TOP-LINE WATCH: INVESTOR CONSIDERATIONS IN RUN-UP TO 2018

Long-Term Contract Revenue Recognition Changes

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It is approximately 18 months to 2018. And the clock ticks away towards a new world where there could be potentially significant revenue recognition changes due to the revised International Accounting Standards Board (IASB) and US Financial Accounting Standards Board (FASB) guidance, which will be effective from 2018. Pronounced changes in the amount and timing of revenue recognized could arise for companies whose business models depend on long-term customer contracts (e.g., engineering, aerospace, defense, infrastructure, and real estate development).

This paper highlights key areas within the revised guidance that could affect reporting outcomes for long-term contracts and need to be at the forefront of investors' attention. These areas include criteria for recognizing revenue over time in a fashion similar to the current percentage-of-completion (POC) method; significant financing components; additional cost recognition and disclosures requirements; and transition considerations.

This paper extends the analysis of our April white paper ("Watching the Top Line: Areas for Investor Scrutiny on Revenue Recognition Changes") that reviewed transition requirements, multiple deliverables within a contract, license revenue, gross versus net presentation of revenue, and customer credit risk. A further white paper will follow and will review uncertain revenue contract definition issues (e.g., modification), and presentation of revenue related lines on the financial statements.

1. BACKGROUND

"Complex, multi-dimensional, and heavily dependent on management judgments and estimates" is one way to sum up the requirements for recognizing revenue from long-term contracts under the recently issued and largely converged International Accounting Standards Board (IASB) and Financial Accounting Standards Board (FASB) revenue recognition guidance, International Financial Reporting Standard (IFRS) 15 and Accounting Standards Codification (ASC) Topic 606.[1] The issued guidance specifies new criteria for recognizing revenue over time (i.e., as construction or production of the asset occurs); outlines incremental contract cost recognition requirements (i.e., costs to obtain and fulfill contracts) that complement existing cost recognition requirements; and adds disclosure requirements that aim to provide granular revenue information to a greater extent than current reporting.

In the run-up to the adoption of these new revenue recognition requirements, it is appropriate and necessary to unpack the areas of key impact and understand the implications for investors' financial analysis. SEC Deputy Chief Accountant Wesley Brixley, through a May 2016 speech[2], emphasized the importance of revenue for investors and pointed to the need for companies to convey anticipated impacts of the revised guidance to investors.

Another reason for monitoring long-term contract revenue recognition requirements is the inherent risk of misreporting associated with revenue from such contracts. The UK Financial Reporting Council (FRC) in its 2015 review of UK corporates flagged the percentage-of-completion (POC) method—often applied in recognizing revenue over time for long-term contracts—as an area of concern. Examples abound highlighting POC-method associated reporting risk and its effects on aggregated performance measures, including the following:

- Toshiba's 2015 internal corporate governance review revealed that the company overstated its profits by $1.9 billion over a seven-year reporting period. This overstatement occurred in large part because the POC method was misapplied in accounting for revenue from Toshiba's infrastructure projects.[3]
- In October 2015, media coverage reported that[4] Boeing was allegedly under SEC investigation for potential misapplication of the program cost accounting method—an approach that results in smoother margins and front-loaded profitability relative to the unit cost accounting method.[5]
- An audit analytics blog post (Pakaluk 2016) highlights EPS sensitivity to changes in POC-related estimates for a selection of US defense contractors (see Table 1).

[1]The IASB and FASB first issued this guidance in 2014, and both standard setters have since had clarification guidance.
[2]https://www.sec.gov/news/speech/speech-bricker-05-05-16.html
[3]http://ww2.cfo.com/financial-reporting-2/2015/09/accounting-rife-estimates-haunted-toshiba/
[4]http://247wallst.com/aerospace-defense/2016/02/11/sec-said-to-question-boeing-accounting-method-shares-dive-10/
[5]Unit cost accounting expenses contract costs as incurred. In contrast, the program accounting method takes more of a contract life-cycle (income–expense matching) approach—for instance, a contract for the entire 747 aircraft production program.

TABLE 1. IMPACT OF CHANGES IN CONTRACT ESTIMATES: SELECT COMPANIES

Company	Year End	Impact on Income (thousands)	Impact on EPS
United Technologies	12/31/2015	115,000	0.31*
Raytheon	12/31/2015	371,000	0.79
Boeing	12/31/2015	(224,000)	(0.23)
General Dynamics	12/31/2015	222,000	0.44
Northrop Grumman	12/31/2015	580,000	1.97
Computer Sciences	4/3/2015	72,000	0.29
Textron	12/31/2014	95,000	0.21
Lockheed Martin	12/31/2014	1,800,000	3.55
L3 Communications	12/31/2014	66,000	0.75*
KBR	12/31/2014	(173,000)	1.18*

Source: AuditAnalytics.com

Note: Data comes from the most recent annual filing available as of 16 February 2016.
*Calculated

The risk of misreporting under the POC method arises because this approach depends heavily on management judgments and estimates (e.g., estimated project completion costs) as the basis of recognizing revenue and gross profit. The new IASB and FASB requirements for recognizing revenue over time for long-term contracts also depend heavily on management estimates and judgments. Therefore, it is reasonable to expect that revenue recognition will continue to be subject to misreporting risk.

