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# Brexit: Seizing Opportunities and Limiting Risks in the Finance Sector

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The United Kingdom's planned exit from the European Union –Brexit– raises a number of questions specific to the finance sector, given that over the years London has become the EU's and even the Eurozone's leading financial centre. Depending on the exit agreement reached, London may well lose its "financial passport" –i.e. it may no longer be possible for its finance and insurance sector companies to provide their services in all Union countries without being also duly located, regulated and supervised there. Today, this "passport" is not only of benefit to British banks, but first and foremost to all third-country companies that use the British capital as a bridgehead to Europe.

Brexit's main issue relates to its consequences on the financial stability and fragmentation of the Eurozone, as well as the competition it triggers among continental financial centres to attract financial companies. This *Note* addresses both subjects in turn.

The authors argue that Brexit may lead to regulatory divergence as well as a loss of control of European authorities, particularly prejudicial to the clearing of various derivatives over which London holds a virtual monopoly. They recommend that the equivalence regime be strengthened and better controlled vis-à-vis third countries establishments, and that the reciprocity principle be extended. They also advocate strict implementation of the European Commission's proposals regarding clearing houses, along with an increase in the European Securities and Markets Authority's powers. Finally, they recommend the EU to take an ambitious approach to Capital Markets Union, in particular as regards convergence in the field of bankruptcy law.

As for the ongoing competition between European financial centres, they note that, although Paris is currently neck-and-neck with Frankfurt as far as finance is concerned, the situation is less favorable as regards foreign companies' affiliates, which are distinctly less numerous in Paris. The econometric analysis presented in this *Note* shows that location choices made by foreign affiliates in the finance sector are cumulative and influenced by the size of a region, infrastructures, labour regulation and fiscal instability. The effects of workforce qualification, along with those of taxes and social security contributions, are difficult to identify due to their low variability over time.

Based on these results and on the observation of a number of key variables, the authors recommend –in addition to the measures already announced in July 2017– that the CDG Express project be prioritised, and, in the context of the upcoming pension reform, retirement insurance ceilings be reconsidered.

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With over 350,000 people employed in the finance sector, 37% of the global exchange market, 39% of the world OTC derivatives market, and close to 100% of the euro interest rate swaps market,[1] London is incontestably the EU's and even the Eurozone's leading financial centre. Such specialisation has been progressively built up ever since the UK joined the EU in 1973, despite the country remaining outside the Eurozone. In 1975, finance and insurance accounted for around 5.25% of UK's added value, as against 4.32% in France. In 2015, France was still at 4.48% while the UK stood at 7.25%.[2]

The UK's exit from the EU –Brexit– will have major consequences for the finance sector. Depending on the agreement reached with the EU, it may no longer be possible for the UK to market financial services from London, whether savings and insurance products, asset management, bank loans, or such market services as clearing. Such restrictions will affect British financial firms, and above all American, Japanese and other companies' affiliates based in London, which currently use the English capital as an entry point into the single market. In order to deploy their activities within the European single market, banks will have to obtain authorisations in one or another EU country, carry out "substantial" activities there (management, personnel, risk-control capacity, etc.) and be regulated/supervised by European authorities. As regards market activities, they will normally be subject to a regulatory equivalence regime applying to third countries, unless Europeans decide to insist on relocation of activities regarded as highly "systemic".

This *Note* first of all focuses on the effects Brexit may have on companies' financial stability and financing. It then goes on to highlight Paris' assets and liabilities in its bid to attract various activities that are set to be relocated.

## Brexit increases the need for robust integrated financial markets within the European Union

At present, London is by far Europe's leading financial centre, in particular in the field of derivatives markets and clearing. With the UK leaving the single market, the EU, and above all the Eurozone, may see fragmentation of its financial market and/or a weakening of risk control. British financial actors (investment companies and clearing houses in particular) may well continue to play a key role in euro financing and liquidity while being subject to more flexible regulations outside of the scope of European authorities, even though they represent an inherent systemic risk for the Eurozone.

### The risks of regulatory arbitrage

Since the Larosière Report's recommendations in 2009,[3] the EU has done much to step up regulation and supervision in the field of finance, setting up three regulatory authorities[4] and the European Systemic Risk Board (ESRB), followed by the creation of the Banking Union. Despite such significant progress, regulatory arbitrage is still possible in Europe, in particular for market activities –fields in which regulation and supervision are less integrated.

Regulatory arbitrage, which, as far as financial institutions are concerned, consists of taking advantage of regulatory differences, has been well documented over the course of the last decade. A distinction must be made here between banking activities and financial markets. In the field of banking, affiliates of non-EU groups (third countries) carrying out activities in the EU will have to obtain a banking licence in a member State and locate "substantial" activities there. Such affiliates are regulated and supervised by European authorities, restrictions offset by a "European passport" enabling them to carry out their activities in any EU member State. Nonetheless, the possibility of regulatory leaks still exists for branches of foreign companies and cross border financing, which are not subject to the same regulatory measures.[5] In particular, prudential regulations are not automatically applied: in France, for example, the *Autorité de contrôle prudentiel et de résolution* (ACPR, Prudential Supervision and Resolution Authority) may exempt branches of third-country credit institutions from requirements regarding solvency and major risks, liquidity and leverage under certain "equivalence" conditions specific to the third country.

As regards market activities, the principle of equivalence is the only one that applies.[6] It enables an institution located in a third country to provide its services within the EU provided it

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[1] See Batsaikhan U., R. Kalcik and D. Schoenmaker (2017): "Brexit and the European financial System: Mapping Markets, Players and Jobs", *Bruegel Policy Contribution*, no 4, table 1.

[2] *Cf.* Jäger K. (2017): *EU-KLEMS Growth and Productivity Accounts 2017 Release: Description of Methodology and General Notes*, September.

[3] de Larosière J. (2009): *The High-Level Group on Financial Supervision in the EU*, Report to the President of the European Commission, 25 February.

[4] European Banking Authority (EBA), European Securities Markets Authority (ESMA) and European Insurance and Occupational Pensions Authority (EIOPA).

