DUFF & PHELPS

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# Valuation Insights

## Special Brexit Edition

Following the referendum vote in June in which Britain decided to leave the European Union, there remain many uncertainties for companies, funds, investors and others that will be directly impacted. The impacts, while heaviest in the UK and the European Union, have already been felt around the world as evidenced through global stock market volatility and ripple effects through the banking system.

We are in very early days, and not much will change in the near-term. Formal notice, as required under Article 50 to leave the European Union, will likely commence soon now that Theresa May has succeeded David Cameron as the British Prime Minister. Moreover, upon enacting Article 50, there is a minimum two-year period of negotiation that will follow. Despite this, the cloud of uncertainty hanging over the UK, and more broadly the Eurozone, will likely manifest through continued market volatility and economic instability.

In this special edition of Valuation Insights, we discuss some of the key valuation and compliance impacts that will likely result from Brexit. Specifically, we review the short-term and long-term economic implications, as well as compliance and regulatory considerations. We also highlight valuation issues, including how companies and investors determine cost of capital and measure risk in the current environment, and discuss implications for transfer pricing with respect to EU Directives. While all industries will be impacted by Brexit, in this issue we focus on the banking and financial services sectors, which stand to be the most heavily affected.

During this challenging time, Duff & Phelps is ready to advise our clients on valuation and compliance issues resulting from Brexit and help them navigate through the uncertainty to make critical business decisions with confidence.

Read this issue to find out more.

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# Brexit: Minor Disruption or Major Disaster?

The UK has voted to leave the European Union and a divorce is now inevitable. The so-called "remain" campaign, which favored continuing EU membership, claimed that such an outcome would have a large and lasting negative effect on the country's economy. The so-called "leave" campaign, which argued in favor of rescinding the EU link, accepted that there could be some short-run economic turbulence, but held that, in the longer-run, Britain, freed from the shackles of Brussels, might actually be better off in economic terms. Truth lies almost certainly in between.

The immediate market reactions were close to panic, not only in Britain, but also on the European Continent and even further afield (Tokyo's Nikkei 225 index, for instance, fell by some 8 percent on Friday, June 24, once the referendum's result was known). Stock markets crashed, exchange rates gyrated, and bond spreads widened. Gradually, however, the panic subsided. In many ways, what happened in late June-early July, was not that different from what had happened in January of this year when some worrying snippets of news from China generated a sharp sell-off of shares in the U.S., Europe and Japan. Yet at the time, after the initial shock, calm soon returned to the markets. The same seems to be happening at present.

More important than these market tremors are the macroeconomic consequences of the British decision. Over the short- to medium-term these are bound to be negative, particularly for the UK. The future status of Britain's trade and financial relations with the EU will not be known for several years at best. This is bound to create a great deal of uncertainty and this uncertainty, in turn, will have an unfavorable impact on domestic investment in the UK, on foreign direct investment flows into the country and on the location of many financial activities (presently carried out in the City of London), which could shift to, say, Dublin, Frankfurt or Paris. It is true, however, that a lesser emphasis on fiscal austerity, a possible monetary easing and the Pound's lower exchange rate should provide some offsets to these negative effects. All in all, Britain is unlikely to experience a full blown recession, but GDP growth over the years 2016-18 could be some 1 percent below the 2¼ percent average annual growth rate that had been expected in a non-exit scenario. As a result, the Eurozone would also experience a negative effect, if only because of the importance of the British market (some 10 to 15 percent of Eurozone exports go to the UK). This, however, is likely to be quite small. Present forecasts suggest that the Euro area, rather than growing at some 1¾ percent on average between this year and 2018, might grow at only 1½ percent.

# Brexit: Minor Disruption or Major Disaster? (Continued)

With the passing of time, however, uncertainty will diminish and some of these shortfalls are likely to be made up as investment picks up again. Some permanent losses seem, however, inevitable. Much will depend on the final arrangements that will be reached, but, in all probability, Britain will lose access to the EU's Single Market (since participation in it requires also the free movement of people, something which British public opinion clearly does not want). This in turn will reduce the level of UK trade below what it would otherwise have been and it is unlikely that the shortfall can be made good by stepping up exports to other countries with which Britain would have to strike time-consuming trade agreements and treaties. A study conducted by the consulting firm Oxford Economics in June 2016, looked at nine possible different scenarios for a post-exit Britain and concluded that all would translate into a lower level of UK GDP by 2030, relative to a no-exit scenario. The orders of magnitude, however, were never huge. Even under the most pessimistic assumptions, output in 2030 would be only some 4 percent lower than it otherwise would have been (it is true that the UK Treasury has come up with a much larger figure, -9½ percent, but some observers think that there may have been an element of scare mongering behind that estimate, designed to influence voters). In the Eurozone, any permanent negative effect would be negligible (with the exception of Ireland where, in the most pessimistic scenario, the impact could amount to 1½ percent of GDP).

There are, however, two further consequences from the Brexit vote that need to be born in mind. The first is political. Brexit is clearly strengthening populist parties on the European Continent, particularly in two countries that will soon have elections (France and the Netherlands). Though it is unlikely that other EU members will opt for secession, uncertainty about the future might increase and economic policies, under the pressure of populism, could become more inward looking across Europe, thereby worsening economic performance.

The second consequence relates to the knee-jerk reactions of stock markets which followed the referendum's result. These were often larger in some European countries than they were in the UK. Italy and Spain's share prices fell a lot more initially than share prices did in London and subsequently recovered much more modestly, even though the direct negative impact of any UK growth slowdown on these countries can only be minor. This suggests that there is a good deal of nervousness among market operators, nervousness unrelated to Brexit, but arising from the fragility of the European economy and, especially, from the problems of the banking sector in several countries (most noticeably Italy). Any shock, whether it comes from China or from the UK, seems clearly to add to market uncertainty and volatility.

This nervousness is understandable: unemployment remains high, the recovery in output is still very modest and, most importantly, economic policies have exhausted much of their firing power. Should a renewed and significant shock hit Europe, it will be difficult for fiscal policy to counteract it given large budget deficits and high public debt levels almost everywhere (the major exception is, of course, Germany). Nor could much be expected from a monetary policy which is already implementing a sizeable quantitative easing program and has reduced short-term interest rates to negative levels. Under the circumstances, the forecasts shown below are surrounded by significant downside risks, particularly for Europe.

