The use of management's prospective financial information: a focus on fair value measurement using discounted cash flow techniques

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Management-prepared forecast and projections, collectively referred to as prospective financial information (PFI), serve as the critical foundation for discounted cash flow methods. The purpose of this article is focus on the proper use of PFI in the measurement of fair value for financial reporting purposes, with an emphasis on the application of discounted cash flow techniques. Our recommendations, while not necessarily affecting conclusions of value in monetary terms, would result in valuations and related reports that are better supported, more clear, and consequently result in fewer questions upon review.

Introduction

Management-prepared forecasts and projections, collectively referred to as prospective financial information (PFI), serve as the critical foundation for discounted cash flow methods. In addition, PFI typically provides key inputs for the application of forward multiples under various market approach-based techniques. This article will focus on the use of PFI in the measurement of fair value for financial reporting purposes, using discounted cash flow techniques.

With respect to valuations for financial reporting purposes, there is a long history of guidance regarding fair value measurement. ASC 820 (formerly SFAS No. 157), which was originally issued in 2006, attempted to harmonize pre-existing guidance. IFRS 13 followed in 2011. In 2017, two additional documents providing suggested guidance for valuation professionals were issued:

- Mandatory Performance Framework (MPF[1]);
- Application of the Mandatory Performance Framework (AMPF – see note[1]).

In 2019, these documents were supplemented by the issuance of Frequently Asked Questions (FAQ – see note[1]), which clarified certain sections of the MPF and AMPF. This article addresses key aspects of the MPF and AMPF that impact the review and acceptance of management's PFI, and the subsequent application of discounted cash flow techniques, including the following concepts:

- professional skepticism;
- reasonably objective basis;
- discount rate development;
- documentation.

In addition, pre-existing guidance that is closely related to the proper evaluation and use of PFI for the purpose of fair value measurement will be reviewed, including:

- Discount rate techniques (ASC 820, IFRS 13);
- AICPA Guide to Prospective Financial Statements (issued in 1986).

ASC 820 and IFRS 13 guidance regarding discount rate techniques is often addressed implicitly. This article will include suggestions that valuation professionals can consider adopting to improve their analyses and reports by explicitly incorporating the source material above into management interviews, work files and valuation reports.

Mathematically, discounted cash flow techniques can be described as numerators (estimated periodic cash flows) and denominators (factors developed from discount rates). We will focus on the evaluation, support, and documentation of PFI employed in discounted cash flow techniques, and, critically, the development of discount rates that are consistent with the identified risk profile of the PFI.

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[1] Mandatory Performance Framework (MPF), Application of the Mandatory Performance Framework (AMPF), and Frequently Asked Questions (FAQ)

The article will:

- Define key terms;
- Describe generic types of PFI and related risk profiles;
- Discuss the implications of the MPF and AMPF guidance;
- Review the concept of "reasonably objective basis" for PFI;
- Discuss development of discount rates consistent with the identified risk profile(s).

Throughout the article, we will refer to a case example to illustrate key points, beginning with the following summary PFI, which we assume has been provided by the management team of SRJ, Inc., a hypothetical client:

SRJ Inc.		Year 1	Year 2	Year 3	Year 4	Year 5	Terminal
Revenue		12,000	12,600	**38,230**	42,642	46,211	48,522
EBIT margin		1,200	1,260	**2,573**	4,264	5,254	5,516
Debt-free cash flow		720	756	**1,544**	2,558	3,152	3,310
Revenue Growth			5.0%	**203.4%**	11.5%	8.4%	5.0%
EBIT Growth			5.0%	**104.2%**	65.7%	23.2%	5.0%

Further information, comments and questions:

- Year 1 and 2 revenue and margins are supported by historical results;
- What is happening in Year 3?
- Can we use this PFI without adjustments?
- How do we develop an appropriate discount rate?
- What questions might we have for management?
- How do we follow the fair value-related guidance?

Assume that, based upon our initial questions, management provides the following additional information:

- A new product line (Product B) is expected to be introduced at the beginning of Year 3;
- Product B targets a new market previously not served by the Company's existing product line (Product A);
- Management provides a revised "forecast" segmented by product lines.

