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The Future of Global Financial Centres after Brexit: an EU Perspective

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Abstract

This note presents a set of possible directions for the future of London and other financial centres in Europe after Brexit. It does so by building scenarios framed by the current landscape of financial services in the EU. We find that given the sizeable gap between London and other financial centres in Europe and London's international orientation London is likely to remain a very large global financial centre even in more adverse scenarios. According to our analysis, the impact of fundamental factors on London could be very small due to the 'premium' it enjoys, not captured by size or productivity. Yet, the premium could be eroded and it may be sensitive to 1) a possible realignment of perceptions, and 2) abrupt changes in regulation and centrality due to new trading arrangements, disruption in global value chains, and institutional reshaping and associated uncertainty.

1 Introduction

One of the many questions posed by Brexit is what will happen to London's status as a global financial centre (GFC) and to its role as the primary GFC of the European Union. A change in the role of London could effect change to other financial centres: business might either move from London to a single, concentrated new global financial centre in the EU, or they might disperse to a multitude of smaller, specialised EU financial centres; finally, business might move to an already large and established financial centre outside the EU and Europe. The changing financial landscape in Europe and the EU will matter for the nature of future financial stability risks and of the appropriate policies at national and European level to mitigate them.

The future relation between the EU and the United Kingdom is currently unknown and it will be contingent on the details of the agreement negotiated in the coming years. It seems likely that Brexit will modify the landscape of trade in goods and services, including financial services, between the UK and the EU27 by changing the rules that shape the present relation. Assuming the UK will become a third country, financial services entities based in the UK will lose direct access to the EU Single Market currently enjoyed under passporting. Third-country access granted under the equivalence framework is not meant to achieve the same goals as passporting.[1]

This observation is relevant, as regulation has often played an important role in the shaping of financial centres and was indeed a key determinant of London's fate. In the 1960s, London regained its role as a global financial centre after World War II by becoming the first location issuing Eurobonds. In contrast, other jurisdictions in Europe put in place regulations to discourage such issuance (France, Switzerland, Italy, and Germany for instance. See Cassis 2010, Ghosh & Qureshi 2016, Schenk 1998).

Overall, history suggests that regulation together with openness – to trade, capital, and people – and a business-friendly regulatory environment have been key determinants for the success of financial centres, whose fate has tended to evolve slowly, unless hurried by economic and political disorder. In the XVIII century, for example, London started replacing Amsterdam as its trading empire grew, resulting in Amsterdam's financial centre vanishing after the fourth Anglo-Dutch war.

With this background in mind, this note presents the reader a set of post-Brexit scenarios for London and other financial centres in Europe, including Dublin.[2] In order to do this, we first investigate the common characteristics shared by global financial centres today. Section 2 thus outlines the stylised facts. Section 3 elaborates on post-Brexit scenarios. Section 4 concludes.

2   Stylised Facts about Financial Centres Today

London is the leading global financial centre next to New York. Its lead is captured by the Global Financial Centres Index (Figure 1). This index is constructed using five groups of characteristics such as the quality of the business environment, human capital, infrastructure, financial sector development, and reputation. Centres rivalling London, according to this metric, are mainly in Asia (see Yeandle et al. 2018, for a description of the index).

When comparing London to other European financial centres, it stands out both in terms of size and range of services offered. Table 1 reports values for banking and non-banking assets for a set of EU countries hosting a global financial centre. In non-bank finance London

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[1]The European Commission describes the recognitions of non-EU financial frameworks (equivalence decisions) as the recognition that 'the regulatory or supervisory regime of a non-EU country is equivalent to the corresponding EU regime.' Equivalence decisions mainly aim at reducing overlappings in regulation and supervision. A more detailed description is beyond the scope of this note and can be found here.

