

FINANCIAL CENTRE OF FRANKFURT: MAKING FURTHER HEADWAY

ANNIVERSARY EDITION

Research





June 2016

Helaba



Publisher:

Helaba
Landesbank Hessen-Thüringen
Research
Dr. Gertrud R. Traud, Chief Economist/Head of Research
Editor: Dr. Stefan Mitropoulos
MAIN TOWER
Neue Mainzer Straße 52-58, 60311 Frankfurt am Main
phone: +49 69/91 32-20 24, fax: +49 69/91 32-22 44

This publication was very carefully researched and prepared. However, it contains analyses and forecasts regarding current and future market conditions that are for informational purposes only. The data is based on sources that we consider reliable, though we cannot assume any responsibility for the sources being accurate, complete, and up-to-date. All statements in this publication are for informational purposes. They must not be taken as an offer or recommendation for investment decisions.



Editorial

Dear readers,

The financial sector is undergoing profound change in the midst of a transition phase and faces numerous challenges. The new reality of the banking industry is characterised by a shifting environment that is leading to enormous pressure for institutions to adapt: persistently low or negative interest rates, a growing tide of regulation and increasing competition as a result of the on-going process of digitalisation. This is not only forcing players in the financial sector to review and modify their business activities but is also a challenging time for a financial centre.

For a long time now, it has been a key objective for Helaba Landesbank Hessen-Thüringen, as a universal bank with a strong regional focus anchored in Frankfurt, to actively support the continued development of Germany's financial centre. We have been conducting detailed research for the last ten years on the financial centre of Frankfurt with alternating focal issues and we are involved in the Frankfurt Main Finance initiative.

In our initial study in 2006 we took stock of the locations of the three largest financial centres in Europe. Since then, the financial centre of Frankfurt has made considerable headway. This study presents answers to the key question of where Frankfurt stands today in comparison to London and Paris.

Overall, Germany's financial centre has successfully held its own in these difficult times and has managed to position itself more effectively, especially in relation to its French counterpart. This is shown by the detailed analysis based on our core criteria. Thus, the relative importance of the three big financial sector locations is now clear: London before Frankfurt and Frankfurt before Paris.

It is important for Frankfurt, in a context of the on-going tough competition between locations, to concentrate on its strengths and long-term factors for success. In the new reality of the banking sector, particular importance will be attached to expanding Frankfurt's position as a fintech hub as well as reinforcing its intellectual infrastructure with regard to the financial centre's capacity for innovation.

Helaba will continue to provide vigorous support to the local financial centre and to conduct financial centre research on issues relevant to the market in the future. Just as today, with the publication of our anniversary edition, it will no doubt also be fascinating in 2026 to analyse and evaluate the development of the financial centre of Frankfurt in comparison to its competitors. Today's crucial questions, such as the United Kingdom's relationship to the EU or the future development of the euro, are likely to have been answered by then. The financial sector will have long since moved on from a transition period into a new phase of growth.

Yours,



Herbert Hans Grüntker
Chief Executive Officer of Helaba

Contents

Editorial **3**

Summary **6**

1 Ten years of Helaba financial centre research **8**

2 Financial Centre of Frankfurt versus London and Paris **10**

2.1 Banks 10

2.1.1 Status quo and number of financial institutions 10

2.1.2 Employment forecast 13

2.2 Stock exchanges 16

2.3 Financial sector teaching and research 19

2.3.1 Highly regarded institutions 19

2.3.2 International rankings 22

2.4 Trends in the financial sector 25

2.5 Location-specific qualities 30

2.5.1 Transport infrastructure 31

2.5.2 Cost of office space and living 31

3 Conclusion of location assessment 2006/2016 ..... **33**

Editorial deadline: 23 May 2016



Author:
Ulrike Bischoff

Phone: +49 69/91 32-52 56
research@helaba.de

Summary

Since our initial study on the financial centre of Frankfurt in 2006, a lot has happened in the world of finance. Therefore, our rating of the three largest financial centres in Europe has changed in some respects. In our assessment of Frankfurt versus London and Paris, we once again applied the five core criteria that we consider indispensable for an international financial centre to position itself successfully in the long term:

Assessment of the three largest European financial centres in a 10-year comparison

	Frankfurt		Paris		London	
	2006	2016	2006	2016	2006	2016
Banks	😐	😐	☺	😐	☺	😐
Stock exchanges	☺	😐	☺	😐	☺	☺
Fin. sector teaching & research	😐	☺	☺	☺	☺	☺
Trends in the financial sector	😐	😐	😐	☹	☺	☺
Location-specific qualities	☺	☺	😐	😐	😐	😐

☺ indicates that the financial centre is well positioned in terms of its international competitiveness; ☹ points to deficits; 😐 represents a midrange position.
Source: Helaba Research

London remains the undisputed leading financial centre in Europe. This time, we awarded the British financial centre top marks in three of our core criteria and placed it in the midrange for the two remaining yardsticks. Despite all the efforts made, the situation in the **banking** sector is generally worse now than it was then, a fact that is also reflected in the ratings of the biggest financial institutions. Accordingly, we assigned a midrange assessment to all three locations for the financial centre criterion of banks. In this way, Frankfurt's position is better in relative terms than it was ten years ago, since local banks are now ranked equally overall to those in London and Paris. **Location-specific qualities** in London are still in need of improvement, especially in view of the high office rents and cost of living. In this respect, Frankfurt is the clear frontrunner. After all, it boasts an excellent transport infrastructure combined with short distances and the prices of office space as well as the cost of living are comparatively low. "**Brexit"**, should it materialise, would have a negative impact on London, which would nevertheless remain the foremost financial location in Europe. However, this is not our baseline scenario and, therefore, does not form a component of our current smiley assessment.

In **Continental Europe**, there continues to be intense competition between the **German and French financial centres**. While Frankfurt improved between 2006 and 2016 in one of our core criteria and fell back in another, Paris was downgraded in three factors for success. Consequently, both locations currently have equal assessments in three aspects and Frankfurt scores better in two.

As regards **banks**, Frankfurt and Paris are now ranked equally. There is continued pressure for consolidation and adjustments in the sector are having a stabilising effect. Although the increased regulatory and supervisory requirements are generating higher costs for banks, they have also led to improved capitalisation and a reduction in balance sheet risks. In comparison to other banking locations, the employment trend in Frankfurt has been fairly robust. For the end of 2017, we forecast a total of around 62,000 employees in the city's banks, which would represent a fall of only 1 % from the most recently available level in autumn 2015. In this respect, the ECB is turning out to be a guarantee for employment and safeguards the long-term attractiveness of Frankfurt as a banking location.

Apart from banks, **stock exchanges** are extremely significant for a financial sector location. The creation of a European "super exchange" would raise the bar for the growing competition from overseas. However, in the case of the planned merger between Deutsche Börse and the London Stock Exchange, the headquarters should have been located in Frankfurt, in accordance with the market capitalisation of both companies. Our assessment of the three stock exchange locations is based on the assumption that the merger will take place as planned with the headquarters being in London (and without a "Brexit"). This would then further strengthen London's position and Frankfurt would be downgraded to the status of a sideshow, albeit with a stock exchange that would continue to be a major global player. As part of a multinational exchange, Paris would play a lesser role in relation to the European "super exchange", especially since its exchange had relinquished its independence over many years. If the planned merger should happen to fail, Frankfurt will be able to go its own way with its head held high.

In terms of **financial sector teaching and research**, Frankfurt has made substantial progress and has gained in international stature, with plenty of room for further improvement. The combination of Frankfurt's Goethe University and the Frankfurt School of Finance and Management, which complement each other, offers an attractive, top-quality range of teaching and research opportunities. At the same time, the German financial centre does not enjoy the same prestigious tradition of educational institutions as its British and French counterparts. However, there is certainly more Frankfurt could do to promote its bustling, visibly more competitive network of intellectual infrastructure in a more self-confident way.

With regard to **trends in the financial sector**, the German financial centre has retained its position in the midfield, while its opposite number in France has slipped back. Today, digitalisation represents a dominant phenomenon and the technological change in the banking industry is being primarily driven by fintechs and large internet corporations. In addition to the United Kingdom, which is the leader in this field, Germany cuts a good figure, whereas France is not yet considered a globally promising fintech destination. The pooling of efforts in continuing the expansion of Frankfurt to become the German and Continental European fintech hub is of crucial importance. A significant milestone in this respect is the rapid establishment of a technology centre.

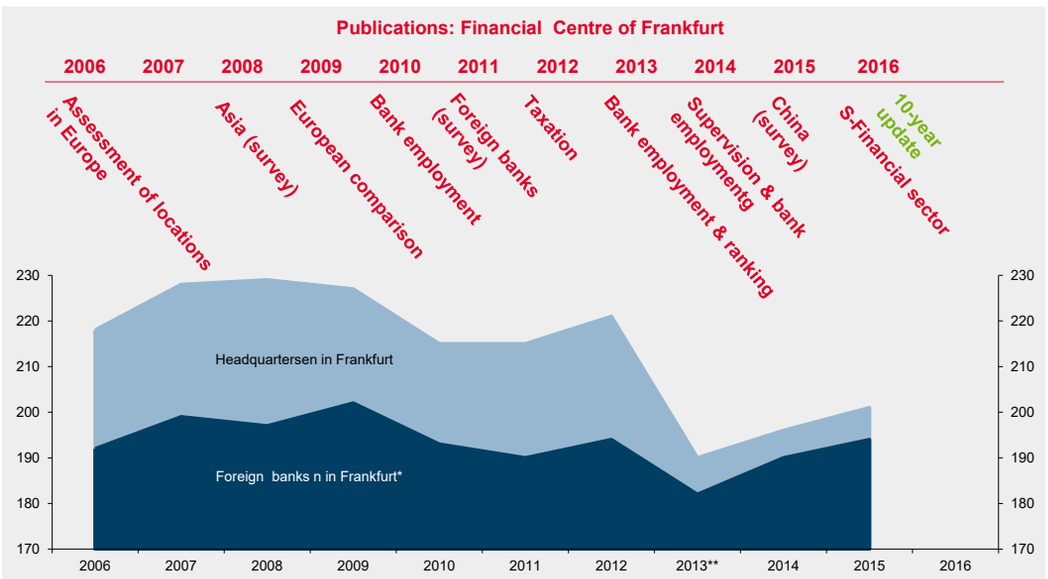
Frankfurt is not only better positioned than Paris in the trends criterion but also in terms of **location-specific qualities**. We view the relatively expensive office rents and high cost of living in the French capital as a disadvantage for its location, which is unlikely to change in the long run. Frankfurt also scores points in the competition of financial sector locations thanks to its function as a transportation hub, including having the advantage of short distances.

Overall, the financial centre of Frankfurt has successfully held its own in these difficult times for the financial sector. As early as 2006, we concluded that the city had good medium term prospects of assuming a leadership role in Continental Europe. Since then, the German financial centre has made further headway in numerous respects and has made up a good deal of ground in relation to the French capital, in particular. Thus, the relative importance of the three big financial sector locations is now clear: **London before Frankfurt and Frankfurt before Paris**.

In the continued competition between locations, it is important for the German financial centre to self-confidently **use** its **strengths** and to clearly advertise them to the world of finance. After all, Frankfurt has a great deal to offer. Furthermore, it is crucial to actively **grasp opportunities** for long-term success in the financial arena. In this regard, growth-related location criteria, which strengthen the financial centre at its roots and encourage its capacity for innovation, are key. Consequently, Frankfurt should continue to vigorously pursue its evolution into an international centre of education and into the European fintech hub. In this way, the German financial centre will be able to strengthen its good position in the international financial architecture.

1 Ten years of Helaba financial centre research

For ten years now, we have been conducting exhaustive research into the financial centre of Frankfurt on alternating focal topics. We started in 2006 with our fundamental study entitled “Frankfurt: The Financial Centre – A City on the Move”. That was followed by various publications on foreign banks in Frankfurt (including our own surveys) and on forecasts about local banking employment. In addition, we published a new ranking that we compiled on the largest banks in Frankfurt. Furthermore, we analysed the most important location-related aspects of taxation and supervision. No comparable financial centre research is conducted in Germany which covers the same diversity of topics and detail. With our studies, we have tracked the development of Frankfurt’s location as a financial centre over the course of time.



Sources: Deutsche Bundesbank, Helaba Research; * Headquarters & representative offices; ** 2013 statistical break

Summary 2006: London ahead, Frankfurt with better prospects than Paris

In our initial study ten years ago we took stock of the three largest financial centres in Europe. In this comparative financial centre analysis of Frankfurt versus London and Paris, the underlying question was: What are the essential features of a financial centre? We identified five characteristics that we considered indispensable for the successful positioning of a financial centre in the competitive international environment. These core criteria were: banks, stock exchanges, financial sector teaching and research, trends in the financial sector and location-specific qualities. By using a number of indicators, a detailed assessment of Frankfurt, London and Paris was conducted. At that time, we came to the conclusion that the London financial centre had an undisputed pre-eminence in Europe and, within Continental Europe, that Frankfurt and Paris were competing for a leading position. We judged the prospects of the financial centre of Frankfurt achieving a leading Continental European role in the medium term as good.

Helaba’s 2006 assessment table

Criterion	Frankfurt	London	Paris
Banks	😐	☺	☺
Stock exchanges	☺	☺	☺
Fin. sector teaching & research	😐	☺	☺
Trends in the financial sector	😐	☺	😐
Location-specific qualities	☺	😐	😐

☺ shows that the financial centre is well-positioned in terms of its international competitiveness ☹ indicates that there are some shortcomings 😐 indicates a position in the middle.