SRJ Inc.		**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Terminal**
Product A		**12,000**	**12,600**	**13,230**	**13,892**	**14,586**	**15,315**
Product B				**25,000**	**28,750**	**31,625**	**33,206**
Revenue		**12,000**	**12,600**	**38,230**	**42,642**	**46,211**	**48,522**
Contribution - A		**1,200**	**1,260**	**1,323**	**1,389**	**1,459**	**1,532**
Contribution - B				**1,250**	**2,875**	**3,795**	**3,985**
EBIT margin		**1,200**	**1,260**	**2,573**	**4,264**	**5,254**	**5,516**
Debt-free cash flow		**720**	**756**	**1,544**	**2,558**	**3,152**	**3,310**

Further information (based on management representations):

- Product Line A has stable historical margins (10%) and growth (5%) that are expected to continue;
- Product Line B expectations are based on preliminary market research and other internal data.

It is critical to note at this initial stage that our example is greatly simplified for illustrative purposes. For example, a new product introduction of this magnitude and importance to the enterprise's future value would likely require non-negligible pre-launch costs (which could be subject to a different level of uncertainty than Product B's estimated post-launch revenues and profits) and would also be uncertain with respect to time of launch. Both factors are ignored in order to keep the example as simple as possible.

Given the above PFI and related management representations, how should the valuation professional:

- Evaluate the risk of the PFI?
- Document this assessment?
- Develop a discount rate (or rates) consistent with the risk(s) identified?

A useful and very simple framework to employ at this early stage in the evaluation (that originally appeared in the 1986 AICPA Guide), appears below.

Existing product **Existing market** **LOWEST RISK**	**Existing product** **New market** **INCREASED RISK**
New Product **Existing Market** **INCREASED RISK**	**New product** **New market** **HIGHEST RISK**

It is important to note that the higher risk quadrants often involve sources of risk such as technological feasibility, regulatory approval, and customer acceptance, concepts that will be addressed only implicitly herein.

Continuing with our case example, the valuation professional's need for an appropriate level of skepticism and more information is clear. While the existing product line appears to fall in the lowest risk quadrant, Product B (new product targeted at a new market segment) is at the opposite end of the risk spectrum. Thus, even at this early stage, the professional would be considering issues such as:

- Do we need a higher discount rate for either the entire enterprise or for Product B?
- What is the impact on debt/equity structure due to the increased uncertainty related to Product B?
- Should we request multiple scenarios for the PFI pertaining to Product B?

Definitions

Before key issues are further addressed, it is important to define certain terms that are often used imprecisely. First, we present *definitions (in italics below)* that originally appear in the 1986 AICPA Guide, supplemented with comments (underlined below). As a reminder, this 1986 Guide was not originally intended for valuation professionals, but rather, for third-party providers such as CPAs that were assisting clients in the preparation of prospective financial statements, including prospective balance sheets, income statements, cash flow statements, and related notes. However, many of these definitions have been considered important enough to be included in subsequent AICPA guides that address the measurement of fair value for financial reporting purposes.

Prospective financial statements *- Either financial forecasts or financial projections including the summaries of significant assumptions and accounting policies. Pro forma financial statements and partial presentations are not considered to be prospective financial statements.* [Reminder: Pro forma information is not prospective or forward-looking, but rather a restatement of historical information.]

Financial forecast *- Prospective financial statements that present, to the best of the responsible party's knowledge and belief, an entity's expected financial position, results of operations, and cash flows. A financial forecast is based on the responsible party's assumptions reflecting the conditions it expects to exist and the course of action it expects to take.*

Financial projection *- Prospective financial statements that present, to the best of the responsible party's knowledge and belief, given one or more hypothetical assumptions, an entity's expected financial position, results of operations, and cash flows. A financial projection is based on the responsible party's assumptions reflecting conditions it expects would exist and the course of action it expects would be taken, given one or more hypothetical assumptions.* [Key point: The critical difference between a forecast and a projection is that a projection contains a hypothetical assumption that, for example, may be dif-

ferent from management's expectations, or outside of the control of management – see next definition.]