[2]See also Donnery (2017), for a discussion of the rise of London as a global financial centre.

leads by a big margin in many sectors, especially in market infrastructure. The prominent role of London in FX transactions and OTC derivatives is well established, accounting in 2016 for nearly 40 per cent of global interest rate derivative turnover.[3] Continental European financial centres are much smaller and more specialised in non-banking activities. Amsterdam for example is specialised in insurance, while Dublin and Luxembourg are specialised in investment funds. Finally, some European financial centres are hosted in relatively small cities, highlighting the importance of looking at both relative and absolute numbers and indicating intrinsic constraints to growth.

Focusing on the banking sector, while the UK and some continental centres share certain characteristics, they differ in their international profile. The UK reports locational domestic banking assets of over 6 trillion euro versus roughly 5.5 trillion for France or Germany. So, like London, both Frankfurt or Paris host large domestic banking sectors. Moreover, some European countries' banking sectors are as highly connected with the rest of the world as the UK: Figure 2 plots the number of single-country banking relations for claims and liabilities, for a set of BIS reporting countries in 1997 and 2018. Connectivity has even increased, including in smaller centres such as Ireland. Where London and other centres differ is in relation to being a hub for foreign branches and subsidiaries. Here, the City leads, as the considerable difference in cross-border locational banking assets between the UK, France and Germany demonstrates.[4]

Interestingly, even though London is Europe's primary GFC, the direct contribution of EU-based clients to UK financial services firms' revenues is in fact quite moderate. Estimates by Oliver Wyman (2016) show that in 2015, the portion directly attributable to EU clients was only around one fifth (Figure 3). The contribution of the EU to the UK cross-border banking exposures points to a similarly moderate EU connection. This suggests London can potentially remain an important centre, if both the UK real economy on which UK clients depend, and the international business component remain healthy.

3   Financial centres: determinants and post-Brexit scenarios

Next, informed by these stylised facts, we present a number of simulations investigating the future of London after Brexit. Section 3.1 looks at the role of real-economy factors in capturing a city's score in the Global Financial Centres Index, and uses these factors to model two post-Brexit scenarios for the overall score of London. In Section 3.2, taking a sub-sectoral approach, and based on some crude assumptions, we simulate relocations from London to other financial centres in Europe.

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[3]Beyond finance, London is an important hub for non-financial institutions. 40 per cent of the top 250 global companies have their headquarter in London compared with around 8 per cent estimated for Paris.

[4]See also McCauley et al. (2019).

3.1 Scenarios based on the Global Financial Centres Index (GFCI)

As explained, historians identified a set of common characteristics that fostered the emergence and establishment of global financial centres. Whether these characteristics matter for London today is however an empirical question. The GFCI is built using some of these very measures. Yet, since reputation also enters as a determinant in the calculation of the centres' overall score, a quantitative investigation of the correlation between country- and city-level macroeconomic factors and the overall score centres receive, can help disentangle the role of reputation from other legacy factors and country characteristics.

We identify six measurable characteristics of a global financial centre in order to capture the building blocks of the GFCI scores over time and across cities. We use these measurable characteristics to calculate their importance in determining a city's score; what remains unexplained, is either due to other factors we can not measure, such as diversity for example, or a 'premium' due to reputation reflecting a historic legacy. Over the period spanning from 2007 to 2014, we gather data for the size of the country and city (country population and city labour force), trade openness (imports and exports over GDP), economic development (country GDP per head), and the host city's innovation (labour productivity). We enter these variables together with dummies for dominant currencies and legacy effects (i.e.: the British pound, US dollar, euro, and Japanese yen) into a pooled OLS regression as in Equation (1):

$$
\begin{aligned}
GFCI_{i,t} =& \alpha + \beta_1 GDP_{j,t} + \beta_2 Trade_{j,t} + \beta_3 POP_{j,t} + \\
& + \beta_4 LF_{i,t} + \beta_5 LP_{i,t} + \beta_6 GDP_{i,t} + \\
& + \beta_7 GBP + \beta_8 EUR + \beta_9 USD + \beta_{10} JPY + \epsilon_{i,t}
\end{aligned}
\tag{1}
$$

where $GDP_{j,t}$ is the per capita GDP for country j at time t, $Trade_{j,t}$ is the sum of imports and exports over GDP, and $POP_{j,t}$ is the projected population for country j at time t. At city level: $LF_{i,t}$ is city i's labour force at time t, $LP_{i,t}$ is labour productivity, and $GDP_{i,t}$ is GDP per capita. We are aware of the limitations of applying a pooled regression to a panel data set. Yet, in the context of the sample at our disposal, this approach offers some food for thought.

