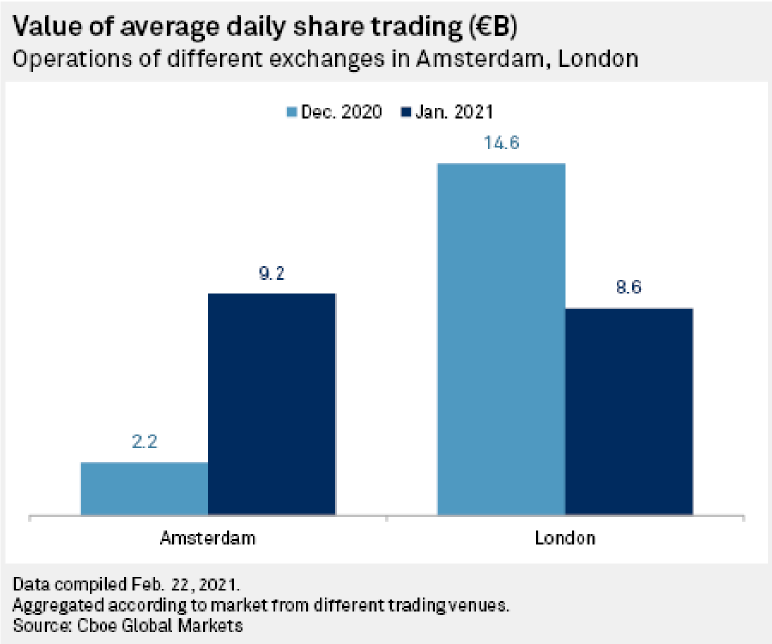

Table 1: Source; (Rees & Taqi, 2021).

Since EU shares traded in euros must be traded on EU exchanges, several operators have relocated. According to the Dutch Institute of International relations Clingendael, in August 2019, 98 financial firms have confirmed to opt for Amsterdam after Brexit (Korteweg, 2019). Up until April 2021, 48 of these financial firms confirmed their relocations (DutchNews, 2021). These financial firms consist of three groups, stock exchange and traders, fintech companies and traditional banking companies. Nevertheless, these potential movements do not directly include large transfers of staff, but mostly relocating a legal entity or headquarters for a production line (Korteweg, 2019). For example, the exchange operators Chicago Board Options Exchange (CBOE) and Turquoise have chosen the Netherlands as their venue for EU share trading (McCarthy, 2021). CBOE chose Amsterdam over rivals because of the substantive growth for the industry there. Next to that, the wide use of English in Amsterdam and the Dutch friendly regulation towards global investors were convincing criteria (Wilkes, 2021). Amsterdam is clearly experienced in the field of international finance, as discussed in the following sections, Amsterdam is offering both a clear international financial infrastructure as well as regulatory advantages. Especially US banks seem to profit from these regulatory advantages after Brexit whereas London strives to compete with other Asian and US financial centers as Dubai, Hong Kong and New York. Nevertheless, this does not mean Amsterdam's financial center will surpass London's financial center.

The concentration of expertise in Amsterdam's financial center lies within its stock exchange. Amsterdam's stock exchange is one of the oldest in the world. The exchange is in possession of Euronext, similar as in Paris and Brussels, which was founded to become the biggest European financial market. Next to that, the Netherland has a high adoption rate for tech innovation within finance. Digitalization within financial services is growing in Amsterdam showing a fintech revolution. Proof of this lies within the opening of operations by foreign fintech companies in Amsterdam. Azimo, Lemonade, Plaid and Inshur are examples of the list of fintech companies setting up in the Netherlands (Holland, 2020). Next to that, their international focus tends to make its financial center an attractive environment. Besides market volume Amsterdam's financial center locates about 200,000 jobs. Besides the jobs associated with the headquarters of the major Dutch banks ABN AMRO and ING, Amsterdam is home to more than 50 offices of foreign banks in 2021 (Cox, 2021). Within their expertise in international finance and their stock exchange market, Amsterdam shows similarities with London. This could pose opportunities for Amsterdam after Brexit as well as difficulties due to the presence of an advanced competitor in the UK.

Paris' current role as financial center can be described by its total market volume and employment rates in the financial sector. Paris is the biggest financial center in labor force in the EU since the UK left. It offers employment to 330,000 people and is the largest financial workforce in the EU (Lavery, 2018). Furthermore, it offers the second largest asset management in the world with $1,693 billion in assets (Lavery, 2018). Within the EU, Paris is ahead of other financial centers in workforce, compared with the countries' total workforce in finance of 130,000 workers in Frankfurt (Lavery, 2018) and 200,000 in Amsterdam. In terms of jobs Paris is ought to be the biggest beneficiary according to study by Reuters (2021). Until May 2021, Paris has attracted the most jobs out of London to EU level. According to the Guardian, 2.500 jobs have gone to France in January 2021 (Guardian, 2021). Those jobs have especially been acquired within Paris' expertise, sophisticated investment banking and euro clearing (Howarth & Quaglia, 2018). A more detailed overview of these differentiations can be found in the following section.

Generally, London has been and still is on top regarding employment and expertise within the Financial center compared to Amsterdam and Paris. London employs 402,000 people within their financial industry, whereas Amsterdam has 200,000 jobs and Paris 330,000. London's expertise in financial services is wide, but their main task has been to act as the nexus between international finance and the EU. Amsterdam's expertise lies within stock exchange, possessing one of the oldest stock markets in the world. Whereas Paris its expertise is within banking. Within stock trading, Amsterdam is proven most successful. As mentioned before, they achieved a daily turnover of €9.2 billion per day. Surpassing London's €9.6 billion and staying ahead of Paris €6 billion of turnover a day. Nevertheless, the employment did not witness lots of relocation in the stock trading industry since most of the operation take place digitally. Hence the total amount of jobs that will be won by Amsterdam will be limited to a couple of hundreds (Stil, 2021). Compared to Paris, Amsterdam's expertise sector of stock exchange gained a relative low number of jobs. Paris' banking industry gained 2,500 jobs in the beginning of 2021 (Guardian, 2021).

An important observation in this comparison is the ability to operate in these financial sectors. Since stock trading takes place mostly online, shifting operations will hardly affect transaction costs for financial firms. This means that for firms located in the UK it does not require a lot of staff to relocate to new EU businesses. For the banking industry, this is less relevant. Within the location of operation of banking, the financial infrastructure and expertise present is very important. The banking industry is rather driven by physical operations instead of digital operations. Paris and the French government have, for now, shown that their financial infrastructure can cope with relocating financial firms to their center by offering a good structure to operate. Besides the concentration of expertise in Paris, the institutions for financial regulation and supervision and their regulatory framework are important criteria to observe to explain the relocations to Paris. The financial infrastructure and regulations within Paris as well as Amsterdam and London will be analyzed in the following sections.