2. CURRENT REPORTING OF REVENUE FROM LONG-TERM CONTRACTS

Under current US GAAP requirements, companies account for long-term contracts by applying either the POC or completed contract methods. IFRS requirements also allow the POC method but do not permit the completed contract method. Instead, the recovery cost method is applied when the outcome cannot be estimated reliably and contracts are ineligible for POC accounting. US GAAP requirements for the POC method (i.e., recognizing revenue over time) generally tend to be more restrictive than those of IFRS (Shamrock, 2012).

Before reviewing the newly issued US GAAP and IFRS requirements, it is helpful to profile the financial statements–based revenue information from a sample of companies with long-term contracts. The analysis is done on both revenue-related metrics and disclosures.

Common Financial Statements Ratios Are Useful but Have Limited Insights

The analysis of revenue-related ratios is based on information from a sample of 10 European-domiciled IFRS reporting companies in the aerospace, engineering, and building construction fields. Table 2 outlines each company's business model profile.

The revenue-related metrics assessed for an eight-year reporting period (2008 through 2015) are year-on-year revenue growth rate, gross margin, operating margin, and cash conversion.

TABLE 2. PROFILE OF A SAMPLE OF IFRS REPORTING COMPANIES WITH LONG-TERM CONTRACTS

Company	Business Model and Long-Term Contracts Profile
Airbus Group (EADS)	Airline manufacturer. Construction contract revenue was 13% of total revenue in 2014.
Alstom	Develops and markets the most complete range of systems, equipment, and services in the railway sector. Has 2.5(3.9) billion euros in construction contract assets as at 31 March 2015 (2014).
BAE Systems	Defense, security, and aerospace multinational company, with 56% of total revenue consisting of long-term contracts.
Balfour Beatty	Infrastructure and building construction company. Contract revenue was 85% of total revenue in 2014.
Bouygues	Diversified group with a focus on construction and telecom/media, with significant interest in Alstom. Construction business constitutes 80% of total revenue.
GKN	Original equipment manufacturer for the aerospace and automotive sectors. The auditor report observes that only a small portion of revenue is from complex contract arrangements involving: (1) unbundling of complex contracts and multiple element arrangements and (2) risk and revenue sharing partnerships in GKN aerospace where GKN is entitled to revenue per completed contract.
Meggitt	Original equipment manufacturer for the aerospace, defense, and energy markets. Contract revenue is only 6.3% (6.7%) of 2015 (2014) total revenue. The notes to the financial statements disclosures state that long-term contract accounting is applied in its energy business.
Rolls-Royce	Global provider of high-performance integrated power systems and services for use in the air, on land, and at sea. Original equipment manufacturer and aftermarket services provider for aerospace, nuclear, land, and sea transportation. Aftermarket services (47% of revenues in 2014) are recognized on a POC basis.
Safran	International high-technology supplier in aerospace, defense, and security. It derives revenue from original equipment and aftermarket service sales. Service contracts (including design sales contracts, installed base maintenance, and support contracts) are currently accounted for on a POC basis.
Vinci	Global player in the concessions and construction sector involved in design, finance, build, and operating infrastructure. Its long-term contracts are concession arrangements consisting of revenue from both asset construction as well as operations and maintenance.

As Tables 3 through 6 illustrate, variation in these key ratios among the reviewed companies can be explained by variation in specific industry and business model features (e.g., product diversity, revenue mix, cost profile, competitor profile, pricing power and length of customer contracts) as well as by the effect of macroeconomic factors (e.g., currency exchange rates and commodity prices) on customer demand and input costs. It is also likely, however, that differences in accounting policy choices (revenue and cost recognition) are affecting the reflected margin differences.

Some specific comments on these ratios follow:

- *Revenue growth rate (Table 3):* There is need for caution in any interpretation of the consolidated revenues growth rate. The highlighted year-on-year revenue growth rates do not distinguish between revenue changes that may have occurred because of either acquisition or divestiture activities and those that resulted from organic growth of businesses.

- *Gross margin (Table 4):* Differences in gross margin among companies can reflect reporting companies' relative pricing power, ability to pass through input costs, and cost efficiencies. Margins are also affected by the relative impact of exogenous economic environment factors. For example, Balfour Beatty's margins display a cyclical pattern that reflects the construction business's sensitivity to cyclical changes in economic environment. Beyond these real economic factors, gross margin differences could also reflect variation in revenue and cost recognition principles among reporting companies.

- *Operating margin (Table 5):* Operating margin reflects a more complete profile of costs than gross margin. That said, as with gross margin, comparing operating margins among companies presents challenges because of potentially different revenue and cost recognition methods. These challenges are exacerbated by inconsistencies in how companies define operating profit.

