DUFF & PHELPS

Valuation Insights

Fourth Quarter 2018

INSIDE

EXECUTIVE SUMMARY

In this edition of *Valuation Insights*, we discuss the potential impacts of the Securities and Exchange Commission's (SEC) recent enforcement settlement regarding cybersecurity measures, and what managers and directors at organizations should consider when evaluating cybersecurity practices.

In our **Technical Notes** section, we discuss what multinational entities need to consider in light of new BEAT provisions spurred by U.S. tax reform, and potential benefits of the Services Cost Method exemption to the BEAT provision.

In our **International in Focus** article, we discuss the Duff & Phelps - Global Enforcement Review 2018, which provides commentary and insights on global enforcement trends and helps firms understand the key risks to inform their strategic, governance, risk and compliance programs.

Finally, our **Spotlight article** examines the ongoing impacts of U.S. tax reform on the intersection of financial reporting and transfer pricing, and examines if valuation analyses performed for financial reporting can be used for transfer pricing purposes.

In every issue of *Valuation Insights*, you will find industry market multiples that are useful for benchmark valuation purposes. We hope that you will find this and future issues of this newsletter informative.

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SEC First Cybersecurity Action and Cyber Preparedness

If the Securities and Exchange Commission's February 2018 guidance on cybersecurity represented a wakeup call, the September 26 enforcement settlement involving a one million dollar penalty for failure to have appropriate cybersecurity measures in place should be an alarm bell of warning to both executives and boards of directors.

The SEC's guidance is based on the fact that an organization's financial, operational and technology systems are intertwined, and protecting the integrity of both a company's books and sensitive customer information are inextricably linked to cybersecurity.

The message associated with this settlement and penalty is clear. The SEC expects companies to not only have in place commercially reasonable standards, policies and procedures for cybersecurity, but to implement them along with compliance and audit procedures to assure that they are working as intended.

There is also an expectation that management and boards understand that cybersecurity is not a "one and done" proposition. As an organization's business evolves and technology changes, the policies and procedures, along with their associated compliance measures must change. Cybersecurity must be as dynamic as the risks to the systems. System monitoring is becoming a recognized (and expected) best practice.

It is also clear that an organization cannot limit its concern about cybersecurity to its own cyber-operations. Those who can access your systems – independent contractors, partner organizations, supply chain partners or vendors – and those with whom you share nonpublic data must also be considered. The September 26 settlement involved attackers who established or took over – through social engineering – independent contractor accounts to commit crimes through the company's systems.

In a case involving a company that suffered significant data breaches, analysis showed they had comprehensive cybersecurity standards and policies they described as "aspirational" and not what they actually committed to do. The SEC – as well as other regulators and potential class-action plaintiffs – expect a match between stated standards and the controls that are actually in place. Without periodic and independent evaluations, active monitoring and anomaly identification and evaluation, there is a risk of actual practice deviating from the expectations in a company's standards.

If an organization has commercially reasonable standards that comply with legal and regulatory requirements, the gap between expectations and reality leads to the problems. Just as hackers look for and exploit vulnerabilities in systems and procedures, regulators and investors will be greatly troubled when those gaps should have been covered by cybersecurity practices.

Actual problems identified through monitoring, compliance and audit processes represent another input to the continuous improvement process.

The SEC's action clearly shows it is serious about this issue, and that it is staffed and ready to conduct enforcement actions relating to cybersecurity.

How can we help?

Kroll, a division of Duff & Phelps, has helped clients in the cybersecurity space for over 30 years. We understand that even the best-intentioned cybersecurity processes can fail or fail to evolve.

Our experience indicates that the biggest danger faced by managers and directors in considering the SEC's guidance and enforcement actions is not knowing the actual state of cybersecurity implemented within their organizations. Without actual and detailed knowledge, risk can't be assessed, and effective response becomes difficult or impossible.

Kroll has methods to efficiently assess an organization's cybersecurity standards and policies, and to determine how effectively a compliance program assures that the standards are implemented. A well-considered risk assessment, and understanding of your organization's cybersecurity posture is critical to addressing identified gaps.

Where gaps exist, we help organizations to improve their standards and policies, to mitigate risks and consider opportunities for risk transfer. We can provide a professional to act as a Chief Information Security Officer on a dedicated basis until an appropriate candidate is located, or a shared CISO on an ongoing basis. For organizations subject to the Payment Card Industry Data Security Standard, it is important to know that we are a Qualified Security Assessor under the PCI program.