Hypothetical assumption - *An assumption used in a financial projection to present a condition or course of action that is not necessarily expected to occur, but is consistent with the purpose of the projection.* [Examples of events that management assumes will occur but depend on outside parties and/or uncertain events could include successful renegotiation of a key contract, or receiving government approval for a new drug or medical device.]

Key factors - *The significant matters on which an entity's future results are expected to depend. Such factors are basic to the entity's operations and thus encompass matters that affect, among other things, the entity's sales, production, service, and financing activities. Key factors serve as a foundation for prospective financial statements and are the bases for the assumptions.*

Returning to our example, the valuation professional can now define, and begin to assess, management's PFI with more precision, and put a sharper focus on some key foundational questions.

SRJ Inc.		Year 1	Year 2	Year 3	Year 4	Year 5	Terminal
Product A		12,000	12,600	13,230	13,892	14,586	15,315
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Revenue		12,000	12,600	38,230	42,642	46,211	48,522
Contribution - A		1,200	1,260	1,323	1,389	1,459	1,532
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- Is this a forecast, or a projection?
- Does it matter?
- What are the key assumptions?
- Are any of them hypothetical?

At this point, we know that management intends to introduce Product B, but we do not yet know if this product launch is largely under management's control, or conversely, if there are significant internal or external risks that management has assumed will be resolved favorably. For example, if Product B is a new pharmaceutical product or medical device, it would likely be subject to technological risk and government approval, and thus its introduction and revenue generation in year 3 may be more properly characterized as a hypothetical assumption. For purposes of fair value measurement, the distinction between a forecast and a projection is probably not a critical one, because the professional would become aware of the conditional nature of Product B assumptions, and the increased risk of prospective Product B cash flows relative to Product A, regardless of the "label" on this PFI. However, it is recommended throughout this discussion that the valuation professional refer to this as management's "PFI," which is both a more general and, at this point, a more accurate label than either "forecast" or "projection."

Our next set of *definitions (in italics below)* and supplemental comments address the development of discount rates that are consistent with the nature of the PFI; the definitions are extracted from ASC 820 and IFRS 13. Like our previous definitions, these have been included in subsequent AICPA guides that address fair value measurement issues:

The Discount Rate Adjustment Technique (DRAT) *uses a single set of cash flows from the range of possible estimated amounts, whether contractual or promised (as is the case for a bond) or most likely cash flows. In all cases, those cash flows are conditional upon the occurrence of specified events (for example, contractual or promised cash flows for a bond are conditional on the event of no default by the debtor). The discount rate used in the discount rate adjustment technique is derived from observed rates of return for comparable assets or liabilities that are traded in the market. Accordingly, the contractual, promised, or most likely cash flows are discounted at a rate that corresponds to an observed market rate associated with such conditional cash flows (market rate of return).* [Note: In contrast to the Expected Present Value Technique described below, the DRAT is the appropriate technique for situations in which the valuation professional is provided with only a single PFI scenario that is conditional on the favorable outcome of one or more uncertain events, and thus represents a more aggressive/less conservative PFI which suggests the need for a relatively higher discount rate than the other methods below.]

The Expected Present Value Technique (EPVT) *uses as a starting point a set of cash flows that, in theory, represents the probability-weighted average of all possible cash flows (expected cash flows). The resulting estimate is identical to expected value, which, in statistical terms, is the weighted average of a discrete random variable's possible values where the respective probabilities are used as weights. Because all possible cash flows are probability weighted, the resulting expected cash flow is not conditional upon the occurrence of any specified event (as are the cash flows used in the discount rate adjustment technique).*

Method 1 of the expected present value technique adjusts the expected cash flows for the systematic (market) risk by subtracting a cash risk premium (risk-adjusted expected cash flows). These risk-adjusted expected cash flows represent a certainty-equivalent cash flow, which is discounted at a risk-free interest rate. [Note: This variant of the EPVT is valid but rarely used; Method 2 below has historically been favored.]