Real GDP Growth Rates (%)

| | 2014 | 2015 | 2016 | 2017 | 2018 |
|---|---|---|---|---|---|
| Eurozone | 0.9 | 1.6 | 1.7 | 1.5 | 1.5 |
| UK | 2.9 | 2.2 | 1.8 | 1.1 | 1.4 |
| U.S. | 2.4 | 2.4 | 2.3 | 2.3 | 2.1 |
| China | 7.3 | 6.9 | 6.5 | 6.2 | 5.9 |
| World | 2.5 | 2.5 | 2.3 | 2.6 | 2.8 |

Source: Oxford Economics, June Forecast

This article was contributed by Andrea Boltho, Duff & Phelps Real Estate Advisory Group Advisory Board Member and Emeritus Fellow of Magdalen College, University of Oxford where he was Fellow and Tutor in Economics from 1977. The views expressed in this article are those of the author and not necessarily those of Duff & Phelps.

# Compliance and Regulation Readiness: Planning for the Unknown

June 23, 2016 will go down as a red letter day in the history of the UK. It will undoubtedly be several years before we can judge properly whether it was the genesis of new opportunities or a serious misstep. A second referendum has been ruled out and the idea of somehow legally blocking the British people's decision to leave the EU is probably just a distraction.

Despite the protest marches and legal challenges, it now seems almost inevitable that the UK will leave the EU, although the timing of that is still mired in uncertainty. Certainly, the two years allowed for negotiation once Article 50 has been triggered does not seem long to decouple the UK from the plethora of EU legislation and rules across numerous different industries and sectors, let alone renegotiate a new relationship with the EU. Some commentators take the view that we are better using the two years to focus exclusively on managing our exit, and then to negotiate separately from outside. Whatever form the negotiation takes, it is going to be a highly challenging exercise with unmatched levels of complexity. To say it will be a distraction for the government from business as usual is a massive understatement.

There are however, some things we can be reasonably certain about:

1. The current in-flight EU financial services legislation, such as Markets in Financial Instruments Directives (MiFID) II, will be adopted by the UK. Not only will MiFID II be implemented ahead of the UK actually leaving the EU, but the UK will almost certainly retain MiFID II and most of the rest of EU financial services legislation after it has left, at least for a while.

2. A European Economic Area (EEA) model, whereby the UK retains access to the single market but without accepting the 'four freedoms' of the EU (in particular the free movement of people), looks unrealistic. Not only are other EU leaders giving a strong steer that free market access is inextricably bound up with the free movement of people, but it is hard to envision the UK being happy to be a passive recipient of EU legislation as an indefinite arrangement. Hence this model does not appear to be an attractive long-term solution.

3. London's long-standing status as Europe's financial services capital will not change, at least not for a generation. In Zyen's 2016 Global Financial Centers Index, London was the top financial center in the World. The highest EU city in the rankings was Luxembourg at number 14.

4. The UK being a 'third country' for the purposes of EU financial services legislation will not be a disaster, particularly in the wholesale markets. Although being outside the EU would limit the ability of UK firms to access some EU market participants, particularly retail investors, this does not represent a body blow to London. Some firms will have to establish themselves in the EU as a result, but that does not mean having to move all of their business operations to another country. As UK asset managers re-evaluate their operating model in a post-Brexit environment, third party management companies based in the EU will undoubtedly play a prominent role and become a consideration of choice. Duff & Phelps' authorized "Super ManCo" entity based in Luxembourg, one of the first to obtain a third party Alternative Investment Fund Manager (AIFM) license, provides an umbrella solution for Alternative Investment Funds (AIF) and Undertakings for Collective Investment in Transferable Securities (UCITS) companies across all asset classes and jurisdictions to access European investors while mitigating against political and legal uncertainty. This includes regulatory substance, hosting services and fund engineering, combined with risk and independent valuation services.

However, before we all relax too much, it's worth reflecting on a few things.

1. Non-European firms who are thinking about setting up in the EU in order to access the single market may now decide not to set up in the UK. On the other hand, firms that want access to the UK market will almost certainly set up there rather than elsewhere in Europe.

2. Although the wholesale adoption by the UK of current EU regulation should ensure the UK's regime could be deemed 'equivalent' to EU rules and therefore allow third country access, this is not automatic and an equivalence assessment by the EU authorities may take some time to complete.

3. The EU may decide to 'pull up the drawbridge'. Without the tempering influence of the UK in the EU's development of financial services legislation, EU Member States may take their financial services markets in a more protectionist direction. One consequence of this could be to restrict further access of third country firms to EU investors.

## Conclusion

This fast-moving and constantly evolving situation makes it hard for market participants and investors to plan with any certainty. Everyone in cross border financial services, regardless of their current business model, should understand the potential impact of Brexit on their business. Clarity will emerge eventually, but in the meantime, it is sensible to explore the options that may be open to firms. Contingency planning, albeit at a fairly high level, will serve to calm stakeholders.

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# Cost of Capital Considerations

On July 12, 2016, Duff & Phelps held the second of its Brexit webinar series entitled **"The Impact on Cost of Capital"**, featuring a panel of world-renowned cost of capital experts. The webcast focused on the challenges of estimating the cost of capital from the perspectives of U.S., UK, and Eurozone investors in a post-Brexit world. This article is a follow-up to the issues discussed during the webinar.*

* Webinar speakers included professors Aswath Damodaran (NYU Stern School of Business), Elroy Dimson, (Judge Business School, University of Cambridge) and Pablo Fernández (IESE Business School), as well as Duff & Phelps managing directors Roger Grabowski and Yann Magnan. For a replay of the webinar, visit http://www.duffandphelps.com/insights/webcasts-and-videos/brexit-webcast-2-the-impact-on-cost-of-capital

Immediately following the June 23, 2016 vote by the UK electorate to leave the European Union (EU), shockwaves were sent to global financial markets. The initial state of panic was ensued in the weeks that followed by a recovery in certain market indicators.

Yet, the aftermath of the Brexit vote is still characterized by significant signs of uncertainty, which is weighing on investors. Almost a month after the vote:

- The Pound Sterling (GBP) is still down by about 10% relative to the U.S. dollar (USD) and the euro (EUR).
- The FTSE 250 (in GBP) (companies generating a higher proportion of revenues from the UK), STOXX Europe 600 (in EUR), and the Euro STOXX Index remained below pre-Brexit vote levels.

Pockets of investors continued to look for safety:

- Gold prices increased in the weeks following the vote, although they seem to have recently stabilized.
- The yields on U.S. 10-year Treasury bonds and UK 10-year Gilts plunged to record lows.
- The yield on German 10-year Bunds turned negative for the first time.

For perspective, in relative terms the UK, 10-year yield declined by almost 50% in the space of just three weeks, whereas the German 10-year yield fell threefold from its original level on Brexit vote day.

