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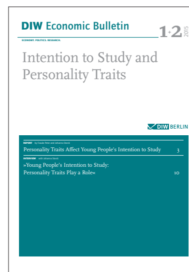

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NEXT ISSUE OF DIW ECONOMIC BULLETIN

Macroeconomic effects of uncertainty shocks related to the Brexit vote

Brexit decision puts strain on German economy

By Ferdinand Fichtner, Christoph Große Steffen, Michael Hachula, Simon Junker, Simon Kirby, Claus Michelsen, Malte Rieth, Thore Schlaak and James Warren

As a result of Britain's decision to leave the EU, global economic output is likely to grow at a somewhat slower pace than anticipated. The decision will have consequences for the UK and for the euro area in particular; this is also confirmed by simulations produced by the National Institute Global Econometric Model (NiGEM). An expected deterioration of economic relations—especially between the UK and the EU—and the associated increase in uncertainty have led to greater investment restraint. This has been accompanied by a devaluation of the British pound. Both will inhibit the development of the German economy with its strong focus on foreign trade. It will also dampen domestic investment and result in a lower level of consumption due to slightly weaker real wage growth. All in all, the German economy is likely to grow at a slower rate than previously predicted due to the Brexit decision. Growth is forecasted to be 0.1 percentage points lower in 2016 and 0.3 percentage points lower in 2017.

Since the Brexit referendum on June 23, 2016, the UK's economic outlook has become decidedly gloomy. Given the significance of the British economy for global production, this is likely to have a negative impact on many other countries: although the UK accounts for only two-and-a-half percent of global production, it is still a key trading partner for many euro area countries and for Germany in particular. The share of exports of goods to the UK, both for Germany and the euro area as a whole, amounts to nearly eight percent of total goods exports.

The Brexit decision has led to an increase in uncertainty, which has already put a strain on the UK's short-term economic development.[1] The effects are likely to persist in the short term, since negotiations on withdrawal from the European Union are likely to take several years. Consequently, lower investment growth and weaker employment development are to be expected. Only limited economic data from the period after the Brexit referendum are available to date. These indicate that an economic slowdown is underway. Consumer confidence in the UK has deteriorated sharply and the Purchasing Manager Index (PMI) surveys have weakened substantially (see Figure 1).

Growth in the euro area is also likely to be weaker than previously anticipated. Trade effects should play a major role here: weaker British demand dampens exports from the euro area. The devaluation of the British pound will probably reinforce this decline, as it results in an increase of import prices denominated in British pounds. Increased uncertainty in the euro area is expected to raise financing costs and also affect investment activities. Eurosceptic voices in other member countries of the EU are also likely to become louder.

However, the PMI for the euro area – and especially the PMIs for Germany and France, respectively – has so far shown no sign of a decline in response to the referendum decision. Yet the previously observed increase

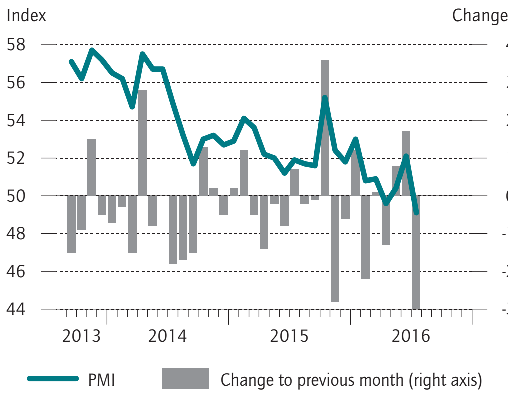
1 Ferdinand Fichtner et al., "Brexit decision is likely to reduce growth in the short term," *DIW Economic Bulletin*, no. 26/27 (2016): 301–307.

Figure 1

Leading indicators for the United Kingdom

GfK Consumer Confidence Index

Purchasing Manager Index, Manufacturing



Sources: Datastream, Eikon.

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Consumer confidence and purchasing manager index in the UK dropped after the Brexit decision.

Table 1

Change in real gross domestic product

Percentage points compared to summer 2016 forecast

	2016	2017
Euro area	−0.1	−0.3
without Germany	−0.1	−0.4
France	−0.1	−0.3
Spain	−0.1	−0.5
Italia	0	−0.5
Netherlands	−0.1	−0.3
United Kingdom	−0.3	−1.2
World	0	−0.2

Sources: National statistical offices; DIW forecast update 2016.

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Global production will develop weaker than expected.

in consumer confidence has not continued, and existing problems such as difficulties in the Italian banking sector have intensified.

Simulations with NiGEM

The global macroeconometric model NiGEM was used to assess the quantitative effects of the Brexit referendum on the European economy.[2] In this model, a range of shocks were introduced that lead to poorer financing conditions for companies and households in the UK and the euro area. Furthermore, shocks to the relative risk premia on exchange rates and business investment via uncertainty were added to the simulation. These shocks were calibrated to match the observed developments in financial markets.

Compared to a "remain counterfactual," British GDP growth is expected to be 0.3 percentage points lower in 2016 and 1.2 percentage points lower in 2017 (see Table 1). Growth rates in the euro area are predicted to be 0.1 percentage points lower in 2016 and 0.3 percentage points lower in 2017. In the euro area, countries such as Ireland and the Netherlands should be particularly affected, since they have large trade links with the UK.[3] Countries such as Italy and Spain are likely to suffer from weaker economic development due to the strong reaction of the financial markets in these countries following the referendum decision.

As a result of lower growth in the UK and the euro area, the global economy will experience slightly lower growth than recently forecast. In particular, the higher level of political and economic uncertainty plays a role in increasing the volatility of financial markets, which deteriorates financing conditions for both public and private borrowers in developing economies. International investors are more likely to turn to safer assets in the US or Japan. Global investment activity is also likely to slow somewhat. All in all, this will most probably be reflected in the 2017 GDP growth rate, which is expected to be 0.2 percentage points lower than previously forecast.

German economy will also suffer from Brexit

Due to its strong export orientation and its focus on capital goods, the German economy is doubly affected.

2 See National Institute Economic Review No 237 August 2016 (NIESR).

3 An overview of trade relations between the individual euro area countries can be found, for example, in Ferdinand Fichtner et al., "Brexit decision is likely to reduce growth in the short term," DIW Economic Bulletin, no. 26/27 (2016): 301–307.