- *Cash conversion (Table 6):* The cash conversion ratio (Cash flow from operations/Operating income) provides a headline indicator of a company's cash flow realization patterns. This ratio is expected to be correlated with the conversion of recognized revenue to cash. Like other ratios, cash conversion is

TABLE 3. YEAR-ON-YEAR REVENUE GROWTH RATE

Year	Airbus	Alstom	BAE	Balfour	Bouygues	GKN	Megitt	Rolls-Royce	Safran	Vinci
2009	–1.0%	10.8%	19.2%	–0.1%	–3.4%	–3.5%	–1.0%	14.7%	2.7%	–9.4%
2010	6.8%	4.9%	1.3%	11.9%	–0.4%	20.4%	1.0%	6.4%	4.4%	8.6%
2011	7.4%	6.5%	–14.0%	2.8%	4.7%	13.0%	25.2%	0.4%	5.7%	10.7%
2012	15.0%	–4.7%	–6.5%	–0.1%	2.6%	13.3%	10.4%	9.3%	16.8%	4.5%
2013	1.9%	1.7%	1.5%	–21.0%	–0.6%	9.6%	1.9%	27.6%	4.0%	4.4%
2014	5.5%	–71.7%	–8.5%	–3.0%	–0.6%	–2.2%	–5.1%	–11.5%	6.3%	–4.1%
2015	6.2%	7.6%	7.6%	–4.3%	–2.1%	3.6%	6.0%	–0.1%	20.3%	–0.5%
7-year average	**6.0%**	**–6.4%**	**0.1%**	**–2.0%**	**0.0%**	**7.7%**	**5.5%**	**6.7%**	**8.6%**	**2.0%**
Max-Min	**16.0%**	**82.6%**	**33.2%**	**32.9%**	**8.2%**	**23.9%**	**30.3%**	**39.0%**	**17.6%**	**20.1%**

TABLE 4. GROSS MARGIN

Year	Airbus	Alstom	Balfour	Megitt	Rolls-Royce
2008	17.0%	18.6%	7.7%	45.1%	19.9%
2009	10.4%	18.8%	9.5%	42.9%	20.3%
2010	13.6%	18.7%	12.0%	44.9%	19.8%
2011	13.9%	19.0%	12.0%	42.3%	22.0%
2012	14.0%	19.0%	11.1%	42.2%	22.4%
2013	13.8%	19.5%	5.8%	40.1%	21.4%
2014	14.7%	16.1%	1.8%	39.8%	23.3%
2015	13.7%	15.0%	2.3%	39.5%	23.8%
8-year average	**13.9%**	**18.1%**	**7.7%**	**42.1%**	**21.6%**
Max-Min	**6.6%**	**4.4%**	**10.2%**	**5.7%**	**3.9%**

Note: BAE, Bouygues, GKN, Safran, and Vinci did not report gross margin.

TABLE 5. OPERATING MARGIN

Year	Airbus	Alstom	BAE	Balfour	Bouygues	GKN	Megitt	Rolls-Royce	Safran	Vinci
2008	6.4%	7.2%	9.2%	2.2%	6.8%	–2.0%	14.8%	9.5%	6.0%	9.7%
2009	–0.9%	7.7%	3.5%	2.6%	5.9%	0.9%	20.2%	11.3%	5.6%	10.1%
2010	2.6%	8.3%	6.6%	1.6%	5.7%	7.6%	18.9%	10.2%	8.5%	10.3%
2011	3.3%	3.7%	7.6%	1.8%	5.7%	6.5%	18.1%	10.7%	7.2%	9.7%
2012	3.7%	5.4%	8.5%	–0.2%	3.3%	9.6%	20.0%	17.1%	8.7%	9.5%
2013	4.5%	5.9%	3.8%	–0.4%	3.8%	7.8%	18.3%	12.1%	10.4%	9.3%
2014	6.6%	4.7%	7.3%	–4.6%	3.4%	4.1%	15.2%	10.1%	9.3%	11.0%
2015	6.3%	5.2%	7.8%	–3.2%	2.1%	4.5%	14.4%	10.9%	11.5%	9.6%
8-year average	**4.1%**	**6.0%**	**6.8%**	**0.0%**	**4.6%**	**4.9%**	**17.5%**	**11.5%**	**8.4%**	**9.9%**
Max-Min	**7.5%**	**4.6%**	**5.7%**	**7.2%**	**4.7%**	**11.6%**	**5.9%**	**7.6%**	**5.8%**	**1.6%**

subject to the limits of its inputs. For example, operating cash flow sub-total presented under the usually reported indirect cash flow statement might not fairly reflect the patterns of actual cash collected customers. The indirect cash flow statement does not present cash collections from customers.

Despite financial ratios providing some useful headline indicators of performance for different companies, there is a limit to the extent to which they can fully contextualize and impart comprehensive insights on what drives reported revenue and profitability. Because of complex business models, there is often a lot more underlying the reported revenue, gross margin and cash flow realization patterns than headline financial ratio analysis can reveal.

