REVENUE RECOGNITION CHANGES

Key Judgments and Implementation Progress

CFA Institute

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1. Executive Summary

1.1. Overview

Revenue is arguably the most important financial statement line item as it impacts the depicted profitability during any reporting period as well as informs investors on the potential for value creation of reporting entities. This white paper is the third in a series of investor-oriented publications issued since 2016[1] that highlight the analytical implications of key changes resulting from the forthcoming adoption of the revised revenue recognition requirements. The International Financial Reporting Standards (IFRS) and US GAAP revised revenue recognition requirements (IFRS 15 and Accounting Standards Codification [ASC] Topic 606) become effective at the beginning of 2018.

This paper provides a high-level review of the state of adoption (e.g., level of early adoption) and companies' disclosures of anticipated impacts and transition reporting choices. It also reviews the likely effects of key judgments related to uncertain revenue and contract definition.

1.2. Previously Reviewed Analytical Implications

Two previous investor-oriented publications (Papa 2016a, 2016b) reviewed some of the key judgments that will affect reported revenue, including determination of the distinct customer promises within contracts for multiple or bundled deliverables (e.g., for software, telecommunication, pharmaceutical, engineering, and construction companies), how the nature of licenses affects accounting choices, whether transfer of control of products sold to the customer has occurred in long-term customer contracts (e.g., for real estate, engineering, and construction companies) and how this affects revenue-reporting patterns (i.e., "point in time" versus "over time"), and identifying the "principal versus agent" as the basis of determining gross versus net presentation of revenue.

In the context of the five-step model,[2] Papa (2016a, 2016b) largely covered steps 2, 4, and 5 of the revised model, as well as cost recognition and disclosures, and emphasized the need for investors to pay attention to the following:

[1]The two papers are Papa, 2016a, "Watching the Top Line: Areas for Investor Scrutiny on Revenue Recognition Changes"; and Papa, 2016b, "Top Line Watch: Investor Considerations in Run-up to 2018."

[2]The revised revenue recognition approach primary revolves around promises and terms within customer contracts as the basis for determining revenue. The new model is sometimes described as a five-step model with its building blocks of five interdependent steps: (a) identify the contract, (b) identify separate performance obligations, (c) determine transaction price, (d) allocate transaction price, and (e) satisfy performance obligation.

- how customer contract features[3] and business models (e.g., subscription versus product sale in the software industry) could change to affect revenue-reporting patterns;
- the impact of contract cost recognition and consequent effect on gross margins;
- the monitoring of transition reporting and related disclosures; and
- the need to scrutinize and carefully interpret disclosures, particularly those that relate to future revenue (the required disclosure is only a subset of backlog disclosures).

Building on Papa's 2016 publications (2016a, 2016b), this white paper addresses some key judgments made in step 1 (identify the contract) and step 3 (estimate variable consideration while determining the transaction price).[4] The paper also outlines some of the realized or anticipated impacts that companies are communicating during this transition phase to adoption.

Another way to frame the analytical impacts being addressed through this and prior commentary is to think about the revenue-reporting risks that emanate from the earnings cycle as characterized by Wagenhofer (2014). Revenue-reporting risks can be characterized as follows: price risk (addressed by steps 1 and 3); quantity risk (addressed by steps 1, 3, and 5); accounting and estimation risk (addressed by steps 2, 3, 4, and 5); collectability risk (addressed by steps 1 and 3); and delivery and ownership risk (addressed by step 5).[5] These risks are integral to the faithful representation (i.e., telling it like it is) of reported revenue, and by extension, are relevant to the analysis of performance and value creation of reporting companies.

1.3. Summary of Issues

1.3.1. Implementation Progress and Related Disclosures

With approximately three months until the mandatory adoption of the revised requirements by public companies (i.e., 1 January 2018 for IFRS and 15 December 2017 for US

[3]Customer contract features (e.g., the mix of promised goods, services, and licenses within contracts; contract terms; the form, timing, and uncertainty of payment to be received from the customer; financing arrangements; terms that dictate whether or when the seller controls a good, service, or license) will determine the amount, timing, and uncertainty of revenue.

[4]There are other key aspects to determining transaction price, for example, determination of the time value of money and noncash considerations.

[5]I have slightly modified Wagenhofer's characterization as follows: "estimation and accounting risk" replaces his "accounting risk" category and "delivery and ownership risk" replaces his "delivery risk" category.

GAAP), this white paper highlights key issues and trends in the transition phase leading up to full adoption. Notably, many companies seem to be crawling to the starting line. Very few companies have been early adopters. At the same time, insightful numerical information on anticipated impacts from those that are yet to adopt is limited. For the most part, companies have or intend to apply the modified retrospective method.

To illustrate how significant the impact of the revised standards will be, this paper highlights the effects of the changes on select companies, including Microsoft and Rolls-Royce. These two companies are among the very few that have, through various platforms, meaningfully communicated about the impact of the changes (i.e., provided quantitative and narrative disclosures).

1.3.2. Key Judgments on Uncertain Revenue and Contract Definition

Building on the analysis of key judgments covered in Papa (2016a, 2016b), this paper also addresses two additional areas that could affect the amount, timing, and uncertainty of revenue, namely the following:

- *Uncertain revenue (i.e., including variable consideration)*: Examples of variable customer consideration include (a) an asset manager whose fee is based on fund performance exceeding a future period market benchmark; (b) a retailer that issues gift cards and is uncertain of the unredeemed sales (i.e., gift card breakage); and (c) a semiconductor manufacturer that distributes its products through third-party distributors and faces the risk of product obsolescence and related returns. Uncertain revenue resulting from variable customer consideration occurs across multiple industries and businesses, including a variety of manufacturers, retailers, e-tailers and other e-commerce firms, asset management firms, and intellectual property (IP)–intensive industries.

  The revised approach requires an estimate of variable consideration while determining the transaction price (step 3), which could contribute to accelerated revenue recognition than is the case under current guidance, particularly as the requirements toward recognizing uncertain portions of revenue will be less conservative.