Table 2

Effects of the Brexit vote on the German economy
Change in annual growth rates (unless indicated otherwise)

	real		nominal	
	2016	2017	2016	2017
Gross domestic product	−0.1	−0.3	−0.1	−0.4
Consumption	0.0	−0.1	0.0	−0.2
Investment	−0.1	−0.3	−0.1	−0.2
Exports	−0.3	−1.2	−0.3	−1.2
Imports	−0.2	−0.9	−0.2	−0.9
Net exports[1]	0.0	−0.2	−1.2	−8.8
Hourly wages			0.0	−0.2
Gross wages and salaries			0.0	−0.3
Domestic employment[2]			−3	−20

1 Real: change in growth contribution; nominal: change in billion euros.
2 In 1.000 persons.

Source: Calculations by DIW Berlin.

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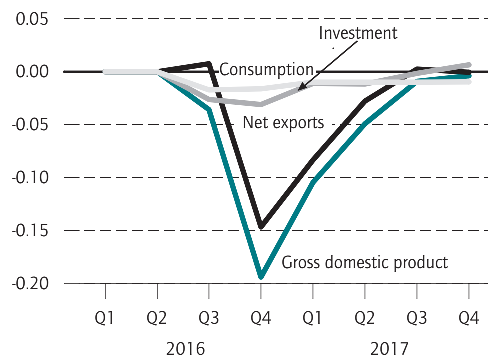
Brexit vote dampens German economy.

Figure 2

Change in growth contributions due to Brexit vote
In percentage points



Source: Calculations by DIW Berlin.

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Brexit vote dampens contributions of demand components to GDP growth; for net exports, the negative effect is more pronounced.

Consequently, less growth is expected for employment figures and household incomes, which restricts consumption somewhat. Economic output will therefore temporarily exhibit a lower increase than previously forecast, until production has adjusted to the lower demand (see Table 2).

Conversely, some of the capital removed from the UK should flow into Germany and improve its already favorable financing conditions. This will probably boost investment in real estate, which is already in demand, and also depress yields on German government bonds, which are considered to be a safe haven.

Real GDP is expected to grow by 0.1 percentage points less in 2016 and by 0.3 percentage points less in 2017 as a result of the Brexit decision.

Noticeable slowdown in foreign trade

As a consequence of the Brexit referendum, demand for German exports will rise less than previously expected. In particular, exports of important capital goods are likely to be curbed. This effect will be most striking in the winter of 2016/17 (see Figure 2).[4] On average, German exports will grow by 0.3 percentage points less this year and by 1.2 percentage points less in the coming year. German imports are not expanding as strongly, partly due to the lower demand for intermediate goods in the export sector and partly due to weaker investment and consumer demand in Germany: the effect is 0.2 percentage points in 2016 and 0.9 percentage points in 2017. However, the growth effect of the decline in exports will be larger than the corresponding effect of imports, so the growth stimulus of foreign trade will be lower—even negative—in the winter months. The impact of Brexit will barely affect net trade at all this year, but next year should dampen the growth contribution of net trade by 0.2 percentage points relative to a counterfactual no-Brexit situation. German exporters are likely to counter falling demand in part by reducing prices; consequently, the terms of trade will increase at a more subdued rate.

Uncertainty dampens corporate investment propensity

Corporate investment will be doubly affected by the Brexit referendum decision. First, export-oriented companies will adjust their capacities to the lower demand for exports. This will manifest itself in weaker investment growth, particularly since the production of export goods is largely capital-intensive. In addition, the Brexit referendum decision will probably increase the costs of bilateral trade and is therefore likely to curb trading volumes. Lower capacities appear to be sufficient to meet demand, especially in the long term.

However, the uncertainty will probably have a greater effect. The decision in favor of Brexit has led to considerable uncertainty about future trade relations. This will

4 The direct effect of the decline in exports will be to slow economic output by a good half a percentage point in the coming year; this forecast takes into account both declining exports to the UK and falling exports to other sales markets that have also seen a stronger decline in growth than previously expected. By contrast, foreign trade only fell by two-tenths of a percentage point because of a more limited increase in imports.

also have a negative impact on corporate investment. This effect is likely to dampen equipment investment by 0.3 percentage points in the current year and by 0.9 percentage points in the coming year.[5]

Other investment is not likely to be considerably affected by the Brexit referendum decision. This refers largely to R&D spending, which contributes substantially to the international competitiveness of German companies. It is more probable that companies will continue developing products for new markets and improving processes.

The real estate industry is likely to benefit: residential, office, and retail properties will all become more attractive to investors such as internationally operating real estate funds, which will now be looking for alternatives to investment in the UK. Initially, this should be reflected primarily in rising real estate prices because the additional demand will probably affect competition for scarce building land in urban centers. Investors unfamiliar with the local area are not very likely to implement their own construction projects. It is therefore more probable that previously active investors will be crowded out rather than stimulating additional construction activity.

5 See also Michelsen, C., Piffer, M., Rieth, M. (2016), DIW Economic Bulletin Nr. 32+33/2016, in preparation.

Lower incomes curb consumption

The weaker development of foreign trade and investment also weakens household income from entrepreneurial activity and assets. In addition, companies are likely to revise their staffing plans downward, albeit only slightly, and depressed profits are likely to slow down wage increases somewhat. Consequently, private consumption will increase at a slower pace, even though lower inflation will counteract the lower income growth to some degree.

Conclusion

The Brexit decision is likely to cause a locational disadvantage for the UK in particular, where investment is likely to fall appreciably. In addition, it can be expected that commercial relations with the rest of the world will deteriorate in the longer term and hamper global trade. Consequently, companies will adjust their capacities. The resulting uncertainty will also affect investment. The overall weaker development of trade and production will mostly place a strain on the UK's major trading partners; the relatively open German economy, which is also likely to be affected disproportionately from declining demand for capital goods due to its focus on this product group, will temporarily slow down as a result of the Brexit referendum decision, particularly in the winter of 2016/17.

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SIX QUESTIONS TO FERDINAND FICHTNER

»Post-Brexit uncertainty is the foremost short-run drag«

1. Dr. Fichtner, will the result of the British referendum to leave the EU send the UK and perhaps even the entire EU into economic crisis? We believe that economic growth in the UK has already been dampened somewhat in the short term by this result. It will have a noticeable impact on economic growth in the UK. The decision is also relevant for the rest of Europe, of course, because weaker UK growth leads to correspondingly weaker UK imports. This can, in turn, considerably dampen exports from its partner countries.