Regulatory framework

Regulatory stability is considered as highlight in creating the emerging competition between European financial centers by Lavery (2018). Lavery argues that Brexit is a process of political instability. Which causes a need for stability and clarity afterwards. The importance of the Regulatory Environment ranked as the second most important factor within competition between international financial centers (Yeandle, Mainelli, & Berendt, 2005). In addition to that, financial services companies assess regulatory stability of national markets as an important criterion (Lavery, 2018).

London's regulatory framework, historically, always has been market-friendly towards the regulation of the financial market (Van Kerckhoven, 2021). Within this market-friendly approach the UK is joined by several other EU member states including the Netherlands (Howarth & Quaglia, 2018). To illustrate this, the Financial Services Authority (FSA) in the UK is based on 11 principles to express obligations. Within the FSA, all other guidance stem from these principles (Black, Hopper, & Band, 2007). This approach stood in contrast with the preference for a stronger rule-based approach by other member states. This market-shaping coalition included France. Since Brexit, the UK financial regulator is not burdened by EU regulatory requirements anymore. This offers them the possibility to purse for more deregulation to try to attract EU business to the city of London (Van Kerckhoven, 2021). These adaptations could increase transaction costs in the realm of regulations for financial services companies in EU financial centers. The UK started their Future Regulatory Framework (FRF) proposal in June 2019. This regulatory framework will be established to make the most out of the opportunities followed by the UK's withdrawal from the EU (Treasury, 2020). Its focus will be on the internationally competitive UK' financial services sector. Within this focus, the goal is to create an open business environment which continues to attract financial businesses from around the world (Treasury, 2020). The FRF will adapt to the strengths of the Financial Services Markets Act (FSMA). Build on the pillars of the FSMA, with a stable and innovative industry, the FRF aims to minimalize disruption for the financial services industry after Brexit (Treasury, 2020). A final package of proposals will be provided in 2021. We can see the shift in the UK regulatory framework to maintain regulatory stability. As argued by Lavery, financial services companies assess this as an important criterion. Hence, this UK approach could offer benefits for financial services companies. This is visible by London's effort to diverge from EU rules to make its financial center more attractive. Although lots of assets are moving to the EU, the people managing the money have largely stayed in the UK (Rosca & Treeck, 2021). This is also visible in the employment trends as discussed in the previous chapter. Achieving this stability and eventual future growth is due to the regulatory flexibility obtained by the UK after Brexit (Rosca & Treeck, 2021). Legal changes in EU27 countries can take years, whereas the UK will be able to change rules quickly to adapt to new risks or exploit opportunities. According to Rahman, managing director for Europe at Eurasia political risk consultancy, the UK government is not really interested in establishing an equivalence regime for financial services. They believe that the UK's financial services sector will enhance and be more effective once it is regulated by the Treasury and Bank of England instead of Brussels (Stafford, 2021).

In contrast to the UK government, US banks were vocal opponents of (a hard) Brexit (Howarth & Quaglia, 2018). US banks were less restrained to voice their opinion on Brexit compared to UK banks. Hence US banks lobbied individually of the UK for an equivalence for international financial services. Announcing plans to relocate offices to Frankfurt, although not significant, were addressed to the UK government (Howarth & Quaglia, 2018). In the field of Stock Exchange and clearing, there was a clear preference to avoid restrictions in the context of Brexit. Within these restrictions, the EU member states incentives to abolish a free trade agreement was the most restricting. Eventual presence of restrictions would mean a clear incentive for clearing businesses to relocate outside London (Burton, 2017). To prevent this, the lobby group International Regulatory Strategy Group (IRSG), including US financial firms, proposed a free trade agreement between the EU and the UK including financial services (Multinationales, 2019). This lobby attempt coming from London was mainly aimed at convincing Westminster and Brussels' politicians and officials to change their plans (2019). The plan of the politicians and officials consisted of no special deal for financial services within an EU-UK trade agreement. Head of Brexit negotiation of the European Commission Michel Barnier stressed out that financial services will not be awarded a cherry-picking favor (Barnier, 2017). Eventually this proposal was markedly warmer in the UK than in the EU and EU politicians and officials had made their oppositions towards it clear (2019).

Historically the French government provided a stronger rule-based market shaping approach as financial regulation (Howarth & Quaglia, 2018). French government tend to favor their industrial sector over the financial sector. Hence Paris incorporated tighter financial regulation to ensure that the financial sector serves the industrial sector. This tight financial regulation, imposing higher costs of trade in financial products, made financial companies divert their financial activities through London (Lysandrou, Nesvetailova, & Palan, 2017). European financial institutions were for example induced in France by higher corporate taxes, more details on the French tax system will be provided in the next chapter. The question that arises, is whether new regulatory issues in UK and adaptations in Paris might lead to an increase in Paris's position as financial center. This argument can be drawn based on French trade associations officials discussing the importance of maintaining regulatory stability and avoiding regulatory fragmentation after Brexit (Lavery, 2018). The French "new" prioritization of the financial services industry can partly be explained by the election of the pro-finance President Emmanuel Macron. The new French government reformed regulations for international finance in Paris by minimizing regulatory burdens by continuing in a more liberal market approach, lowering corporate taxes, reforming wealth tax, optimizing payroll tax and reducing financial transaction tax (Howarth & Quaglia, 2018). Reducing corporate taxes from 33.3% to 25% emphasizes the need for these reforms to overcome Paris' main weakness in liberalization in financial regulation (Van Kerckhoven, 2021). This liberal shift by French government is reducing the historical contrast between French and the UK in economic regulations. The efforts of both national and local actors in these regulatory reforms have been complemented by Paris EUROPLACE. This financial lobby organization has strong personal links with private financial firms and government (Lavery, 2018). Hence adaptation went smoother by a well-established relationship between stakeholders.

However, the UK's plan for a Future Regulatory Framework will aim to increase this contrast between regulation in the UK and Paris. Furthermore, the UK is less limited in their adaptations which enables them to provide more beneficial regulations for the financial industry. Nevertheless, it is questioned whether the UK will be able to adapt their regulations in a beneficial way to attract or remain financial services. French government, led by President Emmanuel Macron has offered London-based financial firms a wide range of inducements if they relocate. The jobs shifted from London to Paris in early 2021, especially in the banking industry, are clearly a result of the streamlining of France's burdensome bureaucracy. By reducing transaction costs in corporate and income taxes, regulation and supervision the French government is able to lure businesses to Paris (Beard, 2021).