Method 2 of the expected present value technique adjusts for systematic (market) risk by adding a risk premium to the risk-free interest rate. Accordingly, the expected cash flows are discounted at a rate that corresponds to an expected rate associated with probability-weighted cash flows (expected rate of return). Models used for pricing risky assets, such as the Capital Asset Pricing Model, can be used to estimate the expected rate of return. [Note: This definition presumes that assumptions subject to greater uncertainty will be probability-weighted; conditional events are primarily addressed in the **numerator**, whereas the DRAT adjusts for them in the **denominator**.]

Because the discount rate used in the discount rate adjustment technique is a rate of return relating to single scenarios that often contain conditional, favorable assumptions regarding future cash flows, a DRAT-based rate likely will be higher, all else equal, than the discount rate used, e.g., in Method 2 of the expected present value technique, which is an expected rate of return relating to expected or probability-weighted cash flows. It is worthwhile to observe at this time that many discussions about the applicability and magnitude of company-specific risk adjustments (CSRA, further discussed herein) might be more productive if the parties first agree on whether or not the PFI being discounted contains unweighted conditional assumptions (a "DRAT PFI" which would likely require a CSRA to compensate) or does not (an "EPVT Method 2 PFI" which may or may not require a CSRA).

Continuing with our example:

SRJ Inc.	Year 1	Year 2	Year 3	Year 4	Year 5	Terminal
Product A	12,000	12,600	13,230	13,892	14,586	15,315
Product B			25,000	28,750	31,625	33,206
Revenue	12,000	12,600	38,230	42,642	46,211	48,522
Contribution - A	1,200	1,260	1,323	1,389	1,459	1,532
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EBIT margin	1,200	1,260	2,573	4,264	5,254	5,516
Debt-free cash flow	720	756	1,544	2,558	3,152	3,310

Some key questions that will affect our evaluation of this PFI and our subsequent development of a relevant discount rate would include:

- Is this PFI conditional?
- Is this PFI probability-weighted/expected?
- If yes, will we apply Method 1 or Method 2?
- Could this PFI be both conditional and expected?

Based on our ASC 820/IFRS 13 definitions, it may be that we have a "mixed" or "hybrid" PFI at this point in the valuation process, in which its components applicable to Product A may represent a weighted, EPVT Method 2 case, but the components applicable to Product B are conditional, akin to a DRAT scenario. This has important implications for the proper development of the risk-adjusted discount rate.

Mandatory Performance Framework (MPF)

As mentioned in the Introduction, the MPF was issued relatively recently. It addresses a number of topics which deal with the process of conducting a valuation engagement, as opposed to guidance regarding the application of valuation approaches, methods and techniques. The MPF focuses on "how much support, in terms of scope of work and documentation, should be prepared or obtained when designing, implementing, and conducting valuations... for financial reporting purposes." Following the MPF is mandatory for professionals who have obtained the Certified in Enterprise and Intangible Valuations (CEIV) credential

and are performing valuations covered by the MPF, particularly valuations for financial reporting purposes.

One key area addressed by the MPF (which has been subsequently clarified and supplemented by the issuance of FAQs) is professional skepticism. Skepticism, as described in the MPF, is related to the concept of "reasonably objective basis," and many of the FAQs which clarify the guidance on skepticism also overlap with this concept.

Skepticism

The MPF (*in italics below*) states: *Every valuation professional must exercise professional skepticism during each engagement where the valuation professional is providing a conclusion of value that will be used to support management's assertions in financial statements issued for financial reporting purposes.* [Reminder: MPF guidance is **not required** unless the valuation professional has obtained the CEIV.]

Professional skepticism requires that the valuation professional have an attitude that emphasizes the following:

- ***Evidential skepticism.*** *Valuation professionals must exercise due professional care by regularly questioning and critiquing all information and data with the appropriate level of skepticism. The level of skepticism should be based on the potential for bias within the information and data (for example, multiple sources of external corroboration versus a management-generated estimate with no external corroborating support).*
- ***Self-skepticism.*** *The valuation professional must regularly monitor his or her own client-based presuppositions that could detract from evidencing skepticism as a result of comfort level or familiarity with the client, industry, or both.*

When evaluating management-generated and management-provided information, the valuation professional must consider the experience of management and the sufficiency of the documentation and analyses provided by management throughout the valuation engagement. The valuation professional should not presume management is biased; however, the valuation professional should not accept and rely on less-than-persuasive evidence because the valuation professional believes management is unbiased. This requirement extends to third-party specialists retained by management, their competence, and the sufficiency of their work product.