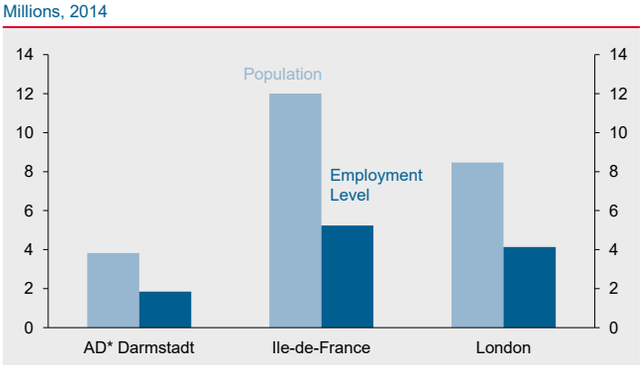
Sources: Helaba Volkswirtschaft, Hessen Agentur

Focus 2016: Core criteria for Frankfurt compared to other financial centres

Since then, the financial centre of Frankfurt has made further progress. Now, the key question is: Where does Frankfurt stand today in comparison to the other large financial sector locations in Europe? The following study, in which we refer to the core criteria we applied in 2006, provides detailed answers to this. The indicators used in the assessment were similar to those of the original study and, in some cases, were enhanced with updated information thanks to the data situation that has meanwhile improved. The German financial centre is at the focus of this year's financial centre analysis. As previously, it also involves comparing it to the two other leading European financial centre regions. The administrative district of Darmstadt was used as a suitable demarcation for Frankfurt's financial centre region. In an international comparison, disparities in size must be taken into account (e.g. area: administrative district of Darmstadt around 7,500 km^2 versus the Île-de-France region with approx. 12,000 km^2 and Greater London at close to 1,600 km^2). Ultimately, the interdependencies between the cities and their surrounding regions contribute significantly to the positions of the financial centres in terms of international competition.

Frankfurt's financial centre region, with lowest population and employment levels,…

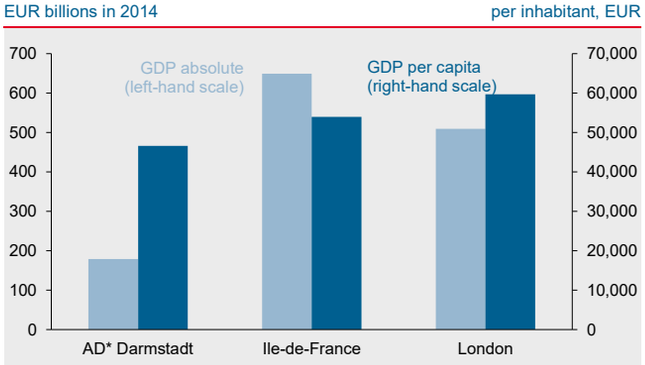
Millions, 2014



Sources: Eurostat, Helaba Research; * administrative district

…influences economic strength in absolute and relative terms

EUR billions in 2014 | per inhabitant, EUR



Sources: Eurostat, Helaba Research; * administrative district

Regional differences

The population of the administrative district of Darmstadt is over 3.8 million (of which the City of Frankfurt: just over 716,000), compared to nearly 8.5 million in London and 12 million in the Île-de-France region. Accordingly, the workforce in Frankfurt's financial centre region only amounts to 1.8 million, while in the Greater London and Paris areas there are 4.1 million and 5.2 million employees, respectively. Thus, the nominal gross domestic product (GDP) in the Frankfurt area is considerably lower than in the London or Paris regions (almost 180 billion € versus around 510 billion € and almost 650 billion €). In relation to the population, though, the regions' economic strengths are closer together. For instance, GDP per capita in the German financial centre is EUR 47,000 against EUR 60,000 in the British and EUR 54,000 in the French financial centre. These regional differences should be kept in mind when reading the following chapters.



2 Financial Centre of Frankfurt versus London and Paris

2.1 Banks

	Frankfurt		Paris		London	
	2006	2016	2006	2016	2006	2016
Banks	😐	😐	☺	😐	☺	😐

☺ well positioned internationally 😐 midrange ☹ deficits Source: Helaba Research

2.1.1 Status quo and number of financial institutions

Many challenges for the banking industry

The European banking industry is faced with big challenges. Earnings continue to be under pressure from very low interest rates as well as high costs as a result of more stringent regulatory and supervisory requirements. Apart from direct costs from establishing and restructuring processes, detailed reporting activities as well as higher levies, they also comprise indirect costs, primarily the reduced profitability of business activities associated with employing additional equity capital. On top of that, banks' business models are being put to the test by the rapid progress of digitalisation, which is giving rise to increasing competition from fintechs, which are still largely unregulated. Ultimately, the dimension of this fundamental trend that is changing many areas of banking is not yet foreseeable (cf. chapter 2.4).

Midrange smiley assessment for all three banking centres

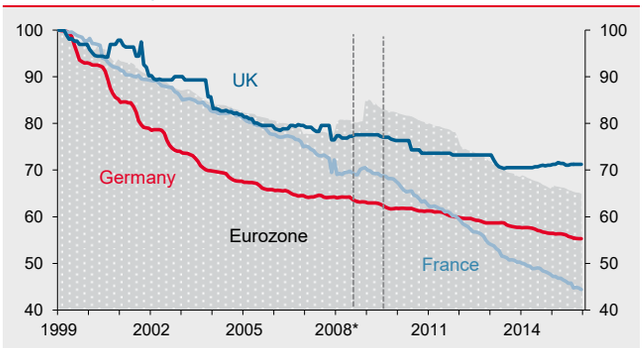
How will Europe's banks overcome these challenges? Overall, the situation remains difficult and there is on-going pressure for consolidation. However, the multitude of new requirements has also led to a stabilisation in the industry, because banks have improved their equity positions and reduced risks in their balance sheets. At the end of 2015, for example, the Bundesbank attributed an increased level of resilience to the German banking system. At the same time, the Bank of England considered the leading institutions in the United Kingdom as being adequately prepared for future crises. Both the German and French banks (with one exception in each case) passed the ECB's stress test that was published in autumn 2014. Despite the efforts the banks have made over a number of years, on average they are in a worse position in all three countries than before the crisis, a fact that is also reflected in the ratings of the large institutions. Accordingly, we only awarded a midrange assessment to all three locations for the financial sector location criterion of banks. In this sense, Frankfurt now has a better position in relation to both its competitors than

before, since the overall deterioration of local banks has not been as serious and their staff levels have been subject to a more moderate development (cf. chapter 2.1.2).

Meanwhile, the consolidation process in the European banking sector is manifesting itself in a continuous reduction in the number of institutions. In the euro area, despite the enlargement of the single currency area, from 1999 until the end of 2015 it has declined by 35 % to below 6,400 monetary financial institutions.

Falling number of banks in Europe

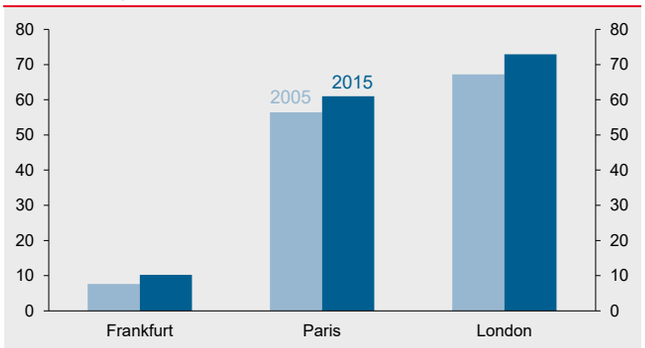
Number of monetary financial institutions, 1999 = 100



Sources: ECB, Helaba Research; * statistical breaks

Regional concentration of banks

Share of country's total number of banks in each financial centre in %



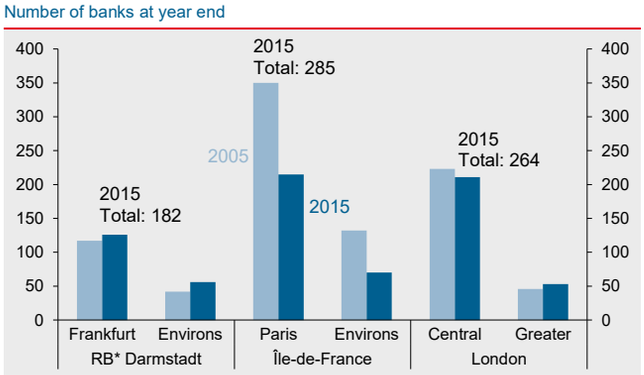
Sources: ECB, Helaba Research

Structural differences of the three banking systems

In Germany, the number of banks in this period declined more strongly than in the United Kingdom, but the drop was less pronounced than in France. Nevertheless, at the end of last year Germany continued to boast the highest number of institutions at 1,800, compared to around 850 in France and almost 400 in the United Kingdom. The reason for this is related to the differing structures of the banking systems, which has historical roots and is a result of the respective organisation of each country. In view of the centralised character of the state in the United Kingdom and France, there is a high concentration of banks in their financial centres, which are dominated by a few major institutions. This contrasts with the German system, organised along federal lines and typified by decentralisation, with a comparatively large number of banks. Around three quarters of German banks form part of the regionally-focused savings banks (Sparkassen) and co-operative banks (Volksbanken). At the end of 2015, as little as 10 % of all credit institutions in Germany were based in Frankfurt's financial centre region, while the respective proportions in the conurbations of Paris and London amounted to 60 % and 70 %. Over the last ten years, the concentration of banks has somewhat grown in all three locations.

Credit institutions in the three financial centre regions

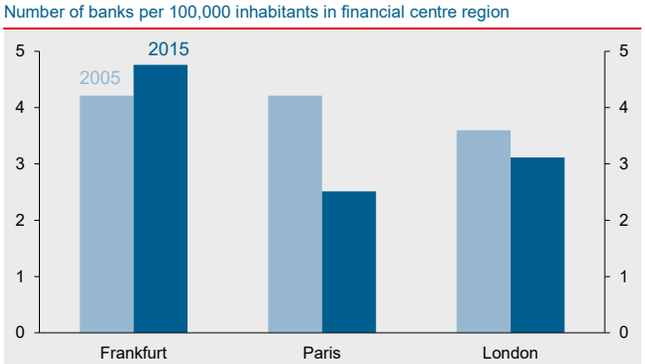
Number of banks at year end



Sources: ECB, Helaba Research; * administrative district

Credit institutions per capita

Number of banks per 100,000 inhabitants in financial centre region



Sources: ECB, Eurostat, Helaba Research; population at beginning of 2014

In terms of absolute numbers, most credit institutions in the financial centre regions, which continue to be clearly focussed on their metropolitan areas, could recently be found in Paris with 285, followed by London with 264 and Frankfurt with 182. However, the number of banks in the French

Frankfurt alone in seeing growth in bank density

financial centre has shrunk noticeably in the last few years (40 % fewer institutions than in 2005). Meanwhile, the number of banks in the Greater London area was practically unchanged over the period of comparison. The considerably higher interest in Frankfurt's financial centre region, which registered an increase in the number of banks of around 15 % compared to 2005, is all the more remarkable. Both Frankfurt itself as well as its surrounding area have gained in importance as an office location for domestic and foreign banks. Thus, the German financial centre was alone in seeing a rise in the density of banks over the years. Relative to the population, Frankfurt's financial centre region had the highest number at 48 per million inhabitants (London and Paris had 31 and 25 per million residents, respectively).

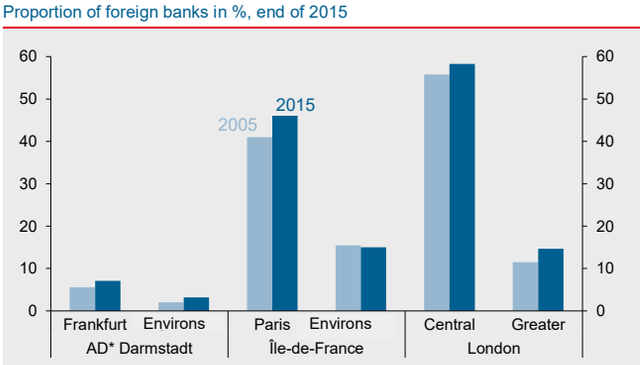
Foreign players continue to flock in droves to the glamourous financial centre of London. Nevertheless, many also find the more down-to-earth Frankfurt and the global city of Paris attractive. It is not uncommon for banks to simply retain an office in all three locations in order to promote their business by having a local presence; and they come from a wide variety of countries. Furthermore, numerous foreign banks view Germany as one of their core markets. The unbroken interest of foreign banks in Frankfurt is underpinned by the city's excellent transport connections, so that it is often used as a springboard to access countries nearby (cf. chapter 2.5).

Proportion of foreign banks just as high as in London, Paris lower

Accordingly, the proportion of foreign banks in the city of Frankfurt in terms of absolute numbers is just as high as in London at 50 %, whereas Paris manages just over 30 %. The surrounding region of the German financial centre is not nearly as important for foreign players. After all, they want to operate in the heart of Frankfurt's financial activity, as surveys conducted by Helaba show.[1] Overall, 66 credit institutions of non-German origin were located directly in Frankfurt at the end of 2015 according to the ECB definition, 73 in Paris and 115 in London (financial centre region as a whole: 69 versus 81 and 135). Compared to 2005, the growth in new institutions in Frankfurt was less pronounced than that in Paris and especially than that in London.

Increasing presence of foreign banks

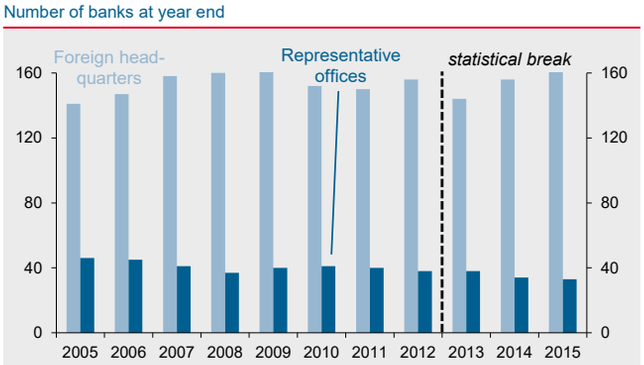
Proportion of foreign banks in %, end of 2015



Sources: ECB, Helaba Research; * administrative district

Growing appeal of financial centre of Frankfurt

Number of banks at year end



Sources: Deutsche Bundesbank, Helaba Research

However, it is worth mentioning that the number of foreign banks within the city limits of Frankfurt, according to the Bundesbank's definition[2], was considerably higher and that the crisis only led to a minor noticeable dip in 2010. Otherwise, more and more credit institutions with foreign roots have been located to the German financial centre over the last ten years. For instance, around 160 foreign banks were conducting business from Frankfurt at the end of 2015 – 80 % of all banks with a head office located in Germany. In addition, there were over 30 foreign representative offices. The latter are usually set up to establish local contacts, with the prospect of obtaining a full banking license in future.