An important event in this process is the relocation of the European Banking Authority from London towards Paris in November 2017 (Lavery, 2018). Although the location of an EU regulatory agency should not benefit the host center, this relocation can provide unintended consequences. Since financial services require a sort of "ecosystem" to operate in, presence of EU regulatory agencies contribute to that. Furthermore, it emphasizes the ability of French government to facilitate the transfer of banking authorities (Lavery, 2018). The presence of EU regulatory agencies contributes to the development of regulatory stability and can hence prioritize Paris over London after the relocation. Especially within banking, physical operations is prioritized, hence the presence of a regulatory authority could improve successful interaction and reduce transaction costs. Since banking is Paris main expertise, hosting the EBA is an important privilege. Regulatory authorities seek to plan regulations and reach out to financial businesses during this process, this raises the incentive for these businesses to set up offices. Eventually this leads to an enhanced concentration of expertise in banking, successful interaction and a good financial infrastructure which has a beneficial influence on transaction costs in Paris.

Amsterdam as a financial center, as well as the Dutch government, claim their regulatory framework is more market-friendly than other European Jurisdictions (Stafford, Khan, & Keohane, 2021). An example is the denial by the Dutch regulator for a short selling ban, applied by other EU member states in the commotion due to the COVID-19 pandemic in March 2020, designed to prevent investors to benefit from the falling share prices (2021). The Dutch government characterize their financial sector by modern legislation, a stable business climate and professional and internationally oriented (Government of the Netherlands, 2020). The Dutch regulatory framework in finance comprises with the Dutch Act on Financial Supervision (AFS). The AFS is mostly based on EU directives and is drafted as principle-based rather than rule-based law (Vervuurt, 2021). This enables financial firms to determine how to interpret compliance, which gives them a relative freedom of self-regulation. An example is the Dutch arm's length principle in corporate income tax.

As mentioned above, the Dutch regulatory framework is based on the AFS, thus on supervision. In this process of supervision, we can distinguish two regulatory authorities that are involved. First, the Dutch Central Bank (DCB), the DCB provides supervision in cooperation with the European Central Bank (ECB). The DCB focuses on prudential supervision, with the aim to ensure the financial soundness of financial undertakings and to maintain stability in the financial sector. The tasks of the DCB are laid down in the AFS (Audit, 2017). Second, the Dutch Authority for the Financial Markets (AFM) is responsible for conduct supervision.

Although the previous section on the concentration in expertise shows sector specific increases in employment and market volume in the Amsterdam's financial sector, Brexit causes other regulatory consequences. Dutch financial institutions lost their authorization in passporting rights to execute financial services in the UK and vice versa. Nevertheless, the Dutch government is aiming to attract international financial firms to increase its market volume. It has spread the Dutch Ministry of Economic Affairs has lobbied to attract financial trading firms to relocate in Amsterdam. To achieve that, managers of relocating companies would be free of charge for appointments with regulators (Vervuurt, 2021). Furthermore, the AFM provides practical guidance for investment firms and managers within funding to assess and improve their compliance function. Combined with an additional focus on supervision the Netherlands added a layer of integrity which is in compliance with the need for regulatory stability of financial firms (Hedgeweek, 2021). This ministry's behavior is in line with CBOE observations on the Dutch regulation being friendly to global investors (Wilkes, 2021). This regulative advancement of the Netherland will be exploited by the Dutch government to attract more international financial firms. The Netherlands and the UK can be somewhat compared to each other in financial regulation. They both have an elaborate assessment process which involves several administrative assessments and interviews for financial institutions. These controlling functions are less present in other European countries. These elaborate assessments presume a more principle-based approach within the UK and The Netherlands. Although this causes stricter assessments, it results in highly qualified staff and professional environments. The similarity within the regulatory assessment increases the international competitiveness between both countries. The Netherlands usually tends to build their regulation upon EU financial regulations. Since the UK does not have this obligation anymore, the UK will be more flexible in their regulatory framework. Nevertheless, the UK might suffer from its loss of EU rights whereas the Netherlands, as well as France, can profit from this. The total UK's financial services export to the EU, realized through passporting rights in to get access to the EU single market was worth £26 billion, which was 42 % of the total financial services export (Heneghan & Hall, 2020). Until now, the total market volume has not drastically changed but we can observe a change in focus in London to position itself towards US and Asian financial centers to maintain their significant market volume. The Dutch regulatory framework seems to be more attractive than its France counterpart within EU regulatory requirements. This can be seen within France's effort to decrease their regulatory burdens whereas the Dutch Government minimalizes change and aims to maintain regulatory stability. Aiming for regulatory stability is in line with the financial services companies' criterion within operations. In addition, the Dutch regulatory systems seem to aim for minimize risk taking, for instance their remuneration policies as explained in the next chapter contribute to this. Although their limited bonus cap may decrease their attractiveness, they benefit from an increased financial stability (PWC, 2021).

Both the Dutch and UK government aim to maintain a market-friendly regulatory approach established based on principles rather than rule-driven, as can be recognized within the guidance of the UK's Financial Services Authority (FSA) (Chambers and Partners, 2021). An example within this principle-driven structure in The Netherlands is the adaptation of the arm's length principle and the amendments that have recently been adopted. The arm's length principle serves to establish the correct overall amount of profit (Chambers and Partners, 2021). More insight in the relevance for this principal for financial services companies will be given within the tax system in the Netherlands in the following chapter. Within their principal-based approach, The Netherlands and the UK are considered market-friendly regulators which offers an interesting settling environment for international businesses. French government, historically, is less involved within the financial market. Adaptations within French regulation show that the current government is more interested in market involvement. Nevertheless, they have not yet produced such a beneficial financial center in regulation for international financial services as The Netherlands and the UK. This can also be observed after Brexit, the UK is still the world's largest foreign exchange market, locating 12.4% of the global total of international companies (The Global City, 2021). The UK attracts international finance by offering regulatory stability and alignment with EU regulations after Brexit. This especially remains UK-EU financial services within

London. Next to that, the UK can reshape regulatory cooperation by taking out democratically accountable political forums and handing it over to bureaucracies (Multinationales, 2019). This shift, from the UK government to the financial market, is attracting non-EU international financial services as well as EU financial services. The Netherlands attracts international finance by finding a balance between, on the one hand, ending international aggressive taxes by promoting transparency and making rules abuse-proof. On the other hand, not harming the Dutch economy by safeguarding the attractive business and investment climate for international services (Chambers and Partners, 2021).