Commentators noted initially that the dramatic declines following the Brexit vote were caused by "flights to quality"– investors seeking to preserve the principal of their investments given the increased risks. Since then, continued investment demand for safe-haven bonds is also driven by investors' expectations that major central banks around the world will implement new (or expand existing) quantitative easing (QE) policies, thereby supporting bond prices for the foreseeable future.

In addition, global expectations of long-term growth have been abating since the onset of the global financial crisis in 2008, which along with a low-inflation (or even deflationary) environment, suggest that nominal investment returns for equity securities may fall well-short of those realized over prior decades.

The remainder of this article will discuss issues confronting investors in valuing their investments in the current environment. We will use June 30, 2016 as a reference date.

Recall that the value of any investment is a function of three key inputs: (i) expected cash flows from existing investments, (ii) expected growth in earnings and cash flows, and (iii) the required rate of return (discount rate) to convert the expected cash flows into their present value.

*(continued on page 6)*

# Cost of Capital Considerations (Continued)

## Expected Growth in Net Cash Flows

We first discuss the impact of the Brexit vote on the expected growth in earnings and cash flows. We assembled data on the expected growth of real Gross Domestic Product (GDP) prepared before and after the Brexit vote by a variety of reputable sources.[1]

The following table summarizes the changes in projected real GDP growth (the median of projections) for 2016, 2017 and 2018 or long-term (LT):

*Real GDP Growth Forecasts (%) – Median from Sources*

| | Before Brexit Vote | | | After Brexit Vote | | |
|---|---|---|---|---|---|---|
| | 2016 | 2017 | 2018/LT | 2016 | 2017 | 2018/LT |
| United Kingdom | 1.9 | 2.3 | 2.1 | 1.5 | 0.5 | 1.3 |
| Eurozone | 1.6 | 1.7 | 1.6 | 1.6 | 1.2 | 1.4 |
| United States | 1.9 | 2.5 | 2.3 | 1.9 | 2.4 | 2.3 |

As one would expect, the UK is expected to suffer the largest negative impact (with a median 80% decline in 2017 real growth), followed by the Eurozone, with the U.S. expected to be minimally affected.

This significant deterioration of growth expectations will have a negative effect on many investments. Analysts should consider measuring exposure of individual investments to the UK and the Eurozone, and revising their projected cash flows accordingly. But how? The analyst needs to carefully evaluate the sources from where revenues and costs are generated, in order to quantify how the changes in real GDP growth will impact the subject company's expected cash flows. For example, large UK publicly-traded companies (in the FTSE 100) only generate about 20% of their revenue from the UK, while smaller mid-cap public UK companies (in the FTSE 250) generate about 50%.[2]

## Discount Rate

Recall that the cost of equity (COE) capital is typically expressed as a function of the risk-free rate and the equity risk premium (ERP). A base COE can be obtained by adding the risk-free rate to the ERP.

### *Building Blocks of Cost of Equity Capital*

### Risk-Free Rate

As indicated earlier, the yields on U.S. Treasury bonds, UK Gilts, and German Bunds – three of the most-commonly used proxies for the risk-free rate – all declined precipitously following the Brexit vote. The currently record-low interest rates are being driven primarily by (1) QE policies of major central banks; (2) "flights-to-quality"; and (3) declining expectations for real growth rates and inflation.

We examined what one could expect the risk-free rate to be absent central bank interventions and flights-to-quality. Corporate finance theory tells us that nominal long-term interest rates should reflect: (i) real rate of return (time value of money), (ii) inflation expectations and the risk of changes in inflation, and (iii) maturity risk. We assembled data from various sources for three bonds commonly used as inputs to COE, comparing the estimated normalized rates relative to the spot rates as of June 30, 2016 (note that spot yields have declined even further since then):

| | U.S. | UK | Germany |
|---|---|---|---|
| | 20-year Treasury Bonds | 20-year Gilts | 15-year Bunds |
| Expected LT Real Risk-Free Rate | 1.2%–2.0% | 1.3%-2.6% | 1.3% |
| Expected Inflation | 1.7%–2.6% | 1.0%–2.2% | 0.9%–1.8% |
| Range of Estimated LT Risk-Free Rate | | | |
| Normalized | 2.9%–4.6% | 2.3%–4.8% | 2.2%–3.1% |
| Spot Rate | 1.9% | 1.7% | 0.2% |

How should the analyst use this information? One can calculate the COE by either starting with a normalized risk-free rate or a spot rate. However, it's critical to match the second building block, the estimated ERP, to the selected risk-free rate. There must be internal consistency between these two inputs.

*(continued on page 7)*

1 Moody's Analytics, Standard & Poor's, IHS Global, Consensus Economics, The Economist Intelligence Unit, Oxford Economics, and IMF (the latter, for the UK and Eurozone only).

2 Michael Hunter, "UK's FTSE 250 has more to worry about than Brexit", FT.com, May 26, 2016.

# Cost of Capital Considerations (Continued)

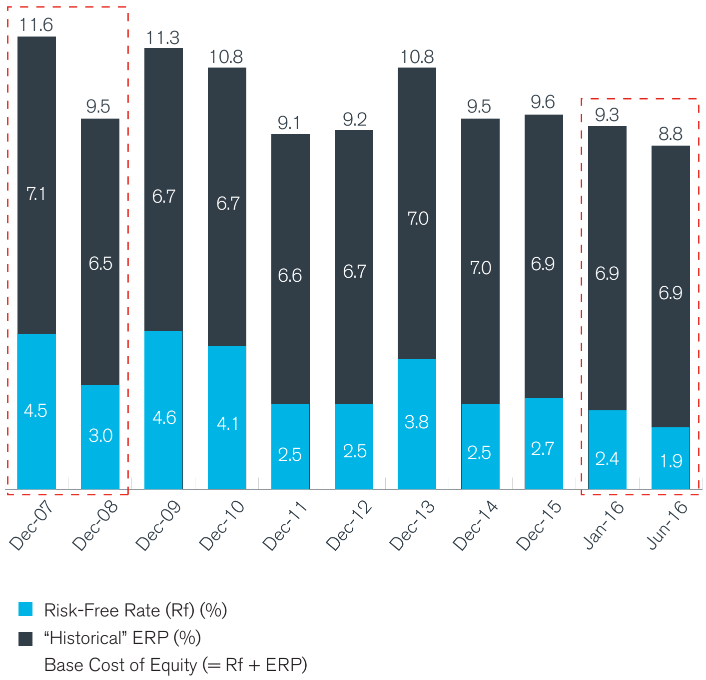
*Building Blocks of Cost of Equity Capital*

Equity Risk Premium

Recall that the ERP is the difference between the expected rate of return on a fully-diversified portfolio of stocks and the expected rate of return on the risk-free security.