We also help clients assure that their cyber incident response programs are ready to implement when a problem arises. Our specialists can create and run customized table top exercises to determine operational readiness.

Given the prior SEC cybersecurity guidance and the September 26 enforcement announcement, firms cannot simply assume that their cybersecurity complies with the guidance and best practices.

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BEAT and the Services Cost Method Exemption: How the Services Cost Method Exemption works, its potential benefit to taxpayers and current areas of uncertainty

With the passage of the Tax Cuts and Jobs Act ("TCJA") at the end of 2017, a new international tax provision, the Base Erosion and Anti-Abuse Tax ("BEAT") was introduced. The BEAT requires U.S. taxpayers to pay a tax equal to the base erosion minimum tax amount for the taxable year, with the base erosion minimum tax equal to the excess (if any) of 10%[1] of modified taxable income less regular tax liability on a worldwide basis. Modified taxable income is calculated as taxable income for the U.S. taxpayer excluding certain "base erosion payments", with base erosion payment generally defined as payments by the U.S. taxpayer to a foreign related party. Note that the BEAT only applies to taxpayers which meet certain threshold requirements[2] and that the BEAT threshold requirements have a cliff effect, as you are either fully subject to the BEAT or not subject to the BEAT, with no middle ground or partial application of this provision.

While the BEAT does have a fairly broad definition of base erosion payments the provision does designate three types of foreign related party payments which are not to be included in the base erosion payment category.

These three types of payments are:

1. Cost of goods sold
2. Services which meet the requirements for eligibility for the services cost method SCM under § 1.482-9 (determined without regard to the business judgment rule)
3. Qualified derivative payments

Of particular interest and the subject of much discussion for many taxpayers subject to the BEAT is the exclusion for services which meet the eligibility for the services cost method.

The SCM is described at length in the § 1.482-9 regulations and is a specified transfer pricing method for which "covered services" can be charged out at cost, without a markup applied. The SCM is an elective method and Taxpayers are permitted to utilize other methods under the regulations to determine the arm's length compensation for these covered services.

To apply the SCM as prescribed in the § 1.482-9 regulations several conditions must be met.

The service must be a covered service as defined in the regulations. A Covered Service falls into one of the following two categories:

- Specified Covered Services
- Low Margin Covered Services

Specified Covered Services are defined as controlled services transactions which are specified in Rev. Proc. 2007-13. At a high level, these services have been indicated to be support services common among taxpayers across industry sectors. Rev Proc. describes 101 different services which consist of various types of payroll, accounting, administrative, coordination, tax, treasury, staffing, recruiting, training, information technology and legal services, among others.

Low Margin Covered Services are defined as controlled services transactions for which the median comparable markup on total services costs is less than or equal to seven percent.

In addition, § 1.482-9 also includes a list of excluded activities which are not eligible for use with the SCM, a list of activities often referred to by tax practitioners as the black list. The activities on this list consist of the following:

1. Manufacturing
2. Production
3. Extraction, exploration, or processing of natural resources
4. Construction
5. Reselling, distribution and similar activities
6. Research and development
7. Engineering or scientific activities
8. Financial transactions
9. Insurance or reinsurance

1. *The applicable tax rate is 5% for one year for taxable years beginning after December 31, 2017 and subsequently increases to the 10% rate previously mentioned. The BEAT rate increases to 12.5% for taxable years beginning after December 31, 2025.*
2. *The BEAT would only apply to taxpayers with $500 million in average annual gross receipts for the three-year period ending with the preceding taxable year and a base erosion percentage of 3% or higher for the taxable year.*

In addition to the aforementioned criteria, the services must not be precluded from constituting a covered service by the business judgment rule described in § 1.482-9. The business judgment rule states that for a service to be considered a covered service under the SCM the taxpayer must reasonably conclude that the service does not contribute significantly to key competitive advantages, core capabilities, or fundamental risk of success or failure in a trade or business of the taxpayer. Note that for services to qualify for the SCM exclusion from base erosion payments with regards to the BEAT provision, the business judgment rule does not need to be considered.