Since January 2021, the EU gives American clearing houses full equivalence. This allows the US clearing houses to apply for recognition by the European Securities and Markets Authority (ESMA) (Bet, 2021). This allows the US clearing houses to operate in Amsterdam and Paris. Clearing houses operate as mediator between two businesses that are involved in a financial transaction. This grant towards American clearing services is not (yet) granted towards UK clearing services even though UK clearing houses are seeking to get a permanent equivalence decision (Bet, 2021). This permanent equivalence decision has not been granted and for the time being the UK must deal with their loss of access to the EU single market for clearing houses. This decision, in favor of US services, can be seen as a huge disappointment for the UK. As London's Stock Exchange (LSE) and clearing services already discussed this as an incentive to relocate to an EU financial center. Although these relocations are not yet significant, the observation of movement within the Stock Exchange industry cannot be denied. Relocations of financial firms can be discovered in financial sectors where transaction costs do not change a lot (e.g., share trading). Next to that, this industry had more urgence for relocations since operations could not continue for some firms on the UK's financial market. This could also be a sign for the future, where more relocations can become reality once EU financial centers achieve to provide more beneficial regulations for other financial sectors. We can already discover the UK, Dutch and French government trying to suite their regulations to international finance, causing different transaction costs environment. Although the UK is not limited to EU restrictions anymore, they are expected to somewhat maintain their regulations within the EU boundaries. When the UK remain their regulations aligned, or equivalent, to the EU market regulations, they will be granted some access to the EU single market based on the 'third country' deal (Multinationales, 2019).

Tax and remuneration

Within transaction costs, financial companies assess corporate income taxes and remuneration policies to decide on relocations (PWC, 2021). Brexit created a need for national governments to attract financial firms by making certain transaction costs features more beneficial, notably tax policies (Howarth & Quaglia, 2018). This would imply that reforms are present within this feature. Corporate taxes are also evaluated as an important criterion to assess international financial center competition (Yeandle, Mainelli, & Berendt, 2005). Within the European Union, all corporate taxes are based on the OECD

Model Convention with respect to Taxes and Income on Capital (OECD, 2010). The United Kingdom possess a relatively low corporate tax of 19% (OECD, Tax Policy, 2019). This 19% corporate tax is one of the reasons for close links with international finance, with the UK seeking least resistance for international companies to expand in London's financial center (Lysandrou, Nesvetailova, & Palan, 2017). Corporate taxes within the financial services industry account for 15% of the UK's total of corporation taxes (James & Quaglia, 2018). The reliance on corporation taxes for the UK government, limits their ability adapt the corporate taxes. The UK's House of Commons argues that even shifts in less significant financial sector would cause a decrease in tax receipts for the UK government (Hutton & Shalchi, 2021). The shift in share trading from London to Amsterdam would therefore also influence the UK's tax income. Next to corporate taxes, the financial sector contributes 12% of income tax towards the UK GDP (James & Quaglia, 2018). If a financial firm is not based in the UK, but has a branch located in the UK, it only pays corporation tax on the profits made by its UK operations (UK Government, 2021). The UK government also provides a supplementary tax for the banking sector. This supplementary tax is 8% on profits that excess 25 million (PWC, 2021). The current corporate tax in the UK will be adapted soon. Due to the COVID-19 pandemic, the UK needs to restore their public finances. To achieve that, the British Finance Minister Rishi Sunak has announced that the UK corporate income tax will increase to 25% as of April 2023 (Smith, 2021). This increase will account to all companies with profits exceeding £250.000. Since the financial industry consists of huge profits and operations, this will affect their businesses a lot and affect their transaction costs of being in the UK. Currently the UK government is reviewing the combination between the increased corporate tax of 25% with supplementary 8% tax rate to ensure competitiveness of the UK's banking sector. This will be followed by legislation in the 2022 Finance Bill (Whitehead & Couch, 2021).

The structure in reforms in the UK is more advanced than in France as it aims to separate banking activities (E.g., wholesale banking, retail banking activities and proprietary trading). France enacted law no.2013-672 in July 2013 on the 'Separation and Regulation of Banking activities' (PWC, 2021). This separates proprietary activities of banks to get more insight in banking activities and improve administrative procedures including taxes. Corporate income taxes in France have changed since 2018. The corporate tax had been 33.3% since 2010, in 2018 this became 33% and in 2019 31%. French government continued this decrease in corporate tax in 2020 to a general tax of 28%, except for a 31% tax for profits excessing €500.000. As of 1st of January 2021 the 28% tax decreased to 26.5% and the 31% decreased to 27.5%. French government announced that as of January 2022 all corporate taxes will be 25%. The reforms within corporation tax have been accelerated after the election of the pro-finance President Macron (Lavery, 2018). The reforms are clearly within the realm of the battle for financial services in the aftermath of Brexit as explained by Howarth & Quaglia (2018), aiming to lure business to their financial centers by increasing its attractiveness. Tax rates for branch profits are the same as on corporate profits. Similar as in The Netherlands, a French subsidiary can be included in a tax group to acquire tax deduction. Whereas in The Netherlands 91% of the share capital of the foreign company must be held by the Dutch company that is the head of the tax group, this percentage is 95% in France. Furthermore, the foreign company must be located within the EU (PWC, 2021).

In the Netherlands there is a corporate income tax of 19% if the taxable amount is less than €200.000, if the taxable is €200.000 or higher, the tax rate is 25% (Government of the Netherlands, 2021). A step-up rate is used for corporate taxpayers over the first €245.000 of the taxable amount, which starts at 15% and ends at 25% (Chambers and Partners, 2021). Corporate taxes in The Netherlands seem higher than the UK counterpart but the Dutch tax system offers reduction possibilities. There is a special tax regulation for tax groups with subsidiary companies. In principle, every company pays its own corporate tax. However, when a tax group is established, which can be done when a parent company forms a group with one or more of its subsidiaries, the Tax Administration in the Netherland will treat these companies as one taxpayer. There are some restraints to this, the tax group must have the same financial year, apply the same accounting policies and has to be established in the Netherlands. The benefit of such a tax group is that a loss by one company can be deducted from the profits earned by another company in the same tax group (Government of the Netherlands, 2021). Within Dutch corporate income tax purposes banks and insurers are limited in debt financing and are under legislation proposed to have a minimum level of equity capital in place of 9% to stay out of scope of the interest deduction limitation rule (Chambers and Partners, 2021). This is a relevant criterion for subsidiaries that are part of a tax group aiming to reduce their taxes. An additional Dutch notification to corporate income tax as reflected to in Article 7 of the Multilateral Instrument is the arm's length principle. This principle applies to corporate income tax purposes involved in international related-party transactions. It entails that if a transaction is not based on the arm's length principle, a resulting downward of the taxable income will only be applied to the level a corresponding upward adjustment is included in the taxable income of the counterparty (Ernst & Young, 2021).