  Estimating variable consideration necessitates predicting future events, and this can increase the risk of revenue misreporting. It is not surprising that sales with rights of return was one of the key issues addressed by recent SEC comment letters on revenues

(Deloitte 2016).[6] It is also one of the areas susceptible to real earnings management via "channel stuffing," which is the practice of shipping more goods to distributors and retailers along the distribution channel than end users are likely to buy in a reasonable time period. Furthermore, there have been numerous episodes of companies misreporting uncertain portions of revenue (e.g., Valeant, Ahold, and Tesco, as discussed further in this paper).

To illustrate some of the issues that could arise when estimating variable consideration, this paper reviews the effects of changes in accounting as they apply to sales with rights of return and unexercised customer rights (e.g., gift card breakage).

- *Contract definition*: The customer contract[7] is the primary unit of account for revenue recognition purposes. The contract, which is the basis for defining terms of exchange between sellers and customers and specifies their respective enforceable rights and obligations, needs to be applied by financial statement preparers as the basis for determining the expected consideration from customers, which in turn is an input for measuring the recognized revenue.

  This paper reviews companies' management-required judgment on the appropriate customer contract boundaries (e.g., whether to combine or modify by separating, terminating, and creating new contracts), which also will have implications for the amount and timing of reported revenue. For example, the British Engine manufacturer Rolls-Royce, in highlighting the impact of IFRS 15 on reporting of revenue, communicated that with the revised requirements, it will no longer be able to combine contracts from framers and airline operators, as it has done in the past through its linked total-care contracts. Correspondingly, this will limit Rolls-Royce's ability to bundle original equipment sales and after-market services as a single performance obligation and will affect the reported revenue patterns. This paper also highlights clauses within the contract that have an impact on the effective contract term applied during revenue recognition.

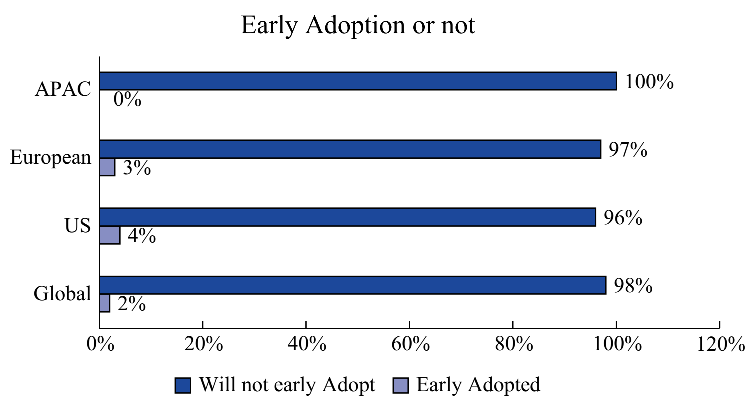
[6]There were 126 (211) SEC reviews with a comment on revenue recognition in 2016 (2015). Revenue recognition issues addressed in comment letters include (1) the completeness and consistency of disclosures about revenue recognition policies, (2) accounting for and disclosures related to sales returns, (3) accounting for multiple-element arrangements, (4) principal-versus-agent analysis (i.e., gross versus net reporting), and (5) revenue recognition for long-term construction- and production-type contracts.
[7]Step 1 of the revenue recognition model requires preparers to identify the contract with the customer as part of identifying the entity's specific promises of goods, services, or other deliverables to the customer, as well as to identify the customer consideration to which the seller entity is entitled.

2. Implementation Progress and Related Disclosures

2.1. Adoption Progress: Very Few Early Adopters

Figure 1 is excerpted from a May 2017 UBS research study by Robinson and Weyns (2017) on Topic 606 (IFRS 15). The study reviewed the state of revenue reporting by the 300 largest global companies. Robinson and Weyns's (2017) analysis shows that at a global aggregated level, very few companies have been early adopters of the revised requirements.

Figure 1. Timing of Adoption



Source: UBS Research: Topic 606 (IFRS 15) Rev Rec: Guidance starts to trickle down the pipe… Copyright UBS 2017. All rights reserved. "Reproduced with permission."

Microsoft, Alphabet (Google's parent company), Ford, Optum (UnitedHealth Group), Raytheon, and General Dynamics in the United States; Siemens in Germany; European Energy A/S in Denmark; and Syngenta in Switzerland are among the very few early adopters. Following are examples of the impact on these early adopters:

- *Microsoft*: Microsoft adopted Topic 606 beginning 1 July 2017, and its management has disclosed[8] that it will bill hardware makers for Windows 10 at the time of sale rather than through the life of the hosting computer hardware because the software is a distinct product. If the new approach had been applied for year ended 2016, Microsoft's revenue would have been US$6 billion (7% higher) than was stated.

- *Alphabet*: Alphabet adopted Topic 606 at the beginning of January 2017 and this has yielded minimal changes. Revenue increased by US$14 million in the first quarter and the "Day 1" change in equity increased by US$15 million, which was largely attributable to nonadvertising revenue.[9] Alphabet's first quarter 2017 10-Q reported that

  > *As it relates to Google's other revenues, the most significant judgment is determining whether we are the principal or agent for app sales and in-app purchases through the Google Play store. We report revenues from these transactions on a net basis because our performance obligation is to facilitate a transaction between app developers and end users, for which we earn a commission. Consequently, the portion of the gross amount billed to end users that is remitted to app developers is not reflected as revenues.*

  The distinction between principal and agent is one of the key judgments that companies will need to make to determine whether either a gross or net presentation of revenue is appropriate.

- *Raytheon*: Raytheon, a US aerospace and defense player, adopted Topic 606 on 1 January 2017. Raytheon's Chief Accounting Officer Michael Wood participated in an investor-oriented webcast hosted by the Financial Accounting Standards Board (FASB) on the implications of the changes for the aerospace and defense sector

[8]See Microsoft's PowerPoint slides online: Frank Brod and Chris Suh, "New Accounting Standards and FY18 Investor Metrics," 3 August 2017, accessed 7 September 2017, https://view.officeapps.live.com/op/view.aspx?src=https://c.s-microsoft.com/en-us/CMSFiles/New_accounting_standards.pptx?version=bd475a49-90ec-1e3a-fbdd-102cad6153f7; the transcript of the commentary from Microsoft's management is also available online: Chris Suh and Frank Brod, "MSFT New Accounting Standards and FY18 Investor Metrics Conference Call," 3 August 2017, accessed 7 September 2017, https://view.officeapps.live.com/op/view.aspx?src=https://c.s-microsoft.com/en-us/CMSFiles/NRS-Prepared-Remarks.docx?version=0c01400c-37fa-5faf-2694-9c84fabf3372.