As described above, many U.S. taxpayers may have payments to foreign related parties which could by exempt to the BEAT due to their eligibility for the SCM. However, the identification of these expenses may not be a simple exercise for many taxpayers. Currently many charges made to U.S. taxpayers from foreign related parties may involve a bundling of various types of expenses, only a portion of which may be SCM eligible. Application of the BEAT SCM exemption would require segmenting these expenses to exclude any ineligible expenses pertaining to "black list" activities. This may prove difficult depending on the level of detail captured in the company's accounting systems. Furthermore, additional research and fact finding may be necessary to identify which expenses would qualify as being categorized as covered services. Firms may need to retool or update their accounting and data collection systems to increase the ease of identifying these expenses in the future.

There is also uncertainty regarding the treatment of SCM eligible services which include a markup component, and this issue has been subject to much debate in the tax community. The language in the TCJA states that the amount of an SCM eligible transaction which will not be treated as a base erosion payment is the amount that constitutes the total services cost with no markup. It is the interpretation of this language which is unclear.

Regarding the "total services cost with no markup" exception, there appear to be two fundamental views of interpretation. One is that the SCM eligible expense must not have any markup applied as to not be treated as a base erosion payment. This would severely limit the pool of expenses which could be eligible for the SCM exemption.

The other interpretation is that if an SCM eligible expenses did receive a markup (which is likely the most common scenario), then only the cost portion of the expense is excluded from the base erosion payment category, while the associated markup is treated as a base erosion payment. For example, if an SCM eligible charge of $105 occurred, with $100 being the cost and $5 being the associated markup, only the $5 markup would be treated as a base erosion payment.

While the SCM exemption could be a great benefit to taxpayers subject to the BEAT tax, guidance on the correct interpretation of the SCM eligible expenses has not yet been provided. Until then taxpayers will need to take a position regarding the correct interpretation of this provision and deal with the current uncertainty of how this provision will be treated by the tax authorities.

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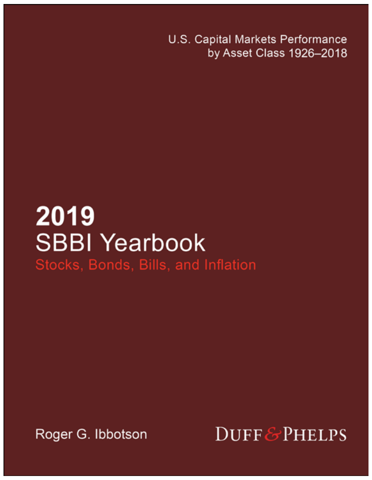

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Duff & Phelps Global Enforcement Review

Now in its fifth year, Duff & Phelps is proud to announce the release of the Global Enforcement Review 2018, which provides commentary and insights on global enforcement trends. Combining both our regulatory experience with in-depth analysis of enforcement penalties issued by key regulators across the globe, our aim is to assist firms in understanding the key risks to inform strategic, governance, risk and compliance programs.

There are signs that a new regulatory enforcement landscape is coming into view. On one hand, many of the regulators' priorities are familiar and well worn. Corporate governance, disclosures to clients and markets, fraud, anti-money laundering (AML), and unlicensed activity remain key areas of focus and activity, with the number of enforcement cases in these areas consistently high over the last five years. On the other hand, a new determination to hold individuals to account and the new challenges presented by technology, are beginning to shape a new enforcement landscape.

Moreover, there has been no obvious dramatic change in enforcement activity when it comes to fines. After the surge in 2013 and 2014 comprising the bulk of the Libor and foreign exchange (FX) abuse cases, fine totals fell sharply. They have since edged up, rising to US$26.5 billion globally last year, from US$20.5 billion in 2015, under what looks like a new normal.

The U.S. regulators continue to account for most of these fines – 95% of the total global sum of fines against firms last year, and 96% of the sum since 2013. These large U.S. fines are also frequently levied against non-U.S. headquartered institutions. The perception that the U.S. is continuing to act as 'Globo-cop' in the industry may not be far wrong.

Look more closely, though, and while some things stay the same, the evolving financial services industry presents challenges in new areas.

New Priorities New Players

First, some other genuinely new regulatory priorities are emerging. Most obvious, is increasing concern from regulators globally around cybersecurity and data privacy. Firms must now contend with not only supervisory authorities such as the UK's Information Commissioner's Office (ICO), given increased powers through Europe's General Data Protection Regulation (GDPR), but also financial regulators focusing – and fining – on these issues.

Technological developments, such as those around cryptocurrencies (a priority for the U.S. Financial Industry Regulatory Authority (FINRA) and the UK's Financial Conduct Authority (FCA) among others), will also continue to present new challenges.