2. At the moment, the British are still in the EU. Why would the vote for Brexit already affect the economy? The burning issue at the moment and in the coming year is the uncertainty surrounding economic cooperation between the UK and the EU. No-one knows when the UK will actually leave the EU, nor the conditions under which that will happen. It means that businesses and households essentially cannot plan. The consequence of this is that businesses and households will initially postpone many decisions, and this is already reflected in correspondingly weaker economic growth.

3. Is the uncertainty so great because no-one knows when the UK will leave or because no-one can predict its consequences? The uncertainty basically has three dimensions to it. No-one knows when the UK will leave nor under what conditions and even if we did know for definite, it would be very difficult for businesses and economic researchers to predict the actual consequences of a new relationship between the EU and the UK. This means there are many aspects to the uncertainty.

4. To what extent is this uncertainty a threat to the German economy? Uncertainty about future economic development in the UK also leads to uncertainty about German exports. German exporters do not know at present how much they will export to the UK in future. In turn, this will cause investment restraint in Germany which, in addition to weaker exports already forecast in the coming year, could noticeably dampen growth in Germany. We expect the German economy to grow by a good quarter of a percentage point less in the coming year as a result of the UK's decision to leave the EU.

5. What are the consequences for other areas, such as the labor market and consumption? Weaker growth in Germany will also cause correspondingly weaker labor market developments. The unemployment rate will not therefore increase appreciably more than we would have otherwise anticipated, but nevertheless some people will lose their jobs as a result. Wages may not rise quite as fast, meaning that people in Germany will have less money overall in their pockets. Corporate profits may also be somewhat weaker. All this will lead to somewhat weaker growth than had been originally predicted.

6. When will the effects of this uncertainty be felt? We expect UK exports to be particularly subdued at the end of the year. The fourth quarter of this year, in particular, and the beginning of the coming year will see weaker demand from the UK because this is when investment restraint will have a strong impact on the UK economy. This will lead to poorer sales opportunities for German exporters of capital goods than previously anticipated.

Interview by Erich Wittenberg

Brexit: What's at stake for the financial sector?

By Jakob Miethe, David Pothier

The United Kingdom's exit from the European Union will have far-reaching implications for the British financial sector. London is currently the financial capital of Europe, and the UK's financial institutions benefit from passport rights that allow them to provide their services throughout the Single Market. The UK plays two key roles in the European financial system: the first as a major hub for wholesale banking activities conducted by large European banks, and the second as a major entry point for non-European capital entering the Single Market. If the UK were to lose its financial passport rights, both of these roles would be significantly diminished. This article analyzes some of the potential consequences of the UK losing its financial passport. One possibility is that the UK will push for greater integration with offshore financial centers in its Crown dependencies and overseas territories in order to compensate for the costs of Brexit. Such a move would run counter to the EU's objectives to prevent "aggressive tax planning," and may further complicate negotiations between the EU and the UK.

On June 23, 2016, voters in the United Kingdom voted in favor of leaving the European Union. The day after the referendum, British Prime Minister David Cameron announced his decision to resign and the pound fell 10% against the US dollar. The political and economic turbulence that has manifested in the wake of the Brexit referendum reflects the widespread uncertainty regarding the UK's future relationship with the EU. This will be determined over the course of a two-year negotiation process should the British government choose to officially declare its intention to leave the EU by invoking Article 50 of the Lisbon Treaty.

As a member of the EU, the UK enjoys full access to the European Single Market, which guarantees the free movement of goods, services, capital, and labor within the European Economic Area (EEA).[1] A major objective voiced by "Leave" supporters during the Brexit referendum campaign is to limit the ability of EU nationals to immigrate to the UK. Given that freedom of labor is a central component of the EEA, the Brexit referendum result has raised serious doubts about whether the UK will remain part of the Single Market.

The British financial sector is among those that have the most to lose should the UK leave the Single Market. Indeed, the UK currently boasts one of the largest and most internationally active banking sectors in the world, accounting for nearly one fifth of all global banking activity.[2] This sector has grown substantially since the UK joined the European Community (EC) in 1973. While assets held by the banking sector amounted to roughly 100 % of GDP in 1975, this figure had risen to 450 % of GDP in 2013. This spectacular growth is partly attributable to the financial "passport rights" accorded to EEA countries' financial institutions, which allow financial firms operating in one member state to supply financial services throughout the EEA without further legal or regulatory requirements.

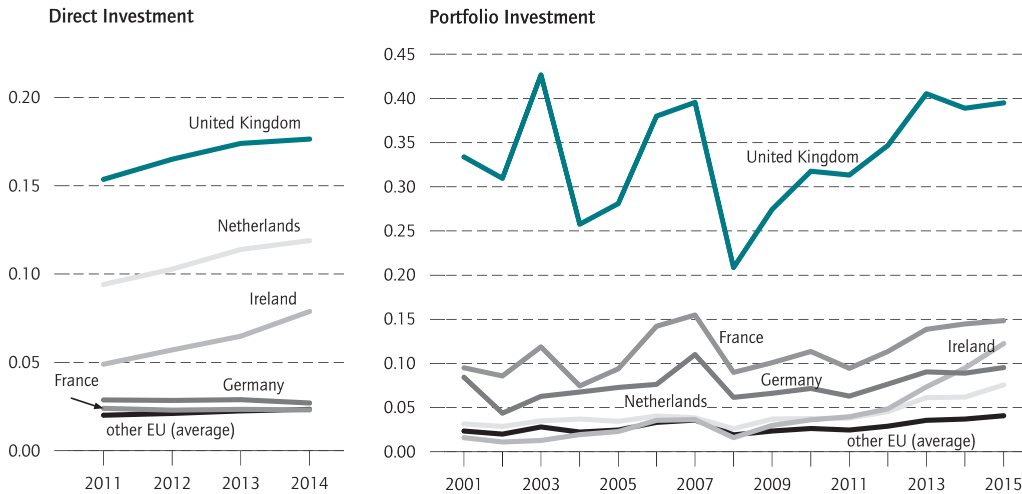
1 The EEA consists of all 28 EU member states, as well as Norway, Liechtenstein, and Iceland, which are not members of the EU but belong to the European Free Trade Association (EFTA).