[5] Reinhardt and Sowerbutts (2015) show that tightening a country's regulatory capital ratio increases credit provided by foreign banks; see Reinhardt and Sowerbutts (2015): "Regulatory Arbitrage in Action: Evidence from Banking Flows and Macroprudential Policy", *Bank of England Staff Working Paper*, no 546. See also Bouvatier V., G. Capelle-Blancard and A-L. Delatte (2017): « Banks in Tax Havens: First Evidence based on Country-by-Country Reporting", *Document de Travail du CEPII*, no 2017-16.

[6] Market activities within the EU are subject to the MIFIR/MIFID (investment companies) and EMIR (OTC derivatives) directive-regulation package, which is currently being revised for application in 2018.

complies with the legislation applicable in its territory and is exclusively overseen by the authorities of its country of origin.[7] Equivalence is therefore assigned at country rather than company level; the list of third countries deemed equivalent in prudential and supervision terms is drawn up by the European Commission. Accordingly, if the Commission grants equivalence to the United Kingdom, British investment companies may provide cross border loans in the EU while remaining subject to British prudential rules.[8] The regulatory arbitrage risk is increased by the fact that investment companies are not always supervised by the same entity as credit institutions.[9]

**Observation 1.** Equivalence regimes granted to third countries, for market and banking activities alike, provide poor coverage of progressive regulatory divergence risks at the detriment of actors located in the EU.

Underscoring the limits of the present equivalence regime as regards third countries, the *Autorité des marchés financiers* (AMF, the French Financial Markets Regulator) suggests that the criteria employed by the European Commission to grant the equivalence regime should be clarified. Once the regime has been granted, monitoring would be carried out by the European Securities and Markets Authority (ESMA),[10] the most likely European entity to guarantee a coherent approach for all member states, as is currently the case for banking. In its communication of 20th September 2017, the European Commission also suggested that ESMA's mandate and independence be extended, this time in order to contribute to the construction of the Capital Markets Union (CMU).[11]

When new regulations are implemented in a country, in accordance with the reciprocity principle, other countries' supervising authorities apply them to their cross border activities with that specific country. The Basel III agreements provide for automatic reciprocity for a certain number of banking regulations, but not all of them. In order to avoid regulatory leaks, automaticity might be extended to all financial regulations, proportionally to the size of concerned activities.

**Recommendation 1.** Strengthen the European Securities and Markets Authority's (ESMA's) governance and prerogatives to enable it to monitor third countries' equivalence regimes. Make reciprocity a condition of regulatory equivalence.

## The systemic role of clearing houses

After the 2008 financial crisis, regulatory authorities wanted trade of derivatives in Europe to be carried out through Central Counterparty Clearing Houses (CCPs). The idea is to reduce counterparty risk by pooling this risk among all participants and making margin calls. If one or more members cannot settle their obligations, the positions are no longer balanced and the CCP must mobilize the margins deposed by the members. If these are not sufficient, the CCP may use the default fund members must contribute to and, finally, its equity. However, by construction, the CCPs are capitalized according to their exposure under normal circumstance, which is small in cases where risks of extreme loss arise.[12] Note also that the amount of equity is fixed by country, under EMIR, which will no longer apply to the United Kingdom. If there is not enough equity, restructuration measures can be considered, and beyond the CCP can declare bankruptcy.

A bankruptcy of a major CCP would be a catastrophic event with a systemic dimension due to:
- Risk of contagion to other clearing members;
- Forced sales of collateral or derivatives contracts exacerbating market volatility;
- Loss of continuity of a service essential to the market's functionning.[13]

Such fear is all the greater due to the extreme concentration of clearing activities, which involve major economies of scale.[14]

[7] The equivalence regime assumes satisfactory concordance between regulation and supervision as well as the existence of cooperation agreements.

[8] For example, the impact of a regulatory increase in the countercyclical capital buffer will be limited by the regulatory "leak" connected with cross border loans and *via* branches. The European Systemic Risk Board coordinates application of macro prudential rules within the EU. However, the problem will still arise vis-à-vis third countries, despite the Basel Committee's coordination efforts (automatic reciprocity rules for certain macro prudential instruments, set by the Basel Committee for major international banks).

[9] See European Commission (2017): *Completing the Banking Union*, 11 October, p. 15. The Commission suggests that large investment companies should be regulated in the same way as credit institutions.

[10] See Autorité des marchés financiers (AMF) (2017): *Priorités de l'AMF dans le cadre de la revue d'EMIR*, Dossier thématique 'Marchés: produits dérivés', May. Available on www.amf-france.org/Reglementation/Dossiers-thematiques/Marches/Produits-derives/Priorit-s-de-l-AMF-dans-le-cadre-de-la-revue-d-EMIR

[11] European Commission (2017): *Reinforcing Integrated Supervision to Strengthen Capital Markets Union and Financial Integration in a Changing Environment*, COM(2017) 542 final, 2 September. See also Schoenmaker D. and N. Véron (2017): *Brexit Should Drive Integration of EU Capital Markets*, Bruegel Blog Post, 24 February.

[12] Duffie D. (2015): "Resolution of Failing Central Counterparties" in *Making Failure Feasible: How Bankruptcy Reform Can End "Too Big to Fail"*, Scott, Jackong and Taylor (eds), Hoover Institution Press, pp. 87-109.

[13] Duffie (2015), *op. cit.*

[14] LCH Clearnet Ltd in London, a subsidiary of the London Stock Exchange, holds an almost total monopoly on clearing euro rate swaps (99% of market share in 2015); Eurex Clearing, a subsidiary of the Deutsche Börse, leads on long-term rate futures contracts and equity indices futures (70% market share). For the last few years, the tendency has been towards less segmentation in various markets, in particular in the field of derivatives, with development of portfolio margining models thanks to which CCPs try to take advantage of correlation and diversification effects among several different products. This mechanism increases market concentration.

At least two thirds of euro operations are cleared in London. Such extraterritorial clearing means that there is a geographical mismatch between the regulator/supervisor and the consequences of an interruption of service, as CCP regulation and supervision is carried out at national level. Nevertheless, CCPs play a key role in euro markets' liquidity, in particular on the REPO market, through which monetary policy impulses are transmitted. Accordingly, a need for euro liquidity would arise in the event of loss of CCP service continuity.