If one uses a spot rate artificially kept low by actions of central banks and flights-to-quality, but continues to use a long-term average historical ERP to calculate the base COE, one may end up with nonsensical results.

The need for internal consistency is illustrated in the following example. The long-term historical realized ERP since 1926 based on the S&P 500 is a common source of ERP estimates.[3] Let us examine the results for December 31, 2007 and 2008:




Just when risks to investors were at all-time highs, this commonly-used method resulted in a nonsensical decrease in the base COE (from 11.6% to 9.5%). A similar pattern emerged at June 30, 2016, with this method implying a decline in base COE to 8.8%. The analyst must then ask: did the risks in the future cash flows really decline? If not, then the ERP must have increased, such that the base COE remains approximately the same.

Duff & Phelps examines a variety of economic and financial market indicators each month, in order to estimate a recommended ERP, which is expressed relative to a normalized risk-free rate. This ERP estimate can be converted into a premium relative to the spot risk-free rate. For example, as of December 31, 2015 and January 31, 2016 we reported the following recommended base cost of capital inputs for U.S. companies with cash flows estimated in USD[4]:

*Relative to a Normalized Risk-Free Rate:*

| | Dec 31, 2105 | Jan 31, 2016 |
|---|---|---|
| ERP | 5.0% | 5.5% |
| Normalized 20-yr U.S. Treasury | 4.0% | 4.0% |
| Estimated base cost of equity | 9.0% | 9.5% |

*Relative to a Spot 20-year U.S. Treasury Yield:*

| | Dec 31, 2105 | Jan 31, 2016 |
|---|---|---|
| ERP | 6.3% | 7.1% |
| Spot 20-yr U.S. Treasury | 2.7% | 2.4% |
| Estimated base cost of equity | 9.0% | 9.5% |

As of June 30, 2016, when markets had begun to settle down, our analysis indicated that for investments with cash flows denominated in USD, the recommended ERP as of January 31, 2016 should continue to be used.

## Conclusion

Matching expected return to risk remains an inexact exercise. It is critical to maintain internal consistency between assumptions, when conducting a valuation. One must estimate growth in cash flows consistent with current expectations. And in discounting those expected net cash flows, one must use an expected base COE that matches expected return to the expected risks.

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3 As reported before 2014 in the *SBBI Valuation* and *Classic Yearbooks* and since 2014 in the Duff & Phelps *Valuation Handbook – Guide to Cost of Capital.*

4 *2016 Valuation Handbook – Guide to Cost of Capital,* Chapter 3.

# Transfer Pricing Implications and Scenario Planning

The "out" vote could have two main impacts on the UK transfer pricing environment: (1) freedom from the relevant EU Directives, and (2) movement of companies or financial and other assets into or out of the UK.

With regard to the EU Directives, the UK may cease to be obliged to comply with the EU's transfer pricing framework that includes the following requirements:

| Requirement | Commentary |
|---|---|
| The EU Common Transfer Pricing Documentation Format | To date, the EU has only recommended rather than required this format. |
| The European Arbitration Convention for resolving transfer pricing disputes | Member States have been very reluctant to use this mechanism. |
| The EU's version of Country-by-Country Reporting | Subsidiaries of UK companies located within the EU would still need to report according to the EU format. If the parent company is not an EU tax resident and does not file a report, it must do so through its EU subsidiaries. Introduction of such "secondary reporting" is left up to the choice of the individual Member State for the 2016 fiscal year, but becomes mandatory as from the 2017 fiscal year. |
| The EU's draft version of the BEPS Action 4 interest restriction rule | The UK is already developing its own interpretation. |
| Restrictions on State Aid | The Commission has begun to apply to transfer pricing rulings and APAs to infer very large underpayments of tax. |
| Draft proposals for a Common Consolidated Corporate Tax Base | This would replace the international "Arm's Length Principle" of transfer pricing. |
| EU Impact Assessments | The UK must perform EU impact assessments to ensure that any proposed change to UK tax legislation is in conformity with EU law. |
| European Court of Justice (ECJ) judgments | There is a possibility that ECJ judgments may require changes in UK transfer pricing legislation. |

*(continued on page 9)*

# Transfer Pricing Implications and Scenario Planning (Continued)

To the extent that the EU's Directives which bear on transfer pricing are broadly designed to implement the Organization of Economic Co-operation and Development's (OECD's) guidance in this area, which itself is explicitly embodied in the UK's transfer pricing legislation, the impact of Brexit on UK transfer pricing might not be so dramatic. More generally, the UK may choose to comply with certain relevant Directives in order to avoid EU sanctions, or a post-Brexit deal with the EU may require the UK to accept certain EU Directives and/or the jurisdiction of the ECJ in certain matters. This would be the case, for example, if the UK were to pursue either of the following routes:

- A European Economic Area (EEA) Agreement which brings together the EU and three of the European Free Trade Association (EFTA) States (Iceland, Liechtenstein and Norway) in the "Internal Market" and provides for the inclusion of EU legislation on the free movement of goods, services, capital and persons, and establishes common rules on competition and State Aid. However, the UK would not have to comply with EU tax Directives and the jurisdiction of the ECJ
- A Bilateral Agreement with the EU such as the series between Switzerland and the EU. The UK would negotiate the best deal that it could achieve with the EU – for example, in addition to not being subject to EU tax rules, Switzerland is not subject to EU State Aid rules

It should be noted that the EFTA is not an EU-affiliation mechanism, amounting only to a free trade agreement between its four members (Iceland, Liechtenstein, Norway and Switzerland) for goods and services, together with some coverage of areas such as investment and the free movement of persons. Thus, even if the UK were to join the EFTA, it would still be obliged to negotiate its relationship with the EU within one of the two mechanisms outlined above (EEA or Bilateral). Depending on market sentiment after a Brexit, relative confidence in the UK economy may cause companies to move their assets or operations to or from the UK, with transfer pricing implications and requirements that could include the following:

- Debt capacity and interest rate reviews for new investments
- Comparison of alternative Intellectual Property (IP) holding jurisdictions, IP valuation and transfer and royalty rate reviews
- Supply chain reviews including risk allocation and centralization of high value functions
- Resolution of existing transfer pricing audits or litigation

Other implications for Funds include debt capacity and interest rate reviews for new private equity investments and banks and financial institutions may require due diligence of multinational borrowers' after-tax financial forecasts.