[9]In the first quarter of 2017 (2016), Google's advertising quarterly revenues were US$21.4 billion (US$18 billion) representing 86.5% (89%) of total revenue with nonadvertising revenue accounting for 13.5% (11%) of total revenue.

industry.[10] The Raytheon spokesperson indicated that minimal impact has occurred. In its 2016 10-K, Raytheon states that

> *The impact of adopting the new standard on our 2015 and 2016 total net sales and operating income is not material. The immaterial impact of adopting Topic 606 primarily relates to the deferral of commissions on our commercial software arrangements, which previously were expensed as incurred but under the new standard will generally be capitalized and amortized. . . . The impact to our results is not material because the analysis of our contracts under the new revenue recognition standard supports the recognition of revenue over time under the cost-to-cost method for the majority of our contracts, which is consistent with our current revenue recognition model.*

- *General Dynamics*: General Dynamics, a US-based global aerospace and defense contractor, adopted Topic 606 on 1 January 2017. In its 2016 10-K,[11] General Dynamics provided restated full-year 2016 and 2015 revenue and operating earnings amounts. Revenue (operating earnings) would have reduced by US$792 million (US$575 million) in 2016 and would have increased by US$312 million (US$114 million) in 2015. General Dynamics (2016) provides a high-level explanation of the sources of change:

> *ASC Topic 606 will not change the total revenue or operating earnings recognized for each aircraft, only the timing of when those amounts are recognized. Prior to the adoption of Topic 606, we recorded revenue for these contracts at two contractual milestones: when green aircraft were completed and accepted and when the customer accepted final delivery of the fully outfitted aircraft. Numerous other contracts in our portfolio were impacted by ASC Topic 606, due primarily to the identification of multiple performance obligations within a single contract.*

- *Ford Motor Company (Ford)*: Ford, a US auto manufacturer, adopted Topic 606 on 1 January 2017. In its 10-Q for the period ending 30 June 2017,[12] Ford's management states the impact of adoption of the new revenue standard is expected to be immaterial to net income on an ongoing basis. Nevertheless, the management points to aspects of uncertain revenue that could affect the reported revenue. Specifically, they note that

[10]FASB Webcast and Webinar Series, Aerospace and Defense Revenue Recognition Webcast with GE and Raytheon, 11 May 2017, accessed 17 September 2017, http://fasb.org/cs/ContentServer?c=Page&pagename=FASB%2FPage%2FSectionPage&cid=1176169001455.
[11]General Dynamics, Form 10-K, fiscal year ended 31 December 2016, accessed 7 September 2017, https://www.gd.com/sites/default/files/2016-GD-10K.pdf.
[12]Ford Motor Company and Subsidiaries, 30 June 2017, 10-Q http://otp.investis.com/clients/us/ford_motors/SEC/sec-show.aspx?FilingId=12189394&Cik=0000037996&Type=PDF&hasPdf=1.

> *For certain vehicle sales where revenue was previously deferred, such as vehicles subject to a guaranteed resale value recognized as a lease and transactions in which Ford-owned entity delivered vehicles, we now recognize revenue when vehicles are shipped in accordance with the new revenue standard.*

In other words, a portion of Ford's reported revenue will be subject to accelerated recognition. In its Day 1 reported effect, there is a significant reduction in both the deferred revenue reported and net investment in operating leases as at 31 December 2016. Furthermore, in the first half of 2017, Topic 606 requirements have resulted in US$736 million (US$548 million-Automotive; US$186 million-Financial services) of higher revenue and $1.44 billion lower "deferred revenue and other liabilities" relative to that which would have been reported under current guidance.

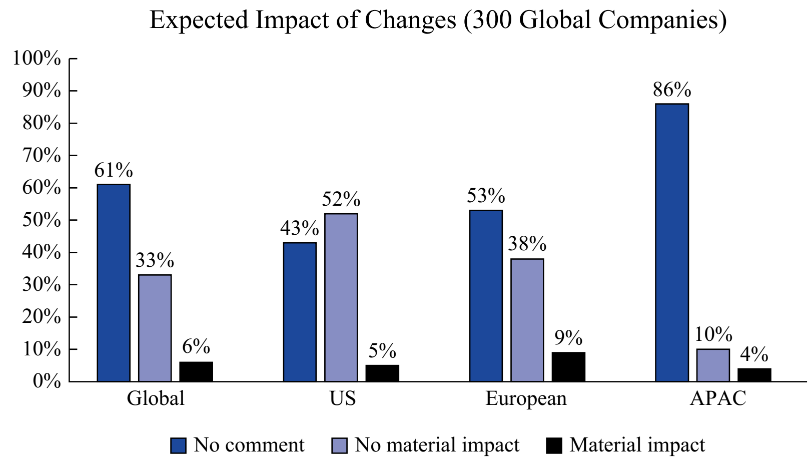
- *European Energy A/S*: European Energy A/S adopted IFRS 15 at the beginning of 2016. Because of IFRS 15, its 2015 revenue would have increased by €15.4 million and its direct costs would have increased by €19.6 million (illustrated in Ernst & Young 2017).

- *Syngenta*: Syngenta, a Swiss chemical company, adopted IFRS 15 on 1 January 2017 and applied the modified retrospective method with no prior period restatements. As highlighted in its 2017 half-year summary, there were no material impacts. The main changes are in presentation: Syngenta switched from an agent (net presentation) to a principal (gross presentation) for US$4 million worth of products supplied through third parties. For the half-year ended 30 June 2017, Syngenta presented US$208 million in contract liabilities that previously would have been included in trade accounts payable.

2.2. Disclosure on Anticipated Effects: A Long Way to Go

Security regulators, including the SEC, European Securities and Market Authority (ESMA), and International Organization of Securities Commissions (IOSCO), have all encouraged companies to disclose to investors the anticipated impact of these revenue changes, but much communication still is required. As highlighted in **Figure 2**, the UBS research study of 300 global companies (Robinson and Weyns 2017) found that 61% of companies (43% United States; 53% European) have yet to disclose the impact of the updated guidance and only 33% (52% United States; 38% European) have indicated that they expect no material impact.