[1] cf. e.g. Helaba Research (March 2015): "Financial Centre of Frankfurt: Upwards with China"

[2] The ECB's definition of a bank (Monetary Financial Institution, or MFI) is more narrowly defined than that of the Bundesbank for credit institutions.

ECB as an unbeatable asset of Frankfurt

At the end of the day, Frankfurt enjoys broad appeal for international players. An unbeatable asset of the German financial centre is the European Central Bank (ECB) in its dual monetary policy and supervisory function. This provides Frankfurt with no end of enduring international attention and makes it the place to be for many players in the financial sector. The proximity to the ECB is an important argument in choosing a location for many domestic and foreign banks, as evidenced by various surveys Helaba has carried out. It is no coincidence that, as well as the Association of Foreign Banks in Germany, the European Banking Federation has also meanwhile opened an office in Frankfurt, in addition to national industry representatives.

2.1.2 Employment forecast

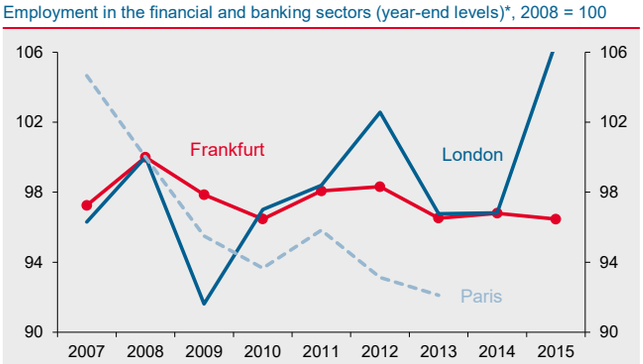
Crisis-induced redundancies in Paris versus fluctuations in London

How have the labour markets of the three largest European banking centres developed in recent years? After the outbreak of the global financial crisis in 2008, the financial sector went through a period of universal downsizing. However, there was a very considerable disparity in the extent of staff cutbacks between each banking centre, which is demonstrated by official data from government statistical authorities that are based on different definitions. According to this data, there was a continuous reduction of personnel in Paris that lasted for many years and accounted for 8 % from 2008 until the end of 2013 (most recent figures: 145,400 employees in the financial and insurance sectors).

In London's financial sector, which is influenced by the more flexible British laws on statutory redundancy, there were strong fluctuations in staffing capacities. For instance, following the wave of redundancies that hit after the crisis erupted employers soon hired many new workers before another round of consolidation took place in 2013/2014. In 2015, a substantial number of redundancies was announced and implemented by the City's major banks, particularly in the segment of investment banking, while the financial sector as a whole saw a considerable increase in hiring. At the end of last year, London's banking sector employed an estimated 144,000 people and the financial sector as a whole almost 400,000.

Marked growth in London, downward trend in Paris

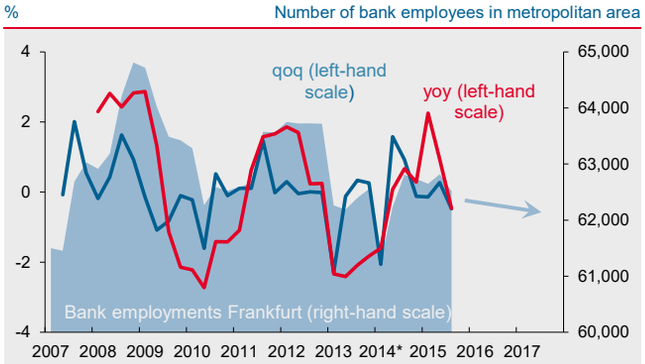
Employment in the financial and banking sectors (year-end levels)*, 2008 = 100



* Frankfurt: banks (2015: autumn quarter) versus London and Paris: financial industry;
Sources: German Federal Employment Agency, Deutsche Bundesbank, ONS, INSEE, Helaba Research

Limited adjustments to workforce in Frankfurt

% Number of bank employees in metropolitan area



* statistical break due to operational data conversion;
Sources: German Federal Employment Agency, Deutsche Bundesbank, Helaba Research

In comparison to other banking locations, the employment trend in Frankfurt has been fairly robust. Since the financial crisis started in 2008, wavelike changes to staffing levels in Frankfurt's bank towers have been noticeable. A period of minor consolidation until mid-2010 was followed by an upsurge of hiring activity before an opposite trend set in once more in the first half of 2013 – albeit again only temporarily. Abstracted from one-off statistical effects at the turn of 2014, banking employment in Frankfurt has remained stable in recent quarters. In autumn 2015, there were 62,500 bank employees in the German financial centre. This corresponds to more than 11 % of all employees who are subject to social insurance contributions, a proportion with a declining trend (end of 2006: around 13 %).

Frankfurt continues to benefit from special factor of ECB

The expansion of the ECB into the primary European authority for banking supervision has made a significant contribution towards stabilising Frankfurt's financial sector labour market. In order to be able to tackle its new task at the end of 2014, initially around 1,000 additional staff were hired. But that was not all. Having continued acting as a guarantor for employment in 2015 in the financial centre, it is still expanding. The history of the central bank as well as that of other EU institutions suggests that there will be a gradual rise in staff numbers. By 2017, it has announced an increase of around 250 employees so that it will be able to cope with the larger than expected workload.

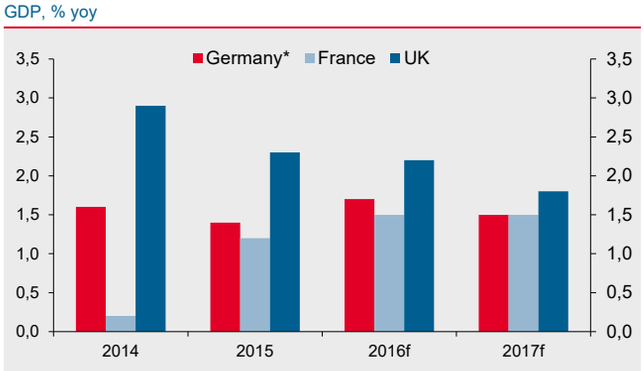
This will also involve a trend towards a greater personnel requirement at institutions it directly supervises. Consequently, this should likewise lead to domestic and foreign banks and their stakeholders, which meanwhile number around 130, expanding their presence in the German financial centre. Moreover, Frankfurt's position as the first renminbi clearing hub in the euro area will boost its attractiveness for international players – enhancing the location's image over the long term.

German economy strengthens financial sector location

The solid nature of the German economy is supporting the local financial sector labour market: For 2016 and 2017, we expect real increases in Germany's gross domestic product (GDP) of 1.7 % and 1.5 %, respectively. According to experience, healthy economic growth in the individual business fields of banks leads to a greater need for staff. Thus, we project that Germany's growth rate will be on approximately the same level as that of France (1.5 % in both cases), where an economic recovery is also underway, and below that of the United Kingdom, whose rate of growth is slowing, however (2.2 % and 1.8 %, respectively). Germany is by far the largest economy of the three. In addition, the deep entrenchment of Frankfurt's financial centre in the real economy should be seen as a comparative advantage in the competition between European locations.

UK: Strongest growth, most distinct slowdown

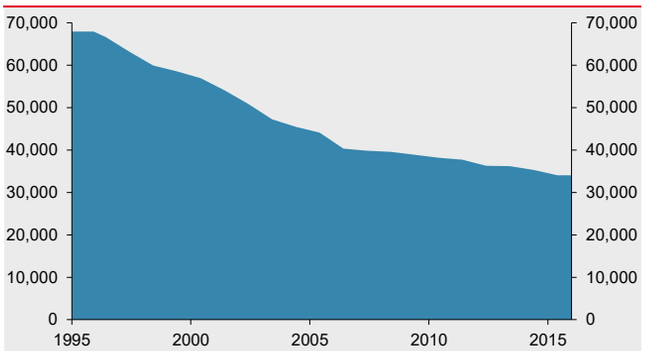
GDP, % yoy



* calendar adjusted, f = forecast
Sources: Macrobond, Helaba Research

Branch closures in Germany

Number of German bank branches*



* including Postbank
Sources: Deutsche Bundesbank, Helaba Research

The consolidation process in the German banking centre is cushioned by regulatory issues and the economy. After all, there is a need for staff in order to expand selected business segments with potential for growth thanks to the particularly stable German economy as well as to fulfil countless new regulatory and supervisory requirements. For good measure, Frankfurt is only affected to a limited extent by the wave of branch closures that has been taking place since the beginning of the 1990s and that has been given renewed impetus by digitalisation (cf. chapter 2.4). This is because branches have primarily been reduced in rural areas of Germany, while the head offices of banking groups dominate in Frankfurt.

It is not easy to gauge the real sentiment in Frankfurt's bank towers. The volatile sideways movement of corresponding indicators sometimes suggests there will be redundancies and sometimes that more jobs will be created – and this despite the manifold challenges confronting the industry. In the scope of cost-cutting programmes to boost efficiency, painful cutbacks are being made to human resources, too. However, at the same time there are some institutions that have recently arrived in the German financial centre and that are expanding their capacity, precisely in Frankfurt, or are focussing capacity more strongly on their headquarters in the city due to the need for con-

solidation. An exit from the EU by the United Kingdom (“Brexit”) would accelerate this trend, although this is not our baseline scenario (cf. chapter 3).

Around 62,000 bank employees in Frankfurt at end of 2017

All in all, we thus assume that there will be a limited adjustment to staffing levels by the end of 2017, so that there will probably then be around 62,000 or 1 % fewer bank employees than the previously available level in autumn 2015. In terms of international competition, once again Frankfurt thus proves itself to be a solid financial sector location.



2.2 Stock exchanges

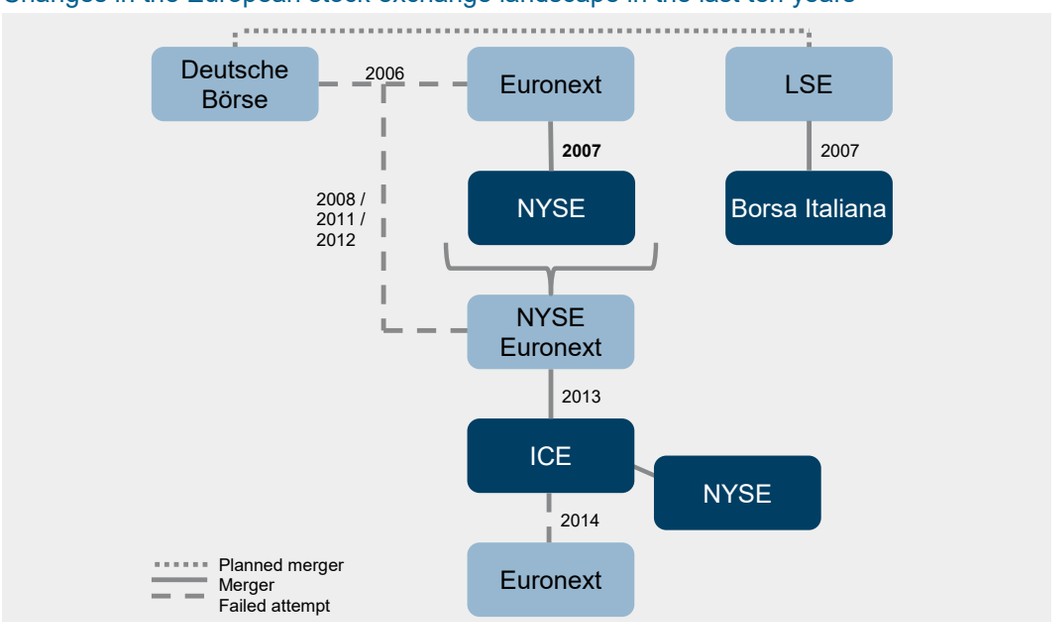
	Frankfurt		Paris		London	
	2006	2016	2006	2016	2006	2016
Stock exchanges	☺	😐	☺	😐	☺	☺

☺ well positioned internationally 😐 midrange ☹ deficits Source: Helaba Research

Stock exchange essential for a financial centre

Apart from banks, stock exchanges are extremely significant for a financial sector location. There has been a lot of upheaval in the global stock exchange landscape in recent years. Against a backdrop of increasing competition in North America and Asia, European stock exchange groups are under pressure to position themselves well. In this context, the big three financial centres in Europe have flirted with one another in different constellations, although other stock exchange locations were also involved. This resulted in a number of mergers and acquisitions, with some failing or being dissolved again afterwards.

Changes in the European stock exchange landscape in the last ten years



LSE = London Stock Exchange, NYSE = New York Stock Exchange, ICE = Intercontinental Exchange
Source: Helaba Research

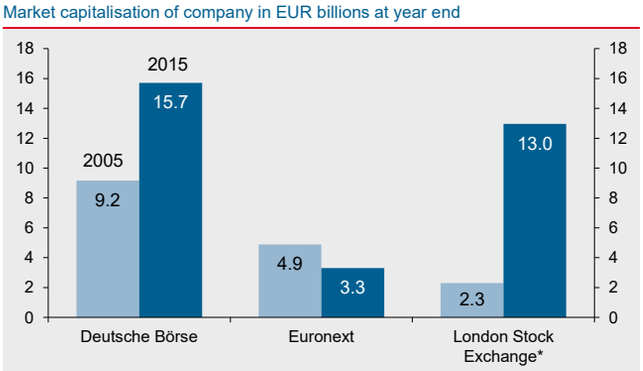
"Super exchange" with headquarters in Frankfurt an adequate prospect

For Europe to continue playing a significant role on the global capital markets, the creation of its own "super exchange" would, in principle, be a desirable aim and would make sense from a micro-economic perspective. The merger now planned between Deutsche Börse and the London Stock Exchange would raise the bar for overseas competition to a high level and the importance of other European exchanges, such as Euronext, would diminish. Because these are two attractive companies with comparable strengths, this could generate significant efficiency gains. At the end of last year, the joint market capitalisation of both stock exchange groups amounted to nearly EUR 29 billion, which would mean they would become the world's second-largest operator (behind the US futures exchange CME and ahead of the Stock Exchange of Hong Kong). According to the most recent market capitalisation of their companies, which ranked Frankfurt higher than London at almost EUR 16 billion versus EUR 13 billion at the end of 2015, the headquarters of the new European "super exchange" should really be located in the German financial centre.