## Conclusion

In terms of an immediate transfer pricing response to what is still only the possibility of Brexit, and a Brexit that could take a wide range of forms, we recommend that businesses should prepare for the possibility of having to replace or top up third party finance with related party finance.  In addition, they should also begin (as a precautionary measure) to consider alternative locations for their IP and their activities, taking into account a lower UK exchange rate and tax rate, but potentially less access to European markets and a higher cost of capital.  Finally, they should consider whether transfer pricing "benchmarking" studies might need to be updated sooner than planned.

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*This article was first published in TPWeek.com on July 27, 2016.*

# Roadmap for Evaluating Strategic Alternatives in Uncertain Times

Although its full impact is unknown – or perhaps because its impact is so uncertain – Brexit poses immediate strategic challenges at several levels of a company. Many observers are cautioning that it could take years for Brexit's impacts to play out, and that an accurate prediction of its ramifications cannot be made at this time. However, given the stakes involved, the lead time required for a company to plan and implement a strategy that takes Brexit-related risks into account, and the complexity of choosing the best course in the face of such uncertainty, companies will need to formulate their responses now, rather than wait until the outcomes are known.

Brexit poses strategic challenges at several levels of an organization. At the corporate level, key questions might include whether to relocate headquarters; restructure for tax or capital purposes; acquire within or diversify away from the UK; adjust future capital-raising; and re-prioritize across divisions to maximize profits in the new environment. Within countries, strategies may need to be updated to modify the supply chain, diversify suppliers, attract and retain employees, and mitigate or take advantage of impacts of tax, tariff and labor regulations on the company and its competitors. Functional or business units will likely face issues such as where to locate R&D; whether to relocate manufacturing; which jurisdiction should have ownership of intellectual property; and whether to renegotiate existing contracts or joint ventures.

Determining the best strategy, whether at the corporate, local or functional level, is not an easy task when uncertainty is high. A good strategy means choosing the best path given these uncertainties, and knowing when to change course, if necessary. However, there are several challenges in finding the best strategy.

The first step to finding the best strategy evolution in response to Brexit is to identify, understand and quantify the potential impact of new risks – and new opportunities – on the business. Without a good understanding of how various future scenarios might affect your bottom line, your competitors and your suppliers, the formulation of any strategy lacks a solid foundation. Moreover, the process for incorporating such risks and opportunities into the valuation of strategic alternatives must be streamlined; it must help decision-makers achieve consensus while not getting bogged down by over-analysis.

### A well-structured, proven strategy valuation process

Robust financial projections and the valuing of strategic alternatives are all the more important during rapidly evolving, uncertain times. The best way to overcome the challenge of strategy-making in the face of uncertainty is through a rigorous valuation process that helps to quantify risk and achieve consensus on the best path forward. Hallmarks of a robust strategy valuation process are:

- Credible, well-supported financial projections, even in highly dynamic and uncertain environments
- Valuation-focused analysis that supports comparison of diverse alternatives that vary in their risk profiles
- Ability to identify and value contingent (wait-and-see or try-and-adjust) decision strategies
- Flexible models equipped to consider wide-ranging alternatives and "what if" scenarios.

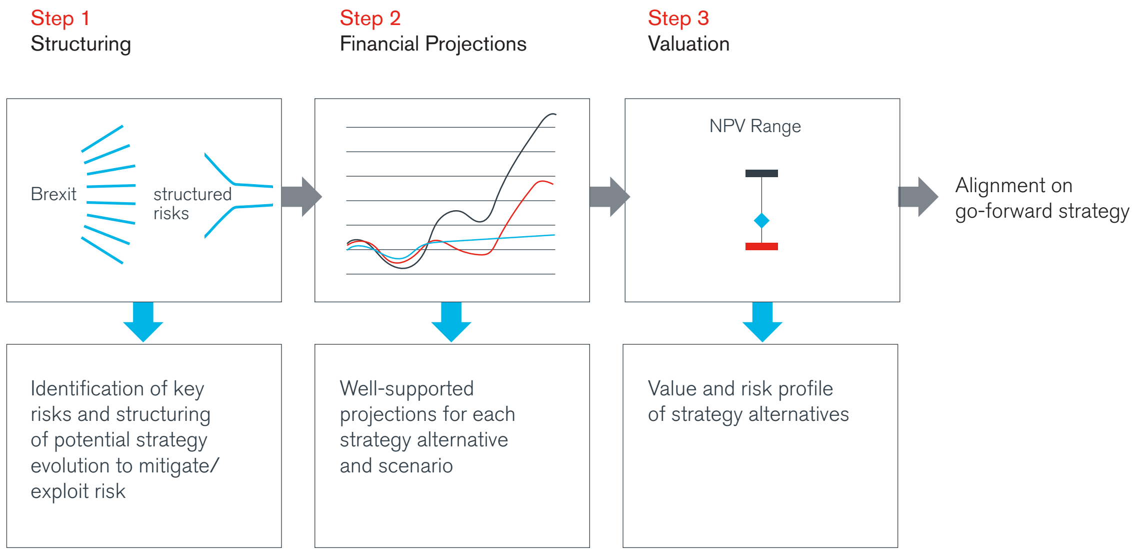



Figure 1: Duff & Phelps three-step process that delivers alignment on a value-maximising strategy

(continued on page 11)

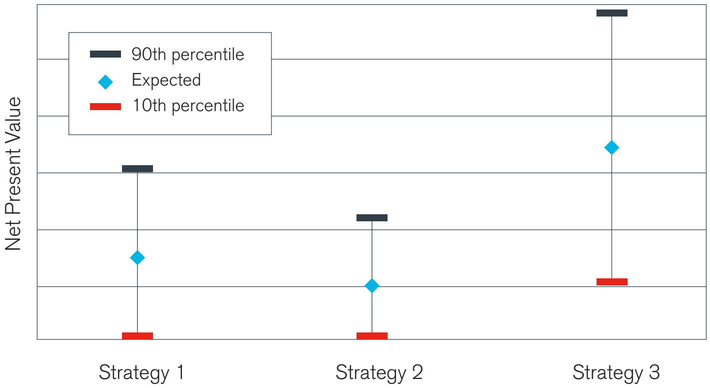
# Roadmap for Evaluating Strategic Alternatives in Uncertain Times (Continued)

Step I avoids boiling the ocean by first identifying, then rapidly prioritizing and structuring the key risks, opportunities and strategy alternatives to be considered.