Figure 2. Extent of Disclosure of Impact across 300 Largest Global Companies



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A similar picture of companies providing limited communication on the anticipated impact is portrayed by Ghai and Kelly (2017) in a recent Calcbench publication, which analyzes the impact of Topic 606 on US software companies. Ghai and Kelly (2017) reviewed whether the revenue-related disclosure of 11 software companies with significant levels[13] of deferred revenue (i.e., those for which the ratio of deferred revenue to current liabilities is greater than 100%) revealed the impact of the changes. As highlighted in Table 1, only 2 of the 11 companies reported the anticipated impact (with only 1 stating there would be material impact), 7 companies were still evaluating, and 2 did not have disclosures.

[13]Ghai and Kelly (2017) reason that a significant amount of deferred revenue within a company's balance sheet is an indicator of the potential significant impact on reported revenue, should that company have to recognize earlier portions of the currently deferred revenue (i.e., in which case, balance sheet liabilities are reclassified as revenue). The 2016 software sector average (i.e., for 405 US firms) of deferred revenue to current liabilities (DR/CL) is 47.7%. Only 82 firms had a DR/CL ratio of >50% and 11 had a ratio of >100%.

Table 1. State of Disclosures

Company	Material?	Word Count
Web.com Group	Still evaluating	394
VMware	Still evaluating	297
FalconStor Software	N/A	0
Rapid7	N/A	335
Hortonworks	Still evaluating	1,081
Globalscape	No	220
Nuance Communications	Still evaluating	223
Q2 Holdings	Still evaluating	205
hopTo Inc.	Still evaluating	247
CA Inc.	Yes	496
Qualys Inc.	Still evaluating	372

Source: Reported by Ghai and Kelly (2017).

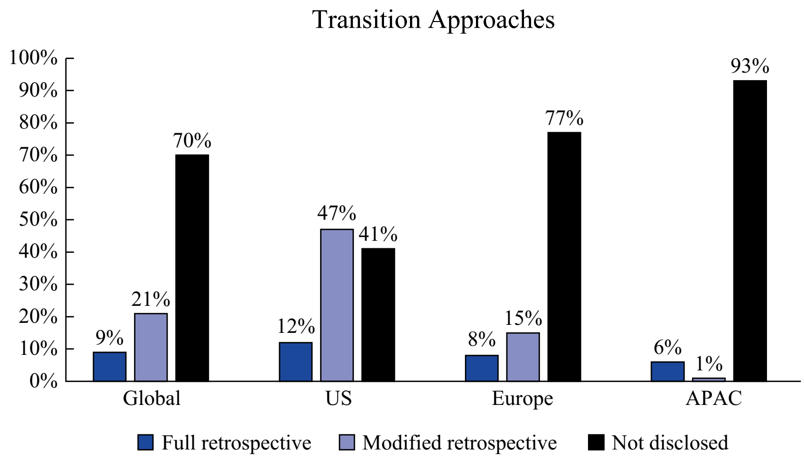
Example of Useful Disclosure of Anticipated Impacts by Companies That Will Adopt at Beginning of 2018

British engine manufacturer Rolls-Royce will adopt IFRS 15 on 1 January 2018. Its management has communicated to investors about the effects of apportioning revenue by distinct deliverables, as required by IFRS 15. For many years, Rolls-Royce tended to bundle its loss-making engine sales and long-term after-market service within linked total-care contracts. This allowed it to cross-subsidize its margins across sold engines and subsequent services. Under IFRS 15, Rolls-Royce engine sales are fully recognized upfront, which will change the reported profitability profile. In its communication of the impact of IFRS 15 on 2015 revenue, Rolls-Royce showed a downward revision of £900 million of both revenue and gross profitability, in part because of splitting the total revenue from bundled linked total-care contracts into the respective portions for the sale of distinct original equipment and after-market services.

2.3. Transition Reporting Choices

The full retrospective reporting approach with prior year comparatives provides the most useful, comparable, year-to-year trend analysis information for investors. However, most companies seem unlikely to apply the full retrospective approach. As Robinson and Weyns's (2017) data show (see **Figure 3**), most companies have indicated that they will adopt a modified retrospective approach. Many companies justify their choice of modified retrospective reporting with the claim that the revised requirements have minimal impact.

Figure 3. Transition Approaches



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3. Uncertain Revenue

At the most fundamental level, revenue that is due from any sale to customers can be determined by the simple formula: *unit price of products (goods, services, licenses)* × *quantity of products sold to customers*. Consequently, revenue-reporting risk includes both pricing-uncertainty risk and uncertainty of the actual quantity of products ultimately transferred to customers (i.e., quantity risk).

- Price risk can occur as a result of a variety of customer contract features, including price concessions, volume discounts, rebates, refunds, penalties, royalties, credits and performance bonuses, and noncash consideration.[14]
- Quantity risk result can occur as a result of product returns, unexercised customer rights (e.g., gift card breakage), and customer options to acquire additional goods and services.

In the following sections, this paper discusses two key components of revenue-related quantity risk: sales with a right of return and unexercised customer rights. Other relevant aspects of revenue-related price and quantity risks are not addressed in this paper. These include customer options to acquire additional goods or services, loyalty points, warranties, and various types of price risk–related estimates, including noncash consideration.

3.1. Estimating Variable Consideration

Current guidance is quite conservative and heavily constrains the recognition of uncertain customer consideration. Under US GAAP, revenue is recognized only when the customer fee or consideration is "fixed and determinable," setting a high threshold for the recognition of revenue. Topic 606 and IFRS 15 requirements are less conservative and do not require consideration to be "fixed and determinable" prior to the recognition of revenue. Instead, the revised guidance requires the estimation of variable consideration (step 3) using either of the following estimates:

[14]The FASB clarified that noncash consideration needs to be measured based on fair value at inception. The IASB did not address this issue in the post-issuance Exposure Draft (ED) as it considered the current guidance to be adequate.