Looking at the regression results (reported in Equation (2)), the city's labour force and the GDP per capita of the city's host country are the biggest contributors to the GFCI score. A richer country and a larger host city, able to provide a vast array of services, are associated with a higher score. Trade openness follows suit in pushing a city's score up. The overall size of the host country, pushes the score up but it is not as important as the city's labour force. Other city-level variables do not matter.[5]

The lesser importance of the size of the host country might reflect the reliance of financial centres on an international workforce. Cosmopolitanism characterised financial centres

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[5]The R^2 of the regression is 0.61. * p<0.10, ** p<0.05, *** p<0.01

throughout history, and it might reduce the importance of the overall population of the host country, as firms seek different sets of skills and cultures beyond national boundaries.

Figure 4 plots the average estimates of the coefficients based on the real-economy factors against the average actual score each city received. The regression analysis of the GFCI predicts a value for London and New York that is well below the actual ranking of the two leading centres. The difference between average predicted and realised scores shown in Figure 4 aims at capturing the survey component and the role of the reputation in determining the cities' scores, i.e. a 'financial centre premium'.[6]

In order to better understand the possible effects of Brexit on the GFCI score for London, we generate London's scores for 2019 under two different Brexit scenarios, with a focus on an adverse Brexit. To do this, we use the coefficients from the regression to estimate the 2019 GFCI for London (L):

$$
\begin{aligned}
\widehat{GFCI}_{L,t} =& 388^{***} + 2.45^{***}GDP_{UK,t} + 0.32^{**}Trade_{UK,t} + 0.07^{***}POP_{UK,t}+ \\
& + 1.11^{***}LF_{L,t} - 0.24LP_{L,t} + 1.11GDP_{L,t} + 53^{***}GBP
\end{aligned}
\tag{2}
$$

The first shock scenario takes the 2018 value of each variable and reduces it by a standard deviation, as calculated over the 2007-2014 period. In the second one, we apply a shock based on Ebell et al. (2016). In this paper, the authors model a 'WTO scenario' for 2019, shocking mainly real-economy variables. Table 2 describes the two shocks and how we fill data gaps.

The scores based on the real-economy variables alone suggest that 'London will remain London', irrespective of the shock scenarios. Figure 4 includes the values of the GFCI score under the two scenarios for 2019 versus its average actual value. London's average estimated score within the sample is 710 points. London's score would decrease by just 1 point (to 709 points) in a 2019 out-of-sample scenario as modelled by Ebell et al. (2016), and by two points to 708 under the scenario we built. The 'London premium' reflected by distance between the realised and predicted scores might be resilient to Brexit and London's ranking could well remain unchallenged. This might especially be the case if the UK remains closely aligned and integrated with the EU notably in goods markets and if the UK economy remains resilient. [7]

Yet, an alternative interpretation of the premium would see London having overshot its ranking based on its real-economy characteristics only. Reputation could just be moving more slowly than the other variables and the premium might be vulnerable to changes in the institutional landscape shaping the economy and the financial sector. Historically, while a financial centre premium has existed, it has been slowly eroded by changes in the centrality of the host country, in regulation, and technology.

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[6]It is worth stressing that this difference might also capture the effect of variables not included in the analysis, as for instance diversity.

[7]Another strong hypothesis is the linear constraint imposed by the pooled regression. Effects from Brexit might be non-linear, but this is beyond the scope of the present analysis.

3.2   Mechanical scenarios based on financial services revenues

As a further step, we estimate a scenario for post-Brexit relocations of financial services from London to the EU at sectoral level. To do so, we combine data about the revenue breakdown of the London financial services industry in 2015 by business area and client location from the Oliver Wyman (2016) report on the Brexit impact on the UK financial services industry (Figure 3), with the information on the size of different business activities (banking, non-bank finance, and infrastructure) reported in Table 1.