Since the EU financial crisis of 2008 reforms have been implemented by the EU commission. Before the crisis, the issue of remuneration in the financial sector used to be very loosely regulated on EU level (Lu, 2016). Nowadays, within bonus caps, EU member states are subject to the EU Capital Requirement Regulation (CRR) and the provisions of the Capital Requirements Direct IV (CRD IV). The CRD consists of four dimensions. First, enhancing the internal governance mechanisms of remuneration (E.g., independent remuneration committees). Second, improving the disclosure requirements on remuneration. Third, the level of remuneration should be reformed to an appropriate level. Fourth, the assessment of remuneration and performance should always be in line with an appropriate risk management and need to serve interest of the firm (Lu, 2016). The EU Capital Requirements Direct IV is also been transposed into French law, called the Ordinance. The principles developed by the EU are directly applicable in France (PWC, 2017). The key regulatory rules that stem from French remuneration policies consists of three main features. First, article L. 511-71 of the French Code requires that firm's remuneration policies should always be in line with the strategy, objectives, values and long-term interest of the firm (PWC, 2017). Second, Article L. 511-72 obligates financial firms to include an independent group of non-executive directors to decide on remunerations. This is required to adopt and review the general principles of a bank's renumeration policies on regular basis (PWC, 2017). Hence, an internal control mechanism is established to exercise supervision and control. Third, Article 511-73 implements a "say on pay" mechanism by consulting shareholders of the firm on an annual basis concerning the global remuneration (PWC, 2017). Within these rules, French government adopts no fixed remuneration. Generally, bonusses in income must be explainable to be valid under French and EU law.

Clearly, the Dutch remuneration policies are also subject to the CRR and CRD IV. However, the Dutch remuneration policies are stricter than counterparts in the EU. Instead of France, the Netherlands have capped bonusses at a maximum of 20% of the fixed salary. The Dutch bonus cap is significantly stricter than the 100% bonus cap on fixed salary as set in the CRD IV. The remuneration policy applies to all subsidiaries and branches of a Dutch financial institution, as well as abroad branches and subsidiaries of Dutch financial institutions (PWC, 2017). Branches that are in the Netherlands, with 'mother firms' in another EU member state are not limited by this remuneration restriction. However, branches which do not fall under the CRD IV, must deal with the Dutch bonus cap. This would include UK branches in the Netherlands after 1st of January 2021. One of the main reasons for the Dutch strict remuneration policy is Europe's financial crisis in 2008. Since this crisis, the Netherlands aim to maintain a more market-friendly approach that can deal with a new crisis. An improvement in risk management has been necessary in the aftermath of the crisis and a new remuneration policy has been one of the measures (Ganderson, 2020).

At the moment of implementation of the CRD IV, the UK was still a member state of the EU. Hence, the UK needed to convert these EU provisions into domestic laws. Nevertheless, the UK has always opposed the CRD IV bonus cap (Lu, 2016). The regulation authorities in the UK have denied compliance to the European Banking Authority to cap bonuses at 100% of fixed remuneration or at 200% of fixed remuneration with shareholder approval. This bonus cap will only be applied to large firms in the UK and not to smaller institutions. Within the Future Regulatory Framework of the UK there are no explicit reviews to the tax system mentioned (Treasury, 2020). Hence, we can expect that the UK aims to maintain its remuneration policies to prevent any distortion within its regulatory framework and relation with EU regulations. Although the UK may enjoy freedom in its regulation, adaptations could cause damage to its regulatory framework or financial industry's strength. So, even though Brexit give the UK the ability to opt out of the bonus cap rule of the EU British Treasury John Glen said that there is no appetite to for "revolutionary deregulation" and that scrapping the bonus cap is no immediate concern (Butcher, 2021).

Regarding tax system in the UK, The Netherlands and France we can recognize a tendency of the tax percentages growing towards each other. The UK currently adopts a 19% corporate tax, but this will become 25% in 2023. The Netherlands also has a corporate tax of 25 % and France tax will be decreasing to 25% as well in 2022. Differences can be recognized within remuneration. The Netherlands seems to be limiting financial services the most. Offering bonuses of no more than 20 % of an employee's annual salary. Compared to an EU-wide average remuneration of 100%. In 2018, only 37 people in the Netherlands earned more than 1 million in financial services, compared to 3,614 people in the UK according to the European Banking Authority (Stafford, Khan, & Keohane, 2021). French government, similar as the UK, tend to be less strict regarding bonusses and sticks to the EU provision on remuneration limiting financial firms at 100% of fixed remuneration. Although this could increase financial risk, which is the reason it has not been adopted by The Netherlands, remuneration is a criterion for financial services firms to asses transaction costs. An example is the bonus culture in the financial sector, achieving enormous rewards is and has been the attractiveness of the financial sector (Bell & Van Reenen, 2014). The UK is expected to maintain their remuneration policies and regulations since this offers them some access to the EU market within the 'third country' deal.

Financial infrastructure

The established financial infrastructure of London is one of its features that makes the financial center appealing (Howarth & Quaglia, 2018). Its geographical concentration of infrastructure offers an excellent environment for financial services to settle. Globally, the UK is the largest financial services exporter. London exploited this feature as number one destination for foreign direct investment projects in Europe. since the start of the 20th century American stock exchanges frequently used London to enter the EU market (Van Kerckhoven, 2021). London is able to provide location to clearing houses that facilitate international financial trade. American stock exchange firms used the passporting rights granted to the UK by the EU to enter the EU single market. Considering one-third of their financial services are exported to the EU, London had to deal with a significant decline of 13% within this financial services sector after Brexit. Nevertheless, big UK firms have already restructured their operations by establishing EU licensed entities or making use of an existing EU-based entity (Ali & Hobson, 2021), this allows them to stay in London and still operate in the EU. Next to that, the UK strives to maintain operation for EU firms in London. They adopted their infrastructure by including a Temporary Permissions Regime (Ali & Hobson, 2021). The Temporary Permission Regime offers EU firms the possibility to operate in the UK for a limited time, until they have obtained a UK license.