- Expected value: Expected value is the probability-weighted measurement of possible outcomes. This approach is appropriate when there are multiple potential outcomes.
- Most likely amount: Determining variable consideration on the basis of most likely amount is appropriate when there are a few (e.g., binary) potential outcomes.

3.1.1. Revised Requirements Not as Conservative as Current Guidance

Topic 606 and IFRS 15 also have a recognition constraint that encourages conservatism in estimating revenue (i.e., uncertain revenue is recognized only if it is probable that there will not be significant revenue reversal in the future). Factors considered in determining whether to constrain the estimated consideration include experience with contracts, period of uncertainty, and ability to control performance. Another conservatism-inducing constraint has been built into the revised requirements by prohibiting the estimation of sales and usage-based royalties for contracts for which licenses are the predominant component of the contract.

That said, the constraint on recognizing uncertain revenue within Topic 606 and IFRS 15 mainly limits the "extent to which rather than if" uncertain revenue is recognized and is less stringent than the constraint within current requirements. Hence, the impact of this aspect of the revised requirements (i.e., estimating variable consideration while determining transaction price) likely will be to accelerate revenue recognition for many companies. Essentially, the revised approach can be considered less conservative than existing requirements (Wagenhofer 2014).

The IASB and FASB choice to require estimation of variable consideration reflects the ever-present "relevance versus reliability" trade-off with which accounting standard setters have to continuously grapple. In this instance, the IASB and FASB approach has tilted the balance toward companies reporting more relevant revenue numbers (i.e., including all relevant revenue components) at the potential expense of the reduced measurement reliability (i.e., potentially increased revenue estimation errors) under some circumstances.

3.1.2. Likely to Impact Diverse Businesses

Across the board, businesses are continuously developing and applying innovative marketing or sales- and performance-based incentives and compensation arrangements. As a result, across a variety of businesses, there is likely to be an increasing level of uncertain revenue components within the underlying customer contracts.

Hence, estimating variable consideration while determining transaction price (step 3) is likely to be a pervasive aspect of the revised recognition requirements. This step could affect businesses with complex customer contracts as well as those with relatively simple contracts (e.g., your typical retailer) and could impact a variety of manufacturers, retailers, e-tailers and other e-commerce firms, asset management firms, and IP-intensive industries.

3.1.3. Potential Impact on Earnings Quality

Including variable consideration in revenue calculations heightens the risk of inaccurately reported revenue. For example, in 2014, US pharmaceutical company Valeant engaged in a questionable US$80 million worth of revenue recognition transactions with its affiliate (Philidor) through an inappropriate accounting of product returns.[15]

Another example of uncertain revenue-related misreporting occurred with the UK-based Tesco, which is the second-largest global retailer.[16] Tesco inflated revenue by £263 million in 2014 by overstating its suppliers' rebates.[17] The Tesco case resembles that of Dutch retailer Koninklijke Ahold N.V. during the latter's overstatement of revenue in 2004.[18] Knapp and Knapp (2007) outline an array of misreporting practices, including overstating allowances from vendors, that Ahold's management engaged in from 1999 to 2003.

A pertinent consideration for investors will be the impact on earnings quality of adopting the less conservative approach. Rasmussen (2013) provides noteworthy research related to earnings quality. She found that semiconductor firms that sold products through distribution channels and applied the conservative accounting approach[19] had better earnings quality (i.e., more predictive of future earnings) than those that were recognizing revenue after estimating distributor returns.

[15]Michael Rapoport, "Valeant Provides More Restatement Details," *Wall Street Journal*, 21 March 2016, https://www.wsj.com/articles/valeant-provides-more-restatement-details-1458595922.

[16]Acca, "Tesco Scandal: The Perils of Aggressive Accounting," updated 11 August 2015, http://www.accaglobal.com/uk/en/student/sa/features/tesco-scandal.html; *The Economist*, "Tesco's Accounting Problems: Not So Funny," 27 September 2014, http://www.economist.com/news/business/21620227-booking-revenues-comedy-all-about-timing-not-so-funny; Paula Rosenblum, "Tesco's Accounting Irregularities Are Mind Blowing," *Forbes*, 22 September 2014, http://www.forbes.com/sites/paularosenblum/2014/09/22/tescos-accounting-irregularities-are-mind-blowing/#3a82d39f2cdf.

[17]It is a common industry practice among UK retailers to obtain rebates from suppliers in lieu of meeting particular sales targets. Incidentally, before the Tesco misreporting episode was publicized, the auditors of other UK retailers (e.g., Sainsbury, Ocado) had highlighted the revenue risk associated with supplier rebates.

[18]*New York Times*, 2014: http://www.nytimes.com/2004/10/14/business/ahold-reaches-a-settlement-with-the-sec.html.

[19]This approach recognizes revenue only when sales have occurred from distributor to the end customer.

3.2. Sales with Right of Return

Uncertain revenue can occur when a reporting entity's sales are subject to the risk of product returns. Rasmussen (2013) illustrates revenue-reporting risk resulting from product returns within the semiconductor manufacturing industry. Semiconductor manufacturers typically rely on distributors to sell their products but face a significant risk of distributor returns because of product obsolescence and pricing uncertainties.

3.2.1. Current Accounting Approaches

Rasmussen (2013) observes that semiconductor manufacturers currently can apply any one of the following three accounting approaches:[20]

- *Sell-in approach (i.e., sell into distributors)*: Revenue is recognized upon the transfer of products to distributors and product return and pricing adjustment accruals are recorded. In effect, the sell-in approach requires an estimation of revenue at the time the products are passed onto a third-party distributor.
- *Sell-through approach*: Revenue is recorded only when a sale is made by the distributor to end customers.
- *Combination approach*: Revenue is recorded through a combination of the sell-in and sell-through approaches.

Rasmussen's empirical analysis of 80 semiconductor manufacturers over the 2001–2008 period found that 32% applied the sell-in approach, 20% applied the sell-through approach, and 48% applied a combination of these two approaches.