Our adverse scenario assumes that each activity currently present in London will leave London proportionally to the share of revenue generated by EU clients for that particular activity. For instance, EU clients account for roughly 20 per cent of total banking revenue. Hence, 20 per cent of the almost 11 trillion of locational banking assets currently in the UK is assumed to relocate. The remaining 80 per cent, related to UK and non-EU clients, is assumed to stay in London.

Beyond banking, we reallocate - using the same proportional redistribution - 40 per cent of turnover in interest rate derivatives and 14 per cent of OFI assets.

The activities that leave London are then assigned to each EU financial centre shown in Table 1, namely Paris, Frankfurt, Dublin, Amsterdam and Luxembourg, according to their current relative weight for each activity. The results of these mechanical reallocations are shown in Figure 5.

As Figures 5a and 5b show, while the change in the 'adverse' Brexit scenario may not be important for London, for smaller cities like Dublin, Amsterdam or Luxembourg the changes can be quite material. In this context, it is worth noting that based on public announcements, the shift in balance sheets of relocated banks to Dublin to date already exceeds the amounts indicated in our mechanical calculations.

4   Conclusion

London displays all the main features that characterised financial centres over centuries. It has a large population, with a high share of foreign workers. It is hosted in a large economy open to trade in goods and services. It has a large and connected banking sector and it provides a broad array of financial services, from banking, to insurance and FX trading. It is also at the edge of the technological frontier in many of these sectors. How Brexit will eventually affect the City of London remains uncertain, even if several firms have already relocated from London to other EU countries in the aftermath of the vote. While a less open, productive and rich UK might influence the future path of the City, according to our analysis, the impact of fundamental factors could be very small. Yet, London also displays a 'premium' not captured by fundamentals. This premium could be sensitive to 1) a possible deterioration of perceptions, and 2) abrupt changes in regulation and centrality due to new trading arrangements, disruption in global value chains, and institutional reshaping

and associated uncertainty.

The rapidly growing and changing nature of the Dublin financial centre, coupled with the visible fragmentation of finance in Europe also raises questions about the evolution of financial stability risks. First, a large share of intermediation could be provided by third-country firms, raising questions on how to organise regulatory relations going forward to balance efficiency and stability. Second, the fragmentation of finance inside the EU27 across different sectors can on the one hand imply new risks in terms of greater financial complexity in firms, but on the other hand it may also be mitigating concentration risk. Third, the growth of the IFSC – similar to non-financial multinational firms - may be changing Ireland's risk profile. The Central Bank of Ireland has already addressed some of these risks, for instance through a thorough authorisations process and by focusing resources on identifying and mitigating risks. The evolution of financial centres at home and abroad, still has the potential to affect risks to financial stability in the future and continued work on these structural developments will be important.

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URL: *https://www.thecityuk.com/research/the-impact-of-the-uks-exit-from-the-eu-on-the-uk-based-financial-services-sector/*

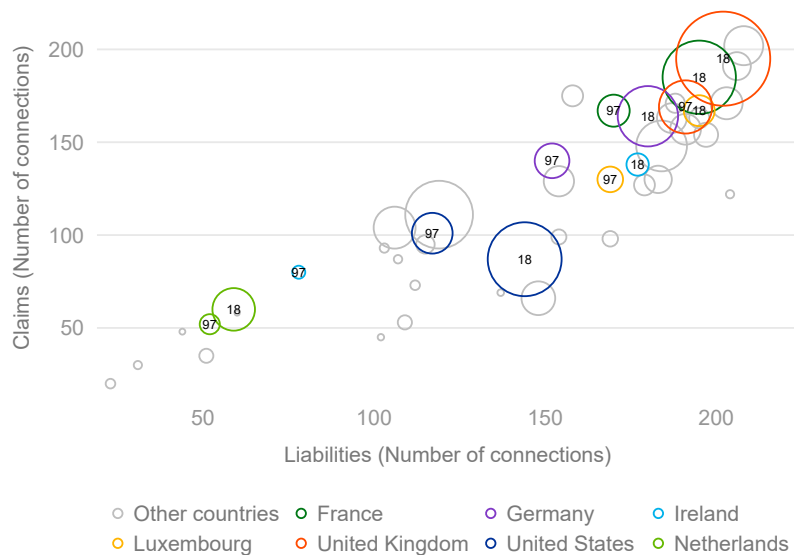Yeandle, M., Wardle, M. & Mainelli, M. (2018), 'The Global Financial Centres Index', Long Finance.

