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Summary

BREXIT is a historical step for the UK and the EU27 which could bring a strong Pound deprecation, an increase in risk premiums for British bonds and a transitory rise of financial market volatility plus a long term reduction of economic growth in the UK. Macroprudential supervision thus is a crucial policy challenge for EU28 in the context of BREXIT and the European Systemic Risk Board thus should have a critical role in 2018 and the following years. The IMF's FSAP as well as the ESRB thus should timely analyze the potential risk of BREXIT and consider adequate policy options to reduce or eliminate risks. As regards the ESRB this requires full cooperation of all EU28 actors in that organization. Moreover, the EU27 faces major problems in terms of prudential supervision after BREXIT since a very large part of EU27 wholesale banking markets are in the UK and thus not regulated by the EU after March 29, 2019. The EU Commission's competence for EU trade policy as well as international investment treaties gives the EU the opportunity to offer the UK not only a – limited – Free Trade Agreement but an international investment treaty as well, including options for global cooperation. Contract continuity is a dangerous BREXIT challenge for EU-UK negotiations. The influence of US regulation on Europe will increase due to BREXIT. Several policy innovations are proposed.

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on BREXIT analysis see Welfens, An Accidental BREXIT (2017: 7,000 downloads in 3 months, presented at Georgetown University, Washington DC, on Sept. 12 and at University College London on Dec. 6, 2017; German edition: BREXIT aus Versehen, 2016, 34 K downloads in 12 months)
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1. Introduction

With an agreement reached on the transition stage for BREXIT in March 2018, namely UK's continued activity in the EU single market until 2020, the EU-UK negotiations are heading towards a final stage where the future EU-UK trade relations should be framed within some form of sectoral free trade agreement. The EU chief negotiator Michel Barnier has already emphasized in December 2017 that financial services largely will not be part of the free trade agreement. Thus there will emerge a considerable disadvantage for the UK which has been running a sectoral current account surplus in financial services vis-à-vis the EU27 for many years that has partly offset its high structural current account deficit in goods with the EU. For the EU27, BREXIT will create a special problem since 90% of the EU27 wholesale banking market is located in the City of London: London's financial district is strong in derivatives – designed as a hedging instrument against certain risks - as well as in foreign exchange trading of $ and € contracts and the arranging of big loans for EU27 multinational companies. This creates a strange situation for the Eurozone and the EU27, respectively, since after BREXIT the largest part of the EU banking wholesale market as well as many insurance contracts for EU27 countries will be based outside of the Community – and EU legislation, of course, will no longer apply except for certain fields until the end of the transition period, read December 31, 2020. While the BREXIT-related analysis of many authors has focused on trade issues (e.g. WINTERS, 2017; DHINGRA/OTTAVIANO/SAMPSON 2017), the analysis of financial market perspectives has been rather neglected although new financial instabilities could be expected in the medium term. The Annual Report of the Bank for International Settlements in 2017 has, however, pointed out that political instability could increasingly affect financial market dynamics; and BREXIT and the related infighting within the May cabinet are an obvious point here whose background is not difficult to understand.

The 2016 referendum in the United Kingdom resulted in a narrow majority in favor of BREXIT: The United Kingdom will leave the EU on March 29, 2019, after 45 years in the European Union – a historical step for this century, for the UK itself, for Europe and also for the US which had supported EU integration for decades until Donald Trump was elected president. It is already clear, and has been emphasized at the 2018 meeting of British Prime Minister May and US President Trump in Davos, that the UK and the US are heading towards a British-American transatlantic trade and investment partnership agreement which is expected to help the United Kingdom to overcome the dampening effects of BREXIT on long run economic growth. With the United Kingdom leaving the EU, the negative long run output effect in the case of an EU-UK free trade agreement is about -6% according to the study of the UK Treasury in 2016. From a UK perspective, the Global Britain approach, with its strategy of concluding many new trade agreements, is part of political risk management in the BREXIT context; once the United Kingdom is no longer a member country of the European Union. The EU exports of the UK stand for about 12% of the British national income which is a large share; about five time as much as the economic weight of UK-US exports.

It could happen that despite an unclear majority from the EU referendum - there are arguments to classify the referendum as a disorderly one (WELFENS, 2017a) where the expected result in normal circumstances would, based on UK popularity functions, have been 52.1% for Remain - BREXIT is fully implemented, but at least one may hope that an EU-UK free trade agreement for goods could be achieved. As regards financial markets, one may anticipate considerable volatility in the coming years given the fact that BREXIT is a historical step which takes the UK and the EU into unchartered waters. As regards risk management, one may assume that macroprudential supervision institutions in the EU28 and also relevant policy units at the International Monetary Fund (IMF) and the Bank for International Settlements (BIS) will carefully and timely consider the potentially serious challenges ahead in financial markets. As regards the pressure regarding the relocation of banks and investment funds, several studies have looked into the potential effects (e.g. CAMBRIDGE ECONOMETRICS (2018); OLIVER WYMAN (2016)). One also should note that at least one study from Germany has raised the issue of whether or not risk premia in various forms could slow down investment in Europe (IMK, 2016).

To the extent that the post-BREXIT UK and the EU27 are not cooperating adequately in the field of macroprudential supervision and economic policy, the cost of BREXIT could become much larger than various studies available suggest. It is also important to take into account the size of foreign direct investment impediments in Organisation for Economic Co-operation and Development (OECD) countries in banking and insurance and finances so that once could get a better idea about the relocation of capital flows in the context of BREXIT. As regards the broader, general FDI relocation perspectives, the UK government is likely to consider changes in the corporate tax rate and in banking regulation as a means to raise the growth rate of output above the reduced level observed in the context of BREXIT (WELFENS/BAIER, 2018). As regards the persistence of financial market volatility, here with a focus on currency trading, CAPORALE ET AL. (2018) have presented evidence that there is an increased volatility in financial markets – and this is related to the BREXIT referendum (an exception is the British Pound/Yen implied volatility, the implied volatility for the Euro and the US dollar have increased); the degree of persistence of the FTSE100 implied volatility index has also increased so that there are clear arguments why considering the more volatile EU28 financial market system is appropriate in the context of BREXIT.