TABLE 6. CASH CONVERSION

Year	Airbus	Alstom	BAE	BB	Bouygues	GKN	Megitt	Rolls-Royce	Safran	Vinci
2008	1.6	1.7	1.2	1.7	1.5	(4.3)	1.6	1.2	1.2	1.7
2009	(6.4)	1.5	2.9	1.4	2.1	7.9	1.4	0.7	2.4	1.5
2010	3.7	0.5	1.0	1.1	1.8	0.3	1.4	1.2	1.6	1.5
2011	2.7	0.3	0.7	0.2	1.8	1.4	1.4	1.1	1.5	1.5
2012	2.3	0.2	1.6	9.5	2.5	0.9	1.2	0.6	1.4	1.5
2013	1.6	0.9	0.3	4.9	2.0	1.5	1.2	1.1	1.4	1.5
2014	1.4	2.3	0.8	1.1	2.0	2.8	1.5	0.9	1.7	1.3
2015	1.1	1.0	0.7	0.6	3.4	3.0	1.7	0.7	1.3	1.5
8-year average	**1.0**	**1.0**	**1.1**	**2.6**	**2.1**	**1.7**	**1.4**	**0.9**	**1.6**	**1.5**
Max-Min	**10.2**	**2.1**	**2.6**	**9.3**	**1.9**	**12.3**	**0.6**	**0.6**	**1.2**	**0.4**

Contextualizing the underlying economic as well as recognition and measurement characteristics of reported revenue streams depends on high-quality disclosures, including information on order backlogs. As discussed in the following section, the disclosures within financial statements tend to be inadequate.

Currently Reported Revenue Disclosures Need Enhancement

A review of the 2014 revenue disclosures for the aforementioned sample of 10 European aerospace, engineering, and building construction IFRS reporting companies highlights the current state of disclosures that companies. The following is observed with respect to the current state of revenue disclosures:

- *Fragmentary:* Revenue-related information is fragmented, spread across the financial statement notes as well as the auditor, audit committee, and management reports. Some useful information nuggets appeared in the management reports, audit committee reports, and UK auditor reports. Some examples of useful revenue-related disclosures outside the financial statements follow:
  - The auditor report for Balfour Beatty, a UK infrastructure and building construction company, highlighted the risk of misstatement with respect to underperforming contracts, noting that the company incurred £317 million of losses in 2014.
  - Balfour Beatty's strategic report contained useful commentary related to its contracts profile, including loss contracts, order book by business model (i.e., construction services, support services, and infrastructure investments), and infrastructure portfolio valuation.
  - Alstom's management report contained order backlog and orders received information.

It is also notable that through investor presentations, these companies (e.g., Rolls-Royce) tend to communicate detailed contract information relevant for revenue recognition. There was no disclosure of similar information within the main financial statements, however.

- *Inadequate disaggregation:* Within the notes to the accounts, quantitative information was usually presented only within the segment disclosures. The information presented in the segment disclosures, however, usually lacked the level of granularity that comprehensively conveys economics characteristics and risk of revenue (e.g., disaggregation of revenue by nature/type, contract duration). The proportion of revenue accounted for through POC was clear in only 5 of the 10 companies.
- *Generic/boilerplate:* Revenue recognition is identified as a critical accounting policy in most cases, but the reviewed companies often provided only boilerplate descriptions, bereft of any entity-specific insights.
- *Inadequate disclosure of POC methods:* Disclosure on the methods applied for POC accounting is often inadequate. The few exceptions across the sample of ten companies reviewed included Airbus, which disclosed its application of the cost-to-cost POC method, and Alstom, which disclosed its application of the POC milestone method.
- *Poor contracts cost–related disclosures:* There is poor disclosure on cost recognition methods and the concomitant effect on reported margins.
- *Inadequate contracts profile disclosures:* Contract-related information, including information related to loss contracts, is generally inadequate.
- *Limited disclosures that inform on cash flow versus revenue relationship:* A few companies such as Bouygues and Alstom had disclosures indicating whether they were under- or over-billed, but there were hardly any disclosures that portrayed the relationship between the *timing of cash* and revenue.

Mulford and Austin's (2015) findings, shown in Table 7, also portray a similar picture of inadequate US company disclosures related to contract accounting, using a sample of 16 aerospace defense companies. The study found the following:

- Only 7 of 16 companies disclosed POC-related percentage of revenue.
- Only 8 of 16 separately reported advances or customer advances.
- For 7 of 16, it was unclear whether the company over-billed or under-billed on its contracts.
- Only 5 of 16 disclosed timing of revenue recognition versus cash receipt.
- Only 9 of 16 mentioned POC or contract accounting in the risk factors section.

TABLE 7. DISCLOSURES AND REPORTING METHODS FOR POC ACCOUNTING, FISCAL YEAR 2013

Company	POC % of Revenue[b]	Advances Listed[c]	Billing Position[d]	Timing Disclosure[e]	Disclosed as Risk Factor?[f]
AAR Corp	ND[a]	no	unknown	no	no
Alliant Techsystems	61%	no	under	no	yes
Astronics	1.29%	no	unknown	no	no
B/E Aerospace Inc.	16%	no	unknown	no	no
Boeing	ND	no	unknown	yes	yes
General Dynamics	ND	yes	under	yes	yes
Helico	1%	yes	under	no	no
Lockheed Martin Corp	ND	yes	under	no	yes
MOOG Inc.	34%	yes	under	no	yes
Northrop Grumman	ND	yes	under	yes	yes
Raytheon Co.	ND	yes	under	no	yes
Rockwell Collins	20%	yes	under	yes	no
Spirit Aerosystems	ND	no	unknown	no	yes
Textron Inc.	30%	no	unknown	no	no
Triumph Group	ND	no	unknown	no	yes
United Technologies	ND	yes	under	yes	no

[a]ND = not disclosed.
[b]POC % of Revenue: This column shows the percentage of revenues derived from POC accounting.
[c]Advances Listed: Did the company separately report the amount of progress payments or customer advances?
[d]Billing Position: Is the company over-billed on its contracts or under-billed on its contracts?
[e]Timing Disclosure: Does the company disclose the timing of revenue recognition versus cash receipt?
[f]Disclosed as risk factor?: Does the company mention POC or contract accounting in its risk factors section?