This is why the European Central Bank (ECB) and the Bank of England (BoE) signed a cooperation agreement in March 2015, regarding the management of risks run by London-based CCPs. The agreement provides for increased exchange of information on CCPs carrying out major volumes of euro-denominated transactions, along with a swap agreement enabling the ECB to provide the BoE with euro liquidity in the event of need. However, the United Kingdom's departure from the single market calls this whole structure into question if it no longer undertakes to apply European regulations or submit to the European Court of Justice's decisions. In principle, London will be subject to the same equivalence regime as New York, enabling it to continue its activities conditional to the European Commission's initial agreement. Although this equivalence regime does not necessarily pose a problem for non-systemic activities such as asset management, it does not provide adequate guarantees for systemic activities such as clearing. In the event of a serious crisis that might put not only a CCP's liquidity but also its solvency at risk, it would seem dangerous to rely on a cooperation agreement (Box 1).

**Observation 2.** The simple application of an equivalence regime for the largest clearing houses outside the EU would be problematic given their highly systemic character for the Eurozone with regard to certain clearing activities.

The "super-systemic" character of a number of clearing activities calls for a specific response. In June 2017, the European Commission put forward a dual regulatory proposal: firstly, supervision of EU clearing houses should be reorganised around bodies chaired by ESMA and involve both the ECB and national supervisors (whereas at present CCPs are supervised only at national level); secondly, non-EU CCPs regarded as systemic would be subject to the same prudential rules as CCPs operating within the EU and would be obliged to provide ESMA with all requisite information and authorise onsite inspections. Finally, with regard to such systemic CCPs, and upon ESMA and ECB recommendations, if necessary, the Commission would be able to require relocation of euro activities within the EU.[15]

Although this scheme might appear adequate as far as normal times are concerned, one might well wonder whether the relocation option for "very" systemic CCPs might not be implemented straightaway by the European Commission when Brexit becomes a reality, if the exit agreement does not provide adequate guarantees.

Nonetheless, "forced" relocation of euro clearing into the Eurozone raises the issue of costs arising from the resulting market fragmentation. On a number of segments (interest rate swaps in particular), the same clearing of transactions in different currencies by a single CCP enables economies of scale via "compression" of positions. According to Clarus Financial Technology, total additional margin requirements ensuing from the disaggregation of trades (of the euro component) stands at some 77 billion dollars for LCH alone. This figure may be put into perspective by two factors:

- In the future, deployment of Target 2 Securities (Target2S) in the field of settlement may reduce costs connected to fragmentation; thus, by connecting securities accounts (registered with central depositaries) and cash accounts (at central banks), Target2S enables the consolidation of purchases and sales at various EU financial centres;[16]
- Concentration of clearing activities relying in particular on the "portfolio margining" technique, which consists of exploiting correlations between classes of assets in order to reduce margin calls, is likely to increase systemic risk.[17]

It therefore seems to us that the costs involved in market segmentation should be compared with the resolution costs that ineffective supervision would lead to. It is a tradeoff between accepting a permanent cost increase connected with a certain fragmentationand avoiding a disaster in the event of a major crisis. Such arbitrage is somewhat reminiscent of the lively debates on taxpayer mobilisation that took place following the 2008 financial crisis.

**Recommendation 2.** Approve the European Commission's regulatory proposal on supervision of clearing houses. Make relocation non-optional for "super-systemic" clearing houses located outside the EU.

[15] The ECB had already called for relocation of euro clearing activities to the Eurozone in 2011. The European Court of Justice had nonetheless abolished such obligation in 2015, ruling that the ECB had no competence over securities markets, only over payment systems. Revision of the ECB's statutes is under consideration in order to grant it such competence and enable it to play a part in CCP supervision.

[16] See Clancy L. (2017): *London Likely to Lose all Euro Repo Clearing Business*, 9 October. Available on www.risk.net/derivatives/5341006/london-likely-to-lose-all-euro-repo-clearing-business

[17] Levy-Garboua V. (2016): *L'organisation des infrastructures de marché en Europe*, Report to the Direction générale du Trésor, October.

## 1. Stability issues in the event of a serious crisis affecting a clearing house

Over the last ten years, measures have been taken to ensure that Central Counterparty Clearing Houses (CCPs) would be able to stand up to serious crisis situations.[a] Among other things, CCPs must now have a recovery plan ready in the event of a severe crisis exhausting their financial buffers. Liquidity provided by the Central Bank represents a potential complement to their liquidity in case of need.[b] Swap agreements between central banks, such as the one planned between the ECB and the Bank of England, would appear to be effective instruments for its implementation. Although it is highly unlikely that the swap agreement will be called into question by Brexit, it is no easy matter to anticipate extreme crisis situations, which by definition are very rare, and there is therefore a (very slight) possibility of CCP insolvency. A resolution plan must therefore be in place to ensure continuity of the CCP's functions. Key principles have been posited by the Financial Stability Council (FSC) (2017) and the European Commission (2016).[c]

Information is key to assessing a CCP's robustness in the event of default on the part of one or more clearing members who could put its future in danger. It must be able to measure the risk of contagion that an increase in margin calls would bring to other clearing members. Any substantial margin call might well cause major problems for other banks. Multilateral sharing of information is essential. In the FSC's view,[d] effective cooperation between regulation and supervision authorities must be ensured. Resolution and recovery regimes must keep CCPs' main functions going in crisis periods and take account of the interests of all jurisdictions in which they have systemic importance. Yet the Chair of the Bank for International Settlements' Committee on Payment and Market Infrastructures (CPMI) emphasises "the slow progress made in adoption of cooperation agreements".[e]

Is cooperation really feasible in the event of a serious crisis? It is all too possible that the two sovereign authorities would adopt strategic behaviour if their interests did not coincide. The emblematic case of Lehman Brothers' collapse in 2008 is a perfect illustration of this. In its decision not to save the bank, the American Treasury took absolutely no account of the possible consequences on foreign banks' results. In other words, although cooperation on liquidity is relatively automatic, information sharing is more problematic.

Furthermore, resolution and supervision are not two distinct processes. It is important to ensure continuity between the supervisor and the authority tasked with resolving a CCP's default. Bignon and Vuillemey (2017) have carried out a detailed study of the bankruptcy of a clearing house –the Caisse de Liquidation, which defaulted in Paris in 1974.[f] They show that conflicts of interest are typically present when such collapses occurs. Shareholders are ready to take risks offering high returns in the event of the CCP's survival. This being so, in 1974, encouragement to take risks put the CCP's interests in line with those of the defaulting clearing member, which delayed liquidation of the defaulting position and prevented the CCP's recovery, leading to market closure. Low capitalisation of CCPs helps propagate such risk management imbalances.[g]

[a] Coeuré B. (2017): "Compensation centrale : en exploiter les avantages, en maîtriser les risques", *Revue de la Stabilité Financière*, no 21, April.