As regards financial market volatility, the ECB CISS indicator (Fig. 1) shows that the UK referendum has raised financial market nervousness and a new spike may be expected for 2018/19 as it will become clear whether or not BREXIT – and what type of BREXIT (i.e. hard versus soft) – will be implemented. The Bank of England could fight a recession with an expansionary monetary policy to some degree, but then the inflation rate would rise again in the context of strong Pound depreciation.

Figure 1: **ECB Composite Indicator of Systemic Stress (CISS)**

Source: European Central Bank (2018), Statistical Data Warehouse

As regards contract continuity, BREXIT poses difficult problems that had not been solved in early 2018 although this should be a natural priority of policymakers in London and Brussels:

- 2 trillion GBP in derivatives contracts could be void on March 29, 2019; and the same applies for insurance contracts: 30 million EU policyholders and 6 million UK insurance policyholders could face a serious problem as of this date (BAILEY, 2018) – unless the EU27 and the UK find a timely solution in the BREXIT treaty negotiations. It seems strange that the head of the British Financial Conduct Authority had to point out these figures as late as February 5, 2018, in a speech at the Future of the City dinner. Financial service providers have also pointed out the relevance of contract continuity problems (AFME, 2017). The envisaged transition period until the end of 2020 could help to mitigate some of the problems associated with derivatives contract, but the case of insurance policies is different since most insurance policies are long term.
- Not finding a solution would create a higher cost of BREXIT and could add to financial instability in British and EU27 markets; and it would create a lot of additional work for lawyers and courts in the EU28.

It is difficult to understand why the key problem of contract continuity has not yet been solved as of the first quarter of 2018. Failure to achieve a timely solution indicates that there is a deep political rift between the UK and the EU27. All available cost estimates of BREXIT would be too low if the contract continuity problem could not be solved in a timely fashion.

With the EU27 wholesale banking market largely located in the City of London there is a challenge of achieving adequate regulatory policy cooperation between the UK and the EU27 – if this cooperation is not achieved BREXIT will bring liquidity problems as well as other problems for Europe. The present analysis is structured as follows: Section 2 looks into some theoretical aspects of BREXIT disintegration, Section 3 at the risks for EU28 banking stability. Section 4 examines issues of risk management analysis and macroprudential policy options and Section 5 concludes.

2. Theoretical Aspects of BREXIT Disintegration and EU-UK Trade & FDI Agreement

BREXIT is a historical step out of the EU after 45 years of membership and it is associated with a regime change in economic and political terms where financial market dynamics are part of both the short- and medium-term dynamics – and policy impulses come on top of this. One may assume that an EU-UK free trade treaty for goods (and a narrow range of services) will come into effect after the exit date of March 29, 2019, but there will be no free trade in financial services. With regulations in the UK and EU starting to diverge after 2019 – some industries are likely to rather focus more on US standards in the future – one may assume that non-tariff EU import barriers to trade will grow over time and this, along with custom clearance costs, will reduce the export growth of the UK as evaluated at a constant real exchange rate. The UK as a both production location and gateway to EU markets also looks less attractive to foreign investors after March 2019. Furthermore, several London-based banks, both British and non-British, will have to apply for a license in the Eurozone if they want to maintain their strong position in the EU27 wholesale banking market once the one-passport rule for London banks will no longer apply. One may thus expect a real devaluation of the British Pound which will stimulate foreign international mergers and acquisitions in the UK; this is basically then referring to the arguments of FROOT/STEIN (1991) according to which a real devaluation in a world of imperfect capital markets will stimulate foreign direct investment (FDI) inflows: foreign investors will have more equity – expressed in currency units of the investor target country – if there is a real devaluation of the currency of the investor's target country so that a leveraged international merger & acquisition project will be more likely to be successful.

In a nutshell BREXIT means that in the short, term interest rates, exchange rates and stock market prices will react while in the medium term, output, price level, employment and budget effects, as well as effects on the current account, will be of particular interest. Part of the short-term effects are related to changes in international capital flows where portfolio capital flows are more important than FDI effects. The latter will take some time and thus will rather concern medium-term effects.

BREXIT will bring a regime shift for EU27 countries' clients interested in financial services from the European Union; as a practical aspect, the traditional LIBOR, as a benchmark interest rate included in financial contracts, will no longer be valid after BREXIT for EU27 countries so that a new benchmark should be established – the LIBOR's role had diminished after the Transatlantic Banking Crisis and the apparent LIBOR-related rigging scandal. Ratings obtained in the UK could become invalid for EU27 firms in certain cases after BREXIT and this in turn could bring additional rating costs and in some cases downgrades for EU27 clients – to the extent that insurance companies and other institutional investors are concerned, such rating transfer problems could in some cases result in a loss of investor grade rating so that financial instruments would have to be sold in the course of the BREXIT process which will amount to a short-term pricing shock in bond markets. To the extent that firms, banks or insurance companies in EU27 face such problems, a possible side-effect is lower exports of the UK; and there could be a negative impact on the current account.

Relocation Aspects

To the extent that leading banks from London will relocate to EU27 countries, the respective host countries of higher foreign direct investment inflows in banking can be expected to improve their ability in the field of product innovations in banking and financial services. The latter is particularly relevant if EU regulations create pressure that leading investment funds from the UK would also relocate certain activities to EU27 countries; the ESMA has generated some pressure for British investment funds to consider such relocation. As regards the relocation of London banks to Ireland and continental EU countries, there is a minimum lead time for this relocation in the sense that banks which want to be operational in the EU27 as of April 2019 must have submitted a request for a license at the ECB – provided that one of the Euro 19 countries is the preferred location. Locational advantage for such relocations may be expected for Ireland, Germany, France, Luxembourg and the Netherlands. As regards the Netherlands, it seems that government is not eager to attract much additional financial sector activities from the UK since for small open economies such as the Netherlands a strong relative increase of the banking and finance sector implies additional stability risk in the future. Revisions from the forecasts by economic analysts have shown clearly negative BREXIT effects (WELFENS/HANRAHAN, 2017).