Source: Form 10-K annual reports to the Securities and Exchange Commission.

3. NEW IFRS AND US GAAP REQUIREMENTS RELEVANT FOR LONG-TERM CONTRACTS

Different aspects of the new IFRS and US GAAP guidance are relevant for companies with long-term contracts. The following subsections address these aspects.

3.1. Revenue Recognition over Time versus at a Point in Time

3.1.1. Recognizing Revenue over Time

Despite the earlier observed risk of misreporting resulting from the POC method, many investors support its use. In contrast to the completed contract method, the POC method avoids a potentially misleading deferral of revenue from long-term contracts. Consequently, many investors have queried whether the POC method will still be allowed under the new guidance. The answer tends to be, "sort of." Although the new guidance allows recognition of revenue over time, similar to the POC method, the guide rails for such an approach have changed.

The revised guidance (step five[6]: recognize revenue when performance obligations are satisfied) requires revenue to be recognized over time if any one of the following three conditions is met:

1. There is simultaneity of production and consumption;

2. The customer maintains control of the asset as the entity creates or enhances the asset; or

3. The entity's performance creates an asset where there is no alternative use to the entity of asset created; and entitlement to payment exists for proportion of performance that has been completed.

In essence, the foregoing rather technical language in the IFRS and US GAAP standards translates to revenue being recognized over time if it relates to any of the following:

- *Services:* Services that are delivered over time and require no re-performance.

- *General "work in progress" assets controlled by the customer:* A work-in-progress asset that is not built to order and is controlled by customer during production. For example, if a residential real estate developer in some jurisdictions[7] is building a number of units for a designated customer and is eligible for payment for completed units, then completion of each unit would warrant revenue recognition.

- *Specialized goods that are built to order:* Building a specialized asset that only the customer can use, or building an asset to a customer order. For specialized goods, there is an assessment if there is alternative use of assets and if the seller is entitled at all times to customer payment for performance to date including margin (i.e., not only entitled to cost recovery).

The new guidance allows companies to recognize revenue over time using either input methods based on the seller's production efforts (Cost to cost, Labor hours, and Machine hours) or output methods based on pattern of delivery of economic value to the customer (e.g., Survey, Milestones reached, and Units delivered).

[6] The newly issued revenue recognition guidance is often described as a "five-step model": (1) Identify the contract. (2) Identify separate performance obligations. (3) Determine the transaction price. (4) Allocate the transaction price. (5) Recognize revenue as (or when) the performance obligations are satisfied.

[7] That said, one cannot generalize the eligibility for revenue recognition over time for real estate, as it will be crucially dependent on the contract terms and also local property laws, which are highly jurisdiction specific.

Financial Analysis Considerations—Revenue over Time

It will likely be hard for investors to readily discern whether the new criteria will be either more or less restrictive than the current POC method in permitting revenue recognition to occur during the production or construction of assets under long-term contracts. A couple of observations follow:

- *Some companies may have accelerated revenue recognition:* Industrial product manufacturers contracted to produce customized, homogenous products may be eligible to recognize revenue over time during the production periods, because they may be producing goods that have no alternative use and be entitled to a profit margin for completed goods if their customers cancel the contract. This treatment reflects a change from current guidance, in which such produced goods would likely be recognized as inventory. In this respect, the new guidance could accelerate revenue recognition for the aforementioned industrial product manufacturers.
- *Potential effect on margins:* If companies elect to use them, input methods may result in smoother period-to-period margins relative to output methods. This result would occur simply because companies may have greater discretion in how they apply input methods estimates (e.g., cost estimates) than they have with those derived from output methods (e.g., customer surveys of performance to date).

3.1.2. Recognizing Revenue at a Point in Time

If revenue is not recognized over time (e.g., during production or construction of an asset), it shall then be recognized at a point in time (e.g., after completing production). Prior to recognizing revenue from a good or service at a point in time, however, reporting entities will still need to ascertain whether transfer of control of goods and services to customer has occurred. Indicators of transfer of control at a point in time include customer physical possession, customer acceptance, legal ownership, present right to payments, and risks and rewards of ownership

3.2. Multiple Elements within Long-Term Contracts

The issues pertaining to contracts with multiple deliverables (e.g., application of estimated selling prices; allocating transaction price across different deliverables), discussed in Papa (2016) with respect to the software industry, are also relevant for many companies with production-type or construction-type long-term contracts.