Priority is also being given globally to protecting retirement savings and investments, which will inevitably be an increasing area of enforcement focus for many regulators in the years ahead. Not surprisingly, this is most pronounced in those countries with well-developed private sector pensions such as the UK, U.S. and Australia. The FCA for instance has a goal to protect older savers from ill-advised transfers out of defined benefit pension schemes and other challenges arising from "pensions freedoms" introduced in recent years.

Second, the dominance of the U.S. at the top of the enforcement league table and a focus on fine amounts obscures a more complex picture. Some smaller but still significant activity can easily be missed, which shows the wider adoption of public enforcement action by regulators. We have seen, for example, an uptick in enforcement from certain regulators, like the Central Bank of Ireland and the two French regulators, the AMF and the PSRA, and action from more recent arrivals to the enforcement world, like ESMA.

Recent notable action can be lost in the totals, for example

- The UK's FCA used its powers under Section 384 of the Financial Services and Markets Act for the first time to require Tesco, a listed non-financial services company, to pay compensation to investors for market abuse in relation to a trading update.[1]

- The U.S. Securities and Exchange Commission (SEC) charged businessman Maksim Zaslavskiy and two companies with defrauding investors in relation to initial coin offerings purportedly backed by investments in real estate and diamonds, the first action of its kind by the SEC.[2]
- France's AMF fined Natixis Asset Management €35 million[3] (its largest on record) for breaching its professional obligations in relation to the management of formula funds.
- ESMA's fine of €1.24 million against Moody's Corporation, a credit ratings agency, for two breaches of the Credit Rating Agencies Regulation.[4]
- Hong Kong's Securities and Futures Commission (SFC) in March 2018 intervened to halt an initial coin offering by Black Cell Technology, over concerns that the firm had engaged in unauthorized promotional activities and unlicensed regulated activities.[5]

Finally, penalty amounts only give part of the story. Even in the U.S., the figure is heavily skewed by a few big cases. While fine amounts tell us a fair amount about the size of organizations involved, and perhaps the gravity of the breaches, they tell less about the overall level of activity of the regulators when it comes to enforcement.

In fact, the total number of larger fines issued against firms globally tells a different story. It actually rose in 2015 (while fine amounts fell) but has been falling since: between 2015 and 2017, the number of significant fines fell by 30%.

1. *https://www.fca.org.uk/news/press-releases/tesco-pay-redress-market-abuse*
2. *https://www.sec.gov/news/press-release/2017-185-0*
3. *http://www.amf-france.org/en_US/Actualites/Communiques-de-presse/Comission-des-sanctions?docId=workspace%3A%2F%2FSpacesStore%2F8e8922df-a8c9-4717-9a45-c8a0daf8dd9d*
4. *https://www.esma.europa.eu/press-news/esma-news/esma-fines-moody%E2%80%99s-%E2%82%AC124-million-credit-ratings-breaches*
5. *https://www.sfc.hk/edistributionWeb/gateway/EN/news-and-announcements/news/doc?refNo=18PR2*

Making it personal

The declining number of penalties and fine amounts compared with previous years arguably point to a weakening of regulators' faith in the ability of big fines alone to change behavior, or at least a recognition of the importance of using other levers.

Those levers include, more creative methods to address failures, notably with an increased emphasis on restitution; and, perhaps more significantly, a focus on individual accountability: In fact, penalties against individuals account for almost a third (31%) of the total cases globally between 2013 and 2017. This has been rising steadily year on year apart from a drop of 13% in 2017.

That is only going to grow. At present there is still a relative dearth of large fines against individuals outside the U.S. Of the total US$627.9 million in large penalties imposed against individuals globally last year, US$621.3 million (99%) was by U.S. regulators. But change is coming.

New rules are settling in with the UK Senior Managers and Certification Regime (SMCR) and Hong Kong's Managers in Charge (MIC) rules. Singapore looks likely to join them with recently proposed Guidelines on Individual Accountability and Conduct from the MAS. Elsewhere, regulators have also been clear that individuals are in the firing line, not just for breaches and abuse, but also for failures for which they may not be directly responsible, but that happen on their watch.

How soon that change is seen in the enforcement figures is uncertain. The regulatory pipeline is long and a change in direction from the regulators is often only felt – or at least becomes apparent in enforcement figures – approximately two or three years on average in most jurisdictions (and in some case more) down the line. But, with massive fines against firms no longer retaining the power to shock, regulators are increasingly looking to alternative, more impactful approaches such as business restrictions, prohibitions and criminal actions against individuals.