In late 2015, the short-term economic outlook forecasts of organizations such as the Office for Budget Responsibility in the UK, or international organizations such as the IMF or the OECD were prepared largely on the assumption that there would be no BREXIT-majority in the referendum of 2016. The same forecasts from the same actors made in late 2017 had to reflect to reality of the vote for the UK to leave the European Union. The revised forecasts show the negative effect of the BREXIT-vote even in the years to 2020. The BREXIT-related challenges for the EU could also be considerable. From March 2019, a large share of the EU banking market will be based outside of the EU and the Eurozone, respectively - namely in the UK. About 90% of the wholesale market (securities transactions, foreign exchange transactions and derivatives) lay outside the EU27 in 2014 and if that share should reduce to even 60% by 2020 this would represent a new risk that should be tackled by the EU and the Eurozone countries, respectively – without the EU single market, the euro-denominated banking activities in London would still be below 40% of the total euro-denominated business – namely having an order of magnitude comparable to the situation in 1985.

While the broad economic upswing in the EU27 could suggest that there are small risks in the context of BREXIT a view at the UK – with declining growth rates and modest prospects for medium term growth and signs of political stability – implies that risks for the overall EU28 could be considerable.

As long as the EU and the UK cannot find an agreement on a free trade agreement on financial services, the banks in the UK, which in the EU single market could offer financial services to all EU28 countries,, are facing a serious transition period in the context of BREXIT: future relations of the UK with the EU in the field of financial services would be based on “regulatory equivalence arrangements” which stands for the EU’s limited and revocable access given to third-country institutions in a particular field of financial services; the EU already has such agreements with the US and Singapore and one may anticipate that the banks in UK would get similar equivalence agreements. However, the basis of such agreements is indeed that the regulation of a particular field of financial services in the UK would be recognized to be equivalent to the respective EU regulation. To the extent that the UK's government is eager to adopt a new wave of deregulation – a tendency that already became obvious in 2017 (partly fueled by inherent pressure to follow US deregulation initiatives under the Trump Administration) – the EU will be hesitant to accord broad equivalence agreements. If there is no free trade agreement between the EU and the UK, there will be three important consequences for the UK:

1. Big banks in London will come under strong pressure to relocate activities from London to the EU27 countries which means a loss of highly remunerated jobs in banking and finance plus supporting services; the EU27 countries in turn will gain additional foreign direct investment, jobs and tax revenues.
2. The UK's current account position will be pushed towards a higher structural deficit which in turn should bring about a real devaluation of the British Pound so that higher overall FDI flows might be expected in line with the FROOT/STEIN (1991) effect.
3. The growth of output and national income will be dampened temporarily (WELFENS, 2017b).

As regards transition scenarios, the European Banking Authority (EBA) will impose a BREXIT-related stress test on the biggest EU28 banks in November 2018 that assumes a strong decline of real GDP by 8.3%. This is a stress test that also includes new IFRS9 requirements, for example that banks can adopt provisions for the anticipated future losses of asset positions. One may assume that a No-deal BREXIT would bring particular strong changes of economic variables in the UK and the EU27, respectively; a financial market crisis could erupt in the context of strong Pound devaluations and increases in risk premia.

A key problem with the EBA stress test is that November 2018 is much too late – financial markets could already be in turmoil by early autumn 2018 when the final round of EU-UK negotiations will take place. The positive side-effect of an EBA-sponsored banking stress test published in November 2018 will be very low in terms of reinforcing confidence. It would be of no advantage to include the IFRS9 accounting standard for the first time if this would bring a doubtful delay in the stress test (IFRS9 means that banks should avoid traditional problems, for example those visible in the Transatlantic Banking Crisis which meant that provisions could only be made for losses when they had been realized even though bank managers could clearly anticipate the respective losses). The rather late publication of the EBA/ECB stress test results in 2018 is mitigated by the IMF's Financial Sector Assessment Program update for both the UK and the Eurozone where results should be published in the middle of that year.

It is also clear that large insurance companies in EU27 countries could face serious problem in the context of higher risk premia and strong Pound devaluations in 2018/19 and here some timely stress tests organized by the EU insurance prudential supervisor would also be useful. Many insurance and reinsurance companies in the EU27 countries have high levels of investment in UK bonds – with its update analysis in the Financial Sector

Assessment Program (FSAP), the IMF should, in the context of BREXIT, keep a close eye on both banking and insurance aspects in FSAP missions in Europe in 2018-2021 at least.

If one considers the overall institutional setting for prudential supervision and macroprudential supervision, one gets a rather complex picture which includes global International Organizations such as the IMF and the Bank for International Settlements (BIS) as well as EU institutions (ESRB, EBA, EIOPA, ESMA) plus national agencies.

A major contradiction of BREXIT will occur in the context of the historically growing role of the UK and the City of London, respectively, for EU27 financial services. As BAILEY (2018) has explained in his dinner speech in London, there is a massive problem of contract continuity. However, one may add two additional points that are rather strange in the context of BREXIT and stand for serious challenges:

- The Highlights to his speech note: "We are treating Brexit as a high priority and will do our utmost to make it work in the interest of the people of this country". This sentence shows a massive conflict of interest since the EU27 so far could trust that due to EU legislation in the field of prudential supervision, the Financial Conduct Authority would not just consider the interest of British citizens but also those of the EU27 partner countries where clients would expect adequate and innovative financial services from the City suppliers whose market share had grown over time in the context of competition and regulation in the EU single market. If, however, the Chief Executive of the FCA as early as in February 2018 explains that his focus apparently is only on the interest of British citizens there is a double British problem: it seems that the FCA is not properly understanding its responsibility within the framework of the European Systemic Risk Board which is an EU28 institution in which both the Bank of England and the Financial Conduct Authority are expected to fully cooperate with the other EU27 countries in order to come up with adequate macroprudential analysis and policy recommendations.
- The IMF's Financial Sector Assessment Program (FSAP) about the UK noted in 2016 that UK financial stability is a global public good since the City is the world's leading financial center (IMF, 2016). The theory of international public goods, however, suggests that there could be political failure to provide such an international public good. To the extent that a disorderly EU referendum in 2016 raises doubts about the credibility of the British political system, there are serious questions about whether or not one may expect the May government to provide the international public good of adequate financial sector regulation in the UK. The lower the degree of UK government credibility is, the stronger the incentive for EU27 partner countries to put considerable pressure on big financial service providers to relocate to the EU27 before March 29, 2019 – as of this date the EU financial market regulations and directives are no longer valid for the UK (except for a solution that might envisage an extension until the end of 2020 so that the transition period would still be covered).