Rolls-Royce provides a good example of the complex judgments involving multiple elements that can be at play for companies with long-term contracts. Its revenues in 2014 consisted of 53% original equipment sales and 47% aftermarket services. A 2014 presentation[8] by Rolls-Royce management highlighted that it has a subset of original equipment contracts that are bundled with after-market services (i.e., linked total care contracts) and that the accounting for these bundled contracts results in equalization of the margin percentage across the original equipment sales and after-market services. Another company analyzed in this paper, Safran, also has significant after-market services.

[8]www.rolls-royce.com/~/media/Files/R/Rolls-Royce/documents/investors/results/presentations-and-briefings/2014-investor-briefing-totalcare-accounting-mark-morris-tcm92-57736.pdf

Financial Analysis Considerations: Contracts with Multiple Elements

- *Changes in business practice:* Investors need to be alert to changes in companies' business practices (e.g., pricing structures) and types of customer contracts. For example, such changes may occur for original equipment manufacturers that also have after-market services.

- *Effects on gross margins:* If companies choose to either bundle or unbundle particular products or services within newly structured or renegotiated customer contracts, it may affect reported product margin and aggregated gross margin profiles.

3.3. Significant Financing Components

Significant financing components with requirements to recognize interest expense (income) can arise if customers pay in advance (or after delivery) of goods and services. Recognizing a financing component can be relevant for long-term contracts and is required under the following conditions after taking into account the prevailing interest rate:

- There is a significant period between transfer of goods or services and payment (12 months or more as a rule of thumb).

- The cash price differs significantly from the transaction price prevailing at time of transfer of good or services to the customer.

However, a significant financing component within customer contracts is not recognized for the following situations: a) customer advances where the transfer of goods or services is at discretion of customer (prepaid phone card); b) uncertain customer consideration (e.g. sales-based royalty); c) customer advances for reasons other than provision of finance (e.g. customer deposit that protects from counterparty not completing its obligations under the contract).

Financial Analysis Considerations: Contracts with Significant Financing Components

- *Possible effect on comparable reporting:* The guidance on significance financing components may lessen the diversity in practice that is prevalent in today's reporting[9] and may improve comparability of this aspect of reporting across companies. A significant amount of management judgment is still required, however, about whether there is and on the quantification of significant financing component within customer contracts. For example, a judgment is required on appropriate interest rate of either the seller or customer depending on who is deemed to be receiving financing and after taking into account prevailing interest rates. Therefore, there may still be some diversity in this aspect of reporting by companies with similar long-term customer contracts.

- *Effect on headline performance measures:* If companies change their treatment of the significant financing component of revenue relative to what they do today, then headline performance measures (e.g.,

[9]Current IFRS requirements are silent on the need to recognize interest expense for customer payments that are received in advance. Under US GAAP, customer advances (e.g. deposits or progress payments on construction contracts, advance payments for resources and raw materials, and advances to encourage exploration in extractive industries) are excluded from requirement to impute interest (KPMG, 2014).

revenue, gross margin, and EBITDA) will be affected. For example, if a reporting company receives customer payments in advance and in amounts lower than the transaction price prevailing at the time of transfer of goods and services to the customer, then on receipt of customer advances, such a company will be required to recognize an interest expense and record a corresponding contract liability (i.e., Debit: Interest Expense; Credit: Contract Liability). When the company transfers the goods or services to the customer, then the company records revenue and reduces the earlier recorded contract liability (i.e. Debit: Contract Liability; Credit: Revenue). In effect, if companies do not recognize the significant financing component of customer advances under current reporting and now have to recognize interest expense, they will end up recognizing higher amount of revenues than the actual cash received. In turn, this situation will result in increases in their headline reported revenue, gross margin, and EBITDA.

Conversely, companies that receive customer payments at a much later date and at an amount greater than the transaction price prevailing at the time of transfer of goods or services to customers, will have to split the monies received from customers into revenue and interest income companies.[10] For companies that do not currently recognize significant financing component for deferred customer payments under current reporting, the new guidance will lead to reduced headline revenue and gross margins.

- *Non-cash interest expense:* The interest expense from advance customer payments is effectively a non-cash expense because the company does not pay out cash for incurring the interest expense; it simply forgoes potential cash receipts from customers.

3.4. Contract Cost Recognition

The above sections have addressed different aspects of contract revenue recognition. But long-term contract accounting is also about costs. Contract cost recognition affects depicted margins, and companies may try to apply cost recognition methods in a manner that smoothens period-to-period margins or even cross-subsidizes distinct goods or services.

Existing guidance has resulted in much diversity in cost recognition reporting practices, making it challenging for investors to compare reporting outcomes across different companies. The diversity in accounting approaches across companies is compounded by the limited transparency of the specific contract cost recognition approaches that companies adopt.

The new guidance aims to reduce the current diversity of practice and is meant to be applied only if other cost guidance (e.g., inventory; property, plant, and equipment; intangible assets) does not cover the related cost. In other words, the new guidance is meant to complement existing cost guidance, not substitute or override it.

3.4.1. Capitalization of Costs

Figure 1 depicts the additional contract cost recognition requirements, which specify when costs to obtain or fulfill a customer contract are to be recognized as an asset (i.e., capitalized). Companies do not have to capitalize these costs if they will be amortized within a year:

[10] An exception to this split will be companies where interest income is part of operating income streams (e.g., banks).