Figures and Tables

Figure 1 | GFCI Rankings of Top Five Global Financial Centres
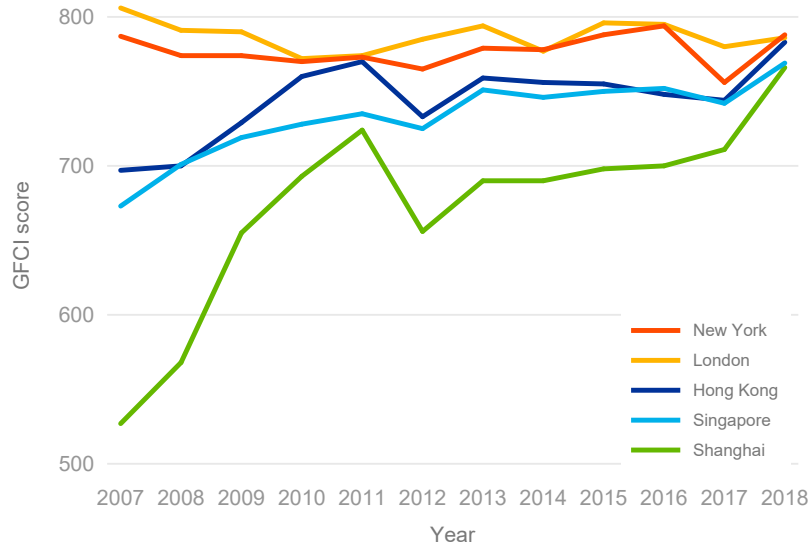
*Source*: The Global Financial Centres Index 24, Yeandle et al. (2018)

Figure 2 | Size and connectedness of banking centres – 1997 and 2018

Source: BIS Locational Banking Statistics, authors' calculations.