After all, this shows that market participants attach the greatest weight to Deutsche Börse in terms of a comparison of European financial centres. With its forward-looking business model that involves the use of the latest technology, it is considered to be in a better position. The management from Frankfurt could easily have negotiated with a corresponding level of self-confidence when it came to the question of location, which is more important in the long run than the allocation of staff anyway. People come and go – but the location remains. In this respect, Frankfurt's stock exchange location would be downgraded by being "incorporated" by London, local influence would be limited and jobs would be lost. However, it is still possible that the merger will be called off, either as a result of a competing offer or due to objections by (inter)national anti-trust authorities or stock exchange regulators. In case of a "Brexit", the situation would change, since it could call the location of the headquarters of the "super exchange" or even the entire merger into question. However, this is not our baseline scenario.

Market value of exchanges versus…

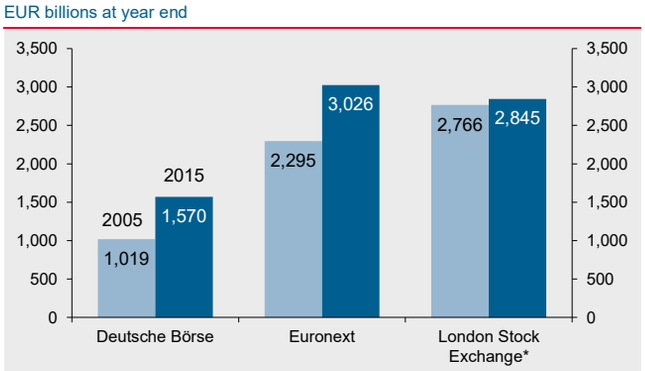
Market capitalisation of company in EUR billions at year end



*merger with Borsa Italiana in autumn 2007
Sources: World Federation of Exchanges, London Stock Exchange, Helaba Research

…market capitalisation of listed companies

EUR billions at year end



*merger with Borsa Italiana in autumn 2007
Sources: World Federation of Exchanges, London Stock Exchange, Helaba Research

Paris upgraded by NYSE split

Compared to both its main European competitors, the multinational Euronext exchange is valued considerably lower with a market capitalisation of just over EUR 3 billion. Paris is one of its various locations, its headquarters being located in Amsterdam, but with the highest number of employees. In this respect, Euronext's figures are only partially attributable to the French location and there is limited scope for comparison to the other two large financial centres. The merger with the American exchange NYSE in 2007, resulting in the first transatlantic exchange operator and which was associated with significant restructuring and a loss of importance for the stock exchange location of Paris, was reversed in 2014. In the intervening time, a merger with Deutsche Börse was considered on many occasions – even today this would certainly be a worthwhile endeavour if Frankfurt assumed a leading role.

Looking back over the last ten years, the market value of the exchanges in Frankfurt and London has risen considerably, with only Euronext's having fallen. With regard to the market capitalisation of companies listed on the three large exchanges, the relationship looks different because public

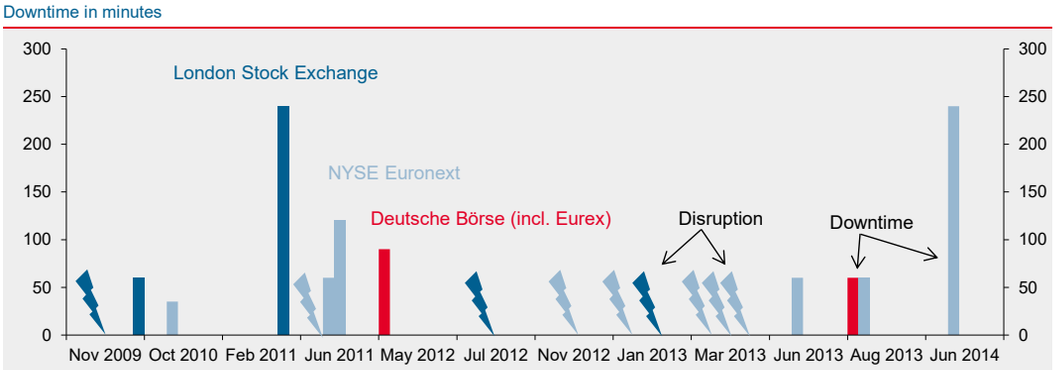
limited companies in Germany are not quite as widespread. Thus, the market capitalisation of all companies listed on the Deutsche Börse exchange was lower at the end of 2015 than on the London Stock Exchange and on Euronext (almost EUR 1.6 trillion compared to more than EUR 2.8 trillion and just over EUR 3 trillion, respectively). On the other hand, the Frankfurt stock exchange has managed to close the gap somewhat to London over the years. What this and other indicators clearly show is that the British stock exchange location plays an unquestionably special role.

Deutsche Börse active in process of digitalisation

However, there is plenty of action in the German financial centre. Last summer Deutsche Börse led the way with rapid expansion moves when it acquired two index providers in one fell swoop as well as the internationally successful currency trading platform 360T. With this large volume acquisition of a model fintech company, Frankfurt-based Deutsche Börse improved its position in the global capital markets and simultaneously advanced to become the most important financial backer of the German start-up scene. Furthermore, in the "Venture Network", Deutsche Börse has created an investment platform that is being used by 75 companies and 150 investors after only its first year of existence. Since spring 2016, it has also provided office space free of charge near the financial district so that start-up companies are able to develop new ideas and business concepts. This strategic alignment sends out an important signal to the world of finance, because digitalisation in the banking as well as stock exchange universe is proceeding apace – a far-reaching phenomenon that is changing many things (cf. chapter 2.4).

Technical glitches on European stock exchanges:* Euronext comes off worst

Downtime in minutes



Sources: ESMA, Helaba Research; *focus on the three largest financial centres

However, there is also a downside risk to the rapid pace of technological progress. Operators of stock exchanges are faced with the challenge that their systems have to process ever larger and more complex volumes of data. Within a few years, cutting-edge technological innovations gave rise to the phenomenon of high frequency trading, in which the possibilities for human intervention are extremely limited. As a consequence, the number of technical glitches on global stock exchanges has risen markedly in recent years – with corresponding costs for the exchange operators. In respect of the three large financial centres in Europe that we are looking at in this study, the most frequent technical faults and breakdowns were on the NYSE Euronext exchange, with fewer occurring in Frankfurt or London. Technological progress will continue to pose a challenge to stock exchange operators as well as to other financial centre players.

Assessment based on assumption of "super exchange"

Our smiley assessment of the three stock exchange locations is based on the assumption that the merger to create a European "super exchange" will take place as planned with the headquarters located in London (and without a Brexit). This would then further strengthen London's position and Frankfurt would be downgraded to the status of a sideshow, albeit with a stock exchange that would continue to be a major global player. Paris is also part of a multinational exchange, whose significance was eroded after years of being under American control. Although it has been upgraded again by the split, it would still play a lesser role in Europe in relation to a new Anglo-German exchange.



2.3 Financial sector teaching and research

	Frankfurt		Paris		London	
	2006	2016	2006	2016	2006	2016
Fin. sector teaching & research	😐	☺	☺	☺	☺	☺

☺ well positioned internationally 😐 midrange ☹ deficits Source: Helaba Research

2.3.1 Highly regarded institutions

A solid foundation of human capital is an essential factor for the innovative capacity of a financial centre and thus for its successful long-term positioning in terms of international competition. Two large institutions of teaching and research are active at the heart of Frankfurt, which have experienced a boost in recent years and whose influence in the world of finance has visibly grown.

Frankfurt: two important institutions of higher education in the city…

On the one hand, there is the publicly-funded Goethe University with a history going back a hundred years, which is meanwhile located at the Westend campus. The Goethe University's department of economics, which is closely connected to the local Business School, is considered one of the most highly regarded in Germany thanks to its strength in research and proximity to business. In contrast to other top universities, the focus is on classic bachelor and master degrees. On the other hand, the Frankfurt School of Finance and Management resides in the eastern district of the city, whose beginnings stretch back nearly 60 years (previously known as Bankakademie). Meanwhile, it has become a private university funded by endowments with the right to award doctorates. The Frankfurt School has undertaken a targeted growth of its activities in recent years, modelled on the US system which has involved an expansion of its buildings on the new campus site. In total, the range of finance-related higher education courses on offer in Frankfurt stretches from bachelor and master degrees, PhD programmes/doctorates all the way to opportunities for professional development for skilled workers and managers. With this, Frankfurt possesses two first-rate institutions close to its financial district that are experiencing dynamic growth, with both having a different academic focus resulting in excellent overall coverage directly in the financial centre.

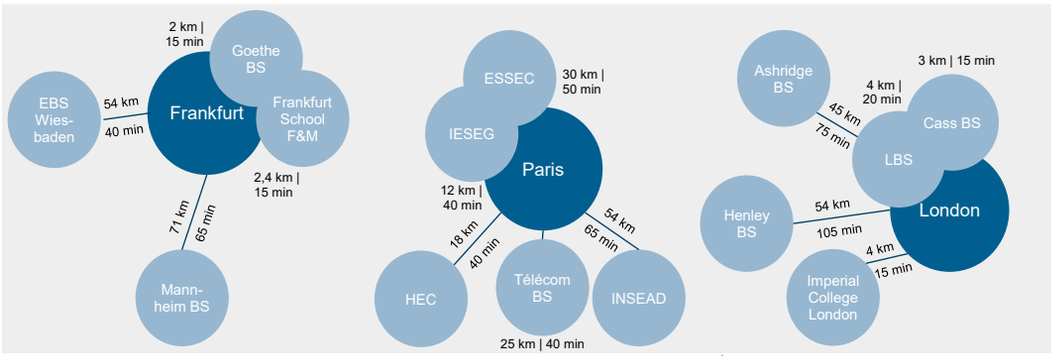
…and two in the "periphery"

In addition, Frankfurt's environs are home to the European Business School (EBS) university, with locations in Oestrich-Winkel and Wiesbaden, which is considered a pioneer among German business schools. Similarly, significant impulses for innovation in the German financial centre emanate from nearby Mannheim, that has also made a name for itself with a university rich in tradition and whose associated business school ranks among the most prestigious in Germany. We consider these two academic institutions as part of the intellectual infrastructure of Frankfurt's financial centre region since, from an international perspective, they are located to some extent in Frankfurt's

well-connected periphery. Ultimately, they play an important role in recruiting talent for the local financial sector and their distance to Frankfurt is comparable to their counterparts near London or Paris.

Business schools in the financial centres

Distance (as the crow flies) and travelling time by car (rounded)



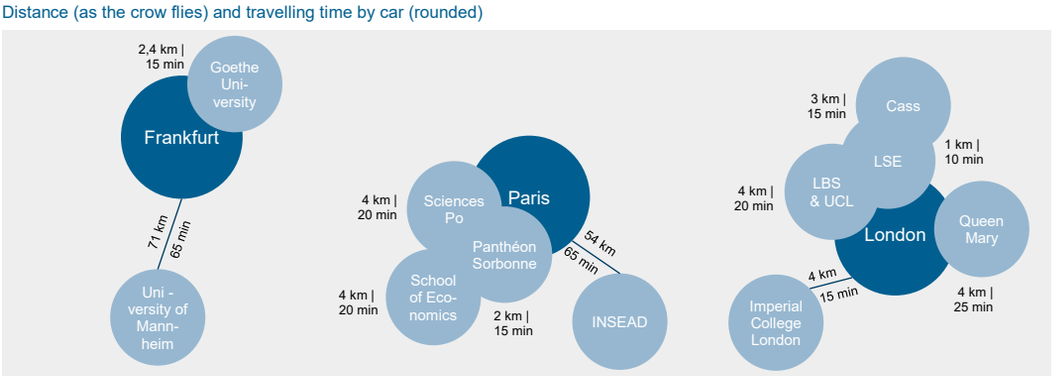
BS = Business School, EBS = European Business School, F&M = Finance & Management, ESSEC = École supérieure des sciences économiques et commerciales, IESEG = Institut d'Economie Scientifique et de Gestion, HEC = École des hautes études commerciales, INSEAD = Institut Europeen d'Administration des Affaires, LBS = London Business School; Sources: Google Maps, Helaba Research

London & Paris: Five prestigious institutions each

The financial sectors of London and Paris are principally served by five large business schools from the region in each case, whose traditional names speak for themselves and who are in a process of continuous evolution. Of these, the London Business School and INSEAD in Paris are the most prominent, since they are global leaders in their field. Apart from business schools, there are also significant economics departments at universities in the three European financial sector locations.

Economics departments in the financial centres

Distance (as the crow flies) and travelling time by car (rounded)



INSEAD = Institut Europeen d'Administration des Affaires, LSE = London School of Economics, LBS = London Business School, UCL = University College London; Sources: Google Maps, Helaba Research

Frankfurt's network becoming noticeably denser

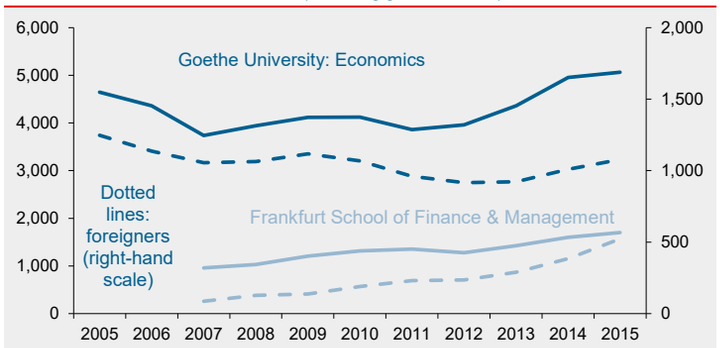
Frankfurt is in the middle of a rapid catching-up process. Its reputation as an international scientific and research location for the world of finance has grown over the years; the range of training and professional development opportunities it offers has become wider and of a higher quality. Thus, Frankfurt's higher education institutions are keeping pace with the times and, for example, are making an important contribution to the transformation of Frankfurt into a fintech hub (cf. chapter 2.4). In the meantime, a variety of well-known professors are active in the German financial centre and prominent representatives from the business and political spheres are often hosted as guest speakers. There has been a substantial rise in the number of publications of research findings from Frankfurt-based institutions in internationally renowned journals. Marketing activities as well as the more frequent use of English as the international language of business have played their part in boosting interest in Frankfurt among both national and international students.