It seems obvious that in the field of relocation of financial services form the City to EU27 countries there is an industrial policy issue, namely that some EU countries could exert substantial pressure on the relevant EU institutions to generate as many relocations from the City of London as possible. This EU27-UK conflict of interest could make a compromise on joint EU-UK post-BREXIT regulation of financial services a rather serious challenge.

3. BREXIT: Risk for EU28 Banking and Financial Market Stability

With the UK's exit from the European Union, the question of banking stability in the EU will again come to the fore. The politico-economic environment surrounding the British exit threatens a new and complicated situation – in the event that no deal is reached in the negotiations on the future free trade in the field of financial services between the two parties and no common UK-EU regulatory framework is established – which would entail that the EU banking system would, in effect, become dominated by British regulatory standards; at the very least in the crucial wholesale market where derivative transactions, foreign exchange transactions and large loans are made by banks to industrial clients. Banks from the EU27 (EU28 minus the UK) in London alone have over €1,000 billion in assets on the books, hardly less than the large UK-based international banks have. Moreover, US and Japanese commercial banks also have a strong position in London with largescale assets. How are the EU27-related bank activities and those aimed at the EU27 market by other financial service providers in London to be viewed?

The financial activities in London are, from an EU perspective, of a much greater dimension than the activities of the British bank HSBC, which was included in the annual report of the European Systemic Risk Board as being the only system-relevant British bank with cross-border European activities. This rather strict view can certainly be viewed with some level of skepticism, as there are other British banks, and equivalent institutions, whose sheer size make them clearly systemically relevant for the EU27 and Eurozone, respectively. Here, primary attention is given to clearing houses, through which the banks carry out large transactions, such as in the area of derivatives trading: About 90% of euro-denominated transactions in 2017 took place in London, where the EU will lose both access to information for oversight and powers of intervention from the end of March 2019 due to BREXIT.

If one accepts the estimate contained in a Bruegel study of February 2017 (SAPIR/SCHOENMAKER/VÉRON, 2017), if BREXIT is realized, then circa 35% of the, to date dominant, London-based institutional commercial banking from the EU27 will be transferred to the EU following the British exit, where prime locations to attract this business are Frankfurt, Dublin, Paris, Luxembourg and Amsterdam. London's market share of EU27 interbank transactions by UK and non-UK banks is about 90%, which means that the banking and financial center of the Eurozone and EU, respectively, would in future be situated outside of the European Union.

The possible new scenario would be highly problematic for the EU and the Eurozone following BREXIT, which is expected to occur on the 29 March, 2019, as following that date circa 60% of the EU wholesale banking market would still be based in London. From the perspective of stability, however, it would be advisable that substantially more than half of the EU market should be based within the EU27, which could only be achieved if, through the interaction and cooperation of sensible supervisory regulations by the European Central Bank (ECB) and sector-specific incentives for EU27 bank branches to transfer the relevant assets almost completely to the Eurozone or EU27. Moreover, particular incentives must be forthcoming from the side of the French, German or even

Dutch, Irish or Luxembourgian governments, or the EU itself, to attract banks from EU27 countries. Such an 'industrial policy' for the banking sector is required such that control and liability in the EU banking sector rationally go hand in hand. After more than four decades of EU membership, London had emerged as the core financial market of the EU, however the relatively surprising BREXIT decision now raises serious questions. Besides the required level cooperation between the EU and the UK via the Bank for International Settlements, the completion of BREXIT would lead to a very modest level of cooperation between the EU and the UK in the area of banking and financial services

The EU will not wish to allow the UK to continue to avail of the 'One Passport' banking approach which allowed London banks to offer their services across the entire EU on the basis of their British banking license. In the Eurozone, and more broadly in the EU, the ECB exercises banking supervision over the largest banks, thus, as a consequence of the UK's exit from the EU, the EU wholesale market, and also part of the EU interbank market, will in effect be primarily regulated by the Bank of England. The Bank of England may, according to suggestions of the current British government and indeed BREXIT-related legislation, take a different regulatory path to that of the EU, by becoming more strongly oriented towards deregulation – this development can already be seen in internal British government advice in 2017 and in January 2018; corresponding calls were made by the British banking sector in consultations with the May government. Thus it seems that the UK will follow the course towards deregulation set by the US under the Trump administration from March 2019.

From the EU perspective, this creates the risk that insufficient banking regulation on the part of the Bank of England could destabilize the EU wholesale banking markets and EU interbank markets, respectively. Conversely, the ECB would, as the institution responsible for financial market stability in the Eurozone, have no real chance to reliably and dependably carry out the commission with which it has been tasked. While the ECB – in cooperation with the national central banks and supervisory authorities of the EU member states – has primary responsibility for the area of so-called macro prudential banking supervision in the Eurozone and European Union, respectively – meaning questions of systematic stability in both the Euro area and EU – with BREXIT, this field will experience some banking supervision-related phantom pains: reliable cooperation with the Bank of England will be missing, as the BoE which is responsible for monetary policy and banking supervision in the UK will naturally be guided by British interests and laws. Thus from the 29 March, 2019, significant decisions regarding the stability of the EU banking system will be made in London – and Washington DC – which would represent a new and critical institutional contradiction in the EU.

The legitimacy of the Eurozone and the concept of European integration as a whole could be massively damaged in the event of a new banking crisis in the EU, which would add significant collateral damage to the economic costs of another banking crisis. If the US should create pressure on the UK in terms of banking deregulation, while the EU and its member states, respectively, would wish to implement a stricter regulation, the UK would surely succumb to American pressure: Opportunities to exert political pressure are far greater for the US than for the EU27. Thus the United Kingdom, by seceding from the European Union, could gain a controlling hand over the field of banking stability for the entire EU, which from a political viewpoint can only be deemed as an absurd situation.