[b] Duffie D (2015): "Resolution of Failing Central Counterparties" in M*aking Failure Feasible: How Bankruptcy Reform Can End "Too Big to Fail"*, Scott, Jackong and Taylor (eds), Hoover Institution Press, pp. 87-109.

[c] Conseil de stabilité financière (2017): *Guidance on Central Counterparty Resolution and Resolution Planning*, Consultative Document, February; Commission européenne (2016): *Proposition de Règlement du Parlement européen et du Conseil relatif à un cadre pour le redressement et la résolution des contreparties centrales et modifiant les règlements*, (UE) no 1095/2010, (UE) no 648/2012 and (UE) 2015/2365, November.

[d] Conseil de stabilité financière (2017), *op. cit*.

[e] Coeuré (2017), *op. cit*., p. 120.

[f] Bignon V. and G. Vuillemey (2017): "The Failure of a Clearinghouse: Empirical Evidence", *Document de Travail de la Banque de France*, no 638, August.

[g] Duffie (2015), *op. cit*.

## The Capital Markets Union

Adopted in late 2015 for an implementation by 2019, the Capital Markets Union action plan aims to extend European companies' financing possibilities (in particular with regard to SMEs, currently highly dependent on bank financing), develop venture capital and the securitised loan market, and extend the possibilities for portfolio diversification. Recent work on macroeconomic risk sharing has also highlighted the capital market's importance as a macroeconomic stabilisation mechanism: when an American State's GDP goes down, the shock is largely absorbed by interstate credit and portfolio diversification.[18]

Brexit increases the need for a major initiative, given that continental Europe is currently undersized as regards company

[18] See, especially, Nikolov P. (2016): "Cross-Border Risk Sharing after Asymmetric Shocks: Evidence from the Euro Area and the United States", *European Commission Quarterly Report on the Euro Area*, vol. 15, no 2, pp. 7-15.

financial markets (shares, bonds, private equity and risk capital). However, the Capital Markets Union project affects regulation at many levels: bankruptcy law, foreclosure procedures, investment fund regulation, real estate, and taxation. Without such regulatory convergence, there is little chance for pan-European funds to emerge that would both finance SMEs across Europe and provide households with adequately secure and transparent savings products.

**Observation 3.** Brexit increases the need for a Capital Market Union in the EU. Nonetheless, the project's success will depend on member States' ability to ensure regulatory and fiscal convergence.

Although it is an essential condition for the creation of a Capital Markets Union, strengthening the European Securities and Market Authority's remit is not sufficient on its own. Taken at face value, the Capital Markets Union is a structuring project affecting a number of regulatory fields. This is not the first time that Europeans have set themselves an ambitious collective aim: the construction of the single market was possibly even more ambitious. However, the project's scale and importance have perhaps not yet been fully understood in Europe's capitals, as is borne witness to by the difficulties encountered over approval of the draft directive on bankruptcy law and procedures.[19]

As was the case with the single market, it might be useful to set a medium term objective (after 2019) detailing the characteristics of a real single capital market along the same lines as those existing in large federal nations, and then agree on the stages by which such an objective is to be achieved. The 2019 deadline is of particular importance as regards regulation and supervision of market activities, given the Brexit calendar. But later deadlines might be set for harmonisation of legislation and procedures, in particular as regards bankruptcy law and non-performing loans.

**Recommendation 3.** Set major medium-term Capital Markets Union objectives in the fields of law, regulation and supervision. Agree on a calendar for achieving such objectives, the 2019 deadline being only the first step. In the short term, approve the draft European directive on insolvency.

## Paris' positioning in European competition

There are two ways of assessing where Paris stands in the European competition.

The first is based on total employment, bank assets and transactions. With 270,000 jobs in finance, Paris ranks below London but well ahead of Frankfurt (76,000) and Amsterdam (54,000).[20] Total bank assets are similar for Paris and Frankfurt (to the tune of 7,000 billion euros, as against 10,000 billion in London) while, in the insurance sector, France is slightly ahead of Germany in terms of managed assets (1,800 billion euros, as against 1,600 billion in Germany). France also ranks second with regard to investment funds, this time behind Luxembourg, and virtually equal with Ireland. As regards OTC derivatives markets, Paris is well behind London but ahead of Frankfurt.

The second way of measuring Paris' attractiveness is to focus on the activities of foreign finance company affiliates, whether European or not. This second assessment method shows France in a distinctly less positive light: in 2014, according to the ORBIS database (see Box 2), France only accounted for 2.4% of employment in affiliates of foreign finance company in Europe, as against 15% in Germany and 11.5% in Switzerland. In the insurance sector, France hosts 8.6% of all foreign affiliates' employees in Europe, as against 11% in Germany and Spain (see Table 1). Of course, this second measure of attractiveness is debatable as it takes no account of the importance of local companies. Switzerland's weakness with regard to employment in affiliates of foreign insurance companies is compensated by the power of Swiss insurers, and the same may be said of Paris as far as the banking sector is concerned. Nonetheless, at a time of questions related to the moving of non-European actors from London to the EU, it seems to us that the analysis based on foreign affiliates is altogether pertinent.

A detailed scrutiny of location by region shows Île-de-France in a more favourable light due to the extreme geographical concentration of financial and insurance services in France, whereas such activities are more widely dispersed in Germany, between Frankfurt, Cologne, Munich and Stuttgart. Paris hosts more employees of foreign company affiliates in the insurance sector than Frankfurt (8% against 5.5%). However Paris still lags behind in the sphere of financial services.

[19] European Commission (2016): *Proposition de Directive « On Preventive Restructuring Frameworks, Second Chance and Measures to Increase the Efficiency of Restructuring, Insolvency and Discharge Procedures and Amending Directive 2012/30/EU*, COM(2016) 723 final.