In contradiction to London, EU financial centers including Amsterdam are rather inflexible towards equivalence or permission regimes. Lucie Holloway, head of financial communications at the London Stock Exchange Group expects London to become more flexible and liberal after Brexit in listing rules to make London attractive for an IPO. Amsterdam's infrastructure shows similarities with London, with expertise in stock exchange, principle-based regulation and a market-friendly approach. Amsterdam's financial infrastructure is well aligned with some important institutions. Their stock exchange market is in possession of Euronext since 2000. Euronext is overarching Amsterdam, Paris and Brussels stock market and has its headquarters in Amsterdam. Within their stock market, Amsterdam has become popular in bringing new companies to the stock market. The open financial market infrastructure with deep knowledge in derivatives and equity enables them to be a popular venue that could benefit from London's position. Next to that, Amsterdam's financial infrastructure is considered as very supportive and open (Rees & Taqi, 2021). Their well-functioning stock exchange seems to benefit from the Dutch effort to enhance supervisory procedure by acquiring more market volume. Amsterdam has currently acquired an expertise in SPACs, through which US firms can raise a lot of capital (Rees & Taqi, 2021). Nevertheless, the acts in favor of financial services are not meant for the stock exchange only. The Dutch government aims to provide an increased political stability with a diversified support eco-system (Hedgeweek, 2021). Within this eco-system, Euro denominated debt and swaps deals are also present. These operations moved to Amsterdam after the stock exchange market volume partly shifted to ensure a legally compliant home (Stafford, 2021).

Paris, similar as Amsterdam, have their stock exchange market in possession of Euronext. The presence of regulatory authorities in finance is also visible in Paris, hosting location to two supervisory European organization for financial services. First the European Securities and Markets Authority (ESMA) is in Paris. The ESMA is established 2010 as reaction to the financial crisis as one of the three European supervisory authorities for the European financial system. The second European supervisory authority located in Paris is the European Banking Authority (EBA). The EBA is responsible for supervision within EU's banking sector. The EBA has relocated from London to Paris after the UK's decision to leave the EU. According to the former Vice-President of the European Central Bank Christian Noyer the French government's bid to host the EBA is guided by their belief in Paris as best place for finance, with a ready supply of resources and talent (French Government, 2017). In contrast to Amsterdam, in the aftermath of Brexit, Paris reforms in finance are in banking regulation and supervision and has mainly been instrumental (French Government, 2017). The effort of the French government to host the EBA is in line with their reforms in banking and establishing the financial center in Europe in banking. Nevertheless, financial operators in Paris emphasized the importance of maintaining regulatory stability in the entire financial industry (Lavery, 2018). This focus on stability is argued to be the reason Paris can attract larger institutions, especially in their expertise, banking. Strengthening the relationship with the EU authorities ESMA and EBA located in Paris is important to create this stable infrastructure and set up the EU financial center for banking.

Hypotheses 1

H1: Push factors within transaction costs determine the timing of movement of financial services.

Hypothesis 1 can be confirmed to a certain extent. Theory as well as recent articles on businesses relocations provide examples in favor of the hypothesis. However, these examples are limited. One would expect a lot of movement after the loss of passporting rights for UK firms to the EU market on the 1st of January 2021, which was a clear push factor for financial services. This expectation of movement is not represented in the entire financial sector, but nevertheless visible in stock exchange, where passporting rights were especially needed to provide euro denominated clearing. A shift can be recognized when comparing the market volume between December 2020 and January 2021 in the stock exchange markets in London and Amsterdam for example. UK firms need to establish a licensed entity in the EU or use an existing EU-based entity to continue their financial operations. This explains a part of the shift in jobs and assets in this field from London to Amsterdam for instance. However, EU member states must implement regulatory exemptions to host UK-based firms first. This could imply that we can expect more movement in this field once EU financial centers adopt their regulation to the needs of UK-based firms. For now, big UK banks and brokers have planned these relocations, but once the infrastructure in the EU is aligned with the needs for smaller UK firms, we could expect significant relocations. Nevertheless, these relocations will consist of establishing an entity or using an existing EU-based entity, this implies that only parts of a firm will relocate. To what extent UK firms will exploit these relocations is not yet clear, however future movements can guide better predictions for the future and the role for push factors in this process.

Hypotheses 2

H2: Financial firms are focused on achieving lowest possible financial costs, combined with the best possibilities to operate within a given location

This hypothesis can be falsified to a certain extent. The bottleneck within this hypothesis is the theory and articles providing proof for the behavior of financial firms towards being able to operate. Since Brexit is still recent, and its main regulatory decisions for the financial sector have been made this year, financial firms try to restructure their operations in line with a need for financial stability. When relocations take place, firms follow the trend by relocating to a financial center they are familiar with. For instance, the relocation of the exchange company Turquoise to Amsterdam was based on previous settlements. There is no evidence for firms trying to achieve the lowest possible financial costs combined with the best possibilities to operate. Financial firms rather aim to continue their operations without many changes, this often requires some partial relocations to the EU single market, by establishing an EU entity (Ali & Hobson, 2021). Passporting rights were for instance needed to operate, this right was denied in January 2021. Once this right was lost, financial firms rather restructured their operations to be able to continue their operations instead of exploiting a new financial center with more beneficial transaction costs. Overall, the relocation within new licensed EU-entities, do not provide evidence for an aim to achieve lowest possible financial costs by financial firms essentially based in the United Kingdom. Again, the future might proof otherwise, when final regulations on financial services trade between the UK and the EU are established, firms might choose to relocate to more beneficial environments.

Hypotheses 3

H3: Advantages in the financial expertise, regulations, tax and financial infrastructure will cause relocations to the most beneficial financial center.

Hypothesis 3 can be confirmed to a certain extent. London is characterized by the factors in the hypothesis, once Amsterdam and Paris show more beneficial circumstances within the given factors, we could expect relocations based on this hypothesis. The movement that can be recognized to Amsterdam and Paris fit within the hypothesis. Amsterdam provides a good financial infrastructure in stock exchange, hence can attract these businesses from London. These relocations are due the loss of passporting rights for UK based firms in share trading, by an adaptation in regulation they need to partly relocate their operations. To emphasize this, in March 2021, the traded shares volume in Amsterdam and London have evened up again since some share trading firms already moved back to London (Stafford, 2021). These shifts in short time spans emphasize the search for regulatory benefits within their operations. Nevertheless, we cannot discover a very significant event of relocations within this change in regulation. We can rather discover a trend towards financial regulatory stability within the financial centers of London, Amsterdam and Paris. Paris and the French Government seek to increase their attractiveness for financial firms by adapting their regulations and taxes. However, reducing corporate taxes and creating stability within their regulation does not enable Paris to overcome the well-established infrastructure in the city of London. Nevertheless, their expertise in banking in comparison with a pro-finance government enables them to attract banking from London.