3.2.2. Anticipated Effects of Revised Requirements

Under Topic 606 and IFRS 15, companies no longer have to make a distinction between sell-in versus sell-through methods. The key judgment that seller entities will need to make is whether there is transfer of control to distributors. Thereafter, they will need to estimate likely product returns while determining the overall consideration that they are entitled to receive (i.e., step 3). The expected effects of the changes are as follows:

[20] Other companies that use distributors also use these same three approaches (sell-in, sell-through, and combination approaches).

- *Reduced diversity in accounting methods and possible improved comparability*: As noted, companies will no longer have to make the distinction between sell-in versus sell-through methods. This should lead to more comparable reporting.

- *Accelerated revenue for companies that currently apply sell-through accounting*: The new requirements will effectively result in accelerated revenue recognition for entities that currently apply the restrictive, conservative sell-through methods. They now will be required to estimate the effect of product returns and to recognize revenue much earlier than they currently do.

- *Incremental day 1 revenue for some companies*: Companies that have been applying the sell-through approach could report incremental revenue. They now will have to estimate product returns when determining the consideration that is expected from customers. These companies could recognize day 1 incremental revenue through the equity statement while applying the cumulative catch-up transition method. For companies that apply the full retrospective method, the prior period comparatives could be restated to reflect a greater upfront recognition of revenue.

- *Misreporting risk could increase for some companies*: As discussed, in weighing the relevance versus reliability scales, the Topic 606 and IFRS 15 chosen approach gives weight to providing relevant information. Consequently, the inherent risk of misreporting revenue could increase for companies that hitherto have been applying sell-through reporting methods.

  Under Topic 606 and IFRS 15, recognition of revenue will depend on companies' management judgment about whether a transfer of control of goods to customers has occurred as well as on their ability to predict product returns. A key question will be whether the required transfer of control judgment criterion will minimize the risk of overoptimistic revenue estimates. As envisioned in the recent International Auditing and Assurance Standards Board exposure draft on auditing accounting estimates (ISA 540), auditors will have a key role to play in reviewing the appropriateness of key management judgments including those related to whether transfer of control from seller to customer has occurred.

- *Need for investors to monitor earnings quality*: As discussed, Rasmussen (2013) provides evidence that conservative accounting (the sell-through approach) in regard to sales with returns in the semiconductor industry results in higher earnings quality than when a less conservative accounting method is applied. Hence, investors will need to be alert to the risk of misreporting caused by estimation errors made by companies that have uncertain portions of revenue and to monitor the effects on earnings quality.

3.3. Unexercised Customer Rights (Gift Card Breakage)

A popular example of unexercised customer rights is gift card breakage, which occurs whenever purchased gift cards expire without the gift card recipient redeeming the underlying goods or services. In such cases, companies can recognize additional revenue for the breakage component that effectively had been deferred as a customer contract liability at the time of sale of the gift card. The sale of gift cards and the recognition of additional revenue from this gift card breakage component is a pervasive issue for many businesses. McKenna (2017) highlights this issue in a *MarketWatch* feature article and discusses the pertinence of this issue for several blue-chip companies, including Amazon, Home Depot, Nordstrom, Starbucks, and Walmart.

Gift card sales, which are ubiquitous among all types of retailers, and related reporting issues have gained in prominence over the years. Hennes and Schenck (2014) describe the proliferation of gift cards and the significant level of breakage income from the early 2000s onward. Gift card sales grew to about US$100 billion by 2012, and the 2005 to 2011 breakage income totaled US$41 billion. The US Credit Card Accountability, Responsibility and Disclosure (CARD) Act, enacted in 2009, extended the expiration period of gift cards to a minimum of five years. CARD reduced breakage rates to a large extent, but they still remained significant (e.g., approximately US$2 billion or 2% of the projected gift card sales by the year 2011).

A more recent picture of gift card sales is reported by Paul (2017) and McKenna (2017) of *MarketWatch*, who both cite related Gartner Inc. (previously CEB TowerGroup) research data.[21] Paul (2017) reports that gift card sales grew to US$118 billion in 2013 and to US$130 billion in 2015, while US$1 billion of gift cards were unspent in 2016. McKenna (2017) reports that gift card sales are expected to reach US$149 billion in 2017 and observes that the breakage rate has shrunk from 7% in 2008 to 0.75% in 2015.

3.3.1. Current Accounting Treatment of Gift Card Breakage

The sale of gift cards results in the recognition of contract liability (deferred revenue) at the time of sale, and thereafter revenue is recognized when customers redeem the underlying goods or services. Revenue is also recognized for the unredeemed portion of gift

[21]CEB, "Gift Cards State of the Union: Growth and Risk in 2015," accessed 8 September 2017, https://www.cebglobal.com/financial-services/tower-group/gift-cards.html.

cards (gift card breakages), but currently there tends to be much diversity[22] in practice in how revenue is recognized for the gift card breakage component (Hennes and Schenck 2014; PricewaterhouseCoopers 2014). In many cases, as reported by McKenna (2017), the recognition approach for the breakage component is conservative (i.e., only when gift cards have expired or likelihood of redemption is remote, such as if five years go by and no redemption has occurred).

3.3.2. Effects of Changes in Accounting Treatment of Gift Card Breakage

Under Topic 606 and IFRS 15 requirements, the gift card breakage component can be estimated much earlier as part of the variable consideration, including at the time of sale of the gift card. Effectively, the revised approach could result in the following:

- *Reduced diversity in practice*: There should be less diversity in company reporting practices as there will be a consistent framework for the accounting applied for the gift card breakage component.
- *Accelerated revenue for some companies*: Recognition of breakage revenue will be accelerated (i.e., for entities that currently defer such revenue until the expiry of gift cards or until that event is remote).
- *Incremental day 1 revenue for some companies*: Incremental revenue should be reported by companies that will report previously unrecognized gift breakage revenue. These companies could recognize day 1 incremental revenue through the equity statement if they apply the cumulative catch-up transition method. For companies that apply the full retrospective method, the prior period comparatives could be restated to reflect earlier recognition of revenue.
- *Potential risk of increased estimation error*: In addition to the effects of CARD regulation in the United States, various market innovations that will likely reduce shrinkage rate have emerged, including vendors who purchase at a discount and sell or redeem unused gift cards as reported by Paul (2017). It is noteworthy that breakage rates have demonstrated a downward trend (7% in 2008 to 0.75% in 2015). This trend could make it inappropriate for financial statement preparers to apply historic data as the basis for predicting expected breakage rates. In effect, the likelihood of estimation errors in relation to gift card breakage rates and related income could be higher.