In the 2015/2016 winter semester a total of 6,500 students were registered for the relevant academic programmes at Goethe University and the Frankfurt School of Finance and Management

alone – around 40 % more than eight years ago and nearly a quarter of them are still foreign students. The number of applicants exceeds the available places on degree courses many times. The fact that Frankfurt now attracts more attention in finance-related teaching and research fields is also reflected in the growing network of partner institutions in the academic and business communities. For instance, there is more and more co-operation on research projects and exchange programmes as well as placements of high potentials.

Years of growth in student numbers in Frankfurt

Number of students in winter semester (excluding guest students)*



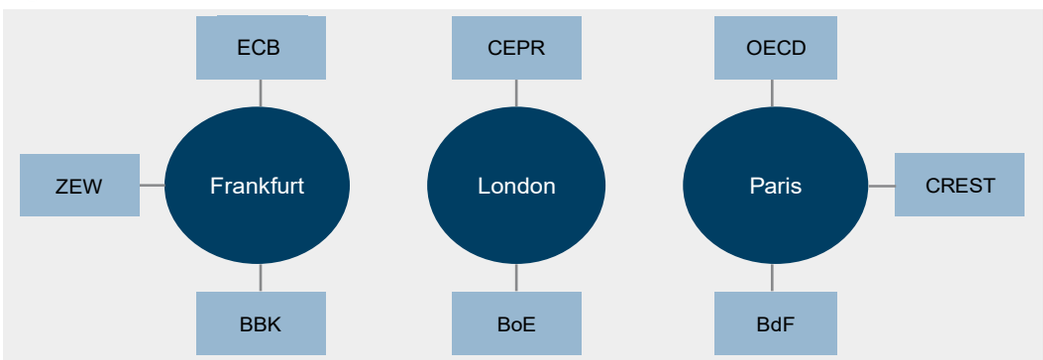
* Frankfurt School with guest students and 2015 summer semester
Sources: Statistical yearbook for Frankfurt, universities, Helaba Research

The high quality of teaching and research establishments in the expanded catchment area of Frankfurt is reflected in their many accreditations, which are essential for its international appeal. Noteworthy in this regard is the joint collaboration with the Frankfurt-based offshoot of the Chartered Financial Analyst (CFA) Institute, which offers an internationally renowned postgraduate degree course for investment managers and financial analysts. Frankfurt, Mannheim and Wiesbaden in Germany as well as three top-ranking universities in London and six in Paris form part of the CFA programme's global network of partner universities.

House of Finance with far-reaching significance

In the House of Finance, Frankfurt possesses one of the largest research establishments for financial and monetary issues in Europe, whose close ties with the business community are also expressed in the involvement of the financial sector including the ECB and Deutsche Börse. In addition to a business school and a postgraduate research programme, various university departments, a number of research institutes, such as the Center for Financial Studies as well as the centre of excellence SAFE (Sustainable Architecture for Finance in Europe), can all be found here under one roof. Supported by the federal state of Hesse, SAFE conducts independent research and political consultancy activities for Germany and the EU, in order to promote a sustainable financial architecture. Recent years have seen consultancy activities gaining considerably in momentum at the Westend campus and, in the meantime, many professors are actively involved in national and international bodies. This provides a boost to discourse and has potential for Frankfurt's further ascendency within the European network of finance-related teaching and research.

Significant research centres



Source: Helaba Research

In addition, at all three locations lively discussions are conducted in the scope of think tanks on issues concerning the financial centre and relevant conferences are organised. Research departments have been established at national central banks, including the Bundesbank, Bank of England and Banque de France (BBK, BoE, BdF) as well as at international institutions such as the European Central Bank (ECB), the Centre for Economic Policy Research (CEPR) and the Organisation for Economic Co-operation and Development (OECD). Furthermore, the Centre for European Economic Research (ZEW) is located in Mannheim, close to Frankfurt, and similarly the Centre de Recherche en Économie et Statistique (CREST) in Paris. With the ECB in its dual function as central bank and supervisory authority, Frankfurt plays an especially important role in the world of finance.

2.3.2 International rankings

MBA rankings: London and Paris ahead of Frankfurt

Despite a significant improvement in finance-related teaching and research activities in the Frankfurt financial centre region, London and Paris are still ahead in terms of MBA league tables. However, as a rule it is important to note that there are considerable changes over time and the rankings directly depend on the underlying assessment criteria, so that they should be viewed more as a rough guide than a comprehensive evaluation. Certain universities are not included in the ranking at all if they are not compatible with the selection criteria.

International and European rankings of business schools in 2015

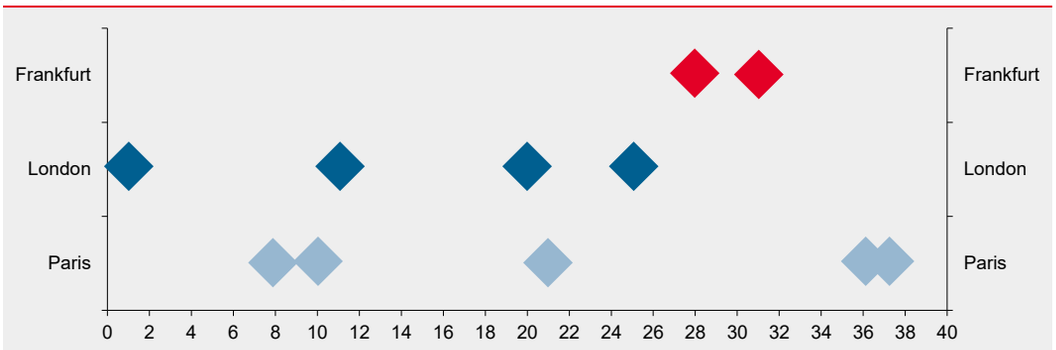
	Economist MBA World	Bloomberg MBA International	Financial Times* Global MBA / European
London			
London Business School	24	2	3 / 1
Cass Business School	54	-	37 / 21
Henley Business School	22	-	- / 35
Ashridge Business School	-	-	- / 48
Imperial College Business School	-	20	35 / 12
Paris			
INSEAD Business School	8	3	1 / 3
HEC School of Management	5	10	15 / 2
ESSEC École supérieure des sciences économiques et commerciales	-	-	/ 16 -
IESEG School of Management	-	-	- / 58
Télécom Business School	-	-	- / 66
Frankfurt			
Goethe Business School	-	-	- / -
Frankfurt School of F&M	-	-	- / 60
EBS Business School	-	-	- / 51
Mannheim Business School	38	17	49 / 18

* plus additional rankings of all three locations in more specific global FT league tables, international MBA ranking of 2016
Sources: The Economist, Financial Times, Bloomberg, Helaba Research

Due to the fact that the master's degree at Goethe Business School, for example, is an exclusively part-time course offered to professionals working in corporate finance, it does not appear in the assessments focussed on full-time master's degrees of some rankings, but instead only in a specially-defined ranking (cf. chart p.22). Nevertheless, the importance of the classic degree course offered by the University of Frankfurt at its Westend campus remains very high, while the business school specialisation at the Frankfurt School of Finance and Management is meanwhile reflected in its respectable international ranking.

League table for corporate finance master's degrees in Western Europe*

Rankings of certain establishments according to financial centre



* plus additional rankings for business schools in Frankfurt financial centre region in other fields of study by this league table provider
Sources: Eduniversal (2015/ 2016), Helaba Research

On the other hand, things look different with the assessment of economics departments, in which some of the British and French universities are not found in the rankings or only score moderately. The London School of Economics is the clear frontrunner here, as well as its Paris counterpart of the same name. In contrast, the universities of Frankfurt and Mannheim rank in moderate to low parts of the scale.

International and European rankings of economics departments

	Tilburg World	QS World	RePEc European
London			
School of Economics	11	4	6
London Business School	85	26	47
University College	20	16	4
Cass Business School	-	-	-
Queen Mary University of London	-	151-200	39
Imperial College Business School	-	-	-
Paris			
Panthéon-Sorbonne	76	51-100	-
Sciences Po	-	101-150	20
School of Economics	-	-	2
INSEAD Business School	-	-	-
Frankfurt			
Goethe University	87	101-150	30
University of Mannheim	71	51-100	37

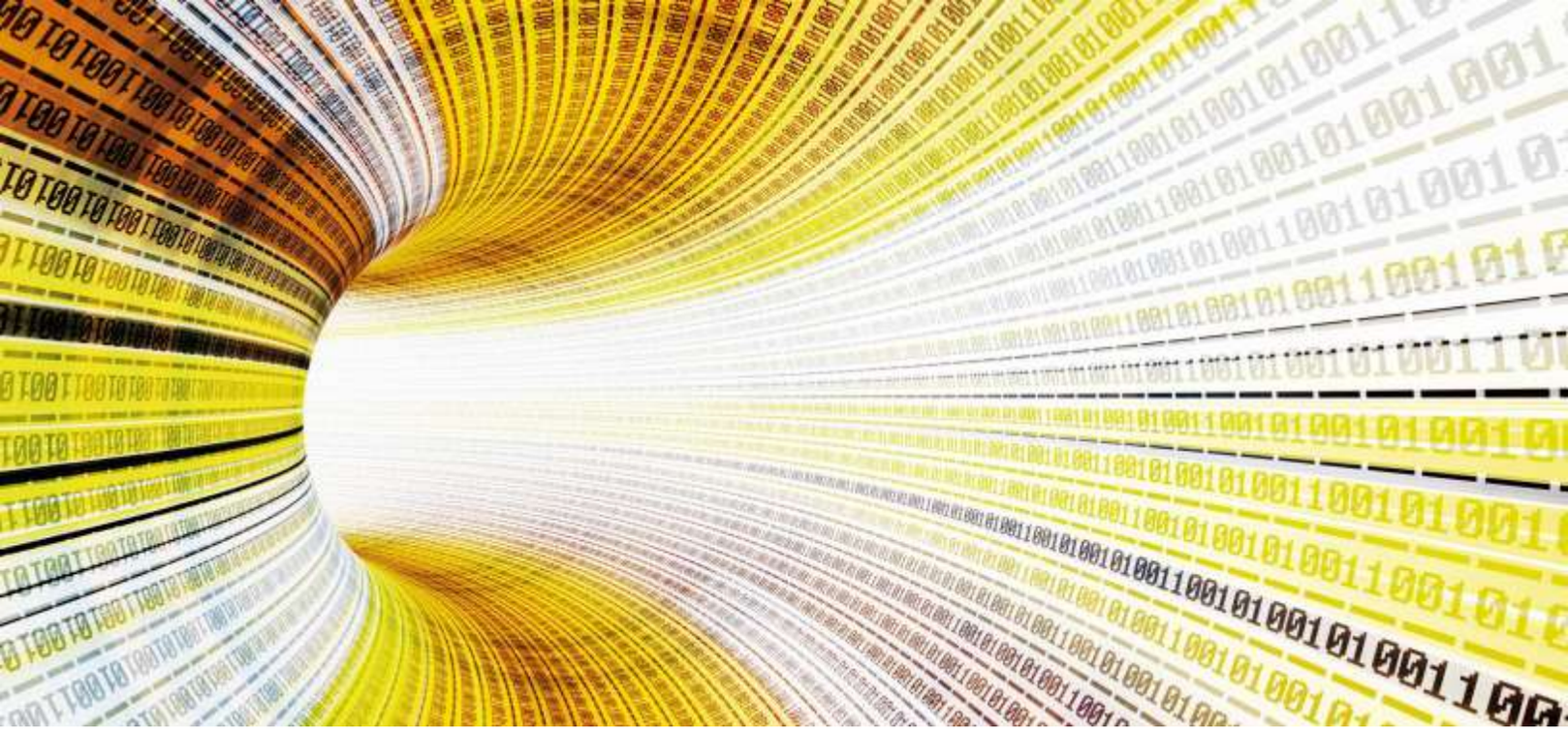
Sources: Tilburg University (2008-2012), QS University (2015), RePEc = Research Papers in Economics (2016), Helaba Research

Historic differences in systems must be taken into account

An important reason for the somewhat modest performance of Frankfurt's educational establishments is most likely related to the historic differences between national education systems. The master of business administration (MBA), which is favoured in the Anglo-Saxon dominated global financial sector, did not take root in Germany until the mid-1990s, because an economics degree (German Diplom) followed by a doctorate was the traditional path that opened the door to a job in the banking industry. In this sense, the German business school sector still has a marked potential for growth in Europe, but within a highly competitive market in which the competition is often equipped with greater financial possibilities, not least because they have enjoyed years of prestige status.

Growing appeal of Frankfurt – more self-confident marketing!

All things considered, the intellectual infrastructure in the German financial centre has seen a positive development over the last ten years and has grown in terms of its international reputation – with further upside potential. The universities and research establishments in the region are visibly better prepared to take on the competition and work closely in co-operation with the financial sector. Rankings in league tables alone are simply insufficient in appropriately reflecting this positive development. After all, the quality of an institution can be high even without a good assessment along the lines of the usual "standard" MBA, as the example of Frankfurt's Goethe University shows. Combined with the complementary activities of the Frankfurt School of Finance and Management, an attractive, high-quality range of teaching and research is offered directly in Frankfurt. It is true that the German financial centre cannot boast of such a prestigious tradition of educational establishments as its British or French counterparts can. However, Frankfurt could certainly promote its bustling network of intellectual infrastructure in a more self-confident way and the job prospects offered by the strong German economy represent a powerful argument in this regard.