Step II is where deep expertise in risk quantification, development of financial projections and valuation modelling becomes very important. By leveraging the client's existing plans, forecasts and other data, and working closely with financial advisors and industry experts, one can develop a flexible financial projection model. This should be equipped to address each of the strategies – including contingent strategies – and the impact of each of the potential scenarios by building in flexibility to adjust as future events unfold, in ways that increase the upsides and/or reduce the downsides.

Step III communicates the value-maximizing response to these uncertainties. Exercising the valuation under differing candidate strategies including business-as-usual, we determine each strategy's value and risk profile. We deliver not only strategy valuation, but also insights, based on credible assumptions and data, sound modelling, and proper consideration of Brexit-related risks and uncertainties.

Figure 2: Value and Risk Profile of Candidate Strategies




## A More Effective Strategy Valuation Process

Strategy-making efforts often stall when the team becomes overwhelmed by the complexity of the problem: hard-to grasp uncertainties, too many options, conflicting objectives and not enough time. Brexit poses unusually broad challenges, some perhaps of a type that a company may not have dealt with before, and yet, there is an immediate need to overcome these challenges given the stakes involved. Duff & Phelps provides robust financial projection and strategy valuation services that enable our clients to align upon a value-maximizing strategy in the face of uncertainty.

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# Financial Services Industry: What Lies Ahead

With the vote of Brexit completed and the initial reactions considered, two consistent themes have emerged that will impact companies and economies globally: "uncertainty" and "volatility". These two factors directly impact value, especially in the financial services industry.

Just as the markets have been driven up and down since the vote, the next two years will likely be marred with uncertainty and volatility, not only by Britain and the EU, but in the economies of countries around the world. Treaties, trade negotiations, passporting, immigration, relocation and nationalism could take on new meaning for Britain and the Europe Union, the effects of which may ripple out to other nations. All of these changes have the potential to create severe shifts in economies, businesses, strategy, opportunities and value.

### Immediate Observations Impacting Financial Institutions

We have seen decisions to delay an increase in interest rates, or to maintain status quo interest rates, by many of the global central banks for the near-term and potentially intermediate-term. This increases pressure on the banking industry which was expecting future increases in interest rates (spreads) which could have resulted in higher profits and potentially higher returns to their shareholders (i.e., dividends and capital appreciation), while maintaining or increasing their regulatory capital levels. This will likely result in lower stock prices and market multiples for these institutions, creating potential goodwill impairment and going concern issues not seen since the 2008 Financial Crisis. Goodwill and other intangible assets will need to be examined and tested by banks, as appropriate, under current and proposed accounting guidance as well as regulatory stress testing scenarios.

Trade negotiations between countries will likely take significant time, contributing to uncertainty as to business decisions and the ability to repay loans in the future. Further, decisions surrounding employment and licensing through the shifting of headquarters and primary operations (employees and intellectual property) from London to another base in the EU, as well as the impact of immigration policy, could result in a movement of employees in the UK to other EU countries. The potential result in economic changes, including higher unemployment rates, reduction of business, lower taxes and higher vacancy rates, could mean a higher probability of a recession and higher default rates on loans to be experienced primarily by the global banks. Therefore, banks should be prepared to re-examine the valuations of their loan portfolios for financial reporting purposes, which should be consistent under various stress testing scenarios performed for regulatory reporting.

Prior to Brexit, evidence indicated that net credit losses for banks were on the rise from their lowest levels since the financial crisis. In some EU countries, net credit losses are at significant levels for which banks may require infusions of capital or bailouts. Additional pressure could be observed as worsening economic conditions may result in significantly higher than expected/probable credit losses and defaults that banks will need to record, as borrowers fail to repay their debts. Further, the value of the underlying collateral, given the changing economic environment (GDP, inflation, unemployment rates, and interest rates), may need to be re-assessed for recoveries.

Asset managers and retail brokerage firms could possibly need to revalue their investments in illiquid and complex instruments, which may require a reduction in value resulting in fewer assets under management. Additionally, the observed risks in the market have resulted in a flight toward quality and safety, whereby, investors have flocked toward U.S. treasuries. Significant redemptions, lower

*(continued on page 13)*

# Financial Services Industry: What Lies Ahead (Continued)

profitability, and asset valuation declines have resulted in lower valuations and multiples for asset managers and retail brokerages at least on a short-term observable basis. Going concern questions and potential goodwill and other impairment issues may need to be examined for these institutions, as well as potential restructuring of the manager or the terms of the fund vehicle that limit redemptions.

For the investment banks and broker dealers, delays in M&A and IPO activity for the short/intermediate-term and expected reduced levels of fixed income and equity sales and trading are expected to reduce bottom lines. Derivatives relating to FX currencies, interest rates and commodities, which have all currently experienced volatility, and potential declines in the levels of investments portfolios including complex and illiquid securities, loans, real estate, etc., may result in additional risks for these institutions and a potential need for more capital.

Insurance companies, which have currently been considered the safest and most stable of the financial institutions, also have exposures to complex and illiquid securities. Insurance companies have reduced their exposure to these financial instruments since the financial crisis. However, in their efforts to chase yields in this low interest rate environment, many insurance companies have invested a portion of their portfolios back into these instruments. Many of these instruments, which are hard to value, may require a write-down that may result in a need for regulatory capital by certain insurance companies. Additionally, economic downturns could delay rate and price increases by insurance companies to their clients, which in turn, may result in lower revenue and profitability projections, and pressure on goodwill and asset impairment testing.

### Duff & Phelps Observations and Solutions

Duff & Phelps has monitored the events prior and subsequent to the announcement of Brexit, and the global economic, valuation and regulatory impacts to the global financial services industry. Volatility and uncertainty typically bring incremental risks, transformations, and impacts on a company, its business operations and its assets in the short and intermediate-term, as well as potentially into the longer-term.

Institutions could be faced with decisions around reorganizations and divestitures that require independent assessments of strategic alternatives, which may require development of restructuring plans, enterprise and asset valuations, impairment testing, fairness and solvency opinions, tax planning (i.e., business tax incentives from relocations, cost segregation from acquisition of corporate offices), M&A advisory, dispute consulting and regulatory compliance. Moreover, valuations of legal entities, business enterprises and/or assets may be required for tax, regulatory and financial reporting purposes. Intellectual property transfers between jurisdictions will need to be arm's length in nature, while existing transfer pricing of intellectual and proprietary properties may need to be re-examined.

In the wake of Brexit, financial institutions may need to address lower profits, higher capital requirements and increased levels of redemptions/withdrawals in the short-term and intermediate-terms, which may result in a potential triggering event and annual goodwill impairment issues that should be addressed for financial and regulatory reporting purposes.