2 Oliver Bush et. al. "Why is the UK banking system so big and is that a problem?" *Bank of England Quarterly Bulletin* (2014/Q4).

Figure 1

Direct US investment into the European Union

In percent of recipient country's GDP



Sources: OECD; International Monetary Fund.

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Direct investment from the US mainly goes to the UK.

This article analyzes the implications of Brexit for the UK's financial sector, under the scenario that the UK loses the financial passport rights it currently enjoys. Such a change would have major implications for the British financial sector. To illustrate what is at stake, this study highlights the mutual financial linkages between different EU countries and the UK. Particular attention is paid to the dual role the UK's financial sector plays in European financial markets: first as a port of entry for non-EU capital entering the EEA, and second as a major hub for wholesale banking within the EU.

What is the financial passport?

With the European financial passport, a financial institution licensed in the UK (the home country) is legally entitled to provide services in another member state (the host country) without needing any further regulatory authorization. Passport rights can be exercised either on a branch or service basis (i. e. either with or without a physical presence of the financial institution in the host country), and although the host country supervisor must be notified of the financial institutions' activities, the "passporting" financial institution remains under the regulatory authority of the home country supervisor.[3]

The set of financial service activities that benefit from European passport rights are specified by a number of EU directives—e. g. two key directives for banking and investment services are the Capital Requirements Directive (CRD; 2013/36/EU) and the Markets in Financial Instruments Directive (MiFID; 2004/39/EC). Importantly, passport rights apply exclusively to financial institutions located in countries belonging to the EEA.[4] While negotiations on the terms of Brexit may lead to a special status for the UK, it is likely that British financial institutions will lose their passport rights if the country leaves the EEA.

London: financial capital of Europe—for now

Financial passport rights apply not only to European financial firms, but also to non-European financial firms legally established in one of the EEA's member states. Because of this, the UK's highly developed financial market serves as an important port of entry for foreign capital entering the EU. A comparison of US foreign direct investment (FDI) and foreign portfolio investment (FPI) across EU countries illustrates the UK's significant role in this regard. While Germany, France, Ireland, and the Netherlands are popular investment destinations when measured relative to GDP, the UK is by far the most important country (Figure 1). In absolute numbers, US FPI into the UK was 1.5 times as large, and FDI three times as large, as those into Germany and France combined.

3 For the UK, the relevant supervisory body is the Bank of England's Prudential Regulation Authority.

4 For example, most financial institutions in Switzerland—a member of EFTA but not of the EEA—do not benefit from these passport rights, since Switzerland's access to the Single Market is determined by a series of bilateral agreements with the EU.

Box

Glossary

Clearing houses: A clearing house functions as a central counterparty between business partners: that is, the seller sells securities to the clearing house, and the buyer purchases from the clearing house. At the end of each trading day, reciprocal claims and liabilities are determined and then cleared. Clearing houses can take on further roles, among them hedging against credit risks. Defaults by market participants can therefore create payment difficulties for clearing houses in the short term, which is why the central bank lending facilities mentioned in this report have been established.

Over-the-counter (OTC): OTC trades are transacted bilaterally between contracting parties instead of being executed on a centralized exchange. The market for OTC derivatives has grown significantly over the past two decades, and the outstanding global market value stood at approximately 20 trillion US dollars at the end of 2014.[1]

Swap lines: Central banks can make liquidity available to each other in their respective currencies. This is achieved using swap lines. For example, the US Federal Reserve System made swap lines available to a number of central banks—including the ECB and the Swiss National Bank—during the global financial crisis to ensure that European banks could obtain dollar liquidity directly from their own central banks.[2] Swap lines also play a role in securities trading: if the trading of a security priced in euros is processed through a London clearing house, it is linked to the increase of claims and/or liabilities that must be paid in euros. If a contracting party cannot settle an open claim, the clearing house needs euros to close its positions. Since the BoE regulates the clearing house, the ECB makes swap lines available to the BoE; with these, the BoE can directly provide euro liquidity to clearing houses located in the UK.

Derivative: A derivative is a financial product whose value is derived from a share, currency, or interest rate. Derivatives are primarily used to hedge financial risks but may also be speculative in nature.

1 See Arshadur Rahman, "Over-the-counter (OTC) derivatives, central clearing and financial stability," *Bank of England Quarterly Bulletin*, 2015/Q3.

2 See "Credit and Liquidity Programs and the Balance Sheet," *Board of Governors of the Federal Reserve System,* August 14, 2005, https://www.federalreserve.gov/monetarypolicy/bst_liquidityswaps.htm

Foreign direct investment (FDI): An FDI is an international investment in which the investor acquires at least ten percent of a company.

Foreign portfolio investment (FPI): An FPI is an international investment that cannot be classified as an FDI or as a reserve asset. It is typically used to measure short-term or volatile investment.

Local claims: The Bank for International Settlements' (BIS)[3] international banking statistics distinguish between international and local (domestic) claims, among others. A claim is categorized as local if it is made by a bank's foreign branch in a host country against a local company, and also denominated in the host country's currency. For example, if an English company takes out a loan in GBP at a London branch of a Spanish bank, it will be categorized as a local claim in local currency ("local in local") of a Spanish bank against a British counterparty.

International claims: The BIS statistics make a distinction between international and local (domestic) claims.

A claim is categorized as international if it crosses borders (for example, a loan from a Spain-based Spanish bank to an English company). Claims of foreign subsidiaries against companies based in the host country are also categorized as international if they are not denominated in the host country's currency (e.g. a loan in euros from the London-based branch of a Spanish bank to an English company). For the BIS statistics, subsidiaries and parent companies are aggregated and consolidated. International claims can therefore be used to measure the international activity and exposure of the reporting banks against counterparties in other countries.

Foreign claims: In the UK data,[4] the "foreign claims" category also comprises claims by foreign bank subsidiaries located in the UK against counterparties in third countries (for example, the claim of a London-based German bank subsidiary against a French company). Because such claims are also recorded as Germany's international claims against France, they are not included in BIS aggregates.