Returning to our case example:

SRJ Inc.	Year 1	Year 2	Year 3	Year 4	Year 5	Terminal
Product A	12,000	12,600	13,230	13,892	14,586	15,315
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What factors might we wish to discuss with management and document to evidence our application of professional skepticism, consistent with MPF guidance? As previously discussed with respect to generic risk profiles, Product B represents a new product line that is targeted at a new market. Thus, the professional might particularly focus on Product B assumptions such as:

- Time of launch (is Year 3 reasonable?);
- Costs prior to launch date;
- Support for initial year revenue and margin (is it reasonable to expect profits in the year of launch?);
- Growth and profitability assumptions beyond Year 3.

As mentioned, certain FAQs are particularly relevant to the issue of professional skepticism. FAQ #28, for example, provides a link between the topics of skepticism and discount rate development. How does the valuation professional develop a discount rate that is consistent with the risk profile of the PFI? This FAQ suggests that the addition of any "CSRA factor" is a subsequent step in the process, implying that the professional should first perform appropriate due diligence procedures such as those outlined in the MPF.

FAQ #28

What is the underlying guidance driving the PFI discussion in the MPF? Is there an overarching principle?

a) Encourage valuation professionals to apply professional skepticism and conduct an appropriate amount of due diligence over client-provided PFI by making comparison to any available relevant external data, performing backtesting and other procedures

b) Determine if the PFI provided by management is consistent with any observable relevant data by applying the procedures outlined in these FAQs and the MPF documents. In such a case, the appropriate discount rate might be a market participant WACC without a company specific risk adjustment (CSRA) (sometimes also referred to as 'alpha') as the basis for rates of return

c) Use the procedures to adjust the PFI as noted in the MPF and apply a market participant WACC, or

d) Apply DRAT, note why it is applied, document any CSRA factor utilized by referring to these procedures, and provide the appropriate quantitative and qualitative support for the selected CSRA.

FAQ #28 appears to be consistent with many of the issues discussed thus far:

- What are the key generic risks? In our case example, Product A may have a significant amount of "observable relevant data" to support the PFI's assumptions, while Product B may have very little.
- What is the nature of the PFI – conditional vs. expected? As discussed, a single, conditional scenario presumes the application of the DRAT, and thus likely will require the addition of a CSRA factor to make the discount rate consistent with identified conditional risks. Experienced professionals often perform this step implicitly. This article suggests that this process be made explicit, i.e., identify any conditional risks and link them clearly to the CSRA. Conversely, if the PFI is determined to represent an appropriately weighted set of expected cash flows, this could also be explicitly identified, explaining the reduced magnitude of any CSRA.

These points are further emphasized in the AMPF, which also discusses management's role with respect to the preparation of the PFI, and for making any adjustments thereto:

The valuation professional is responsible for evaluating whether the prospective financial information (PFI) provided by management is representative of expected value and properly supported. In circumstances in which the PFI is not representative of expected value, properly supported, or both, the valuation professional must determine the most appropriate way to align PFI and expected value. The valuation professional may elect to:

- *Request management to revise its PFI* [section 1.4.1(a)];
- *Adjust assumptions in PFI* [section 1.4.1(b)];
- *Use either another present value method (for example, discount rate adjustment technique (DRAT), expected present value technique method 1 or 2 (EPVT1 or EPVT2, respectively))* [section 1.4.1(c)]; *or*
- *Use an entirely different approach from the income approach.*

FAQ #29 also discusses management's role regarding the appropriateness of the PFI:

FAQ #29

How should a valuation professional proceed when he or she has applied the steps in AMPF section 1.4.1 (a), (b), and (c) and still believes management's PFI is unsuitable for use in the valuation analysis?