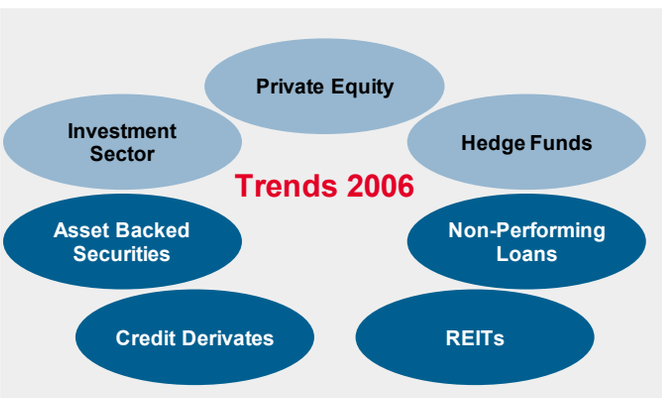
2.4 Trends in the financial sector

	Frankfurt		Paris		London	
	2006	2016	2006	2016	2006	2016
Trends in the financial sector	😐	😐	😐	☹	☺	☺

☺ well positioned internationally 😐 midrange ☹ deficits Source: Helaba Research

Innovation important in competition between locations

The continued evolution and long-term success of a financial centre in the world of global finance requires fundamental growth dynamics. Just as important as having human capital with sufficient finance-related qualifications (cf. chapter 2.3) is a noticeable capacity for innovation. Only a location that is open to new trends is able to position itself successfully to take on the competition in the long run. Accordingly, the financial centre should proceed in and follow new directions but in a well-thought-out way because, as the past shows, a premature venture can also have negative consequences for the participants.



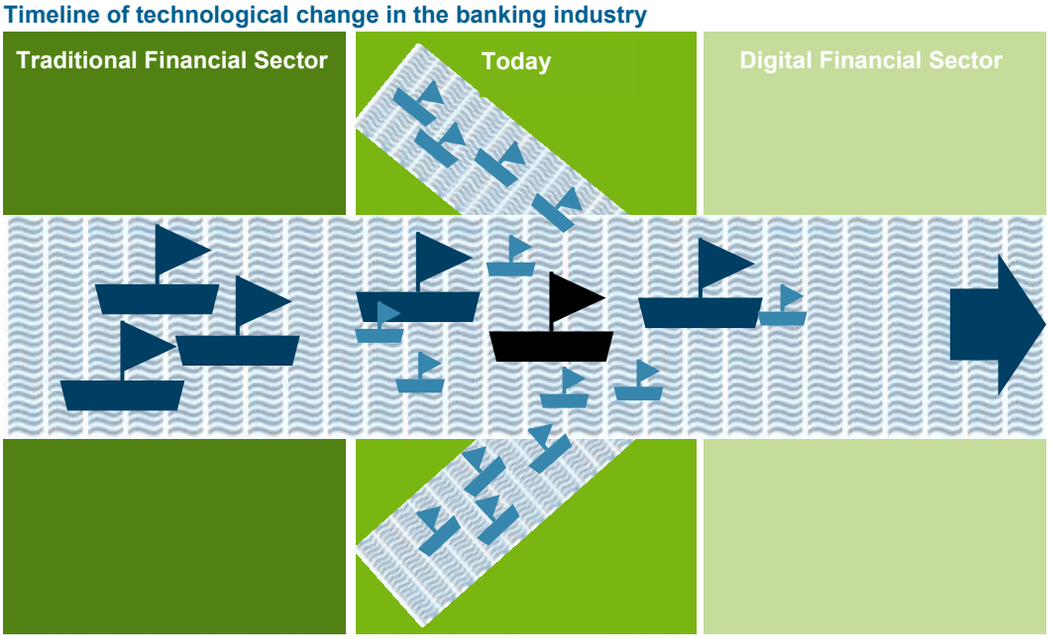
light blue / dark blue = products / segments of financial market; Source: Helaba Research

The trends that we listed in 2006 have gone through crisis-induced waves in their development over the years. Most of them have, more or less, now become established. The financial market hype that lasted until 2007 gave rise to visible excesses, in which the German financial centre also allowed itself to be swept along. The ensuing global crisis then triggered a return to traditional banking activities. In the meantime, political influence on financial market products and segments has increased. The more stringent regulatory and supervisory requirements present a challenge to a banking sector that is already being negatively impacted by the low interest rate environment (cf. chapter 2.1).

Banks in stormy waters due to flood of fintechs

Meanwhile several, as yet largely unregulated, competitors are forcing their way into the troubled banking market: many of the so-called fintechs are streaming into the once calm waters of the banking sector through the “channel for ideas” and are generating big waves with their dynamic innovations. This flood of start-ups with technology-focussed business models is causing serious problems for established institutions. Additionally, big, financially strong and flexible internet corporations are increasingly targeting the banking sector, thereby taking away space from credit institutions in the pool of customers. At the end of the day, all the “bank tankers” can do is go with the flow of technological change as fast as they can, otherwise they risk being left floundering at sea by their new competitors or even capsizing. However, not all small fintech ships will manage to stay the course, as is already noticeable.

Timeline of technological change in the banking industry



Ships in dark blue = banks, light blue = fintechs, black = internet corporations; source: Helaba Research

After all, digitalisation is a trend that affects the business world in general and that is fundamentally changing the financial sector. Even in retrospect, technological progress has changed quite a lot of things in the towers of the big banks and customer expectations are continuously evolving. In the metamorphosing world of finance, more and more new products and services are being created, additional sales channels opened up and internal business processes optimised. In the future, digitalisation will be reflected in all core criteria that we consider essential for a financial sector location (cf. chapter 1). In contrast to the time of our financial centre study in 2006, now we no longer see a variety of trends to be identified in relation to products and segments in the financial market. Instead, today it is about one dominant, far-reaching phenomenon, which a company must decisively address in order to ensure its own success.

Synergy effects of classic banks and “nerdy” fintechs

Up to now, the focus in the banking industry in respect of technological change has been on the three fields of cash management, lending and asset management. This first big wave will soon be followed by the next, more complex one. In order to continue moving with the current, for “bank tankers” it is a good opportunity to dock. Co-operations with the smaller “fintech ships” could be formed in the shape of strategic alliances or financial institutions could take a stake in these start-up companies. Synergies can also be achieved by using the banks’ own innovation labs, in which “nerds” develop their ideas and integrate them into the banks’ overall business concepts. While the young fintechs score points with their dynamic innovation and low business costs, conventional institutions have the advantage of a wealth of trusted customer relationships – and a full banking license. Together, they could go full steam ahead. Even if the “nerdy” fintechs attack the venerable banks in their entire value chain, they should not be entirely viewed as competitors. As co-operation partners, they could provide a valuable impetus for long-term growth creation in the

scope of the transformation of business models and, in this way, efficiency-boosting ideas could be implemented profitably among broad swathes of customers.

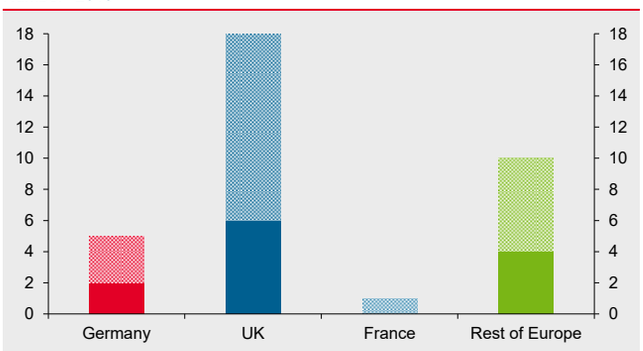
With a complementary marketing strategy involving fintechs, credit institutions would also be better equipped for the expanding range of digital banking services offered by internet giants, who are not only able to boast of the appropriate technology and customer information but also of a banking license. Even so, there is certainly a difference as to whether customers shop online using a direct payment service or whether they are willing to entrust their assets to an internet company. In Germany, especially, security and data protection concerns play a considerable role. Nevertheless, in this regard many things are in flux. At the end of the day, the extent to which customers either continue heading for their modernised "bank tankers" or are prepared to completely jump ship will also depend on how the regulatory framework develops in the future.

Trend crossed over from the Anglo-Saxon financial sector

In any case, the phenomenon of digitalisation is gaining further momentum. It is undeniable that this trend has crossed over from the Anglo-Saxon financial sector to the European continent. London clearly has the edge in terms of fintechs and thus also a dominant position in relation to the other European financial centres. German banks navigated their tankers cautiously for a rather long time through the waters of technological change. Although they have gradually opened up to omni-channel banking (apart from branches, also via telephone, internet, tablet and smartphone), ultimately they wasted a lot of time to start with watching the approaching "fintech flood" before it crashed against their bows with full force. Meanwhile they have accelerated a few knots and are finally reacting to the waves raging around them.

Promising fintechs – United Kingdom out in front

Number* 2015

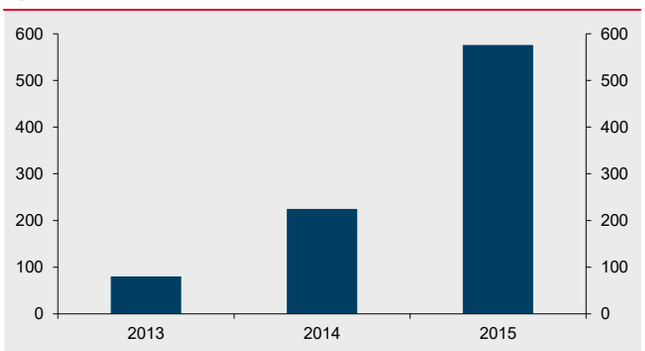


* solid bar: leading fintech companies (from global top 50 list), hatched bar: emerging stars (from a total of 50 worldwide)

Sources: KPMG, Helaba Research

Investments in fintech companies in Germany

EUR millions



Sources: Ernst & Young, Helaba Research

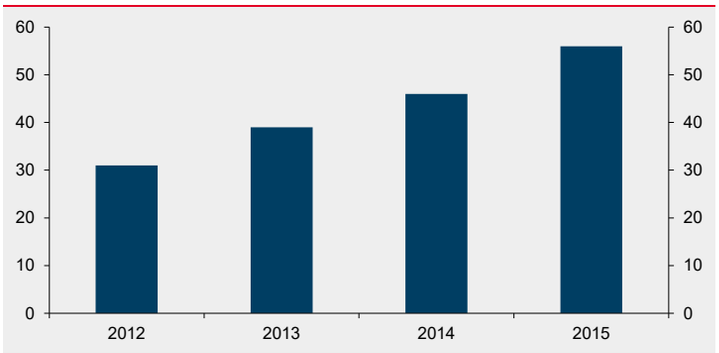
Fintechs: United Kingdom leads Germany – France behind

Accordingly, by far the highest sums of money within Europe flow into British fintechs, although e.g. the Nordic countries, taken as a whole, as well as Germany have already become important destinations for these investments. The development in recent years is proof that Germany is now becoming more significant in this area. At around EUR 80 million in 2013, investment in German fintechs grew dynamically in 2015, reaching almost EUR 580 million. In this respect, Germany has managed to noticeably reduce the gap to the United Kingdom, where just over EUR 700 million was invested last year. Germany's economic significance as the largest member country of the EU will play an important part here in the future, too. In contrast, France is not yet considered an important global destination, but is instead swimming at the back of the "fintech waters". This is also reflected in rankings of promising start-up companies, in which e.g. the invested capital, the number of customers or the reputation they have achieved plays a role. Apart from the leader, the United Kingdom, Germany also comes off rather well overall, while France has so far ranked as an 'also ran'. The advancing technological revolution in the financial sector is meanwhile evident in all three countries and is being addressed. In Paris, for example, a fintech offensive with political support was launched last summer, so that the sector is now more visibly anchored on the Seine. One more reason for Frankfurt to fly its own flag more clearly.

Within Germany, Berlin has already established itself as a hip start-up location. In accordance with Germany's federal tradition, the fintech scene is distributed among various cities, one of which is Frankfurt. In the meantime, many small fintechs are heading towards Frankfurt and some of them are even relocating from Berlin. With the globally significant currency trading platform 360T, which was acquired by Deutsche Börse as part of its fintech initiative, Frankfurt can point to a prominent start-up success (cf. chapter 2.2). The total amount of venture capital raised by young entrepreneurs based in the region is growing rapidly from its low starting point and an increasingly perceptible start-up scene is emerging in Frankfurt.

More and more "fintech ships" heading for Frankfurt*

Number of fintechs at year end



* Rhine-Main-Neckar region with focus on Frankfurt
Sources: Ernst & Young, Helaba Research

Contributing to this is a growing number of special events (specialist symposia, regular start-up get-togethers, hackathons) as well as the City of Frankfurt specifically reaching out to industrial start-ups (the "Frankfurt Forward" initiative). Currently, an estimated number of around 300 people have been hired onto the "fintech ships" in Frankfurt, which is no comparison yet to the number of employees on the "bank tankers" (autumn 2015: around 62,500, cf. chapter 2.1.2). At the end of 2015, the number of finance-related young entrepreneurs in and around Frankfurt amounted to almost 60, compared with 70 in Berlin. Even if Frankfurt's appeal for start-ups is growing, it is nevertheless a time-consuming process. In order not to be overtaken by other locations, local players in the financial centre will have to speed up even more. What militates in favour of Frankfurt as a future fintech hub and what does it need in order to stand out among the competition?

Advantages for Frankfurt as future fintech hub

As the leading German financial centre, Frankfurt is the predestined location for the German fintech scene, especially since it has outstanding transport links with its central location and excellent infrastructure (cf. chapter 2.5). The supervisory authorities located in Frankfurt are also a valuable asset the city can boast of – if an open dialogue with young entrepreneurs takes place. Furthermore, the largest internet node "DE-CIX" is near the centre of Frankfurt, so that practically every internet user has been to the city, at least in the digital world. Frankfurt enjoys a sound and comprehensive basis for innovation in the scientific cluster consisting of Goethe University, the Frankfurt School of Finance and Management as well as the Technical University of Darmstadt. The Frankfurt School, for instance, meanwhile offers a combined academic and vocational degree programme in financial technology in co-operation with fintech companies. In the form of the so called Unibator, Frankfurt's Goethe University has its own "talent foundry" for start-ups in the financial sector, whose diverse range of services offers significant benefits for the expansion of the local start-up scene. This also encourages a dialogue between traditional players in the financial centre and young fintechs.

So far, so good. Until now, however, Frankfurt has lacked a consistent digitalisation strategy with a central place for the fintech scene, in a similar way to London. This is precisely the reason why the State of Hesse is meanwhile co-ordinating a working group, in the scope of the “Dialogue Forum Fintech Frankfurt Rhine-Main”, consisting of various financial centre players (the fintech sector, the City of Frankfurt/Frankfurt Economic Development GmbH, universities, banks, the stock exchange, Frankfurt Main Finance e.V.). The aim of the concept, which was launched in 2016, is to establish a fintech centre as a key measure and prerequisite for the evolution of Frankfurt into a fintech hub. There are various proposals from the real estate sector for the building which could house this centre as early as this summer; ultimately, they are all close to the banks and supervisory authorities. Since this spring, there has been a company-based start-up centre near the financial district that was set up by Deutsche Börse as part of the Hessian fintech initiative.