FIGURE 1. ADDITIONAL COST RECOGNITION REQUIREMENTS

COSTS OF OBTAINING A CONTRACT	COSTS OF FULFILLING A CONTRACT
Recognized as an asset if they are: ▪ incremental and ▪ expected to be recovered. *Practical Expedient:* May recognize as an expense when occurred if the amortization period is one year or less. *Example:* *Selling Commissions*	Recognized as an asset if they: ▪ relate directly to a contract; ▪ generation or enhance resources of the entity that will be used to satisfy performance obligations in the future; and ▪ are expected to be recovered. *Example:* *Pre-Contract or Setup Costs*

3.4.2. Amortization and Impairment of Costs

Costs to fulfill or obtain contracts that are recognized as assets may need to be systematically written off (amortized) or impaired as customer revenue is realized. A few observations on the accounting requirements:

- *Amortization guidance:* Amortization of capitalized costs will be guided by existing guidance relevant to particular types of costs (e.g., inventory; property, plant, and equipment; intangible assets). In other words, there is no new guidance for amortization.

- *Impairment guidance:* There is additional guidance[11] on the impairment of costs to obtain or fulfill contracts.

- *Contract renewals affect amortization horizon:* Preparer assessments of contract renewals will affect amortization and impairment horizons. Amortization and impairment will be required to occur over the expected contract duration rather than the legally specified contract duration.

- *US GAAP and IFRS differences:* There remains one key difference between IFRS and US GAAP: IFRS allows reversal of impairments, but US GAAP does not.

[11]A reporting company recognizes an impairment loss to the extent that the carrying amount of the asset exceeds the recoverable amount. The recoverable amount is defined as:

- The remaining expected amount of consideration to be received in exchange for goods or services to which the asset relates; less
- The costs that relate directly to providing those goods or services and that have not been recognized as expenses.

Financial Analysis Considerations: Cost Recognition

- *Remains challenging to compare cost recognition:* Even though the additional cost guidance is meant to lessen diversity in practice, it requires significant and possibly varied management judgment on specific capitalized costs, and amortization and impairment horizons. Hence, it may remain difficult to compare cost recognition across companies.

- *Question effect on margins and earnings cash conversion:* The incremental capitalization of costs and their subsequent amortization or impairment could result in greater matching between recognized contract costs and contract revenues and smoother period-to-period margins. Investors will need to pose the following questions in light of the revised guidance:

    - How are the economics of the business reflected by the combination of revenue and cost recognition practices? Understanding this dynamic will include an assessment of how industry/business model contractual arrangements and value chain characteristics (e.g., supply chain, production and sales cycle) affect revenue and cost profiles.

    - How are customer contract terms (e.g., renewals) affecting the amortization and impairment of costs? What is the sensitivity of periodic costs and margins to the contract renewal terms?

    - What is the relationship of gross and operating profitability compared with operating cash flow? Are these accrual based measures more (less) closely aligned with cash flows?

- *Need for investors to encourage management to provide robust disclosures:* There will be need for comprehensive and much better than current disclosures for investors to readily discern (a) whether and how cost recognition patterns may have changed for the individual companies that they monitor; and (b) how costs affect reported margins. Investors should engage management to ensure robust disclosures on companies cost recognition approaches.

3.5. Enhanced Disclosure Requirements

There is general acknowledgement that existing disclosures fail to adequately provide transparency around the economic and measurement characteristics of revenue from complex and long-term contracts. IFRS 15 and ASC Topic 606 aim to remedy this situation through the following mandated disclosures:

- Significant judgments and changes in judgments

- Disaggregation of revenue

- Changes in contract assets (contract assets are similar to unbilled receivables under existing guidance)

- Changes in contract liabilities (contract liabilities are similar to deferred revenue)

- Performance obligations (greater than one year)

US ASC Topic 606 requires public companies to provide these disclosures in both annual and interim reports. IFRS 15 requires these disclosures only for annual reports. The standard setters expect that these requirements will improve revenue disclosures.