Note: The graph reports the number of connections for each reporting country for cross-border claims and liabilities in 1997 and Q3 2018. The size of the markers reflects the sum of cross-border claims and liabilities vis-à-vis all counterparties for each reporting country.
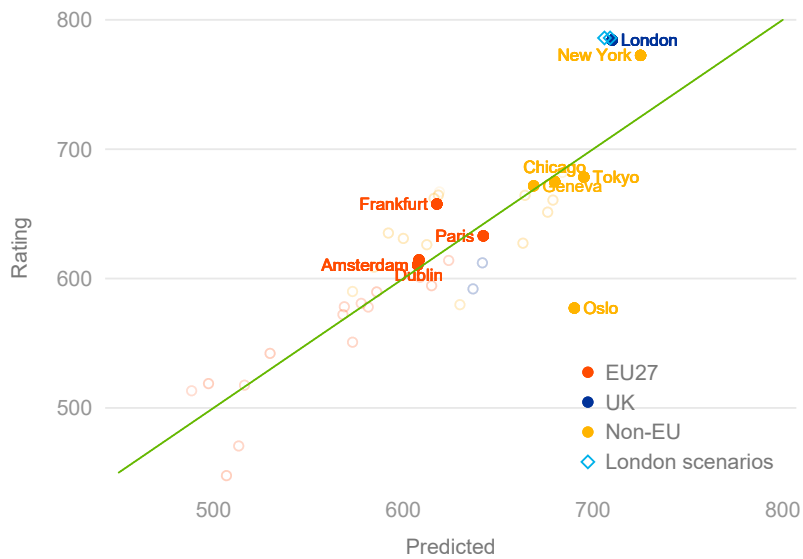
Figure 3 | **Revenue breakdown of the UK financial services industry in 2015 by business area and client location (bn euro)**
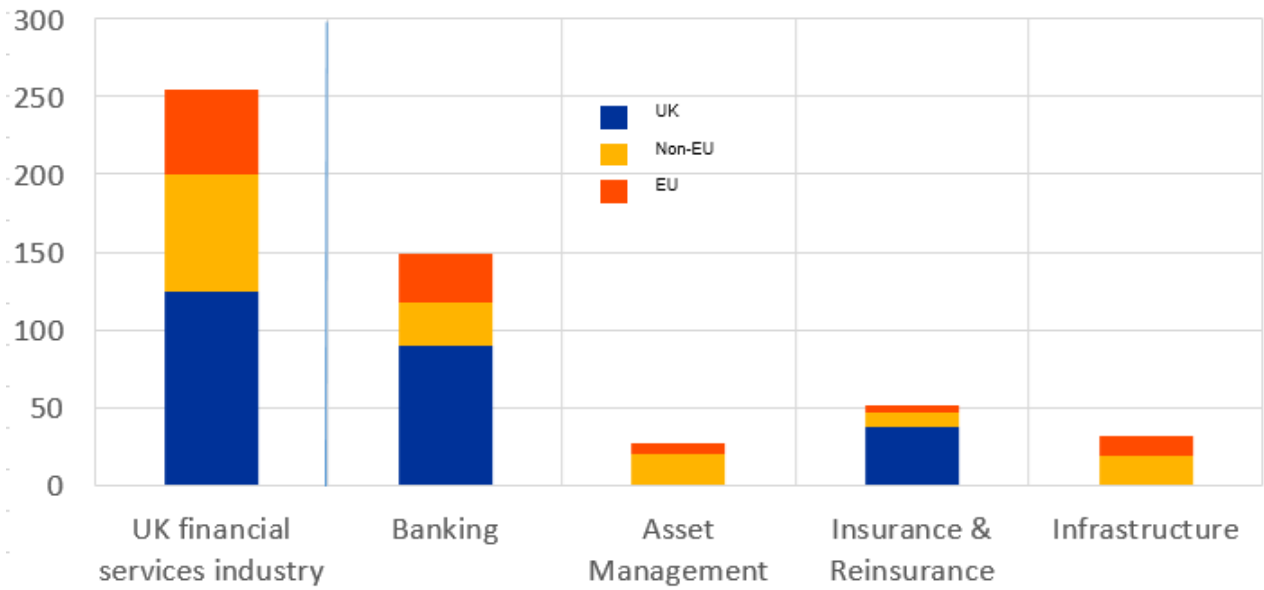
Source: Authors' calculations based on Oliver Wyman (2016).

Note: As in Oliver Wyman (2016), non-EU revenue from asset management include the domestic share.

Figure 4 | **Average predicted and realised values of GFCI by city**

*Note*: Predicted values of the GFCI result from estimates in equation (2) Section 3.1. The hollow circles represent other financial centres included in the sample. The graph reports the average values of the fitted and actual values of the GFCI. The value for Oslo reflects the high GDP per capita in Norway, and the lack of importance of the coefficients for country and city size compared to GDP.