Conclusion

At the point of writing, some observations can be made. Nevertheless, real trends can be discovered once there is more readable evidence on the establishment of offices in EU financial centers by UK financial firms. To this point, the focus of UK financial firms has been to restructure their processes to remain operations and minimalize change. Once EU financial centers enhance their environments by enabling UK firms to set up licensed entities, we could see an increase in pull-factors in transaction costs that might cause more relocations. However, until now, relocations have not shown significant evidence towards a relationship with transaction costs. As recent articles emphasized there has not been a huge impact on employment, but a hole in the story of London have been created that cannot be replaced (Stafford, 2021) There is some proof in favor of the relationship posed in the Research Question of this thesis. This can be discovered within the market volume changes in the London and Amsterdam stock markets and the 2,500 jobs that Paris gained out of London in the start of 2021 after regulatory boundaries came up. Both these trends are discovered by analyzing the attractiveness of Paris and Amsterdam in specific transaction costs as posed as sub question in the introduction.

The United Kingdom and the City of London must play their cards right to prevent a loss of market volume in the future. Ideally, discussions between the UK and the EU would propose a trade agreement for financial services. This would minimalize financial market disruption in the UK for the future and hence London would be able to maintain its position as financial market leader. A trade agreement could enhance financial stability in both the UK and EU financial centers. Since this stability is an important criterion for financial firms (Lavery, 2018), such an agreement could diminish the expected relocations among financial firms in the aftermath of Brexit. If such a trade agreement cannot be achieved, the UK must re-establish their attractive values for financial services in order to maintain their expertise and minimize the disruption Brexit has cause for the future. In line with the question posed in the introduction, the effort of the UK government to achieve a trade agreement would be there best option to beneficially influence transaction costs for financial firms.

Limitations within this research come with the conclusions that are drawn on a combination of current occurrences and observations. Future intergovernmental relationships might cause different outcomes for Brexit but at the time of writing the mentioned expectations are in line with current scientific evidence, relocations and policies.

References

Ali, A., & Hobson, C. (2021, March 2). *Offsetting the Loss of Passporting Rights in Financial Services Regulation.* Retrieved from Skadden: https://www.skadden.com/insights/publications/2021/02/insights-special-edition-brexit/offsetting-the-loss-of-passporting-rights

Audit, T. N. (2017, November). Banking supervision in the Netherlands. *DNB's prudential supervision of medium-sized and small banks in the Netherlands*. The Hague, Netherlands.

Barnier, M. (2017, July 6). *There is no cherry-picking on Brexit.* Retrieved from European Economic and Social Committee: https://www.eesc.europa.eu/en/news-media/press-releases/there-no-cherry-picking-brexit

Beard, S. (2021, January 27). Is London's financial center doomed to decline after Brexit? *Marketplace*.

Bell, B., & Van Reenen, J. (2014, February). Bankers and their bonuses. The Economic Journal.

Bet, M. (2021, February 11). London crushes Amsterdam as City's trading volumes 75 times larger than Dutch capital's. United Kingdom: Express.

Black, J., Hopper, M. J., & Band, C. (2007, May). Making a Success of Principles-Based Regulation. Law and Financial Markets Review.

Burton, L. (2017, May 2). *LSE fires back at EU plot to seize euro-clearing.* Retrieved from The Telegraph: https://www.telegraph.co.uk/authors/l/lu-lz/lucy-burton/page-55/

Butcher, S. (2021, March 11). *UK won't rule out scrapping the banker bonus cap.* Retrieved from efinancialcareers: https://www.efinancialcareers.com/news/2021/03/uk-banker-bonus-cap-brexit

Chambers and Partners. (2021, March 15). *Corporate Tax 2021.* Retrieved from https://practiceguides.chambers.com/practice-guides/corporate-tax-2021/netherlands

Council, E. (24 December 2020). *EU-UK Trade and Cooperation Agreement: protecting European interests, ensuring fair competition, and continued cooperation in areas of mutual interest.* Brussels.

Cox, S. (2021). *Financial sector in Amsterdam.* Retrieved from Iamsterdam: https://www.iamsterdam.com/en/business/key-sectors/financial-and-fintech/finance

Davison, L. (2017, April 13). UK Financial Services – Clustering and Concentration of Firms and Jobs. London, United Kingdom: Economic Development Office.

DutchNews. (2021, April 16). At least 48 London financial firms open offices in Amsterdam post Brexit. *DutchNews*, pp. https://www.dutchnews.nl/news/2021/04/at-least-48-london-financial-firms-open-offices-in-amsterdam-post-brexit/.

Ernst & Young. (2021, March 4). *The Netherlands starts consultation on unilaterally addressing transfer pricing mismatches.* Retrieved from https://www.ey.com/en_gl/tax-alerts/the-netherlands-starts-consultation-on-unilaterally-addressing-transfer-pricing-mismatches

Ernst, & Young. (2020, October 1). *UK news.* Retrieved from Financial Services Brexit trackers: Firms continue moving staff ahead of Brexit Deadline:

https://www.ey.com/en_uk/news/2020/09/ey-financial-services-brexit-tracker-fs-firms-continue-moving-staff-ahead-of-brexit-deadline

French Government. (2017). The European Banking Authority in Paris. *A new beginning in continental Europe's premier financial center*. France: Consilium Europe.

Ganderson, J. (2020, January 17). To change banks or bankers? Systemic political (in)action and post-crisis banking reform in the UK and the Netherlands. *Business and Politics*, pp. 196-223.

Government of the Netherlands. (2020). Enterprise and innovation. *Business climate for the financial sector*. Ministry of Finance.

Government of the Netherlands. (2021). Taxation and businesses. *Corporation tax*. The Netherlands: https://www.government.nl/topics/taxation-and-businesses/corporation-tax.

Guardian. (2021, January 20). Brexit has driven 2,500 finance jobs and €170bn to France, says bank governor. pp. https://www.theguardian.com/politics/2021/jan/20/brexit-has-driven-2500-finance-jobs-and-170bn-to-france-says-bank-governor.

Hedgeweek. (2021, February 8). Amsterdam fund services in focus 2021. *Amsterdam maturing as a financial jurisdiction*. https://www.hedgeweek.com/2021/02/08/295572/amsterdam-maturing-financial-jurisdiction.

Heneghan, M., & Hall, S. (2020, December 16). The emerging geography of European financial centres:. *Fragmentation in the European Union and concentration in the UK?* Nottingham, United Kingdom: University of Nottingham.

Hill, D. (2017, March 14). How many people work in London financial services and what do they do? United Kingdom: OnLondon.

Holland, I. i. (2020, September). Brexit: Learn how the Dutch government provides support to companies affected by the UK leaving the EU. *Finance and Fintech in the Netherlands*. Netherlands.

Howarth, & Quaglia. (2018). Brexit and the battle for financial services. In *Europen Public Policy* (pp. 1118-1136).

Hutton, G., & Shalchi, A. (2021, February 1). Financial services: contribution to the UK economy. United Kingdom: House of Commons.