For those individuals concerned, 2017-18 comes to be seen as the calm before the storm.

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Bridging the Divide: Valuations for Financial Reporting and Transfer Pricing

The enactment of H.R. 1, formerly known as the Tax Cuts and Jobs Act ("TCJA"), on December 22, 2017 marks the first major overhaul of the U.S. federal income tax system in over 30 years. The new law makes sweeping changes to the tax code with widespread business implications that create challenges and opportunities for corporate leaders as they address a variety of operational decisions.

In particular, the new law has reshaped the way corporations look to optimize their international operations and intangible property holding structures, giving rise to potential planning opportunities and particularly with surrounding acquisitions. As multinational companies integrate acquired IP, they may elect to transfer the economic ownership of certain acquired intangibles within the controlled group for a host of reasons, including supply chain optimization, improved tax efficiency, the simplification of intercompany transactions, and the facilitation of research and development/technology-sharing within the group.

These transactions involve a unique intersection of financial reporting and transfer pricing, and often raise the question: Can valuation analyses performed for financial reporting be used for transfer pricing purposes?

Rules governing the movement of intangible assets between legal entities within a controlled group fall under the various tax codes and regulations that govern the intercompany pricing of such transactions – most notably, Section 482 of the IRC and its corresponding regulations ("Section 482"). Meanwhile, valuation analyses performed for financial reporting purposes are subject to generally accepted accounting principles. As such, values determined within a transfer pricing framework may vary, sometimes significantly, from fair value measurements for financial reporting purposes.

The Internal Revenue Service ("IRS") addresses this issue in the Section 482 regulations with respect to Platform Contribution Transactions[1] ("PCT"), stating, "Allocations or other valuations done for accounting purposes may provide a useful starting point, but will not be conclusive for purposes of the best method analysis in evaluating the arm's length charge in a PCT, particularly where the accounting treatment of an asset is inconsistent with its economic value."[2] To understand the IRS's reluctance to accept valuations prepared for financial reporting purposes, it's important to understand the key differences in the frameworks underlying each type of analysis.

Pursuant to Accounting Standards Codification ("ASC") Topic 805, the cost of an acquired company should be assigned to the tangible and intangible assets acquired and liabilities assumed on the basis of the fair values at the acquisition date. Generally, the excess of the purchase price over the fair value of the net assets acquired (including identified intangibles) is recorded as goodwill. Under the financial reporting framework, an intangible asset can be valued and recognized separately from goodwill if it arises from contractual or other legal rights or can be separated/divided and sold, transferred, licensed, rented, or exchanged, either individually or with a related contract, asset, or liability. For financial reporting purposes, intangible assets may be amortized according to guidance delineated in the ASC regulations.

In a financial reporting context, entity-specific synergy cash flows are excluded from the fair value measurement of the recognized assets. Therefore, if the purchase price included any payment for entity-specific synergy value, this amount would become part of goodwill through the residual calculation. Goodwill may include such elements as the value of assembled workforce acquired, technology to-be-developed, and future customers.

1. *A PCT is a buy-in payment required for one cost-sharing participant to buy into another participant's existing intellectual property. The payment equals the arm's-length value of the contribution.*
2. *IRC Section 1.482-7(g)(2)vii(A).*

Under the transfer pricing framework, the economic value of intangible assets may be considered on a consolidated basis, including the value of various types of intangibles. Typically, in a transfer pricing context, intangibles are not separately identified from goodwill. This broader definition of compensable intangible assets under transfer pricing constructs generally produces values that are higher than those which would be indicated by valuations performed for financial reporting.

While business combinations often give rise to the need for valuations for transfer pricing purposes, the regulations indicate that the results of financial reporting valuations typically should not be relied upon in a transfer pricing context. As such, it is important to ensure these analyses are performed independently according to each set of regulations, while aligning the two efforts where necessary. Specifically, it is best practice to rely on similar, if not the same, underlying operating projections for the subject business(es) being valued, such as revenue growth rates and profit margins. Aligning these assumptions across the two analyses helps mitigate risk and produce cohesive, economically sensible results.