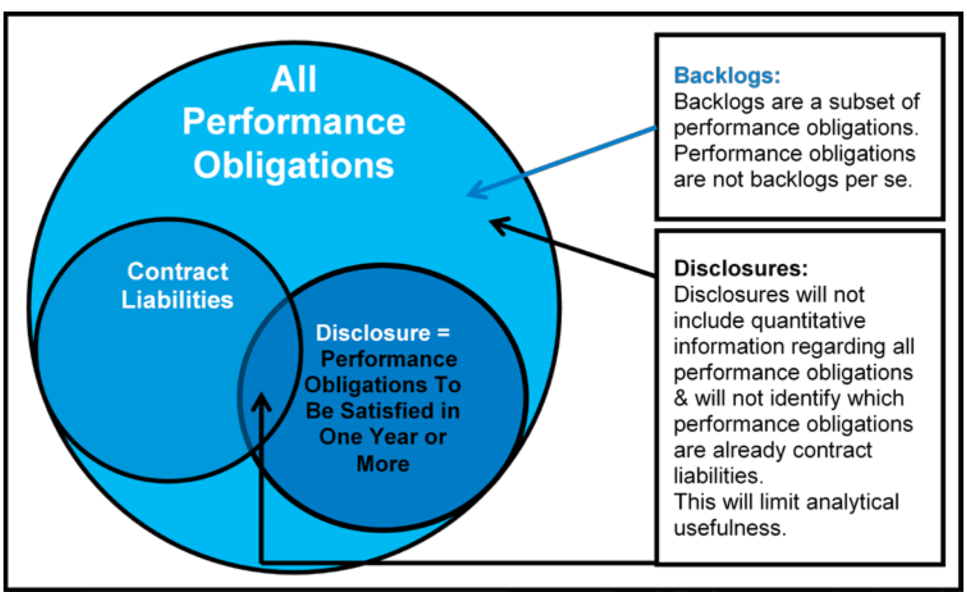
Investor Considerations: Disclosures

Through the revised requirements, the accounting standard setters have put the ball into the court for preparers to convey key judgments through the reported disclosures. That said, an unintended consequence may be that some companies could take a minimalist approach toward these disclosures. For instance, performance obligations that are to be satisfied in one year or more are a required disclosure. As shown in Figure 2, however, these mandated disclosures tell only part of the story of the future revenue potential. Companies may simply adhere to the bare minimum even where the business model warrants more-detailed disclosures (e.g., about the universe of performance obligations).

When analyzing revenue typical considerations revolve around the following:

- Amount, timing, and uncertainty of revenue from customer contracts;
- Margin profiles;
- Cash conversion of revenue; and
- Future revenue potential as inferred from order backlog, contract liabilities, and performance obligations.

FIGURE 2. PERFORMANCE OBLIGATIONS



The newly required disclosures may indeed inform on these important analytical parameters. However, in situations where they do not, investors ought to do the following:

- *Push management for informative disclosures within financial statements:* Investors may have a role to play in pushing company management for enhanced disclosure within financial statements, especially when management provides such contract-related information in other forums. There is a strong case to be made for including robust accompanying contextualizing disclosures of the most important financial statement line items within the financial statements. Relative to information reported in other channels, information reported within the financial statements is subject to a greater internal control environment during their generation and assurance by independent auditors.

- *Compare financial statement disclosures with other disclosures (e.g., non-GAAP disclosures of backlog):* If the trends are different or do not make sense, then investors should probe management about these differences.

3.6. Transition Requirements

As described in Papa (2016), the revised guidance allows several transition approaches that will make it challenging to compare trend data across companies for the periods prior to the adoption date.[12] One of the transition approaches is the cumulative catch-up transition approach and it will apply only to multi-year customer contracts that are open on the revised guidance effective date (1 January 2018). For this approach, the following implications may arise:

- *Possible revenue "bump-up" in year of adoption:* The new guidance has dispensed with the criteria of consideration being "fixed and determinable" prior to companies recognizing revenue. Instead, variable customer consideration within contracts should be estimated, subject to the constraint of it being probable that no significant reversal of revenue will occur in the future. Variable consideration can arise from price concessions, discounts, rebates, refunds, penalties, royalties, credits, and performance bonuses. Companies will have to greater latitude to estimate revenue from the variable consideration than they have under current standards and this could lead to accelerated revenue recognition. To the extent that any types of variable consideration are embedded within the open contracts on the effective date (1 January 2018), it could result in additional and accelerated revenue recognition relative to existing requirements. That said, any such "Day 1" revenue "bump-up" has to be interpreted cautiously as it will be a catch-up adjustment and may have limited predictive value for future revenue trends. Several years of reporting data will be required before investors can meaningfully discern the time-trends and patterns for a portfolio of contracts.

- *Possible capitalization of previously expensed costs:* Because of the new cost recognition requirements, companies with open contracts may need to capitalize (i.e., recognize on the balance sheet as an asset) costs incurred in the past[13] while either obtaining or fulfilling these open contracts. These costs may

[12] The revised guidance allows preparers to choose among providing retrospective transition (i.e., 2018 and all prior years presented for comparison in 2018 financial statements), retrospective transition with practical expedients, and cumulative catch-up transition (2018, no prior year, a cumulative catch-up in opening equity, and disclosure of what current-year revenue would have been under the old guidance).

[13] Capitalization normally occurs when costs are incurred and not several reporting periods later.

already have been fully expensed (written off) in the pre-2018 income statements. These "newly" capitalized costs will then be systematically written off (i.e., amortized) or impaired from 2018 onward. This situation could effectively result in double recognition of previously written-off costs (i.e., costs expensed in pre-2018 income statements could be expensed again from 2018 onwards).

3.7. Summing Up

This paper highlights a range of key issues and judgments associated with recognizing revenue for long-term contracts. It does not address topics such as the treatment of loss contracts (i.e., when anticipated costs over the contract life cycle exceed expected revenues) and contract definitions (e.g., modifications). We will address these topics in a follow up white paper.

As observed severally, high-quality disclosures will be critical for investors to discern the economic and measurement characteristics of reported revenue patterns. Disclosures should help investors decipher information risk as well as foster investors' understanding of the patterns of economic value creation and cash conversion of reported revenue. It will be vital for investors to press for relevant revenue disclosures presented in other forums (e.g., management reports or presentations) to be incorporated in the notes to the accounts.

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