[20] Sources for this paragraph are Batsaikhan *et al.* (2017), *op. cit.*, Association française de la gestion financière (AFG) (2015): *Rapport d'activité 2015* and Banque des règlements internationaux (BRI) (2017): *Rapport annuel 2017*.

## 2. Measuring the attractiveness of financial centres through location of foreign companies' affiliates

We have drawn on the ORBIS database compiled by Bureau van Dijk for the 1980-2014 period. Analysis focuses on foreign companies' affiliates, defined as entities at least 50% owned by a foreign parent company. The finance sector is listed on the basis of Statistical Classification of Economic Activities in the European Community (NACE), covering *financial service activities except insurance and pension funding*[a] (Division 64), *insurance* (Division 65) and *activities auxiliary to financial services and insurance activities* (Division 66). However, we exclude "letterbox" companies and "special purpose entities" (Division 64.20 "activities of holding companies" and Division 64.30 "trusts, funds and similar financial entities"), whose existence involves obtainment of fiscal advantages rather than a real activity.[b]

We selected a total of 3,286 foreign affiliates present in 15 European countries in 2014, whose location (country and region), Group CEO's name and nationality, establishment date, NACE 4-figure activity sector are known to us along with various accounting data for 2014. As the most complete data is on employment (over 95%), we have used this aspect to assess unit size, while we distinguish activities connected with financial services and insurance activities on the basis of NACE 4-figure classification.

[a] Retail banks, investment banks, asset managers and specialised financial services.

[b] "Letterbox" companies do not make any money on sales of products and usually employ no staff, except, in a few cases, one or two people as legal representatives.

**1. Various countries' and regions' shares in location of and jobs in foreign companies in Europe, 2014**
in % of total locations and jobs in Europe

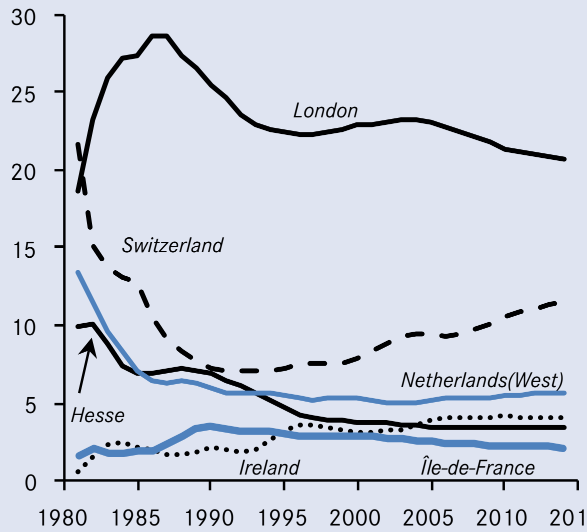
| | Financial ervices | | Insurance | |
|---|---|---|---|---|
| | Share in number of affiliates | Share in employment | Share in number of affiliates | Share in employment |
| United Kingdom | 30.8 | 36.7 | 27.1 | 28.2 |
| Germany | 18.0 | 15.0 | 11.5 | 11.4 |
| *Hesse* | *6.0* | *4.5* | *5.0* | *5.5* |
| Switzerland | 16.1 | 11.5 | 10.8 | 5.0 |
| Netherlands | 9.0 | 3.6 | 11.0 | 8.1 |
| Ireland | 6.4 | 6.2 | 4.4 | 7.3 |
| Sweden | 5.0 | 6.1 | 6.4 | 10.0 |
| Spain | 3.4 | 3.0 | 6.6 | 11.8 |
| Italy | 2.5 | 6.0 | 7.1 | 4.7 |
| France | 1.9 | 2.4 | 6.0 | 8.6 |
| *Île-de-France* | *1.8* | *2.2* | *1.1* | *8.0* |
| Total Europe (15 countries) | 100 | 100 | 100 | 100 |

*Sources*: Data ORBIS and authors.

In terms of numbers of affiliates, regional ranking has changed significantly since the early 1990s: Frankfurt, which was second ex-aequo with Switzerland in 1990, ranked penultimate at the end of the period (see Graph). London remains well in the lead, but its hold is weakening, mainly to Switzerland's advantage. The 1990s were extremely favourable to Dublin's financial attractiveness, with the city overtaking Frankfurt and Île-de-France in numbers of affiliates. Finally, Île-de-France, which came penultimate at the start of the period, ended up at the bottom in 2014. A quarter of all affiliates located in Paris belong to British Groups, with other investors coming mainly from the United States, Switzerland and Ireland.

**Observation 4a.** Although Paris is a sizeable financial centre comparable to Frankfurt, it attracts significantly less affiliates of foreign groups than other European financial centres; its position has even declined since 1990.

**Six European regions' share in location of foreign affiliates, 1981-2014, in % of total number of affiliates in Europe,** mobile average over 3 years




*Interpretation*: By construction, the graph does not take account of closures of affiliates during the period.
*Sources*: Data ORBIS and authors.

When one adjusts the development of each country's share in hosting affiliates by the composition effects (geographical, sectoral and macroeconomic), findings are yet more negative: between 1990 and 2014, France's "pure" attractiveness in the spheres of finance and insurance declined continuously compared with other European countries.[21] More detailed analysis reveals that the decline seems largely ascribable to the insurance sector and is not compensated by the banking and asset management sectors. Furthermore, it does not appear to be due to any marked decline Île-de-France's regional attractiveness itself: its origin is to be sought in national rather than local factors.

## Location determinants

Much has been written on multinationals' location choices. For advanced countries, the main determinant is market access, followed by costs (wages, taxation and real estate), existence of adequate qualifications and quality of infrastructures and administration (stability and simplicity of rules and procedures).

The financial sector has three specificities. First of all, it has a skilled, not to say highly skilled workforce. This reinforces the agglomeration effect: it is in a company's best interests to locate near other companies in the same sector. By doing so, it can take advantage of the human capital accumulated by neighbouring companies' employees, who are relatively mobile across companies. Geographical proximity also fosters information exchange, which is especially useful in high value added service activities. Moreover, geographical and cultural proximity between the parent company and its foreign affiliates is a particularly favourable factor in the realm of finance.[22] Finally, finance is a highly regulated sector, and one would therefore expect that regulation would have a major impact on location choices –a supposition confirmed by empirical studies.[23]

Here, we examine the location determinants of finance company affiliates, basing our findings on a sample of locations in Europe over the 2000-2014 period. The number of foreign affiliates in a given region at a given date, with parent companies in one and the same country, is regressed over a series of explanatory variables (Box 3).