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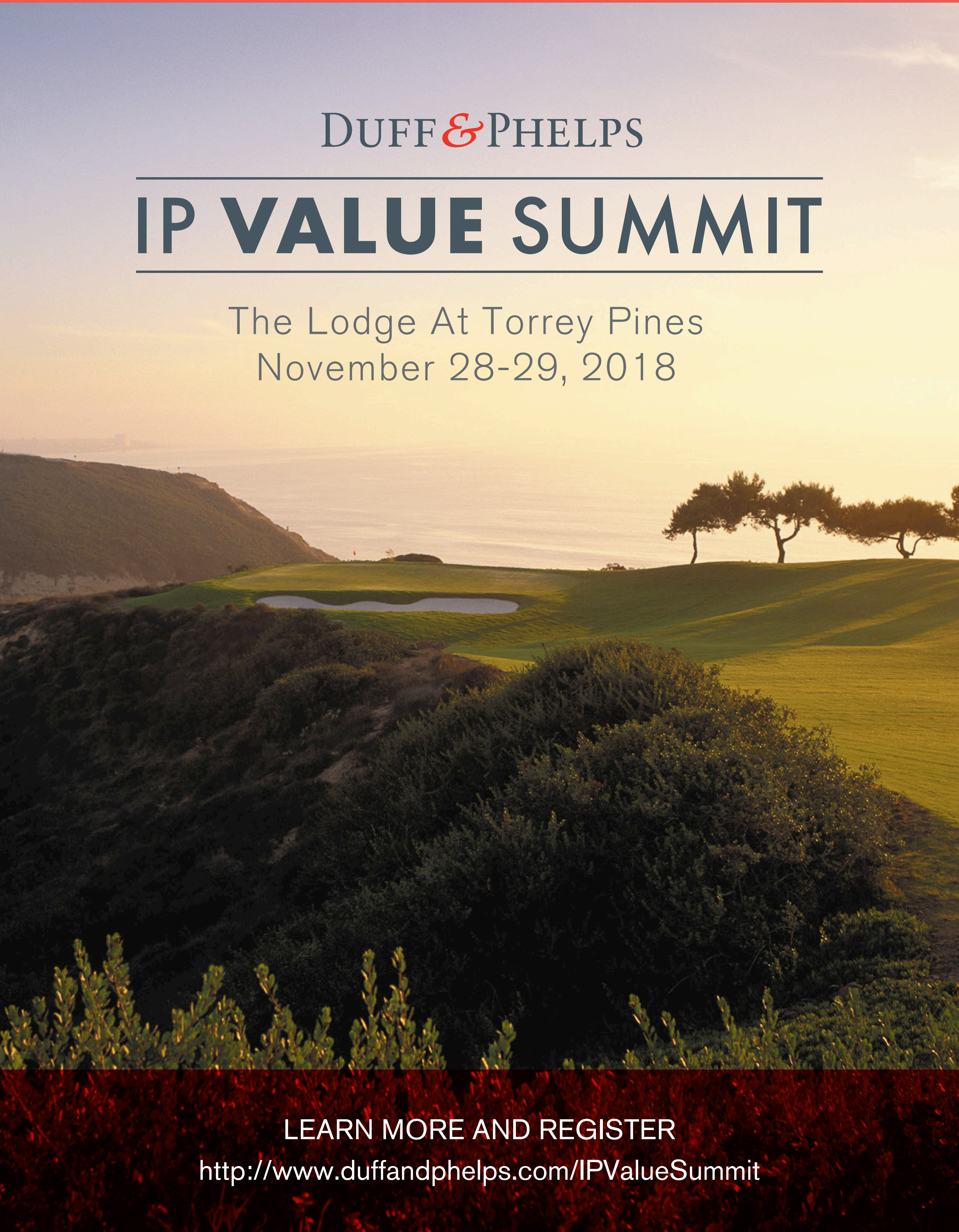

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North American Industry Market Multiples