Further, financial institutions may need to understand and analyze their cost of capital implications given the economic, political and market volatility to best allocate regulatory capital, as well as for budgeting and forecasting and value creation.

Following the regulatory capital and financial reporting requirements are essential during periods of uncertainty when downward valuations occur. Valuation of complex and illiquid assets including loans, not only require appropriate valuation methodologies and assumptions, but also objectivity and independence to truly meet the requirements from a risk management and best practices perspective. Financial institutions should consider obtaining independent and objective analyses of the underlying assumptions, such as credit quality and potential losses (probability of defaults and loss given default curves) in the future under current and proposed accounting requirements that may have a material impact on their financial and regulatory statements. Additionally, the underlying collateral to loans must be valued for recoveries, such as for real estate, closely held businesses and other illiquid securities, which may lose value in the current environment.

Furthermore, alternatives, such as potential sale of non-performing loan portfolios and complex assets and capital infusions, should be reviewed, considered and assessed to increase regulatory capital and liquidity reserves at certain financial institutions.

Duff & Phelps has a long history of assisting global financial services companies during challenging time periods, as well as during periods of growth where significant levels of profitability and M&A are high. While volatility and uncertainty will likely continue for the foreseeable future, financial institutions that prepare for all possible scenarios will be in the best position to succeed in these challenging times. Following Brexit, Duff & Phelps has already responded to many financial services institutions around the world who are looking to us for assistance with issues facing them currently and potentially in the future.

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# North American Industry Market Multiples
## As of June 30, 2016

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| Industry | Market Value of Equity to Net Income | | MVIC to EBIT | | MVIC to EBITDA | |
|---|---|---|---|---|---|---|
| | U.S. | Canada | U.S. | Canada | U.S. | Canada |
| Energy | 15.9 | 23.5 | 20.4 | 28.2 | 12.1 | 10.7 |
| Energy Equipment & Services | 12.9 | 9.4 | 17.7 | 20.0 | 10.2 | 10.4 |
| Integrated Oil & Gas | — | — | — | — | 15.8 | — |
| Materials | 18.4 | 20.1 | 15.0 | 18.7 | 9.9 | 11.2 |
| Chemicals | 18.1 | 13.9 | 15.0 | 14.1 | 10.6 | 9.5 |
| Diversified Chemicals | — | — | 12.7 | — | 10.4 | — |
| Specialty Chemicals | 20.4 | — | 15.5 | — | 11.0 | — |
| Construction Materials | 23.5 | — | 15.6 | — | 9.6 | — |
| Metals & Mining | 16.9 | 21.4 | 16.8 | 22.6 | 10.1 | 11.8 |
| Paper & Forest Products | 16.3 | 22.7 | 13.0 | 18.5 | 8.5 | 9.6 |
| Industrials | 18.8 | 17.5 | 14.5 | 15.0 | 10.3 | 9.7 |
| Aerospace & Defense | 17.1 | 18.3 | 14.9 | 13.7 | 11.0 | 10.3 |
| Industrial Machinery | 20.4 | 26.3 | 15.4 | 12.7 | 11.0 | 8.7 |
| Commercial Services & Supplies | 22.2 | 28.8 | 15.4 | 19.3 | 10.1 | 6.8 |
| Road & Rail | 15.0 | 16.2 | 12.4 | 12.8 | 7.5 | 10.3 |
| Railroads | 16.0 | — | 14.8 | — | 9.1 | — |
| Consumer Discretionary | 16.9 | 16.8 | 13.6 | 14.8 | 10.2 | 10.4 |
| Auto Parts & Equipment | 12.5 | 6.8 | 10.3 | 7.3 | 6.9 | 5.3 |
| Automobile Manufacturers | — | — | — | — | — | — |
| Household Durables | 14.3 | — | 13.4 | — | 11.5 | — |
| Leisure Equipment & Products | 16.2 | — | 13.3 | — | 9.7 | — |
| Textiles, Apparel & Luxury Goods | 16.3 | — | 12.3 | — | 10.4 | — |
| Restaurants | 25.6 | 17.3 | 17.6 | 14.7 | 11.0 | 15.7 |
| Broadcasting | 16.6 | — | 13.7 | 15.4 | 10.2 | 12.4 |
| Cable & Satellite | 31.0 | 13.1 | 18.4 | 13.7 | 11.1 | 8.2 |
| Publishing | 12.3 | — | 15.7 | 11.2 | 9.4 | 7.5 |
| Multiline Retail | 13.8 | — | 12.7 | — | 8.4 | — |
| Consumer Staples | 21.4 | 20.2 | 16.3 | 16.5 | 13.1 | 12.7 |

| Industry | Market Value of Equity to Net Income | | MVIC to EBIT | | MVIC to EBITDA | |
|---|---|---|---|---|---|---|
| | U.S. | Canada | U.S. | Canada | U.S. | Canada |
| Beverages | 25.3 | 24.1 | 24.1 | 22.2 | 19.6 | 14.7 |
| Food Products | 20.9 | 20.2 | 18.3 | 16.2 | 14.6 | 12.8 |
| Household Products | 30.3 | — | 18.1 | — | 13.7 | — |
| Health Care | 24.8 | 12.8 | 19.5 | 20.6 | 14.4 | 13.1 |
| Health Care Equipment | 31.7 | — | 23.3 | — | 17.7 | — |
| Health Care Services | 20.8 | — | 14.9 | — | 11.5 | — |
| Biotechnology | 16.7 | 40.1 | 16.3 | 14.2 | 18.1 | 12.5 |
| Pharmaceuticals | 22.5 | — | 21.2 | 20.6 | 17.1 | 20.4 |
| Information Technology | 23.1 | 20.2 | 20.7 | 20.8 | 14.8 | 15.7 |
| Internet Software & Services | 26.8 | 24.0 | 22.6 | 18.6 | 19.0 | 13.2 |
| IT Services | 25.6 | 31.4 | 20.2 | 19.1 | 13.9 | 14.3 |
| Software | 29.5 | 38.6 | 26.2 | 37.5 | 21.2 | 21.8 |
| Technology Hardware & Equipment | 20.7 | 15.3 | 16.6 | 13.2 | 12.1 | 13.2 |
| Communications Equipment | 21.6 | 15.8 | 21.6 | 13.2 | 15.4 | 10.9 |
| Computers & Peripherals | 13.8 | — | 12.6 | — | 9.5 | — |
| Semiconductors | 23.1 | — | 26.9 | — | 17.2 | — |
| Telecommunication Services | 18.0 | 19.6 | 19.6 | 16.2 | 9.1 | 9.4 |
| Integrated Telecommunication Services | 13.6 | — | 15.5 | — | 6.9 | — |
| Wireless Telecommunication Services | 36.7 | — | 34.4 | — | 8.4 | — |
| Utilities | 25.4 | 22.8 | 19.1 | 22.7 | 11.9 | 11.8 |
| Electric Utilities | 22.6 | — | 18.8 | — | 11.4 | — |
| Gas Utilities | 25.1 | — | 17.8 | — | 12.0 | — |