Out of the three samples taken into consideration –finance as a whole, financial services and insurance– the most robust explanatory factor, unsurprisingly enough, is the number of affiliates already located in a region: a factor whose importance illustrates both the difficulty of trying to compete with an already highly developed financial centre, and the progressive nature of the developments one might expect following Brexit.

Other explanatory variables include the positive impact of a good airport infrastructure, a large regional population and a high standard of living, as well as the negative impact of labour market regulations and fiscal instability. However, the finance sector's openness, the proportion of graduates in fields related to finance, corporate tax rates, as well as the top marginal income tax rate appear to have no significant effect in this assessment.

Fixed origin/destination factors may explain the non-significance of compulsory contributions (taxation and social security) as well as the percentage of graduates in fields related to finance, as these variables have little temporal variability.

**Observation 4b.** Choices of location by foreign affiliates in the finance sector are cumulative. They are influenced by regional characteristics such as size, infrastructures, labour regulation and fiscal instability.

## France's assets and liabilities

The results presented above enable us to pinpoint France's (and Paris') assets and liabilities in the ongoing competition to attract foreign affiliates in the finance sector, along four pillars:

- Île-de-France's skills and job pool;
- Transport infrastructure quality;
- Labour market regulation;
- Taxation and labour costs.

### A large, well-educated Île-de-France population

Market size (measured by a region's total population) makes a positive contribution to its attractiveness. Île-de-France is well positioned in this regard, with a population 45% greater than that of London' (although 30% lower than the combined population of London and the Southeast region), which itself is much larger than Frankfurt's (about one half of Île-de-France's population)). Île-de-France's attractiveness is increased by the high proportion of university graduates in the region's population (47% of 25-64 y/o are higher education graduates), a much higher percentage than in Hesse (31%) even though it is still lower than London's (57%).

[21] For further information on the notion of "pure" attractiveness and the method used to construct these indicators, see Box 3 in Toubal F. and A. Trannoy (2016): "France's Attractiveness for Company Decision-Making Centres", *Note du CAE*, no 30, April, which takes the same approach.

[22] Buch C.M. and A. Lipponer (2007): "FDI versus Exports: Evidence from German Banks", *Journal of Banking and Finance*, vol. 31, no 3, pp. 805-826; Claessens S. and N. Horen (2014): "Foreign Banks: Trends and Impact", *Journal of Money, Credit and Banking*, vol. 46, no s1, pp. 295-326; Focarelli D. and A.F. Pozzolo (2005): "Where Do Banks Expand Abroad? An Empirical Analysis", *The Journal of Business*, vol. 78, no 6, pp. 2435-2464.

[23] See Buch C.M. (2003): "Information or Regulation: What Drives the International Activities of Commercial Banks?", *Journal of Money, Credit and Banking*, vol. 35, no 6, pp. 851-869; Merz J., M. Overesch and G. Wamser (2017): "The Location of Financial Sector FDI: Tax and Regulation Policy", *Journal of Banking and Finance*, no 78, pp. 14-26; Temesvary J. (2014): "The Determinants of US Banks' International Activities", *Journal of Banking and Finance*, no 44.

## 3. Explanatory factors in financial attractiveness

The sample is made up of 55 countries of origin, 15 European destination countries, 61 regions, 3 finance sectors and 15 years, between 2000 and 2014.[a] Here, we regress the number of financial centres belonging to a country of origin *o*, located in a country *d*, a region *r* on a date *t*, $N_{odrt}$, on variables specific to country *d* and region *r* during time *t*, plus a series of fixed effects. Assessment is made successively on all financial affiliates locations in Europe, on financial services alone and on insurance activities.

Variables selected at region level are as follows:

- agglomeration of foreign affiliates from a single country of origin in the same region of destination since 1980, $Agg_{odrt}$. This variable is put back five years in order to take its potential endogeneity into account. Presence of a large number of affiliates is a factor in attracting new affiliates from the same country of origin, but may also have a negative impact due to competition effects;
- air transport infrastructures: $Air_{rt}$ index classifying regions by number of passengers transported per year;
- size of region, measured by the $POP_{rt}$ population logarithm and its level of development measured by its per capita GDP, $GDPPC_{rt}$.

Variables relating to decision-making centres' countries of location are as follows:

- Higher nominal corporate tax rate ($IS_{dt}$);
- Higher marginal income tax rate ($IR_{dt}$);
- Instability of fiscal policies, measured by the respective variances in the two tax rates ($\Delta IS_{dt}$ and $\Delta IR_{dt}$), calculated over the 1980-2015 period;
- Financial and banking openness: Heritage Foundation Index measuring the openness of banking and financial systems ($Fin_{dt}$); a high indicator is a sign of major financial and banking openness;
- The OECD's Job Protection Index ($Emp_{dt}$): a high indicator is a sign of strict protection;
- The proportion of graduates in finance-related disciplines (business and administration, mathematics and statistics, information and engineering sciences, and processing and construction industries) in the total graduate population ($Edu_{dt}$).

These explanatory variables are complemented by origin-time (*ot*) and origin-destination country (*od*) fixed effects. We have used a Poisson-Pseudo Maximum Likelihood (PPML) estimator, which has the advantages of being convergent in the presence of heteroscedasticity and of processing the problem of high concentration of zero values in the dependent variable in robust fashion.