3 For details, see "Guidelines for reporting BIS international banking statistics," *Bank for International Settlements,* September 13, 2015, http://www.bis.org/statistics/bankstatsguide.htm

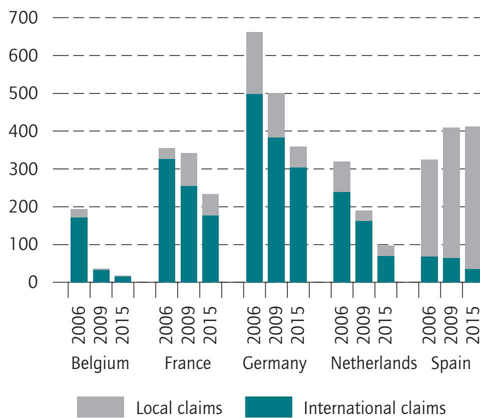
4 For more details, see Figure 2 in this report.

This raises the question of how these positions will develop should the UK lose its privileged access to EU financial markets. Since FDI into the EU will not stop after Brexit, London runs the risk of losing its position as the leading intermediary of funds into the EU. Indeed, the large FDI positions of the Netherlands and Ireland already show that the UK is not the only country intermediating foreign funds into the EU.

Figure 2

Bank claims of EU countries against the UK

In USD million



Source: Bank for International Settlements.

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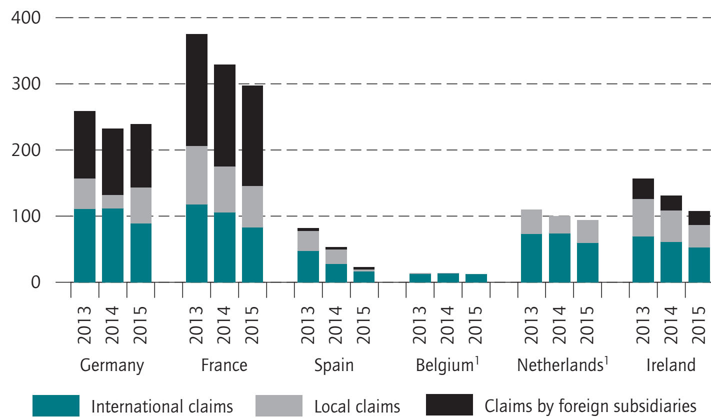
Bank claims of the the Netherlands against the UK are disproportionately high.

Figure 3

Bank claims of the UK towards EU countries

In USD million



1 No data for foreign subsidiaries.

Source: Bank for International Settlements.

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Compared to their economic size, banks of the UK hold especially large claims agains Dutch and Irish institutions.

The UK also plays an important role within the financial system of the EU, as reflected by EU countries' substantial FDI and FPI holdings in the UK. Ten percent of worldwide FDI assets are held in the UK, 52 % of which come from EU economies. When it comes to global FPI, 8.8% is held in the UK, with more than 45 % coming from the EU. Two key countries in the EU are Ireland and Luxembourg, which hold disproportionally large positions due to their tight financial integration with the UK (Ireland, for example, holds more foreign portfolio assets than either Germany or France).

Financially, the UK is tightly linked to other EU countries

The fallout for the UK resulting from the loss of its EU financial passport rights would be substantial. The UK's financial sector currently occupies an important role in intermediating funds throughout the EU. Foreign banks, including many large European banks, hold nearly half of the UK banking sector's assets.[5] Banks located in Germany and France, the two largest economies in the EU, record the highest claims against counterparties registered in the UK (Figure 2).[6] As well, claims of banks in the Netherlands are far larger than those of countries of similar economic size, such as Belgium.

Claims of the UK in the EU are equally significant and show a similar pattern. Germany and France are the largest debtors of banks located in the UK (Figure 3). The role played by the UK as a center for both wholesale banking and derivative trading is reflected in the high volumes of claims held by foreign subsidiaries, especially against counterparties in large EU economies. Claims on Spanish counterparties are roughly proportional to its economic size, while claims against the Netherlands and Ireland are (again) disproportionally large.

Regarding financial integration with the UK, there is a significant difference between Germany and France on the one hand, and Ireland, Luxembourg, and the Netherlands on the other. The large positions between Germany, France, and the UK reflect high trade volumes and the sheer economic size of these countries. While they are partners, they are also competitors and are likely to act as such in the upcoming negotiations. The Prime Minister of France has already declared Paris "the financial capital of the future"[7] in a bid to attract business away from post-Brexit London.

On the other hand, the Netherlands and Ireland, as well as Luxembourg, are disproportionally strongly integrated with the UK relative to their economic size. One reason for this could be the role these countries play in tax

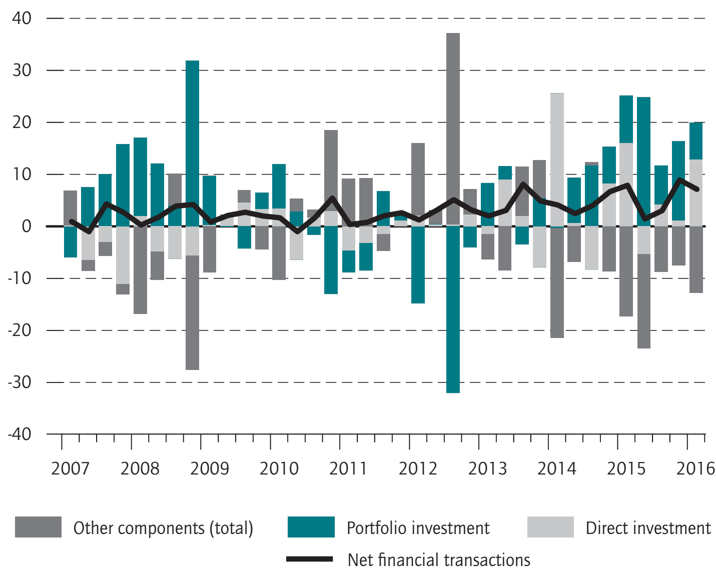
5 Oliver Bush et al. (2014). *Ibid.*

6 Since bilateral data on bank claims of EU countries towards the UK are not comprehensive, important financial partners of the UK, notably Ireland and Luxembourg, cannot be included in this figure.