| Industry | Market Value of Equity to Net Income | | Market Value of Equity to Book Value | |
|---|---|---|---|---|
| | U.S. | Canada | U.S. | Canada |
| Financials | 14.9 | 11.5 | 1.1 | 1.2 |
| Commercial Banks | 14.8 | 11.5 | 1.1 | 1.5 |
| Investment Banking and Brokerage | 18.2 | — | 1.4 | 1.4 |
| Insurance | 14.4 | 12.7 | 1.2 | 1.3 |

An industry must have a minimum of 5 company participants to be calculated. For all reported multiples in the U.S. and Canada, the average number of companies in the calculation sample was 80 (U.S.), and 24 (Canada); the median number of companies in the calculation sample was 40 (U.S.), and 10 (Canada). Sample set includes publicly-traded companies (private companies are not included). Source: Data derived from Standard & Poor's Capital IQ databases. Reported multiples are median ratios (excluding negatives). MVIC = Market Value of Invested Capital = Market Value of Equity plus Book Value of Debt. EBIT = Earnings Before Interest and Taxes for latest 12 months. EBITDA = Earnings Before Interest, Taxes, Depreciation and Amortization for latest 12 months.

# European Industry Market Multiples
## As of June 30, 2016

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Visit www.duffandphelps.com/multiples

| Industry | Market Value of Equity to Net Income | MVIC to EBIT | MVIC to EBITDA |
|---|---|---|---|
| | Europe | Europe | Europe |
| Energy | 11.7 | 13.8 | 8.2 |
| Energy Equipment & Services | 21.1 | 14.1 | 8.2 |
| Integrated Oil & Gas | 22.3 | 21.0 | 8.6 |
| Materials | 15.5 | 14.9 | 8.9 |
| Chemicals | 17.8 | 15.0 | 9.2 |
| Diversified Chemicals | 16.9 | 13.3 | 7.7 |
| Specialty Chemicals | 19.3 | 15.5 | 10.5 |
| Construction Materials | 15.9 | 15.4 | 9.1 |
| Metals & Mining | 15.3 | 18.3 | 9.1 |
| Paper & Forest Products | 11.0 | 13.3 | 8.2 |
| Industrials | 16.6 | 14.8 | 10.1 |
| Aerospace & Defense | 17.7 | 17.7 | 11.7 |
| Industrial Machinery | 17.9 | 14.8 | 10.4 |
| Commercial Services & Supplies | 20.1 | 15.1 | 9.5 |
| Road & Rail | 14.8 | 14.0 | 7.7 |
| Railroads | 14.0 | 18.6 | 8.3 |
| Consumer Discretionary | 16.1 | 14.6 | 10.1 |
| Auto Parts & Equipment | 13.4 | 11.1 | 7.3 |
| Automobile Manufacturers | 9.5 | 13.3 | 7.3 |
| Household Durables | 14.0 | 11.3 | 9.1 |
| Leisure Equipment & Products | 15.2 | 12.5 | 10.8 |
| Textiles, Apparel & Luxury Goods | 17.6 | 15.2 | 10.3 |
| Restaurants | 19.4 | 15.5 | 10.3 |
| Broadcasting | 17.5 | 15.1 | 12.0 |
| Cable & Satellite | — | 20.9 | 10.1 |
| Publishing | 18.8 | 16.8 | 9.4 |
| Multiline Retail | 20.2 | 12.5 | 10.2 |
| Consumer Staples | 19.7 | 16.5 | 11.8 |
| Beverages | 23.3 | 18.2 | 11.9 |
| Food Products | 18.3 | 16.0 | 11.2 |
| Household Products | 26.2 | 16.1 | 12.1 |

| Industry | Market Value of Equity to Net Income | MVIC to EBIT | MVIC to EBITDA |
|---|---|---|---|
| | Europe | Europe | Europe |
| Health Care | 26.2 | 22.0 | 16.5 |
| Health Care Equipment | 24.8 | 22.1 | 17.3 |
| Health Care Services | 25.1 | 15.3 | 12.2 |
| Biotechnology | 47.0 | 31.9 | 31.9 |
| Pharmaceuticals | 25.7 | 22.8 | 16.5 |
| Information Technology | 21.5 | 17.6 | 13.4 |
| Internet Software & Services | 29.1 | 22.6 | 17.0 |
| IT Services | 18.7 | 14.5 | 12.0 |
| Software | 25.8 | 20.9 | 16.2 |
| Technology Hardware & Equipment | 20.0 | 17.0 | 12.1 |
| Communications Equipment | 24.1 | 19.6 | 14.2 |
| Computers & Peripherals | 22.0 | 15.8 | 11.4 |
| Semiconductors | 18.6 | 22.9 | 11.9 |
| Telecommunication Services | 21.7 | 17.1 | 9.3 |
| Integrated Telecommunication Services | 19.1 | 15.0 | 8.5 |
| Wireless Telecommunication Services | 22.3 | 16.9 | 9.1 |
| Utilities | 16.0 | 17.6 | 10.0 |
| Electric Utilities | 15.1 | 15.7 | 9.1 |
| Gas Utilities | 13.2 | 13.5 | 11.5 |

| Industry | Market Value of Equity to Net Income | Market Value of Equity to Book Value |
|---|---|---|
| | Europe | Europe |
| Financials | 11.6 | 1.1 |
| Commercial Banks | 8.6 | 0.5 |
| Investment Banking and Brokerage | 16.2 | 1.5 |
| Insurance | 11.1 | 1.0 |

An industry must have a minimum of five company participants to be calculated. For all reported multiples in Europe, the average number of companies in the calculation sample was 90 and the median number of companies in the calculation sample was 40 Sample set includes publicly-traded companies (private companies are not included). Source: Data derived from Standard & Poor's Capital IQ databases. Reported multiples are median ratios (excluding negatives). MVIC = Market Value of Invested Capital = Market Value of Equity plus Book Value of Debt. EBIT = Earnings Before Interest and Taxes for latest 12 months. EBITDA = Earnings Before Interest, Taxes, Depreciation and Amortization for latest 12 months.

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