[22]Currently, three applied approaches to recognizing gift breakage revenue are used: (a) proportion model: revenue is recognized when redemptions occur; (b) liability model: revenue is recognized when gift card expires; and (c) remote model: revenue is recognized when it becomes remote that the holder of the rights will demand performance.

4. Defining the Customer Contract

As noted, the customer contract is the primary unit of account for revenue recognition purposes. Companies' management judgment on the appropriate customer contract boundaries (e.g., whether to combine or modify by separating, terminating, and creating new contracts) will have implications for the amount and timing of reported revenue as will some clauses that impact on the effective contract term that will be applied for revenue recognition. Furthermore, the contract term will impact on the balance sheet presentation (i.e., short-term versus long-term contracts) and the extent to which companies provide accompanying disclosures. In effect, the contract term could influence the level of transparency around reported revenue. Step 1 (identify the contract) could have significant implications for some companies, including those that have long-term or complex features within contracts (e.g., infrastructure construction companies or IP companies in which change orders are quite common).

4.1. Contract Combinations and Modifications

In identifying the contract (step 1), management needs to determine whether to combine or modify existing contracts. These judgments could affect the amount and timing of recognized revenue.

4.1.1. Contract Combination

The criteria for contract combination consider the interrelatedness of separately drawn contracts based on the existence of one or more of the following conditions:

- the inception of these contracts occurred at or near the same time;
- the contracts were jointly negotiated as commercial package;
- there is price and performance interdependence; and
- the goods or service promised in the contracts are a single-performance obligation.

Case Study: Rolls-Royce—Effect of Changes in Contract Combination Requirements

In its disclosure of the potential impact of IFRS 15 on its 2015 results, Rolls-Royce highlights the implications of the IFRS 15 criteria for the combination of contracts. Rolls-Royce notes that under IFRS 15, contracts can be combined only if they are with the same counterparty or related counterparties. Hence, it will no longer be possible for Rolls-Royce to link contracts entered into at the same time for (a) installed original equipment with a framer, and (b) long-term service arrangements related to that original equipment sale with the aircraft operator.

In effect, Rolls-Royce's inability to combine some of its contracts under IFRS 15 also restricts its ability to bundle original equipment sales and after-market services as a single-performance obligation. Because of IFRS 15, Rolls-Royce restated 2015 revenue and reduced gross margin by £900 million. The reduced gross margin effects arising from the restriction of contract combinations also reveals the likelihood of margin cross-subsidization[23] in contracts that Rolls-Royce was entering into with customers who had fundamentally different business models and were separate legal entities (framer entities and aircraft operators).

4.1.2. Contract Modifications

To have an accounting impact, contract modifications must first be approved and legally enforceable. Depending on the price, quantity, and distinct nature of the modified goods or services, an approved contract modification can result in the following scenarios:

- *A separate contract is created in addition to the existing contract (prospective accounting required)*: This scenario applies when additional goods or services are distinct, and the contract price increases by an amount that reflects the standalone selling price of additional distinct goods or services. KPMG (2016) provides an example of a customer who adds a text-messaging package to an existing cellular phone package and pays the standard price offered to customers for that additional package.
- *Termination of an existing contract and creation of a new contract (prospective accounting required)*: This scenario applies when additional or remaining goods or services are distinct and the contract price increases by an amount that does *not* reflect the

[23]For example, if Rolls-Royce bundled loss-making engine sales with after-market services, such bundling could result in the revenues and gross margins of engine sales being blended with those of after-market services. This approach could result in day 1 engine sale losses being subsumed into future period profits.

standalone selling price of additional distinct goods or services. Effectively, contract variation is accounted for as termination of the existing contract and creation of a new contract. KPMG (2016) provides an example of a customer who receives free premium channel cable service.

- *Modification of existing contract with an amendment to the terms (cumulative catch-up accounting required)*: This scenario applies when the additional or remaining goods or services are *not* distinct. Effectively, contract variation is accounted for as part of the original contract and the modification is recognized as either an increase or reduction in revenue on a cumulative catch-up basis at the date of modification. KPMG (2016) gives an example of a changing floor plan for a partially constructed house.

  Raytheon contract modifications fit into this category. The Raytheon first quarter 2017 10-Q states that

  > *Contracts are often modified to account for changes in contract specifications and requirements. . . . Most of our contract modifications are for goods and services that are not distinct from the existing contract due to the significant integration service provided in the context of the contract.*

- *Likely effects of updated contract modification requirements*: As KPMG (2016) highlights, current US GAAP and IFRS requirements include limited guidance on contract modification, leading to diversity in accounting practices among companies. Hence, the update is expected to lead to greater consistency for this aspect of accounting.

Although contract modification may affect few companies and the updated guidance can appear quite arcane, the effects could be material for the companies for which it matters. Hence, investors need to be alert to how revenue-reporting patterns are affected for companies for which such modifications occur.

4.2. Clauses That Affect the Effective Contract Term

Investors should be alert to the implications of clauses within customer contracts that have an impact on the contract term applied for accounting purposes. For example, if a customer has termination rights and is not required to pay a substantive termination penalty, then the cancellation right could be considered to be equivalent to an unexercised renewal option (AICPA 2016). The contract term could have an impact on the extent to which companies disclose information related to underlying contracts and on the categories during the presentation of contract assets and contract liabilities. The contract term also can affect margins portrayed in any period. The term can affect the period in which the capitalized costs of obtaining or fulfilling contracts is amortized. In effect, certain types of termination rights could shorten the contract term applied for purposes of revenue recognition, balance sheet presentation, and disclosure choices.

Termination clauses with no substantive penalty could arise for aerospace and defense companies, which tend to have multiyear contracts with government agencies that include unfunded portions of the total customer contract.[24] For example, General Dynamics, in its 2016 10-K Management and Discussion Analysis section, showed that 17.4% (21.7%) of its US$59.8 billion (US$66.1 billion) order backlogs in 2016 (2015) are unfunded contracts.