Frankfurt raises the fintech flag

The German financial centre is thus raising the fintech flag at full mast. The concept for a central point of contact and co-ordination should be implemented quickly and the tech centre brought to life without delay. It is essential to establish a cluster in a large building, modelled on London’s example, made up of entrepreneurs, programmers, marketing specialists and, if possible, a legal advisory unit as well. This will encourage the exchange of information and a creative atmosphere for developing good ideas. Establishing everything in a co-ordinated way under one roof not only has the advantage that start-ups would get their own point of contact, but would also enhance awareness of Frankfurt in the world of finance as a fintech city, which may lead to an increased flow of investment funding. If some flagships in the scene then decide to drop anchor in the city, it will provide a significant boost for its image and the appeal of the German financial centre will grow. In this way, Frankfurt has good prospects to advance towards becoming the Continental European fintech hub.



2.5 Location-specific qualities

	Frankfurt		Paris		London	
	2006	2016	2006	2016	2006	2016
Location-specific qualities	☺	☺	😐	😐	😐	😐

☺ well positioned internationally 😐 midrange ☹ deficits Source: Helaba Research

Best location-specific qualities in Frankfurt

Every financial centre has a diverse range of underlying characteristics, which have a decisive impact on its attractiveness for domestic and foreign players. We focus on the central, location-specific qualities of transport infrastructure as well as the price for office space and cost of living. Overall, Frankfurt once again scores better marks in these aspects than its two main rivals in the competition between financial sector locations. The German financial centre enjoys a very good infrastructure in conjunction with short distances, and the office rents as well as the cost of living are the lowest in comparison to its competitors.

In addition to that, the atmosphere in Frankfurt has become visibly more multicultural and international, albeit both other locations, being national capitals, have the upper hand in this respect. However, this cannot be equated with a higher standard of living, which is an aspect considered by companies and workers when comparing locations that cannot be objectively measured. In this way, Frankfurt continues to enjoy a considerable lead in the quality of living ranking compiled by the British consultancy firm Mercer, that conducts a survey of cities from an expatriate perspective by means of numerous criteria. Currently, Frankfurt ranks number 7 among the global top ten (the same ranking as in 2006), while its Paris and London counterparts only manage places 71 and 72. The reason why they are ranked worse than ten years ago (places 33 and 39) is primarily related to safety factors, because their reputation has suffered as a result of terrorism and social tensions, while German cities are still considered safe.

Local recreation opportunities especially good in Rhine-Main area

Generally, all three cities that we have analysed offer a broad and attractive range of cultural amenities, particularly in relation to their populations. Local recreation opportunities in Frankfurt are especially good, since many beautiful destinations in the cultural landscape can be reached quickly and conveniently. Urban areas in the Rhine-Main area are frequently interrupted by expansive stretches of countryside. In contrast, Paris and London are located in larger, less green agglomerations and are further from access to the open countryside.

2.5.1 Transport infrastructure

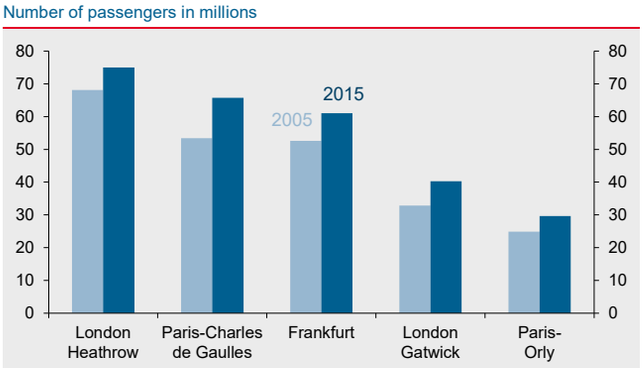
The German financial centre possesses an outstanding transport infrastructure, both in road and rail networks as well as in the air. Short distances round off the good range of connections, which is also reflected in low commuting times. Hence, there is a comparatively high number of commuters, at 342,000 in 2014, who made up almost two thirds of all employees subject to social insurance contributions (a proportion that has remained relatively constant over the last ten years).

Frankfurt Airport as a hub for foreign banks

All the financial centres have significant airports, even the largest three in Europe: London Heathrow, Paris Charles de Gaulle and Frankfurt/Main. Overall, the British capital is surrounded by six airports and the French capital by two. This is an important asset for both domestic and foreign financial centre players in respect of their cross-border business activities. Many foreign banks, for example, also greatly appreciate Frankfurt as a hub for their Continental European operations – an argument in favour of locating an office in the city. In this regard, the excellent connections of Frankfurt's airport, which can be reached quickly from the city centre, also play a role.

Passenger numbers of major European airports

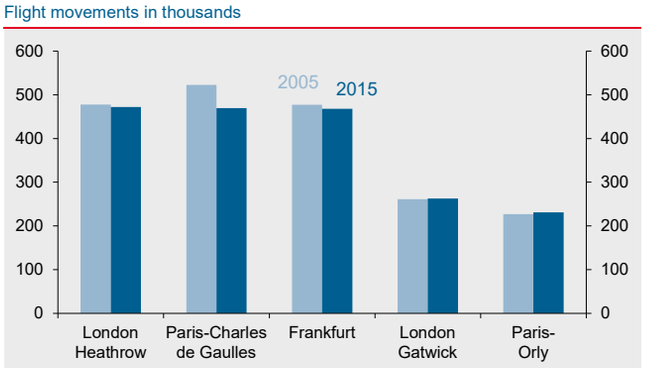
Number of passengers in millions



Sources: Eurostat, national airport operators,, Helaba Research

Similarly high movements at all three airports

Flight movements in thousands



Sources: Eurostat, national airport operators, Helaba Research

Passenger numbers have seen a significant increase at all major European airports in recent years. London Heathrow still boasts the highest passenger numbers, followed by Paris Charles de Gaulle and Frankfurt (2015: 75 million versus 66 million and 61 million, respectively). Furthermore, the destinations of London Gatwick and Paris Orly also handle an appreciable number of passengers (40 resp. 30 million). Flight movements, on the other hand, are at a similar level to ten years ago and all three major airports registered similar numbers in 2015 of around 470,000 in each case.

Frankfurt Airport has gone through a noticeable process of enlargement in recent years and there is still potential for further expansion over and above the utilisation of newly created capacity, that has already increased. Frankfurt's international and interregional accessibility is largely very good. In combination with short distances within the city, to the airport as well as to the nearby surrounding countryside, it scores better in this criterion than its competitors in France and the United Kingdom.

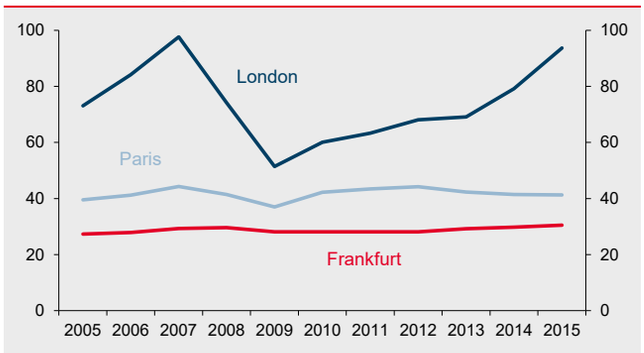
2.5.2 Cost of office space and living

Differences in size of the three agglomerations

In terms of the appeal of a location, sufficient availability of adequate office space is a significant factor. In a comparative analysis of the financial centres, differences in size as well as the spatial configurations of the three agglomerations must be taken into account (cf. chapter 1). Measured by the available area within its urban boundaries, London is the largest office market in Europe and Paris the second-largest (over 25 and 16 million m^2, resp.). Frankfurt, which ranks on fourth place after Brussels with just over 12 million m^2, comprises the focus subdistricts of the Financial District, Westend, City and Niederrad.

Frankfurt has much more affordable office space

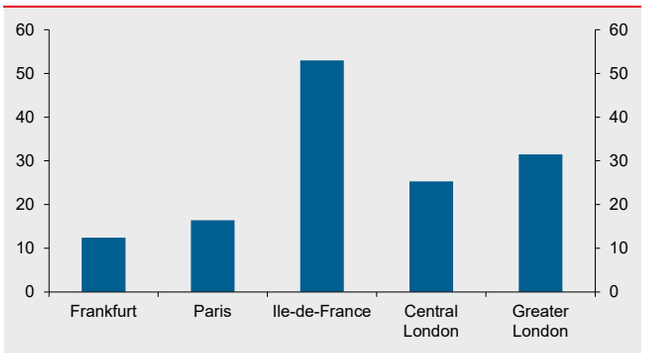
Average office rents in good locations, EUR/m²



Sources: Feri, Helaba Research

Varying sizes of agglomerations

Total supply of office space in cities, m² (millions)



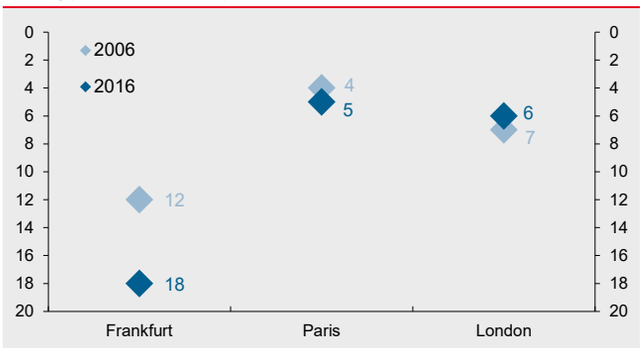
Sources: Feri, Helaba Research

Clearly, Frankfurt has the lowest average level of office rents and this has been the case without interruption for the last ten years. A slight rise was registered in 2015 in good locations here to over EUR 30/m^2, while London rents have exploded to almost EUR 95/m^2 and Paris prices have been hovering at just over EUR 40/m^2. These developments are likely to continue for the time being, so that Frankfurt will still offer the cheapest available office space.

The cost of living in Frankfurt is also below that of two other metropolitan areas. Evidence for this can be found, for example, in the EIU ranking of the world's most expensive cities. In order to compile this ranking, the prices of various products and services as well as the costs for living space, transport and schools are analysed. Currently, this list ranks Frankfurt number 12 in the world, while Paris and London are among the most expensive cities globally (places 4 and 7, respectively). Thus, the German financial centre performs even better than previously in this comparison.

Cost of living in Frankfurt considerably cheaper

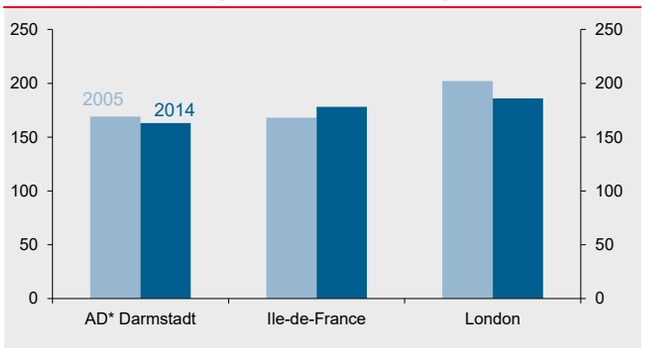
Ranking positions of most expensive cities in the world



Sources: EIU, Helaba Research

Income in Frankfurt slightly lower

GDP per capita in purchasing power standards, EU average=100



Sources: Eurostat, Helaba Research; * administrative district

Frankfurt's population the best off financially

Overall, it can be deduced from this data that an employee in Frankfurt is better off than in Paris or London. Although incomes in the Frankfurt region are only slightly lower, a worker here has the highest net disposable income for consumption. One possible measure for comparing wealth levels is, for example, the nominal GDP per inhabitant, expressed in purchasing power standards as a percentage of the EU average. In 2014, this amounted to 163 % in Frankfurt's financial centre region, compared with 178 % and 186 % in the regions around the French and British financial centres, respectively. GfK data on purchasing power, which shows the nominal value of the total net income of the population relative to the place of residence, indicates a similar relationship. According to this, an inhabitant of Frankfurt had around EUR 25,000 in 2015, while a Londoner could spend about EUR 28,300 and a Parisian EUR 29,400. This somewhat smaller per-capita income in Frankfurt is more than offset by the considerably lower cost of living.

3 Conclusion of location assessment 2006/2016

Changes in assessment during transformation of financial sector

A lot has happened in the world of finance over the last ten years, both on a micro as well as macro level. The global financial crisis has confronted players in the financial centre with a multitude of challenges that will persist for some time to come. The transformation of the industry has also been accompanied by further progress of financial sector locations. Accordingly, our assessment of the three major financial centres in Europe has changed in many respects. In our latest assessment, we applied the criteria that we defined ourselves ten years ago, which we consider indispensable for an international financial centre to position itself successfully in the long term. Banks and stock exchanges form the nucleus of a financial centre, while finance-related teaching and research, together with trends in the financial sector, are key determinants of growth. Furthermore, location-specific qualities also decisively influence the position of a financial centre. In contrast to 2006, our assessment of the five core criteria is now as follows:

Assessment of the three largest European financial centres in a 10-year comparison

	Frankfurt		Paris		London	
	2006	2016	2006	2016	2006	2016
Banks	😐	😐	🙂	😐	🙂	😐
Stock exchanges	🙂	😐	🙂	😐	🙂	🙂
Fin. sector teaching & research	😐	🙂	🙂	🙂	🙂	🙂
Trends in the financial sector	😐	😐	😐	☹	🙂	🙂
Location-specific qualities	🙂	🙂	😐	😐	😐	😐

🙂 indicates that the financial centre is well positioned in terms of its international competitiveness; ☹ points to deficits; 😐 represents a midrange position.
Source: Helaba Research

London still in the lead – but not in all criteria

London remains the undisputed leading financial centre in Europe and thus clearly plays in the global premier league. This time, we awarded the British financial centre top marks in three of our core criteria and placed it in the midrange for the two remaining yardsticks. Despite all the efforts made, the situation in the **banking** sector is generally worse now than it was then, a fact that is also reflected in the ratings of the biggest financial institutions. Accordingly, we assigned a midrange assessment to all three locations for the financial centre criterion of banks. In this way, Frankfurt's position is better in relative terms than it was ten years ago, since local banks are now ranked equally overall to those in London and Paris. In addition, its employment situation has developed more moderately. **Location-specific qualities** in London are still in need of improvement, especially in view of the high office rents and cost of living. In this respect, Frankfurt is the clear frontrunner. After all, it boasts an excellent transport infrastructure combined with short distances and office rents as well as the cost of living are comparatively low.