There is certainly no systematic incentive for the British parliament or indeed government to consider the interests of EU financial market stability. To date, neither the EU nor the governments of EU member countries (nor even the European Central Bank) have sought to address the serious implications of the topic discussed here which is evidence of a level of political carelessness that is as strange as it is risky. The Transatlantic Banking Crisis of 2007-09 has demonstrated just how dangerous a serious banking crisis can be for the real economy – in Germany real income in 2008 fell by almost 5%. Without the massive unconventional monetary policy measures implemented by the central banks in the Eurozone, the UK and the US, it is unlikely that the relevant economies would have emerged from the crisis as quickly as they did – with, however, the repercussions of the capital market distortions and particular issues in relation to the long-standing zero-interest policy of the aforementioned central banks which continue to be felt today. Political actors in the EU should, therefore, considering the issues and arguments presented herein, should act immediately. As long as it apparently under serious consideration in Berlin for the UK to keep access to the EU Single Market, at least in banking, from London in return for a financial contribution to the EU, can one argue that the Federal Government has taken leave of its senses. The relevant London clearing houses, which engage in euro-denominated transactions, should be subjected to the supervision of the ECB; or the relevant businesses should be forced to transfer such activities to the EU. From a British perspective it would not be acceptable if a large share of the Pound denominated financial wholesale markets would be based outside of the UK – in the Eurozone for example – and would be regulated by non-UK authorities. As a large share of jobs and income interests in the London financial sector are at stake due to BREXIT, the May government will certainly wish to energetically defend the locational advantage of the City of London. The EU, on the other hand, will not be capable of giving in on this issue, meaning that the European Union should seek to agree Directives which are aimed at safeguarding stability for the EU during 2018. The United Kingdom will – and this has nothing to do with the EU adopting a difficult negotiating position – have to shoulder the high economic costs of BREXIT.

One should not rule out that the EU and the UK could agree on regulatory equivalence rules in some fields so that the UK could still be in a position to offer some specialized financial services from London directly to clients in the EU27. However, the fields in which regulatory equivalence would apply obviously should be quite restricted from an EU perspective and indeed could be further narrowed once the UK embarks upon an explicit broad policy of banking deregulation. The Transatlantic Banking Crisis has already shown how important financial accelerator elements could be for a financial crisis that ultimately translates into a crisis of the real economy (HENDRY/MUELLBAUER, 2018) – the financial accelerator could be important both for firms' investment decisions and for households' consumption and labor supply decisions. The US Council of Economic Advisor's Annual Report 2017 has shown that net wealth effects in the Great Recession associated with the Transatlantic Banking Crisis were much smaller than the respective effects during the Great Depression (COUNCIL OF ECONOMIC ADVISORS, 2017).

The banks in the UK, and in the City of London especially, represent almost 90% of the EU27 wholesale banking market and even after BREXIT, taking into account some relocation effects of London banks to Ireland and continental EU countries, 55-65% (Tab.

1) of the EU27 wholesale market will still be off-shore and effectively regulated by the Bank of England.

Table 1: Wholesale Banking in London (at end of 2014)

Bank Types	Total assets		Wholesale banking in London		Relocation potential Wholesale banking for EU27 clients		
	Asset (€ billions)	% of total UK banks	Asset (€ billions)	% of total assets	Asset (€ billions)	% of wholesale	% of total assets
Major UK international banks	4,583	45%	1,375	30%	275	20%	6%
Major UK domestic banks	1,489	15%	0	0%	0	-	0%
Other UK banks	321	3%	0	0%	0	-	0%
Rest of the world investment banks	2,221	22%	2,221	100%	777	35%	35%
Rest of the world other banks	591	6%	591	100%	207	35%	35%
Branches of EU banks	1,018	10%	1,018	100%	509	50%	50%
Total UK banking system	10,223	100%	5,205	51%	1,768	34%	17%

Source: Adapted from Sapir, A.; Schoenmaker, D.; Véron, N. (2017), Making the best of Brexit for the EU27 financial system, POLICYBRIEF Issue 1, February 2017. *http://bruegel.org/wp-content/uploads/2017/02/Bruegel_Policy_Brief-2017_01-060217.pdf*
Note: Total assets based on Burrows, Cumming and Low (2015) and for branches from EU banks on ECB (2015). Bruegel estimates for wholesale banking (issuing and trading securities, foreign exchange, derivatives) in London and for wholesale banking for EU27 clients. The final columns (wholesale banking for EU27 clients) are estimates for the business moving to EU27 after Brexit.

To some extent one may argue that the City of London banking community represents an international division of labor and that the EU27 has no good reason to pursue the relocation of EU27 banking services activities from London to the EU/Eurozone. There are, however, several pragmatic counter-arguments:

- The incentive for the UK to implement banking regulation which takes EU interests into consideration is very low so that a big wholesale banking EU27 market in London represents a risk for the real economy of the EU in the future;
- EU countries' governments – and possibly the EU Commission/the European Parliament – will want to make sure that a big internationally competitive system of banks offering the whole range of modern banking services is subject to EU regulations on the one hand, on the other hand they want to potentially use such banks for international politics.

Three particular transitory risks related to relocation are to be mentioned:

- If the relocation of activity X initially based in London to Eurozone country E_i (i=1, 2…19) takes place, one might face the problem in country i that the national supervisory authority lacks the expertise required so that new transitory policy risks emerge.
- Relocation could raise the costs of the provision of the respective financial service, at the same time there could be opportunities for innovation spillover effects.
- The relocation of London bank activities to the EU27 could bring about political tensions between the EU and the UK.

An interesting option to minimize political friction between the UK and the EU could be an agreement that EU28-US negotiations are envisaged for a ‘new TTIP’ project. For the Trump Administration this might be an interesting option in the sense that its priority for bilateral agreements are compatible with the negotiations between the US and the EU where the European Commission indeed is the relevant negotiating actor for international trade treaties involving EU countries. Such a joint EU27+UK approach would be possible only if the UK agrees to remain in the EU customs union.

From a research perspective, the analysis of international spillover effects will be quite crucial in the context of BREXIT. There are certainly options for EU-UK regulatory cooperation in principle. However, to the extent that BREXIT brings a strong long run output decline and thus puts pressure on the UK government to adopt reduced corporate tax rates and lighter financial regulation in the UK, the EU27 will not consider options of regulatory cooperation with considerable interest. There is also a particular research need to analyze how big the “forced” FDI relocation towards the EU27 in the banking and insurance sector will be and to assess the current account and nominal plus real exchange rate effects for the UK and the EU27, respectively. As regards the results from the Financial Sector Assessment Program updates in the UK and the Eurozone in 2018, the IMF reports which are expected to be published in summer 2018 should be very useful. However, the IMF’s FSAPs in EU28 countries cannot replace necessary cooperation with the European Systemic Risk Board. If macroprudential analysis in the ESRB in 2017/18 should be rather restricted and not deliver a comprehensive analysis for the EU28 countries, the cost of BREXIT could be much higher than otherwise since the analytical gaps imply lack of risk management from the side of policymakers.