AS OF SEPTEMBER 30, 2018

Industry	Market Value of Equity to Net Income		MVIC to EBIT		MVIC to EBITDA	
	U.S.	Canada	U.S.	Canada	U.S.	Canada
Energy	13.8	21.1	18.7	20.4	11.3	9.5
Energy Equipment & Services	18.8	17.9	20.5	17.5	11.5	9.0
Integrated Oil & Gas	17.3	—	—	—	—	—
Materials	15.3	11.4	15.4	12.9	10.1	7.2
Chemicals	21.0	18.7	16.2	15.3	11.9	10.0
Diversified Chemicals	—	—	—	—	8.8	—
Specialty Chemicals	24.3	—	17.4	—	12.9	—
Construction Materials	20.9	—	19.9	—	12.0	—
Metals & Mining	10.1	9.8	11.2	12.0	8.3	6.6
Paper & Forest Products	11.0	8.9	15.8	7.2	7.1	5.4
Industrials	19.7	16.1	18.1	15.7	12.5	10.4
Aerospace & Defense	23.5	19.9	19.0	22.9	14.3	12.8
Industrial Machinery	26.3	18.6	18.9	24.2	13.8	19.1
Commercial Services & Supplies	18.2	20.6	18.1	13.2	11.3	10.3
Road & Rail	10.9	—	18.6	—	9.6	14.5
Railroads	10.5	—	17.6	—	12.2	—
Consumer Discretionary	16.9	16.2	16.2	15.1	10.9	11.4
Auto Parts & Equipment	14.1	—	11.3	—	7.8	—
Automobile Manufacturers	—	—	—	—	—	—
Household Durables	12.9	—	11.7	—	10.2	—
Leisure Products	24.4	—	16.0	—	12.3	—
Textiles, Apparel & Luxury Goods	21.4	22.6	15.5	17.6	11.5	14.8
Restaurants	20.5	17.4	20.2	16.6	12.6	17.3
Broadcasting	4.4	—	12.7	—	9.6	8.9
Cable & Satellite	7.5	—	18.0	—	10.9	—
Publishing	24.8	—	19.1	6.6	10.4	—
Multiline Retail	13.1	—	13.4	—	8.3	—

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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
Consumer Staples	18.4	19.6	16.5	18.5	12.7	13.3
Beverages	30.7	24.9	25.5	40.3	21.8	18.1
Food Products	17.3	19.4	16.2	18.2	12.5	12.9
Household Products	22.7	—	16.5	—	13.4	—
Health Care	30.1	25.5	23.0	24.8	17.2	17.4
Health Care Equipment	51.7	—	31.1	—	23.1	—
Health Care Services	22.2	—	14.7	—	11.5	—
Biotechnology	25.0	16.8	17.5	—	16.3	—
Pharmaceuticals	11.1	78.1	19.7	61.8	13.9	32.2
Information Technology	28.2	24.7	25.3	24.7	17.9	23.8
Internet Software & Services	36.2	24.7	35.5	19.4	30.7	16.4
IT Services	24.0	—	22.3	22.8	15.3	22.2
Software	49.6	38.9	42.0	45.5	32.9	37.1
Technology Hardware & Equipment	23.3	19.5	20.6	17.2	15.1	14.6
Communications Equipment	26.2	31.8	26.1	22.8	18.6	19.4
Technology Hardware, Storage & Peripherals	14.4	—	19.6	—	13.2	—
Semiconductors	35.8	—	31.1	—	21.8	—
Telecommunication Services	13.1	—	24.4	—	8.3	9.1
Integrated Telecommunication Services	9.7	—	14.2	—	7.0	—
Wireless Telecommunication Services	15.7	—	35.7	—	7.7	—
Utilities	21.1	23.1	19.4	19.4	11.8	12.1
Electric Utilities	21.1	—	19.0	—	11.0	—
Gas Utilities	18.6	—	19.0	—	11.6	—

Industry	Market Value of Equity to Net Income		Market Value of Equity to Book Value	
	U.S.	Canada	U.S.	Canada
Financials	18.0	11.9	1.4	1.5
Banks	18.1	11.4	1.4	1.7
Investment Banking & Brokerage	21.7	—	2.1	1.0
Insurance	16.9	11.7	1.5	1.2

The Tax Cuts and Jobs Act ("TCJA"), which was enacted on December 22, 2017, had a significant one-time impact on the net income of many U.S. companies that was reported after that date. As a result, U.S. Net Income multiples may have been temporarily, but materially impacted by some of the provisions in the TCJA and, which might require specific-company adjustments not reflected in the multiples reported herein. 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 78 (U.S.), and 28 (Canada); the median number of companies in the calculation sample was 38 (U.S.), and 12 (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 or certain outliers). 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. Note that due to the exclusion of negative multiples from the analysis, the number of companies used in the computation of each of the three reported multiples across the same industry may differ, which may occasionally result in a counterintuitive relationship between those multiples (e.g. the MVIC-to-EBITDA multiple may exceed MVIC to EBIT).