### Estimation results

| | All sectors | Banking sector | Insurance sector |
|---|---|---|---|
| $Agg_{odrt}$ | 0.009(***)<br>(3.727) | 0.042(***)<br>(6.298) | 0.007(***)<br>(3.245) |
| $Air_{rt}$ | 0.019(**)<br>(2.256) | 0.018(*)<br>(1.841) | 0.015<br>(1.414) |
| $POP_{rt}$ | 0.389(**)<br>(2.121) | 0.190<br>(1.431) | 0.916(***)<br>(3.206) |
| $GDPPC_{rt}$ | 2.097(***)<br>(2.591) | 1.295<br>(1.642) | 2.766(***)<br>(3.810) |
| $Fin_{dt}$ | – 0.003<br>(– 0.462) | 0.009<br>(0.947) | – 0.021(**)<br>(– 2.068) |
| $Emp_{dt}$ | – 1.164(**)<br>(– 2.119) | – 0.362<br>(– 0.728) | – 1.737(***)<br>(– 3.706) |
| $Edu_{dt}$ | – 0.137<br>(– 1.282) | 0.354<br>(0.991) | – 0.185<br>(– 0.874) |
| $IS_{dt}$ | 1.927<br>(0.889) | 1.430<br>(0.465) | 1.148<br>(0.325) |
| $IR_{dt}$ | 2.022<br>(0.750) | 3.758<br>(1.490) | 0.057<br>(0.021) |
| $\Delta IS_{dt}$ | – 46.482(*)<br>(– 1.778) | – 63.716(*)<br>(– 1.725) | – 4.311<br>(– 0.148) |
| $\Delta IR_{dt}$ | – 248.039(*)<br>(– 1.766) | – 239.602(**)<br>(– 2.139) | – 43.033<br>(– 0.442) |
| Observations | 4.097 | 2.953 | 2.133 |
| $R^2$ | 0.650 | 0.502 | 0.518 |

*Interpretation*: Dependent variable: number of foreign affiliates. The number of observations in the full sample is not the sum of the two sub-samples due to the loss of observations owing to collinearity between different fixed effects. Student statistics in brackets.

*Notes*: (***), (**), (*) significant at 1%, 5% and 10% levels respectively.

*Source*: Authors.

[a] Due to the scarcity of regional data, we have had to limit the sample to the 2000-2015 period. Unless otherwise indicated, explanatory variables come from OECD databases.

Between 2000 and 2015, France produced a yearly average of 250,000 graduates in business, administration, law, mathematics, statistics and information sciences –more than any other EU country (Germany produces around 140,000, the United Kingdom 185,000, the Netherlands 38,000 and Ireland 19,000).[24]

[24] See Eurostat data. French graduates' profiles are similar to those of British graduates, highly specialised in business, administration and law, whereas German graduates specialise more in mathematics, statistics, and ICT.

Île-de-France's economic dynamism –the region's annual GDP is almost three times higher than Hesse's– provides also a diversified range of job opportunities for spouses, in particular in the higher tertiary sector.[25]

## Transport infrastructures need to be rethought and developed

Airport infrastructures play a key role in a financial centre's attractiveness. Paris-Roissy-Charles de Gaulle Airport (Paris CDG), alongside Heathrow (London), Frankfurt and Amsterdam-Schiphol Airports, is one of the gateways to Europe.[26] Nonetheless, access to Paris airports to and from the city centre is a major issue. From this point of view, Paris lags well behind its European competitors. In 2017, Paris CDG ranks 32nd worldwide, far behind London (8th) and Frankfurt (10th).[27] Paris could well capitalise on the 2024 Olympic Games in order to prioritise the development of the CDG Express rail link.

Improvement of transport infrastructures should also take account of the necessary connections between places of residence, workplaces and school locations. International education (still inadequately developed in Paris)[28] is currently mainly located on the capital's eastern and western outskirts.

As regards location of top-level foreign executives in Paris, the question of transportation is more important than that of real-estate prices. Central Paris rents are medium-range for housing and offices alike (average monthly rent of 1,610 dollars for housing and "prime" rent of 800 euros/m$^2$ per year for offices),[29] similar to those in Geneva, Zurich and Dublin but well below London. Rents are certainly higher than in Frankfurt, Munich or Amsterdam, but it is worth bearing in mind that there is a relatively high rate of vacant office space in Paris (even though account must be taken of market segmentation in the Paris region).

**Recommendation 4.** Make the development of the CDG Express and other express transport networks (East-West in particular) top priorities within the Greater Paris project.

## Reform of the labour market may contribute to Paris' attractiveness in the middle term

The complexity of French labour law and the country's business climate are both factors that discourage the relocation of major banks' workforces. The variability of severance pay awards and the fact that no ceiling was applied to them were sensitive issues for actors of the financial sector. The September 2017 rulings may help improve Paris' position over the next few years insofar as they introduce predictability much awaited for by the sector.

In the hypothesis that continental relocation of banks' financial activities currently located in London will most likely take place in a progressively manner(largely due to the uncertainties surrounding Brexit), the middle-term effects of reform may favour increased relocation of staff to Paris.

## Taxation, social security contributions and qualified labour costs

Compulsory contributions are high in France. Even though corporate and income tax rates do not seem to be determining location factors (see above), the announcement that corporate tax (*Impôt sur les sociétés*, IS) rates would be brought down to 25% by 2022, following a series of successive decreases, should improve attractiveness, above all if the planned trajectory is complied with (we have seen that fiscal instability lessens attractiveness). As regards income tax (*Impôt sur le revenu,* IR), high levels have been partly compensated since 2003 by the "impatriate" tax regime whereby employees who were previously tax residents abroad have their expatriation premium exempted from income tax in France and their liability to wealth tax limited to assets located in France. Originally introduced for a 5-year period, the regime was extended to 8 years by the 2017 Finance Law.

More than by its corporate and income tax rates, France stands out for the high rates of social security contributions on high salaries, to which must be added, in the financial sector at least, the progressive wage tax. Table 2 compares all deductions on gross salaries in the finance sectors in various European countries. At 53%, France is more than 20 percentage points above its main competitors, whose deductions represent a little under 30% of gross salaries.[30]

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[25] Since November 2016, "Choose Paris Region", a single window designed to facilitate foreign investors' location in Paris and Île-de-France, provides expatriates with personalised assistance, in particular as regards finding jobs for spouses. See www.chooseparisregion.fr/Media/Default/PressKit/PresseFR.pdf

[26] London Heathrow is Europe's leading airport, with some 75 million passengers transported in 2015. Paris CDG comes second with 66 million passengers. Frankfurt (61 million) and Amsterdam-Schiphol (58 million) are in 3rd and 4th place respectively. See Eurostat (2016): *Air Transport Statistics*. Available on ec.europa.eu/eurostat/statistics-explained/index.php/Air_transport_statistics

[27] Cf. www.worldairportawards.com/Awards/world_airport_rating.html

[28] Toubal and Trannoy (2016), *op. cit*.