[24]Funding for government contracts tends to depend on approved budgetary allocations.

5. Conclusion: Keep an Eye on the Economics

The objective of this paper and the earlier publications by Papa (2016a, 2016b), is to address a selection of revenue-related financial analysis issues, including those that affect price risk, quantity risk, accounting and estimation risk, collectability risk, and delivery and ownership risk. That said, these publications do not exhaustively cover the full range of complex and significant revenue recognition–related judgments required by Topic 606 and IFRS 15, which affect a wide spectrum of complex transactions and business models. It is beyond the scope of these papers to address all facets of the new standard.

Notwithstanding the potentially significant and varied changes in revenue accounting, investors should remember that the intrinsic value of companies primarily is driven by the real economics of businesses rather than by accounting changes. In other words, in the absence of the significant time value of money effects, and if only the timing and not the amount of total revenue recognized changes, then such accounting changes ought to have a zero net present value.

Hence, investors should always distinguish between changes in reported revenue patterns that arise exclusively due to the effects of (a) changes in companies' accounting judgments on existing customer contracts; (b) changes in customer contracts, including pricing changes or an alteration of the customer value proposition; and (c) changes in customer demand influenced by seasonality, economic cycle, shifts in customer tastes, and product obsolescence. Only the latter two drivers of observed changes in revenue really reflect changes in the economic value of companies. One way investors can keep track of real economic value creation of companies caused by selling products to customers is to monitor the cash conversion of revenue as well as the correlation among revenue, gross margins, and cash flow from operations.

6. References

American Institute of CPAs (AICPA). 2016. "Revenue Recognition Accounting and Auditing Guide." 1 November. AICPA published manual.

Alphabet Inc. Form 10-Q, for the quarterly period ended 31 March 2017. Accessed 7 September 2017, https://abc.xyz/investor/pdf/20170331_alphabet_10Q.pdf.

Deloitte. 2016. "SEC Comment Letters, Statistics According to "Edgar": Supplement to Ninth Edition," October. https://www2.deloitte.com/us/en/pages/audit/articles/sec-comment-letters.html.

Ernst & Young. 2017. "Apply IFRS: Presentation and Disclosure Requirements of IFRS 15." July.

Ford Motor Company and Subsidiaries, 30 June 2017, 10-Q http://otp.investis.com/clients/us/ford_motors/SEC/sec-show.aspx?FilingId=12189394&Cik=0000037996&Type=PDF&hasPdf=1.

General Dynamics. 2016. Form 10-K, fiscal year ended 31 December 2016. Accessed 7 September 2017, https://www.gd.com/sites/default/files/2016-GD-10K.pdf.

Ghai, P., and M. Kelly. 2017. "Revenue Recognition Standard and Software Sector." Calcbench.

Hennes, K. M., and K. M. Schenck. 2014. "The Development of Reporting Norms without Explicit Guidance: An Example from Accounting for Gift Cards." *Accounting Horizons*, vol. 28, no. 3: 561–578.

Knapp, M. C., and C. A. Knapp. 2007. "Europe's Enron: Royal Ahold, N.V." *Issues in Accounting Education*, vol. 22, no. 4: 641–660.

KPMG. 2016. *Revenue Issues In-Depth, IFRS and US GAAP*, 2nd ed. https://home.kpmg.com/content/dam/kpmg/pdf/2016/05/IFRS-practice-issues-revenue.pdf.

McKenna, F. 2017. "An Obscure Accounting Change Could Boost Amazon, Starbucks, Wal-Mart Profits by Hundreds of Millions of Dollars. *MarketWatch* (28 June). http://www.marketwatch.com/story/the-obscure-accounting-change-could-jolt-amazon-starbucks-wal-mart-profits-by-hundreds-of-millions-of-dollars-2017-06-28.

Papa, V. 2016a. "Watching the Top Line: Areas for Investor Scrutiny on Revenue Recognition Changes." *Codes, Standards and Position Papers*, vol. 2016, no. 3. CFA Institute. http://www.cfapubs.org/doi/pdf/10.2469/ccb.v2016.n3.1.

Papa, V. 2016b. "Top Line Watch: Investor Considerations in Run-up to 2018." *Codes, Standards and Position Papers*, vol. 2016, no. 10. CFA Institute. https://www.cfainstitute.org/learning/products/publications/ccb/Pages/ccb.v2016.n10.1.aspx.

Paul, K. 2017. "$1 Billion in Gift Cards Go Unused Every Year—Here's How to Avoid That." *MarketWatch* (2 January). http://www.marketwatch.com/story/1-billion-in-gift-cards-go-unused-every-year-heres-how-to-avoid-that-2016-12-30/print.

PricewaterhouseCoopers. 2014. "Revenue from Contracts with Customers." *In Depth* (18 June; revised 8 September).

Quinlivan, S. M. 2017. "Early Revenue Recognition Adopters Provide Some Guidance on MD&A Disclosures." *Lexology* (1 June). https://www.lexology.com/library/detail.aspx?g=8befbc72-4a3e-4998-9c38-3df75390a531.

Rasmussen, S. J. 2013. "Revenue Recognition, Earnings Management, and Earnings Informativeness in the Semiconductor Industry." *Accounting Horizons*, vol. 27, no. 1: 91–112.

Raytheon Company. 2016. Form 10-K. Accessed 8 September 2017, http://investor.raytheon.com/phoenix.zhtml?c=84193&p=irol-sec#10724142.

Raytheon Company. 2017. Q1 10-Q. Accessed 8 September 2017, http://investor.raytheon.com/phoenix.zhtml?c=84193&p=irol-sec#10724142.

Robinson, G., and G. Weyns. 2017. "Fundamental Analytics Topic 606 (IFRS 15) RevRec: Guidance Starts to Trickle Down the Pipe." *UBS Global Research* (19 May).

Syngenta. 2017. Half Year Results, 26 July 2017. Accessed 7 September 2017, https://www4.syngenta.com/~/media/Files/S/Syngenta/2017/hyr-2017-pr-english-extended.pdf.

Wagenhofer, A. 2014. "The Role of Revenue Recognition in Performance Reporting." *Accounting and Business Research*, vol. 44, no. 4: 349–379.

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