4. Risk Management Analysis and Perspectives in EU28

As regards broader risk management perspectives, one would expect the EU28 countries to also take a critical look at the field of financial markets and banking which obviously are critical with regard to the economic stability of EU28 and indeed OECD countries in 2018/2019: Is this happening as part of a rational international transition process in the BREXIT dynamics in 2017/2018? No. The Bank of England apparently was partially blocking adequate analysis at the European Systemic Risk Board (ESRB: responsible for macroprudential supervision) and BREXIT could become a blind flight.

The ESRB is the institution, created in 2010 after the banking crisis of 2007-09, which is supposed to deal with macroprudential supervision issues (i.e. the interaction of risk factors that could trigger new banking crisis or major recession/crisis). That type of supervision requires an understanding of the potential systemic risk that emerges from the interaction of individual banks in a stress situation, shocks in foreign exchange markets, real estate markets or natural resources markets or shocks associated with fiscal or monetary policy; or political risk – the latter has become a broader challenge in the OECD countries as has been emphasized by the BIS Annual Report of 2015.

In 2017 the Governor of the Bank of England who is also First Vice-Chair of the ESRB – the chair is with the ECB - has pushed the European Systemic Risk Board not to broadly analyze within a joint analytical effort the relevant BREXIT dynamics that could be highly relevant for systemic stability of the EU28. It seems that in the BREXIT context the ESRB will not look into the key issue of the banking system of the EU28 and the interaction of the banking systems of all these countries and the relevant macroprudential aspects; with the historical BREXIT step, which reduces the EU's economic weight by almost 1/5 (based on gross domestic product data of 2016), and the EU27's wholesale banking market center – located in London – leaving the EU, one may anticipate temporary financial market stress, exchange rate shocks, real estate price shocks and political shocks that would clearly require an analysis of an integrated EU28 picture: not a separate picture of the UK as painted by the Bank of England and another picture for the Eurozone (from the ECB). With a shock such as BREXIT, a professional understanding of the macroprudential risks clearly would require the fully integrated picture of the EU28 economic landscape. In 2017 the European Systemic Risk Board apparently was not able or not willing to deliver an integrated EU28 country analysis; the role of the Bank of England is opaque here.

This is inadequate, dangerous for OECD countries and runs absolutely counter to the mandate of the ESRB; its task is, in the words from the ESRB website congratulating Mark Carney on his election as First Vice-Chair, as follows: "It contributes to the prevention or mitigation of systemic risks to financial stability in the Union that arise from developments within the financial system. The ESRB also contributes to the smooth functioning of the internal market, thereby ensuring a sustainable contribution of the financial sector to economic growth." The role of the Bank of England is quite important for EU macroprudential analysis since spillover effects of BREXIT-related instabilities in UK financial markets have to be considered. Whether or not the UK's central bank is cooperating adequately in the ESRB is rather unclear. Joint macroprudential analysis is crucial for the EU28 to adopt adequate risk management on the side of economic policy. Insufficient cooperation in the EU28 will raise the cost of BREXIT for all countries in Europe.

The financial market interdependencies in the EU28 clearly require that macroprudential analysis of the UK should be fully integrated with the respective analysis of the EU27 countries. It would be puzzling if the Bank of England were to block serious analysis of BREXIT risks at the ESRB. Obviously, it could cause markets to become nervous if ESRB studies would be leaked to the public, but this is one aspect of both political risk and of BREXIT risk for the UK, respectively. The idea to deny 27 other member countries plus Norway and Iceland – the latter two with observer status – that the ESRB should follow its mandate and seriously analyze potential systemic risk associated with BREXIT is unacceptable. There is a need to have a truly joint BREXIT analysis where the relevant actors of all EU28 countries in the ESRB (the General Board has 67 member institutions of which 38 have voting rights) interact. Splitting macroprudential analysis in such a way that the Bank of England looks separately at the UK developments while the ECB conducts a separate macroprudential analysis of the 19 Eurozone member countries – the member countries of the banking union – is inadequate since the interdependencies between the UK and the EU27 in both economic and banking terms are highly significant. Under favorable circumstances financial market risks in the BREXIT transition process could be small if macroprudential analysis is adequate at the ESRB and if all policy actors in the EU28 assume their respective responsibilities. The challenges could, however, be considerable since rising US interest rates plus political instability issues and policy inconsistencies could play a role.

From a broader perspective one should also consider the full responsibility of the ESRB:

- The ESRB has 28 member countries and is not the sum of the UK plus 19 Eurozone countries, the macroprudential perspective for all the EU28 countries is crucial.
- An adequate macroprudential supervision at the ESRB will only occur if there is full cooperation between the Bank of England and the other EU27 countries – not least since the majority of EU27 wholesale banking transactions take place in the UK. Only if a carefully drafted EU-UK treaty section should take this issue of cooperation fully into account could one anticipate that no serious macroprudential policy gaps will emerge in the context of BREXIT; hence the EU-UK negotiations in 2017 are decisive.
- There is the critical question of what role the Bank of England and the UK would play in the case of systemic instability associated with BREXIT in 2019 and 2020, particularly in the potentially dangerous transition period until 2020 (as assumed here); if the EU's agreements with the UK – to be completed by end of October 2018 - would not have a clear commitment that the Bank of England and the UK government would do whatever it takes not only to avoid instability in the United Kingdom but to also help avoiding and minimizing banking system and macro instabilities in the EU27, then the BREXIT process would be highly risky for the whole of Europe.

Leaving the EU puts a broader responsibility on the UK than simply considering narrowly defined national interests. It should be clear that before any EU-UK Free Trade Agreement can be negotiated, the EU27 must make sure that there is an agreement in the field of joint prudential supervision and cooperation, respectively, for 2018-2020. Such an agreement is conflict-prone since the May government has already signaled in 2017 – according to internal discussions as reported in the Financial Times – that a new wave of banking deregulation should be considered. Such deregulation along with a parallel US banking deregulation under Trump could create the next banking crisis (interestingly, David Davis, the Exit Minister, has emphasized that the UK wants to implement the highest standards, but is this promise credible?). It can be shown that there is a trilemma in the case of flexible exchange rates (WELFENS, 2017c), namely that it is impossible to have both flexible exchange rates, free capital flows and adequate banking regulation.