[29] *Cf*. Data https://fr.statista.com: Loyer moyen en US dollars dans plusieurs villes européennes (2015) and BNP Paris Real Estate (2017).

[30] These differences are relatively stable between countries –so much so that they do not act as determining relocation factors once fixed effects are introduced.

**2. Employer contributions and taxes on finance sector workforces, 2015,** in % of gross salary

| | |
|---|---|
| France | 53 |
| Switzerland | 29 |
| Netherlands | 31 |
| Germany | 28 |
| Ireland | 28 |
| United Kingdom | 27 |

*Sources*: OECD, INSEE, national accounts and authors.

When the focus is on location of entities employing a highly skilled workforce (such as head offices, decision-making centres, research centres and financial institutions), analyses are often carried out on the basis of case studies. This method is well suited to companies that are considering partial relocation of their workforce (in such cases, wages cannot be decreased upon relocation), but is less so when one is comparing recruitment conditions for new employees, as France's high social security deductions are in large part compensated for by lower gross salaries (see Box 4).

According to a report by the Senate Finance Committee,[31] for an annual gross salary of 250,000 euros, employer contributions are estimated at 16,000 euros in Luxembourg, 15,000 in Germany and 27,000 in Ireland, whereas in France they come to 137,000 euros. Three explicative factors:

- The wage tax (for a third);
- No ceiling for employer contributions (for a third);[32]
- Compulsory contributions to supplementary pension schemes (for a quarter).

The wage tax in France's financial sector, which stems from the creation of VAT in 1968 (and the exemption granted to the financialsector) raises a number of questions in the present situation, all the more so as its progressive nature, reinforced by the introduction of an additional 20% bracket on high salaries in 2013 (to be abolished in 2018), helps further widen France's competitiveness gap with its partners for high-earning individuals.[33] Although the wage tax is regarded as a substitute for VAT, from which the sector is exempt, logic dictates that it should not be progressive. Like the VAT it replaces, the wage tax has no redistributive objective and should therefore be levied at a single rate.

As regards pension contributions, France stands out from its partners insofar as compulsory contributions are high and grant retirees higher pensions. In other countries, basic pensions are usually complemented by professional pension schemes; a fact that may help put French employers' additional expenditure on pension schemes into perspective. Nonetheless, despite coordination between French and foreign schemes, the complexity of the French system, with its dual compulsory contributions (basic scheme and supplementary scheme) may well discourage temporary location of skilled individuals. Introducing a total exemption regime for high-level executives residing in France for a few years seems difficult. It would be potentially destabilising for the pay-as-you-go system and would go against the Social Security Code's territoriality principle, according to which anybody working on the French soil, with the exception of posted workers, must be affiliated to a compulsory Social Security regime.

## 4. Executives' salaries

Basing our findings on a detailed European survey on salary structures, we observe that senior managers earn gross salaries that are on average lower than those earned in other European countries –the Netherlands, Germany and the United Kingdom.[a] This is true of most activity sectors, the finance sector in particular: apart from France's managing directors, who seem to earn gross salaries close to those paid out in the United Kingdom, its senior managers earn significantly lower salaries, both as regards median and 9th-decile levels. Data obtainable from the emolument.com website provides similar results: gross salaries in France are significantly lower than those in the United Kingdom, Switzerland and Germany (see Table).

**Median levels of annual gross remuneration (wages and bonuses),** 2017

| Work-place | Junior Analyst (in dollars) | Director (7-12 years' expérience) (in dollars) | Assets Manager (in euros) |
|---|---|---|---|
| Frankfurt | 77,000 | – | 111,000 |
| Londron | 85,000 | 418,000 | 131,000 |
| Milan | 49,000 | 132,000 | 93,000 |
| **Paris** | **66,000** | **243,000** | **101,000** |
| Zurich | 99,000 | 247,000 | 153,000 |

*Source*: www.emolument.com

[a] See Keogh A. (2015): "Les salaires de cadres de direction en Europe", *Focus du CAE*, no 9, November.

[31] de Montgolfier E. (rep.) (2017): "Compétitivité des places financières", *Rapport d'Information du Sénat*, no 574, June.

[32] In France, there is no upper limit to health insurance, occupational accident and family contributions. There is no upper limit to a part of retirement insurance contributions, and the ceiling for executive pensions can be up to eight times higher than the Social Security ceiling. There is still an upper limit to unemployment insurance contributions. There is an upper limit to employer contributions in Germany.

[33] France, Denmark and Sweden are the only countries in the OECD to have kept such a tax.

However, the planned overhaul of the pension system announced by the Government, which aims to harmonise calculation of pension rights in a universal system, opens up new perspectives both for individuals residing on French soil for long periods and those on short stays, insofar as the system might gain considerably in clarity and adapt to international careers.[34] Insured parties would be provided with a virtual account in which pension contributions would accumulate and be upgraded on a yearly basis: an account which they would be able to consult on Internet or via a mobile app whenever they wish, knowing that total accumulated rights would be converted into a pension when they retire, with the help of a conversion coefficient based on age at retirement from work and date of birth.

The upcoming reform might also provide an opportunity to reconsider the compulsory retirement insurance wage ceiling. A very high ceiling (as is the case today)[35] is of little interest from the redistributive point of view. It is not really in line with the wishes expressed by executives and is a handicap as far as attractiveness is concerned.[36] In the context of the European Capital Markets Union project, high-level executives may be provided with new long-term savings possibilities in pan-European funds, complementing France's compulsory pension scheme in a flexible and transparent way.

**Recommendation 5.** In view of the upcoming pension reform, reconsider the compulsory pension scheme ceiling.

Finally, Brexit provides the Eurozone with an opportunity to give further impetus to its yet incomplete financial integration, and, in France, to give thought to the country's factors of attractiveness in the context of reforms and projects currently underway.

[34] There would then no longer be a need, without being penalised, for calculation of French pensions to take account of validated periods in other countries where insured parties had paid contributions.

[35] The third bracket of the pension system for executives (Association générale des institutions de retraite des cadres, AGIRC) covers contributions between 4 and 8 times higher than the Social Security ceiling (plafond de la Sécurité sociale,PSS), which is close to the average wage.

[36] Bozio A. and Th. Piketty (2008): "Pour un nouveau système de retraites. Des comptes individuels de cotisations financés en répartition », Opuscule du CEPREMAP, October.

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