7 Reuters, "France makes strong bid for banking business poised to leave London," *The Guardian*, July 6, 2016, https://www.theguardian.com/world/2016/jul/06/france-strong-bid-banking-business-poised-to-leave-london-paris-Brexit-manuel-valls

Figure 4

The financial account of the United Kingdom
In percent of GDP



Source: Office for National Statistics.

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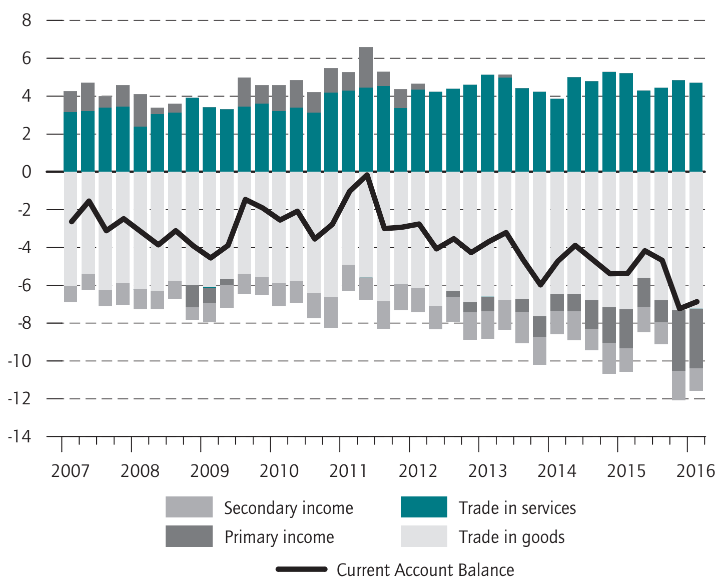
Capital entering the UK primarily takes the form of FDI or FPI.

Figure 5

The current account of the United Kingdom
In percent of GDP



Source: Office for National Statistics.

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With the exception of trade in services, the UK's current account to the EU is negative.

planning for international companies. Since these countries levy relatively low taxes on corporate profits and leave several regulatory loopholes unclosed, companies transfer financial resources between subsidiaries incorporated domestically and those incorporated in the UK. This leads to large bilateral positions and shows that the Netherlands, Luxembourg, and Ireland have more at stake should London lose its position as the financial capital of Europe. These countries are therefore likely to lobby for a more cooperative outcome based on the status quo.

Current account deficit exacerbates the UK's dependence on its financial sector

The aggregated financial account confirms the snapshot of bilateral positions highlighted above. It is driven by FPI and FDI (Figure 4). This capital import finances a current account deficit that recently amounted to 6.9 % of GDP (1st quarter of 2016).[8] Decomposing this current account deficit shows a striking discrepancy between a strong surplus in the external trade of services and a strong deficit in the external trade of goods (Figure 5).

Trade in services is the only non-negative element in the current account of the UK. The lion's share of this surplus can be attributed to financial services, followed by insurance and pension services and "other businesses," which are in turn primarily composed of legal, accounting, and management services that are closely linked to the financial sector (Figure 6). The net positive position in trade in services is therefore almost exclusively due to the export of services linked to London's position as a global leader in financial intermediation.

With a loss of the financial passport, the UK's already negative current account could come under pressure from two sources. First, continuing capital inflows could decline as London becomes less attractive as a financial center for both intra- and extra-EU investors. Second, the current account deficit could deteriorate significantly if financial services provided by UK-based financial firms—the only component of the country's current account with a positive net balance—become less attractive to EU companies and banks.

These two points underline the high stakes the UK has in securing an arrangement with the EU close to the status quo in order to limit the fallout of Brexit for the financial sector. Moreover, due to possible negative spill-

8 The UK's current and financial accounts with the EU are largely proportional to those with the world at large. Wherever data allow comparison, it is evident that around half of all UK transactions take place within the EU, with those involving financial service exports being lower. Such data are only available for the aggregated current account, which is why Figure 5-7 is based on globally aggregated data.

over effects that would be triggered by a sudden stop or a balance of payments crisis in the UK, EU leaders are likely to accommodate the UK to some extent.

Derivative trading in euros could move to the euro area

Only about half of UK-owned banks' assets are loans to non-banks (such as non-financial corporations and households). This share is even lower for foreign bank subsidiaries located in the UK, 60 % of whose assets consist of derivatives and other structured products.[9] This reflects the important role the UK financial sector plays in intermediating capital through wholesale funding and securities markets, as reflected by the high volumes of claims held by foreign subsidiaries documented above.

The UK's financial sector also stands out in terms of the commanding role it plays in clearing derivative trades denominated in euros. According to data published by the Bank of International Settlements (BIS) in 2013, 45 % of all euro-denominated FX derivatives and 70 % of all euro-denominated interest rate derivatives are cleared in the UK (Figure 7). This corresponds to a daily turnover of about 1 trillion euros.

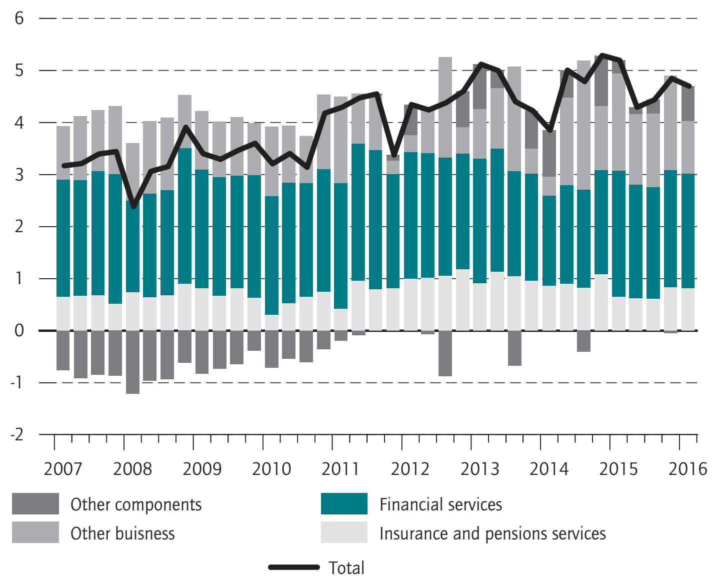
The fact that the largest clearing houses (Box) engaging in euro-denominated transactions are located in the UK already caused problems prior the Brexit referendum, since the UK is not a member of the euro area. Following the 2007–2009 global financial crisis, regulators on both sides of the Atlantic introduced mandatory clearing requirements for derivatives in order to increase the stability of the financial sector. In Europe, the European Markets Infrastructure Regulation (EMIR) requires financial institutions to centrally clear certain classes of over-the-counter (OTC) derivative contracts through central counterparties (CCPs). In addition, the Financial Stability Board agreed in 2012 that central banks should provide liquidity support to fundamentally solvent CCPs facing temporary liquidity needs.[10] This implies that the European Central Bank (ECB) effectively serves as a lender of last resort for clearing houses conducting transactions in its jurisdiction.