5. Policy Conclusions and New Proposals

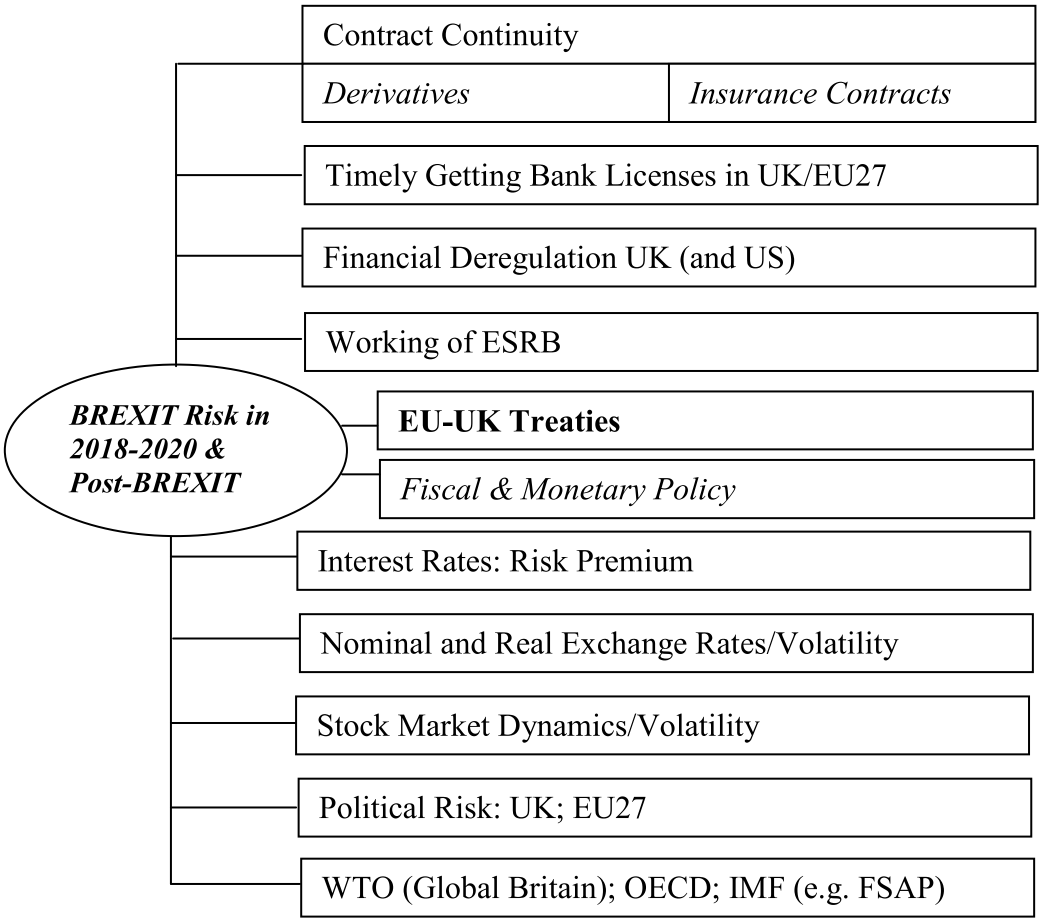
There is no doubt that BREXIT economic dynamics are associated with considerable risk, such as credit risk, market risk and operational risk, that, for example, will emerge in the context of relocating banking services from the UK to EU27 countries or to New York - which some US investment banks consider to be the best place for offering certain banking services to the EU once the UK has left the European Union; namely without an EU-UK free trade agreement on banking services which is what the EU chief negotiator Michael Barnier has announced in December 2017 to be the offer from the European Commission.

With a considerable relocation of City of London banks and investment funds from the UK to the EU27 in 2018 there will be negative effects on employment and output in the UK in the medium term; a short-term Pound depreciation effect is also to be anticipated. The main BREXIT-related risks to be anticipated and which require policy actions are as follows (see Fig. 2)

- Problem of contract continuity
- City of London banks and UK banks, respectively, should timely organize to get a license for the EU27/Eurozone and EU27 banks in turn should get, in a timely manner, a license from the Bank of England if they want to continue to provide financial services in the UK after BREXIT
- Increased volatility of UK interest rates
- Increased volatility of British Pound exchange rates – this could reduce UK FDI inflows
- Political instability in the UK and associated with this a worsening of the UK's credit rating
- Rather modest free trade and investment agreement between the EU and the UK which could also undermine ratings for both the UK government and UK firms – higher cost of capital will impair UK long run output growth
- If confidence in the broader EU28 area should weaken there is a risk of a new Euro crisis: With political risk premia increasing for some EU27 countries – including Greece – the prospects for sustained output growth in the EU will be dampened.
- To the extent that a major relocation of specific London City activities take place in favor of EU27 countries, there is a risk that a lack of experience on the part of national regulators in these countries and of the ECB could bring about inadequate regulation of "new" financial market activities in the EU27. Such a lack of regulatory experience could, for example, refer to derivative markets in the EU post-BREXIT and the associated increased financial market volatility would add to the real output cost of BREXIT in the EU – and through spillover effects in the UK as well. The EU27 thus should be interested in enhanced regulatory policy cooperation in many fields of financial markets, however, there is some probability that political tensions between the UK and the EU27 would indeed undermine prospects for such cooperation in regulation. In addition, there is the problem that the May government might switch to a course of deregulation shortly after BREXIT. It is noteworthy that on September 18, 2018, the vice-chairmanship of Mr. Mark Carney from the Bank of England ends at the ESRB. Beyond this date

the cooperation in the field of macroprudential supervision is likely to weaken in the EU28 area – as the Bank of England's willingness to cooperate with partners from EU27 in the field of prudential supervision could weaken; and it seems that this process has already started in 2017 (with the Bank of England playing an active role and the ESRB not really fulfilling its mandate).