European Industry Market Multiples

AS OF SEPTEMBER 30, 2018

Industry	Market Value of Equity to Net Income	MVIC to EBIT	MVIC to EBITDA
	Europe	Europe	Europe
Energy	13.0	19.2	9.8
Energy Equipment & Services	30.2	28.7	14.9
Integrated Oil & Gas	14.5	12.7	7.3
Materials	15.7	14.9	9.5
Chemicals	20.3	17.1	11.3
Diversified Chemicals	18.1	12.7	7.9
Specialty Chemicals	23.1	18.7	13.0
Construction Materials	14.1	15.5	9.6
Metals & Mining	10.6	11.3	7.2
Paper & Forest Products	16.8	16.7	10.5
Industrials	18.1	16.3	11.7
Aerospace & Defense	23.0	18.5	13.7
Industrial Machinery	21.6	16.4	12.4
Commercial Services & Supplies	20.1	17.2	11.3
Road & Rail	12.1	17.9	8.8
Railroads	13.3	19.0	9.7
Consumer Discretionary	17.2	15.5	10.7
Auto Parts & Equipment	12.0	11.5	7.9
Automobile Manufacturers	9.8	16.7	11.5
Household Durables	13.6	13.5	9.9
Leisure Products	23.6	17.8	14.4
Textiles, Apparel & Luxury Goods	18.8	17.1	12.3
Restaurants	19.9	14.9	11.2
Broadcasting	16.5	11.7	9.9
Cable & Satellite	28.3	21.9	7.7
Publishing	12.0	16.3	10.3
Multiline Retail	19.4	11.9	9.5

Industry	Market Value of Equity to Net Income	MVIC to EBIT	MVIC to EBITDA
	Europe	Europe	Europe
Consumer Staples	19.6	17.6	12.2
Beverages	22.7	19.6	13.9
Food Products	17.1	16.1	11.2
Household Products	19.4	18.3	12.4
Health Care	31.6	24.9	16.5
Health Care Equipment	33.3	26.9	20.6
Health Care Services	22.1	17.9	13.4
Biotechnology	33.5	26.3	24.3
Pharmaceuticals	20.3	21.1	14.8
Information Technology	23.6	19.8	15.5
Internet Software & Services	31.9	24.9	18.7
IT Services	22.9	17.4	14.5
Software	37.0	29.2	21.8
Technology Hardware & Equipment	19.8	16.8	12.7
Communications Equipment	24.9	20.8	15.4
Technology Hardware, Storage & Peripherals	19.4	17.0	11.8
Semiconductors	23.7	23.1	14.0
Telecommunication Services	20.5	18.6	9.9
Integrated Telecommunication Services	18.3	18.0	9.0
Wireless Telecommunication Services	24.0	16.5	7.5
Utilities	15.1	19.0	10.9
Electric Utilities	13.0	17.6	10.7
Gas Utilities	17.6	17.9	11.6

Industry	Market Value of Equity to Net Income	Market Value of Equity to Book Value
	Europe	Europe
Financials	12.3	1.1
Banks	9.5	0.7
Investment Banking & Brokerage	20.0	1.8
Insurance	13.1	1.2

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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 39. 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 or certain outliers). 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. Note that due to the exclusion of negative multiples from the analysis, the number of companies used in the computation of each of the three reported multiples across the same industry may differ, which may occasionally result in a counterintuitive relationship between those multiples (e.g. the MVIC-to-EBITDA multiple may exceed MVIC to EBIT).

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+ Industry Snapshot

The Cost of Capital Navigator "Resources" section will include a new "Industry Snapshot" which provides key industry-level data (e.g., industry-level cost of equity capital estimates, industry-level betas, industry-level valuation multiples, etc.) from the *Valuation Handbook – U.S. Industry Cost of Capital*, as of your valuation date for the industry that your subject company is in.

+ Excel Add-in

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+ Enhanced Reports

In 2019, the Cost of Capital Navigator introduces new "Enhanced Reports" that provide robust and comprehensive documentation of the user's cost of capital assumptions, sources, analysis, and results. The enhanced reports will be available as an export to PDF and Excel.

+ Estimate WACC

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New York

NOVEMBER 28-29

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DECEMBER 6

Cost of Capital Navigator - New Enhancements

Webcast

DECEMBER 10-12

AICPA Conference on Current SEC and PCAOB Developments

Washington, D.C.

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