Even if there should be a **"Brexit"** following the referendum on 23 June, to which we attribute a probability of 40 %, London would remain the number one in Europe. However, subject to the exact arrangements of a British exit from the EU, this would lead to shifts in the position of financial centres. Depending on the extent of restrictions on cross-border trade in services that would then result (with London-based banks hitherto possessing an EU passport), jobs would be lost in the City and Frankfurt or other financial centres in Europe or even Asia would stand to benefit. As the location of the ECB with outstanding transport connections, the German financial centre would be well positioned in this case. The transfer of international financial transactions and staff from London would certainly be noticeable in Frankfurt, with the effect that the German financial centre would be upgraded in relation to that in the United Kingdom. In the long run, though, regulatory aspects must also be considered. Outside the EU, the self-confident British could reorganise their financial sector to be more attractive in the long term from a regulatory perspective, while the EU, for its part, could introduce restrictions on banking transactions to the detriment of the British finan-

cial centre. Furthermore, a “Brexit” could at least call into question the decision on where to locate the headquarters of the planned Anglo-German “super exchange”. Presumably, this would prevent job cuts at the stock exchange in Frankfurt. Instead, it could even result in a transfer of banking jobs from London to Frankfurt. However, this is not our baseline scenario and, therefore, does not form a component of our current smiley assessment.

Shifting relationship between the German and French financial centres

In **Continental Europe**, there continues to be intense competition between the two major financial sector locations. The decisive factor here is the relative position of the **German and French financial centres** to each other. While Frankfurt improved between 2006 and 2016 in one of our core criteria and fell back in another, Paris was downgraded in three factors for success. Consequently, both locations currently have equal assessments in three aspects and Frankfurt scores better in two:

As regards **banks**, Frankfurt and Paris are now ranked equally; in our terminology, the situation of the banks is middling. There is continued pressure for consolidation and painful cutbacks are being made in the scope of cost-cutting programmes to boost efficiency. A fair amount is changing in the sector, which is also contributing to its stabilisation. Although the increased regulatory and supervisory requirements are generating higher costs for banks on the one hand, they have also led to improved capitalisation and a reduction in balance sheet risks on the other. Accordingly, both the German and French banks passed the ECB’s stress test, with one exception in each case, that was published in autumn 2014. In comparison to other banking locations, the employment trend in Frankfurt has been fairly robust. For the end of 2017, we forecast a total of around 62,000 employees in the city’s banks, which would represent a fall of only 1 % from the most recently available level in autumn 2015. The increased appeal of Frankfurt’s banking location is being spurred by the ECB. In its dual function as a central bank and supervisory authority, it is turning out to be a guarantee for employment and safeguards the long-term attractiveness of Frankfurt as a banking location.

Stock exchange: Going its own way better for Frankfurt

Apart from banks, **stock exchanges** are extremely significant for a financial sector location. The creation of a European “super exchange” basically makes sense and would raise the bar for the growing competition from overseas. However, in the case of the planned merger between Deutsche Börse and the London Stock Exchange, the headquarters should have been located in Frankfurt, in accordance with the market capitalisation of both companies. Our assessment of the three stock exchange locations is based on the assumption that the merger will take place as planned with the headquarters being in London (and without a “Brexit”). This would then further strengthen London’s position and Frankfurt would be downgraded to the status of a sideshow, albeit with a stock exchange that would be a major global player. Paris is also part of a multinational exchange whose significance was eroded after years of being under American control. Although this exchange has been upgraded again by the split, it would still play a lesser role in Europe in relation to a new Anglo-German exchange. If the planned merger should happen to fail, as in the case of previous attempts, Frankfurt would have the chance to go its own way with its head held high – either alone or in the driver’s seat in a merger with other stock exchange companies.

In terms of **financial sector teaching and research**, Frankfurt has made substantial progress and has gained in international stature, with room for further improvement. The universities and research establishments in the region are visibly better prepared to take on the competition and work closely in co-operation with the financial sector. Rankings in league tables alone are simply insufficient in appropriately reflecting this positive development. Combined with the complementary activities of the Frankfurt School of Finance and Management, an attractive, high-quality range of teaching and research is offered directly in Frankfurt. It is true that the German financial centre cannot boast of such a prestigious tradition of educational establishments as its British or French counterparts can. However, Frankfurt could certainly promote its bustling network of intellectual infrastructure in a more self-confident way and the job prospects offered by the strong German economy represent a powerful argument in this regard.

By pooling efforts, Frankfurt on its way to becoming fintech hub

With regard to **trends in the financial sector**, the German financial centre has retained its position in the midfield, while its opposite number in France has slipped back. In contrast to the time of our financial centre study in 2006, we now no longer see several trends yet to be identified in relation to products and segments in the financial market. Instead, today digitalisation represents a dominant, far-reaching phenomenon. Technological change in the banking industry is being primarily driven by fintechs and large internet corporations. In addition to the United Kingdom, which is the leader in this field, Germany cuts a good figure, whereas France is not yet considered a globally promising fintech destination. The pooling of efforts in continuing the expansion of Frankfurt to become the German and Continental European fintech hub is of crucial importance and the rapid establishment of a technology centre is a significant milestone in this respect.

Frankfurt is not only better positioned than Paris in the trends criterion but also in terms of **location-specific qualities**. We view the relatively expensive office rents and high cost of living in the French capital as a disadvantage for its location, which is unlikely to change in the long run. Frankfurt has the advantage of its function as a transport hub with short distances. This plays a significant role for international players in the financial centre, also with their choice of location in Europe. The proximity of various players to each other supports communication and business activities in the local community.

Overall assessment 2016: London before Frankfurt, Frankfurt before Paris

Overall, the financial centre of Frankfurt has successfully held its own in these difficult times for the financial sector. Even back in 2006, we concluded that the city had good medium term prospects of assuming a leadership role in Continental Europe. Since then, the German financial centre has made further headway in numerous respects and has made up a good deal of ground in relation to the French capital, in particular. Thus, the relative importance of the three big financial sector locations is now clear: **London before Frankfurt and Frankfurt before Paris**.

In the continued competition between locations, it is important for the German financial centre to self-confidently **use** its **strengths** and to clearly advertise them to the world of finance. After all, Frankfurt has a great deal to offer. Furthermore, it is crucial to actively **grasp opportunities** for long-term success in the financial arena. In this regard, growth-related location criteria, which strengthen the financial centre at its roots and encourage its capacity for innovation, are key. Consequently, Frankfurt should continue to vigorously pursue its evolution into an international centre of education and into the European fintech hub. In this way, the German financial centre will be able to consolidate its good position in the international financial architecture.

Helaba publications: Financial Centre of Frankfurt

Financial Centre of Frankfurt: Upwards with China
Special study
March 2015

Banking sector employment in Frankfurt – Consolidation remains limited
Financial Centre Focus
December 2014

Frankfurt: Hub of finance and supervision
Financial Centre Focus
March 2014

The largest banks in Frankfurt financial centre
Financial Centre Focus
November 2013

Bank employment in Frankfurt – No need to panic
Financial Centre Focus
March 2013

Financial Centre Frankfurt: A Magnet for Foreign Banks
Special study
January 2011

Moderate job cuts at Frankfurt's banks
Financial Centre Focus
May 2010

Financial Centre Frankfurt and Asia – A Growing Relationship
Special study
March 2008

Frankfurt: The Financial Centre – A City on the Move
Financial Centre Focus
June 2006

All publications are available on our homepage here.

To be added to our distribution list and to receive new publications on the subject of the financial centre of Frankfurt by email, please give us a call or send an email (+49 69 9132 2024 or research@helaba.de.

You will find information about all of Helaba's freely available research at http:\\volkswirtschaft.helaba.de. There you can also subscribe to various newsletters. ■

Adresses of Landesbank Hessen-Thüringen

Head Offices

Frankfurt am Main
MAIN TOWER
Neue Mainzer Straße 52–58
60311 Frankfurt am Main
Germany
Phone +49 69/91 32-01
Fax +49 69/29 15 17

Erfurt
Bonifaciusstraße 16
99084 Erfurt
Germany
Phone +49 3 61/2 17-71 00
Fax +49 3 61/2 17-71 01

Bausparkasse

Landesbausparkasse Hessen-Thüringen

Offenbach am Main
Strahlenbergerstraße 15
63067 Offenbach
Germany
Phone +49 69/91 32-02
Fax +49 69/91 32-29 90

Erfurt
Bonifaciusstraße 19
99084 Erfurt
Germany
Phone +49 3 61/2 17-60 2
Fax +49 3 61/2 17-70 70

Development Bank

Wirtschafts- und Infrastrukturbank Hessen
Strahlenbergerstraße 11
63067 Offenbach
Germany
Phone +49 69/91 32-03
Fax +49 69/91 32-46 36

Branch Offices

Düsseldorf
Uerdinger Straße 88
40474 Düsseldorf
Germany
Phone +49 2 11/3 01 74-0
Fax +49 2 11/3 01 74-92 99

Kassel
Ständeplatz 17
34117 Kassel
Germany
Phone +49 5 61/7 06-60
Fax +49 5 61/7 06-63 33

London
3rd Floor
95 Queen Victoria Street
London EC4V 4HN
UK
Phone +44 20/73 34-45 00
Fax +44 20/76 06-74 30

New York
420, Fifth Avenue
New York, N.Y. 10018
USA
Phone +1 212/7 03-52 00
Fax +1 212/7 03-52 56

Paris
118, avenue des Champs Elysées
75008 Paris
France
Phone +33 1/40 67-77 22
Fax +33 1/40 67-91 53

Representative Offices

Madrid
(for Spain and Portugal)
General Castaños, 4
Bajo Dcha.
28004 Madrid
Spain
Phone +34 91/39 11-0 04
Fax +34 91/39 11-1 32

Moskau
Novinsky Boulevard 8
Business Centre Lotte,
20th Floor
121099 Moskau
Russia
Phone +7 495/2 87-03-17
Fax +7 495/2 87-03-18

Shanghai
Unit 012, 18th Floor
Hang Seng Bank Tower
1000 Lujiazui Ring Road
Shanghai, 200120
China
Phone +86 21/68 77 77 08
Fax +86 21/68 77 77 09

Singapur
One Temasek Avenue
#05-04 Millenia Tower
Singapore 039192
Phone +65/62 38 04 00
Fax +65/62 38 99 78

Stockholm
Östermalmstorg 1, 4tr
114 42 Stockholm
Sweden
Phone +46/73 08 99 71 2

Sales Offices

Düsseldorf
Uerdinger Straße 88
40474 Düsseldorf
Germany
Phone +49 2 11/3 01 74-0
Fax +49 2 11/3 01 74-92 99

Munich
Lenbachplatz 2a
80333 Munich
Germany
Phone +49 89/5 99 88 49-16
Fax +49 89/5 99 88 49-10

Münster
Regina-Protmann-Straße 16
48159 Münster
Germany
Phone +49 2 51/92 77 63-36 48
Fax +49 2 51/92 77 63-36 72

Stuttgart
Theodor-Heuss-Straße 11
70174 Stuttgart
Germany
Phone +49 7 11/2 80 40 4-0
Fax +49 7 11/2 80 40 4-20

Berlin
Joachimsthaler Straße 12
10719 Berlin
Germany
Phone +49 30/2 06 18 79-13 52
Fax +49 30/2 06 18 79-13 45

Real Estate Office

Berlin
Joachimsthaler Straße 12
10719 Berlin
Germany
Phone +49 30/2 06 18 79-13 14
Fax +49 30/2 06 18 79-13 69

Munich
Lenbachplatz 2a
80333 Munich
Germany
Phone +49 89/5 99 88 49-0
Fax +49 89/5 99 88 49-10 10

Selected Subsidiaries

Frankfurter Sparkasse
Neue Mainzer Straße 47–53
60311 Frankfurt am Main
Germany
Phone +49 69/26 41-0
Fax +49 69/26 41-29 00

1822direkt Gesellschaft der Frankfurter Sparkasse mbH
Borsigallee 19
60388 Frankfurt am Main
Germany
info@1822direkt.com
Phone +49 69/9 41 70-0
Fax +49 69/9 41 70-71 99

Frankfurter Bankgesellschaft (Deutschland) AG
JUNGHOF
Junghofstraße 26
60311 Frankfurt am Main
Germany
Phone +49 69/1 56 86-0
Fax +49 69/1 56 86-1 40

Frankfurter Bankgesellschaft (Schweiz) AG
Börsenstrasse 16, Postfach
8022 Zurich
Switzerland
Phone +41 44/2 65 44 44
Fax +41 44/2 65 44 11

Helaba Invest
Kapitalanlagegesellschaft mbH
JUNGHOF
Junghofstraße 24
60311 Frankfurt am Main
Germany
Phone +49 69/2 99 70-0
Fax +49 69/2 99 70-6 30

Selected Subsidiaries

GWH
Wohnungsgesellschaft mbH
Hessen
Westerbachstraße 33
60489 Frankfurt am Main
Germany
Phone +49 69/9 75 51-0
Fax +49 69/9 75 51-1 50

OFB
Projektentwicklung GmbH
Speicherstraße 55
60327 Frankfurt am Main
Germany
Phone +49 69/9 17 32-01
Fax +49 69/9 17 32-7 07

GGM
Gesellschaft für Gebäude-Management mbH
Junghofstraße 26
60311 Frankfurt
Germany
Phone +49 69/77 01 97-0
Fax +49 69/77 01 97-77


ng. Fly

Helaba
Landesbank Hessen-Thüringen

MAIN TOWER
Neue Mainzer Straße 52-58
60311 Frankfurt am Main
phone +49 69/91 32-01
fax +49 69/29 15 17

Bonifaciusstraße 16
99084 Erfurt
phone +49 3 61/2 17-71 00
fax +49 3 61/2 17-71 01

www.helaba.de