Given the increasing importance of clearing houses in conducting derivative market trades, the ECB published a Eurosystem Oversight Policy Framework in 2011, which argued that institutions that settle euro-denominated transactions should be legally incorporated in the euro area.[11] At the time, this policy framework was severely criticized by the UK government, which filed a lawsuit before the European General Court arguing that location requirements violate the free movement of capital in the Single Market. In March 2015, the European General Court in Luxembourg ruled in favor of the UK government. It concluded that the ECB does not have the competence under the Treaty on the Functioning of the European Union to impose location requirements on CCPs involved in clearing securities since these transactions do not constitute part of the payment system.[12] As a response to this ruling, the ECB and the Bank of England (BoE) announced that they would extend the scope of their standing swap line in order to facilitate the provision of euro liquidity support to CCPs established in the UK.[13]

Figure 6

Trade in services of the UK decomposed

In percent of GDP



Source: Office for National Statistics.

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The positive balance in the UK's trade in services connected to finance.

9 Oliver Bush et al. (2014). *Ibid.*

10 Financial Stability Board. "OTC Derivatives Market Reforms—Third Progress Report on Implementation." June 15, 2012. http://www.fsb.org/wp-content/uploads/r_120615.pdf

11 European Central Bank. "Eurosystem Oversight Policy Framework." July 2011. https://www.ecb.europa.eu/pub/pdf/other/eurosystemoversightpolicyframework2011en.pdf

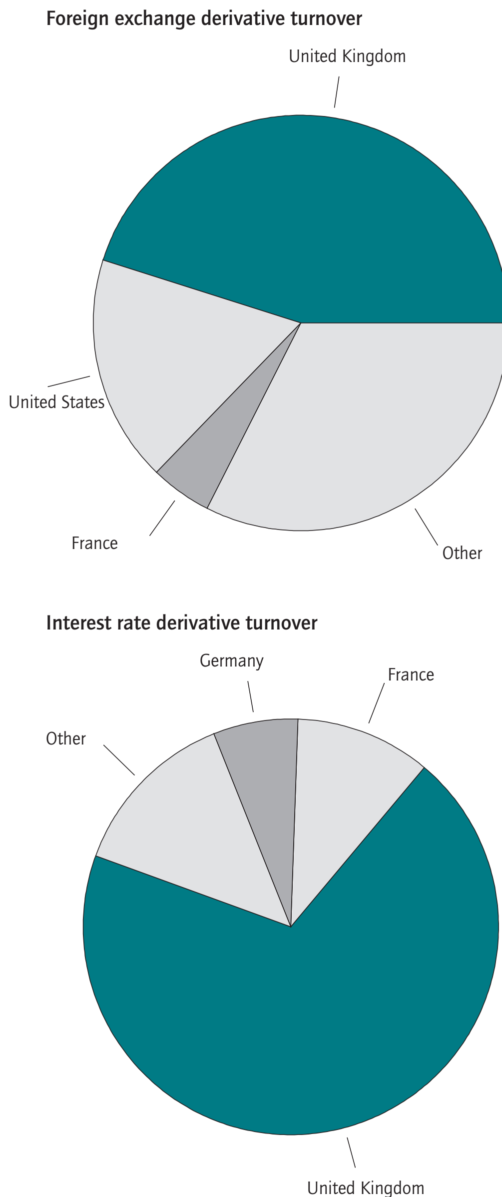
12 General Court of the European Union. "Das Gericht erklärt den von der EZB veröffentlichten „Eurosystem Oversight Policy Framework" für nichtig, wonach zentrale Gegenparteien im Euroraum ansässig sein müssen." Press Release No. 29/15, March 4, 2015. http://curia.europa.eu/jcms/jcms/P_154437/fr/.

13 European Central Bank. "Europäische Zentralbank und Bank of England geben Maßnahmen zur Verbesserung der Finanzstabilität mit Blick auf Märkte mit zentralem Clearing in der EU bekannt." Press Release, March 29, 2015. https://www.bundesbank.de/Redaktion/DE/Downloads/Presse/EZB_Pressemitteilungen/2015/2015_03_29_ezb_und_boe.pdf?__blob=publicationFile

Abbildung 7

OTC turnover by country

In euro (april 2013, daily averages)



Source: Bank for International Settlements.

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The UK clears most interest rate and foreign exchange derivative transactions.

Leaving the EEA would mean that the UK would no longer be legally obliged to subscribe to the EMIR framework. Among other things, this implies that derivative transactions conducted in the UK would no longer have to be reported to the European Securities and Markets Authority (ESMA), the EU's "financial watchdog." It seems highly unlikely that European authorities would allow such a high volume of euro-denominated transactions to be conducted in a country outside of its regulatory jurisdiction. Moreover, if the UK leaves the EU, it is questionable whether last year's ruling concerning the location of clearing houses would still apply.

A substantial fraction of euro-denominated derivative trading activity may therefore relocate to the euro area if the UK's financial institutions lose their financial passport rights. There are four clearing houses located in the UK—CME Clearing Europe, ICE Clear Europe, LCH. Clearnet, and LME Clear—and some already have offices located within the euro area (e.g. LCH.Clearnet already has a large Paris office). Some of the trading activity conducted by these CCPs will certainly relocate to countries within the euro area if the EU introduces location requirements on institutions engaging in euro-denominated trades. But even in the absence of such location requirements, clearing houses may choose to relocate some of their trading activity due to uncertainty about the volume of liquidity support that will be provided through ECB-BoE swap lines in the future.

Will Brexit lead to an intensification of tax competition?