Figure 5 | **Mechanical Scenarios for Post-Brexit Financial Centres in the EU**

(a) Trillions of euro
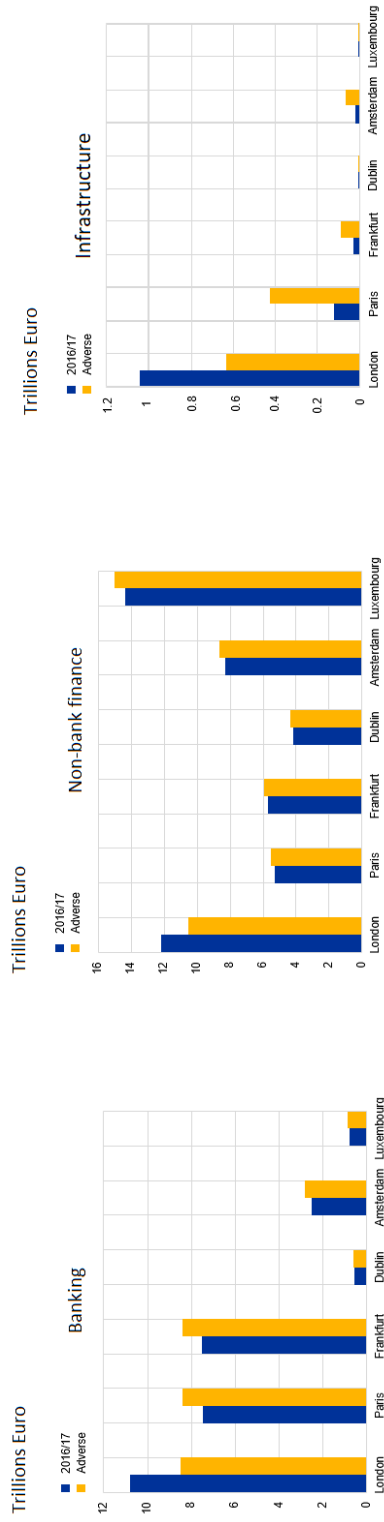
(b) Per cent of GDP
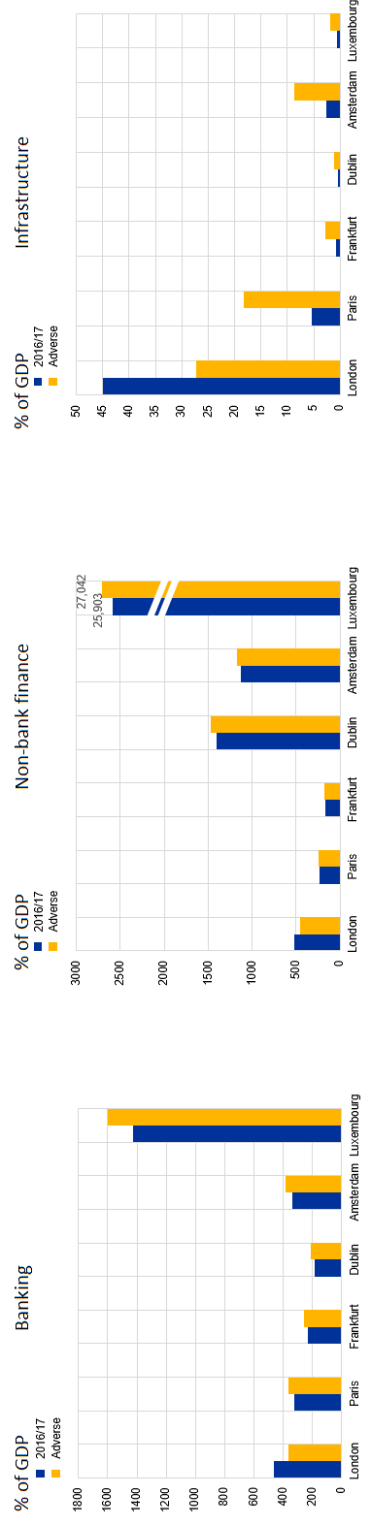
Sources: BIS, OECD and authors' calculations.

Note: The 'adverse' estimate is derived from an assumption that all EU related business currently based in London migrates to these five cities. The data to proxy banking, non-banking and infrastructure activities refer respectively to BIS locational banking assets, OFI assets and interest rate derivative turnover. The GDP data relate to the country. For Ireland, GNI* would be more relevant than GDP; scaling assets to GNI* would raise even further the relative size of the financial sector.