Figure 2: Lack of Prudential Expertise and Experience in EU27 Countries: Risk Perspectives on BREXIT



There is some risk that BREXIT could lead to a political rift between the UK and the EU27. A serious breakdown in UK-EU relations could be avoided by the European Union adopting a strategy which goes beyond the offer of a free trade agreement plus cooperation in security and science:

- One should consider a combination of a (limited) Free Trade Agreement between the EU and the UK with an international investment treaty between the EU and the United Kingdom. The European Union has the full competence – since the Lisbon Treaty – to negotiate international investment treaties.
- The EU could thus offer the UK that it would largely have the same FDI freedoms in the EU27 as the EU member countries within the EU; such an offer should be made conditional on EU-UK cooperation in key international FDI policy fields, for example vis-à-vis China where both the EU27 and the UK have an interest in achieving a more level playing field. To date, the firms from EU28 countries rarely enjoy full or majority ownership in certain sectors in China while Chinese investors in the EU28 have almost full freedom to acquire majority ownership in firms in the

EU – and indeed to have 100% ownership. This topic should be picked up in the EU-UK negotiations and could help to reinforce economic links between the UK and the EU27; and in this spirit a parallel future enhanced free trade agreement between the EU27/UK and the US could be designed so that joint Western interests in the field of multinational investment are adequately pursued.

BREXIT involves serious political risk since the May government in the UK, facing bitter internal infighting and having lost a snap election in June 2016, could fall or not achieve a majority in Parliament for the Exit Treaty and the envisaged EU-UK Free Trade Treaty. The UK government certainly has the political right to implement BREXIT – or to stop it if deemed adequate -, but why the Bank of England has the right to effectively block an effective macroprudential risk analysis of the ESRC is worrisome. Rational decision-making in Western countries is crucial, as the cost of a thorough lack of risk management would be borne by all EU countries, not just the UK.

One can only recommend the establishment of an innovative framework for EU-UK cooperation in both macroprudential supervision and in joint banking crisis management. An EU-UK Joint European Banking Stabilization Fund (JEBSFU) that would have a volume of about €500 billion should be created so that in a crisis liquidity could be injected into the UK financial market and/or the Eurozone financial market. It thus would be expected that the European Central Bank would help in stabilizing a banking crisis in the UK –reflecting the structural interest of the EU/Eurozone to benefit from a stable EU wholesale banking sector that is dominantly located in the UK; and in a mirror perspective it would be expected that the UK would help overcoming a Eurozone banking crisis. The latter idea is not very far from an explicit Euro membership and the broader topic raises, of course, the question of whether or not it was wise for the UK not to join the Eurozone right from the beginning and thus be able to have had a strong influence on institutional dynamics of the Eurozone. This would also have required that the UK would have borne a fair share of the cost of fighting the cost of the Spanish crisis, for example, in which the exposure of UK banks was very similar to that of German banks and French banks, respectively (WELFENS, 2016; in reality, the UK was a free rider in the Spanish banking crisis of 2012-2015). The litmus test for EU-UK economic policy cooperation would be the JEBSFU; if such a fund could not be created, the EU would have a strategic interest to actively push for a broad relocation of EU27 wholesale banking market services from the City of London to the EU27.

Turmoil in financial markets and a sharp BREXT-linked recession in Europe in the medium term would impose unnecessary high costs on all OECD countries. The ESRB not only has the option of considering EU or IMF economic forecasts for the UK and the EU27, it should also carefully study the BREXIT studies from various expert groups, including for example the comprehensive study of Rabobank which has developed a simulation for the No-Deal case according to which the UK could dip into a recession – and long run output decline could be as high as 18% in the UK.

It is the very task of the ESRB to analyze systemic risk and there is no doubt at all that BREXIT entails such risk for the more than 500 million inhabitants of the EU and potentially for all OECD countries. The sudden shift from high growth and prosperity to instability and very volatile financial markets was characteristic of the Asian crisis in 1997/98, but it should not be excluded that such negative dynamics could indeed emerge from the BREXIT process and to walk blindly into such a dangerous trap would be both tragic and costly for Europe and the West, respectively. Indeed, in the BREXIT process, the UK not only has responsibility for British citizens but also for prosperity and stability in the whole of Europe. It's a strange and dangerous idea to create a new institution such as the ESRB in 2010 and then not want to use this crucial financial EU regulatory platform – with options for timely warning or policy recommendations - when it is most needed.

Suggested Reform Initiative at the IMF

The IMF should consider changing its Financial Sector Assessment Program framework; for countries with considerable expected international spillover effects, the FSAP analysis should be modified in the sense that not only national financial sector stability aspects are considered: Aspects of international interdependency should be taken into account so that, for example, the FSAP for the UK and that for the Eurozone should be jointly considered when the FSAP missions are prepared and the FSAP reports should take due account of international interdependency aspects. It is indeed noteworthy that in an average month the UK's Financial Conduct Authority exports about 250 million trade reports to European partner countries while it receives some 12 million trade from EU partner countries reports (BAILEY, 2018); this is an import of data which is only 4.5% of the data volume exported so that a considerable asymmetry of international transactions in financial markets is visible: The City of London is a global financial center with strong relevance for EU/Eurozone financial market stability.

The board of directors of the IMF should approve national FSAP update reports on internationally systemically relevant countries – analytically this includes the Eurozone and the UK - only if adequate simulation discussions with the governments and central banks of the systemically relevant countries have taken place and international spillovers have been simulated. This should then reflect in an analytical sense a two big countries (or n-big countries) interdependency approach where a big global financial center country such as the UK has an international effect on the Eurozone and from there repercussion effects will affect the UK. All the relevant interdependency effects might be adequately considered in an EU28 context, particularly after the creation of the ESRB, but with BREXIT the situation will look more complex in Europe. The IMF would be wise to anticipate this new setting and to encourage a cooperation framework for macroprudential supervision in Europe that takes into account the interdependency aspects UK/EU27.

Slow Negotiations Reinforcing Risks for Banks and Financial Markets in the OECD

With the EU-UK negotiations making very slow progress, there is an increasing risk that a lack of timely clarity about negotiation results will contribute to nervous financial markets. Banking instability as well as insurance company risk – often involving financial conglomerates (83 in Europe in 2016, up from 75 in 2009) - could emerge in the context of BREXIT and such risks should be managed adequately. With many insurance companies invested in Pound-denominated bonds there is some risk that insurance companies could be part and parcel of macroprudential risk. BREXIT risk could hit international capital markets in a period of rising US interest rates – since late 2017, partly reflecting concerns about the US federal tax and debt policy, respectively - which would make risk management more difficult than in a period of stable US interest rates. The contradictory BREXIT policy statements of the May government also makes it rather difficult for market participants to anticipate the outcome of the BREXIT negotiations.

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