Single market access is key for London's financial sector, and this sector in turn is central to the British economy. Several commentators have voiced concern that the UK could react to a slump in this sector with aggressive tax planning strategies to retain its competitive edge both in the corporate and financial sectors.

The UK is historically connected to a host of offshore financial centers, many of which are regarded as tax havens boasting zero corporate and personal income tax rates. The EU finance ministers have agreed to compile a list of "non-cooperative jurisdictions" to counter tax treaty abuse.[14,15] All three Crown dependencies (Jersey, Guernsey, Isle of Man) as well as ten of the UK's 14 overseas territories—including the Cayman Islands, Bermuda, and the British Virgin Islands[16]—are already listed by at least

14 "Council conclusions on an external taxation strategy and measures against tax treaty abuse," *European Council*, May 25, 2016, http://www.consilium.europa.eu/en/press/press-releases/2016/05/25-conclusions-tax-treaty-abuse/

15 "Tax good governance in the world as seen by EU countries," *European Commission,* December 31, 2015, http://ec.europa.eu/taxation_customs/taxation/gen_info/good_governance_matters/lists_of_countries/index_en.htm

16 The 14 territories are: Anguilla; Bermuda; the British Antarctic Territory; the British Indian Ocean Territory; the British Virgin Islands; the Cayman Islands; the Sovereign Base Areas of Akrotiri and Dhekelia on Cyprus; the Falkland Islands; Gibraltar; Montserrat; the Pitcairn Islands; Saint Helena, Ascension and Tristan da Cunha; South Georgia and the South Sandwich Islands; and the Turks and Caicos Islands. See: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/14929/ot-wp-0612.pdf

one EU member state as a non-cooperative jurisdiction. The level of financial integration between the UK and these territories is also remarkably high. Even in absolute numbers, the stock of UK FDI in some of these jurisdictions is comparable to that in Germany, the largest economy in the EU (Figure 8). In terms of inward FDI, these entities are equally important.

Such volumes, as well as the historic connections between the UK and these territories, explain the resistance of Britain to the abovementioned list of uncooperative jurisdictions.[17] This in turn lends credibility to worries that the UK might integrate even further with offshore financial centers as it moves away from the EU. In addition, offshore financial centers stand to lose an important ally in the EU, which could strengthen the ability and willingness of the remaining EU member states to regulate uncooperative jurisdictions.

Conclusion

The outcome of the Brexit referendum may lead to significant changes in Europe's financial geography. The UK's financial sector currently plays two roles in the European financial system: first as a major hub for wholesale banking activities conducted by large European banks, and second as a major port of entry for non-EU capital entering the Single Market. If future negotiations between the EU and the UK lead to British financial institutions losing their financial passport rights, both of these roles risk being significantly diminished.

Intra-European capital positions to the UK suggest that the stakes are not the same for all remaining 27 member states. While Ireland, Luxembourg, and the Netherlands are more financially integrated with the UK than most other member states, they may also be able to profit as a new port-of-entry for third-country capital seeking to enter the Single Market if the UK leaves the EEA. Similarly, France and Germany are likely to lobby hard to attract the euro-denominated derivatives markets that are currently controlled by London-based clearing houses.

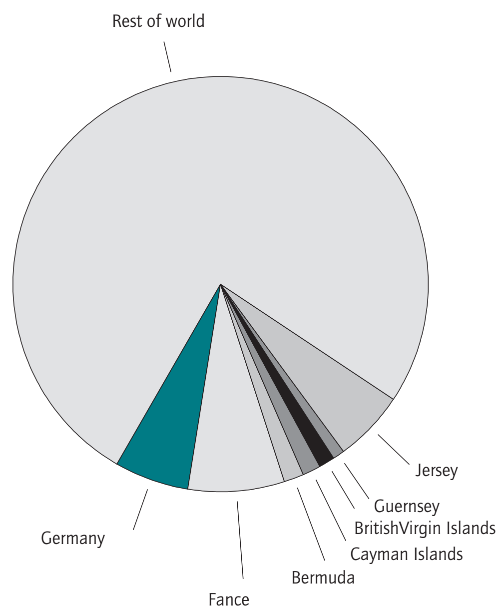
The UK's reliance on financial service exports to the EU will also weaken the UK's bargaining position in any future negotiations with the EU. Since the costs implied by a loss of the financial passport would be substantial, the UK will have a hard time extracting major concessions from the remaining member states. There is also a real danger that the UK government will react to Brexit by engaging in regulatory arbitrage to attract international

Abbildung 8

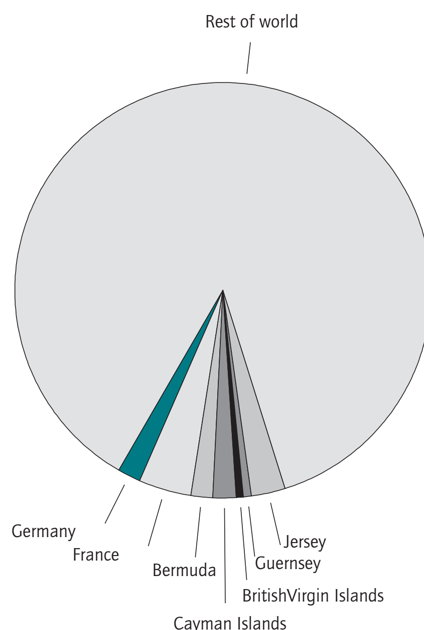
Foreign Direct Investment of selected countries into the UK

In percent of total direct investment in 2014

to United Kingdom



From United Kingdom



Source: International Monetary Fund.

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Financial integration with Crown dependencies and offshore territories is on par with that with Germany and France.

17 Jennifer Rankin, "Britain under pressure to end opposition to tax haven blacklist," *The Guardian*, April 6, 2016, https://www.theguardian.com/news/2016/apr/06/britain-under-pressure-opposition-tax-haven-blacklist

financial institutions. This could lead to a further integration between the UK and offshore financial centers. European leaders would do well to keep this in mind when negotiating any future agreement with the UK.[18]

18 The recent spat concerning the UK contemplating a lowering of corporate tax rates seems to suggest the EU leaders are aware of this danger. See: Anne-Sylvaine Chassany, "France hits out at UK plan to cut corporate tax," *Financial Times,* July 11, 2016, https://next.ft.com/content/77a20970-474c-11e6-b387-64ab0a67014c

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