Table 1 | Financial Centres in the European Union

	London	Paris	Frankfurt	Dublin	Amsterdam	Luxembourg
Population ('000)	8,868	2,182*	736	1,348	1,351	590
Employed in financial services	361	147	75	23	44	46
	UK	**France**	**Germany**	**Ireland**	**Netherlands**	**Luxembourg**
GDP[†]	15.2	14.9	21.4	1.9	4.8	0.4
Financial Corporations VA[†]	22.0	12.2	16.4	3.0	7.1	2.1
Financial services trade balance (€bn)	61	4	10	5	-3	16
Banking assets, locational (€bn)	10,792	7,484	7,506	543	2,500	792
domestic	6,297	5,376	5,605	285	1,530	240
cross-border	4,494	2,108	1,901	259	970	552
consolidated	5,442	6,381	6,794	230	2,475	-
cross-border	1,614	1,418	1,655	34	674	-
local	3,828	4,963	5,139	196	1,801	-
OFI assets (€bn)	12,184	5,287	5,691	4,148	8,311	14,377
Forex turnover‡	36.9	2.8	1.8	0.03	1.3	0.6
CNY OTC forex turnover[†]	15.3	0.4	0.6	0.00	0.1	-
OTC IR derivatives turnover[†]	38.8	4.6	1.0	0.04	0.7	0.01
Stock exchange capitalisation (€bn)	3,116	2,295	1,888	122	918	57

Sources: Eurostat, Frankfurt am Main Finance (2017), City of London (2018), IMF WEO, UNCTAD, BIS, ECB, authors' calculations.

Note: All values for 2017 unless otherwise indicated. OFI assets include non-MMF investment funds, insurance corporations and pension funds.

* Population for city of Paris (NUTS3), Bassin Parisien population is 10.8 mn.

[†] % of EU total.

‡ % of global, 2016.

Table 2 | Shocks to variables in the Brexit scenarios

	(1)	(2)*
	$-\sigma$ decline	NIESR 2016
UK GDP	-3.8%	-2.8%
UK Exports and Imports	-4.5%	-22%
UK Population[†]	-250,000	150,000
London GDP	-1.2%	-2.8%
London Labour Force[†]	-20,000	-5,000
London Labour Productivity	-3.8%	-1.6%

Sources: AMECO, World Bank and authors' calculations. For the 2014-2018 UK-level variables we have data from the same source as the regression sample. For London-level variables, where the most recent part of the sample is missing, we assume the labour force grew at its average rate, and labour productivity and GDP stayed constant.

* Scenario (1) is based on historical values of the variables over the period 2007-2014.

[†] The reduction in the UK population by 150,000 is compatible with estimates by Portes & Forte (2017). A proportional loss in London's labour force amounts to 5,000 people.

Countries in the GFCI: Argentina, Australia, Austria, Azerbaijan, Bahamas, Bahrain, Belgium, Bermuda, Brazil, Bulgaria, Canada, Cayman, Islands, China, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Gibraltar, Greece, Guernsey, Hong Kong, Hungary, Iceland, India, Indonesia, Ireland, Isle of Man, Israel, Italy, Japan, Jersey, Kazakhstan, Korea, Latvia, Liechtenstein, Luxembourg, Malaysia, Malta, Mauritius, Mexico, Monaco, Morocco, Netherlands, New Zealand, Norway, Panama, Philippines, Poland, Portugal, Qatar, Russian, Federation, Saudi Arabia, Singapore, South Africa, Spain, Sweden, Switzerland, Taiwan, Thailand, Trinidad and Tobago, Turkey, United Arab Emirates, United Kingdom, United States, Virgin Islands.

Cities included in Equation (2): Amsterdam, Athens, Boston, Brussels, Budapest, Calgary, Chicago, Copenhagen, Dublin, Edinburgh, Frankfurt, Geneva, Glasgow, Hamilton, Helsinki, Lisbon, London, Madrid, Melbourne, Mexico City, Milan, Montreal, Munich, New York, Osaka, Oslo, Paris, Prague, Rome, San Francisco, Seoul, Stockholm, Sydney, Tallinn, Tokyo, Toronto, Vancouver, Vienna, Warsaw, Washington D.C.