James, S., & Quaglia, L. (2018, June 14). Brexit, the City and the Contingent Power of Finance. *New Political Economy*, pp. 258-271.

Jones, H. (2021, April 16). City of London Brexit hit worse than expected, says study. *Reuters*, pp. https://www.reuters.com/business/finance/city-london-brexit-hit-worse-than-expected-says-study-2021-04-15/.

Kalaitzake, M. (2020). Brexit for Finance? Structural interdependence as a source of financial politics power within UK-EU withdrawal negotations. In M. Kalaitzake, *Review of international political economy* (pp. 1-26). Informa UK Limited.

Korteweg, R. (2019, September). Going Dutch: Which firms are moving to the Netherlands because of Brexit? The Netherlands: Clingendael.

Lavery, S. (2018). Frankfurt and Paris as European financial centres after Brexit. In *Finance fragmented* (pp. 1502-1520).

Lu, L. (2016). The end of banker's bonus cap. *How will the UK regulate Bankers' remuneration after Brexit*. European Business Law Review.

Lysandrou, P., Nesvetailova, A., & Palan, R. (2017, September 21). The best of both worlds: scale economies and discriminatory policies in London's global financial centre. Economy and Society.

Massoudi, A. (2015, October 2). Finance lawyers look for solutions to the funding puzzle. *Financial Times*, pp. https://www.ft.com/content/0a427448-5ac4-11e5-9846-de406ccb37f2.

McCarthy, D. (2021, February 24). Amsterdam - The new financial capital of Europe. https://www.blenheim.nl/blog/amsterdam-the-new-financial-capital-of-europe: Blenheim.

Multinationales. (2019, June). Brexit, finance sector lobbying and regulatory cooperation. European Network of Corporate Observatories.

OECD. (2010, July 22). Model convention with respect to taxes on income and on capital. Paris: https://www.oecd-ilibrary.org/taxation/model-tax-convention-on-income-and-on-capital-2010_9789264175181-en.

OECD. (2019). Tax Policy. *Corporate tax statistics database*. https://www.oecd.org/ctp/tax-policy/tax-database/.

Pennesi, F. (2020, March). The EU equivalence regime in financial services. *an efective instrument to preserve financial stabilioty after Brexit?* Rotterdam: ECMI.

PWC. (2017). *Is regulation and policy in the Netherlands putting local financial institutions at a disadvantage in comparison to peers abroad.* PWC.

PWC. (2021, May 7). France- Corporate taxes. https://taxsummaries.pwc.com/france/corporate/taxes-on-corporate-income: Worldwide tax summaries.

PWC. (2021, January 12). UK - Taxes on corporate income. *Worldwide tax summaries*. https://taxsummaries.pwc.com/united-kingdom/corporate/taxes-on-corporate-income.

Rees, J., & Taqi, M. A. (2021, March 8). Amsterdam exchanges storm ahead after Brexit, but London plots renewal. S&P Global.

Rosca, M., & Treeck, J. (2021, March 25). 3 ways the City of London can beat Brexit — and 1 way it can't. *Despite the loss of some business to the EU, British financial players are optimistic about the future.* Politico.

Shalchi, A., Rhodes, C., & Huttion, G. (2021, February 1). Financial services: contribution to the UK economy. United Kingdom: UK Parliament.

Smith, E. (2021, March 3). UK hikes corporation tax to 25% as pandemic support hits £407 billion. United Kingdom: CNBC.

Stafford, P. (2021, February 10). Amsterdam ousts London as Europe's top share trading hub. *UK's departure from the EU prompts shift in dealing of stocks and derivatives*. London, United Kingdom: Financial Times.

Stafford, P. (2021, June 1). London fights back after Brexit trading win for Amsterdam. *UK rule changes target business also lost to Dublin, Paris, Luxembourg and Frankfurt*. https://www.ft.com/content/fc3486f0-f342-46d4-b0b1-882fe6461644: Financial Times.

Stafford, P., Khan, M., & Keohane, D. (2021, March 11). Amsterdam: Europe's surprise early winner as Brexit shakes up the City. Financial Times.

Statista. (2015, October 16). UK financial sector: financial services employment in London 2007-2015. United Kingdom.

Statista. (2020, January). *UK financial sector: total financial services employment in the UK 2001-2019.* Retrieved from https://www.statista.com/statistics/298370/uk-financial-sector-total-financial-services-employment/

Statista. (2021, January 7). *Financial Services Companies*. Retrieved from Statista: https://www.statista.com/statistics/889484/financial-services-companies-on-lse/#:~:text=As%20of%20November%202020%2C%20there,over%20652%20billion%20British%20pounds.

Stil, H. (2021, February 14). Amsterdam staat weer op de kaart in de financiële wereld. The Netherlands: Het Parool.

The Global City. (2021). Always open and connected across the globe. *Doing business with the world*. United Kingdom: https://www.theglobalcity.uk/global-financial-centre.

Times, F. (2020, December 15). How London grew into a financial powerhouse. *Charting the growth of London's financial centre and what the future holds after Brexit*.

Treasury, H. (2020, October). Financial Services Future Regulatory Framework Review. United Kingdom: UK Government.

UK Government. (2021, March 3). Corporation Tax. United Kingdom: https://www.gov.uk/guidance/corporate-tax.

Vaghela, B. a. (2020, October 1). Banks are moving $1.6 trillion in assets out of the U.K. ahead of Brexit cutoff. *Fortune*.

Van Kerckhoven, S. (2021, January 27). Post-Brexit Leadership in European Finance. Brussels, 59-68, Belgium: Institute for European Studies.

Vervuurt, L. (2021). *Banking Regulation 2021 Netherlands.* Retrieved from Burenlegal: https://www.burenlegal.com/sites/default/files/usercontent/content-files/GLI-BR21_Chapter%2013_Netherlands%20%28003%29_0.pdf

Whitehead, S., & Couch, M. (2021, March 5). Corporation tax rate to increase to 25 percent. *KPMG*, pp. https://home.kpmg/uk/en/home/insights/2021/03/tmd-corporation-tax-rate-to-increase-to-25-percent.html.

Wilkes, T. (2021, February 18). How Amsterdam is stealing a march on rivals as Brexit trading hub. *Reuters*, pp. https://www.reuters.com/article/uk-britain-eu-netherlands-focus-idUSKBN2AI0HO.

Williamson, O. (1993). Industrial and Corporate Change. In Williamson, *Transaction Cost Economics and Organization Theory* (pp. 107-156). University of California.

Yeandle, M., Mainelli, M., & Berendt, A. (2005, November). The Competitive Position of London as a Global Financial Centre. London, United Kingdom: Corporation of London.