When the valuation professional believes that management's PFI is unsuitable for use in the valuation analysis (for example, because it is substantially inaccurate and incomplete or there is material inconsistency with other information), the valuation professional should discuss the matter with management and request management to revise the PFI. If changes cannot be made to satisfy the valuation professional about those matters, he or she should determine whether to continue with the engagement or withdraw from the engagement. If the valuation professional decides to continue with the engagement, he or she should value the subject interest or entity using an entirely different approach from the income approach (that is, market or cost approach), if appropriate in the circumstances.

Supplementing the MPF's guidance with respect to professional skepticism, the AMPF reminds the valuation professional of a fundamental concept: the PFI must have a **reasonably objective basis**:

Since PFI represents future expectations, it is, by its very nature, imprecise. Therefore, the assumptions used in preparation of the PFI must be reasonable and supportable.

Does this mean the professional is responsible for attesting to the reasonableness of the PFI? FAQ #25 clearly says this is not required, but then provides a reminder that an appropriate level of due diligence is expected:

FAQ #25

What is the valuation professional's responsibility with regards to the PFI? What does 'reasonable' mean in the context of evaluating PFI for use in a valuation?

It was the intent of the Performance Workstream to draft AMPF section A1.4 (Prospective Financial Information) to provide valuation professionals with guidance to help them assess whether it is reasonable to rely upon management's PFI for use in the valuation analysis. This section should not be interpreted as a requirement for the valuation professional to take responsibility for management's PFI and attest to its accuracy or achievability. Thus, although the valuation professional is not expected to attest to PFI's reasonableness, he or she should not simply accept PFI from management without investigating management's basis for the PFI and its suitability for use in the valuation analysis.

The AMPF provides some general guidance with respect to this investigation:

Part of the valuation professional's responsibility is to

evaluate the PFI provided by management for reasonableness in general, as well as in specific areas. Factors and common procedures to consider when performing this assessment may include, but are not limited to, these:

- *Comparison of PFI for an underlying asset of subject entity to expected values of the entity cash flows;*
- *Frequency of preparation;*
- *Comparison of prior forecasts with actual results;*
- *Mathematical and logic check;*
- *Comparison of entity PFI to historical trends;*
- *Comparison to industry expectations;*
- *Check for internal consistency.*

As our case example suggests, these steps will be easier to perform for Product A; there will be no "prior forecasts" to compare with "actual results" for Product B, for example.

FAQ #26 further clarifies the intent of the AMPF guidance and role of the professional with respect to "expected cash flows," which as previously discussed is defined in both U.S. GAAP and IFRS as a set of cash flow scenarios which have been appropriately weighted. As discussed herein, a weighted set of scenarios may be preferable to a single scenario, particularly when certain key assumptions are conditional upon successful outcomes, but the full development of a set of expected cash flows is not required.

FAQ #26

A1.4 refers to 'expected cash flows'. What is the meaning of 'expected cash flows' in the context of the MPF guidance?

It was the intent of the Performance Workstream for the phrase 'expected cash flows' to be interpreted practically as PFI that represents a neutral and unbiased projection (not a conservative or aggressive / optimistic case estimate) of the company's or intangible asset's future cash flows. While this is not meant to require the valuation professional to evaluate, review or analyze multiple scenarios when analyzing PFI when using an EPV technique, the objective remains for the cash flow projections to reflect an expected case from a market participant perspective.

Separately, it is not the intent of the AMPF to prescribe a scenario based or a probability based expected cash flow model. Rather, the use of the term 'expected cash flows' is intended to highlight the need for the PFI to be free from bias (neither overly conservative nor optimistic) and thereby provide a reliable basis for the valuation analysis.

The AMPF goes on to provide further guidance regarding the due diligence process:

Valuation professionals should be aware of the purpose for which the PFI was prepared. Valuation professionals should strive for objective, reasonable, and supportable PFI relevant for use in the valuation process with the understanding that management bias may exist and, if present, should be properly adjusted to expected cash flows (reflecting market participants' assumptions) in the analysis. In order for the valuation professional to assess the quality and reliability of the PFI, the key components of the PFI should be identified. These components commonly include, but are not limited to, the following:

- *Base year metrics;*
- *Revenue forecasts or revenue growth rates;*
- *Gross margins;*
- *EBITDA/EBIT margins;*
- *Depreciation and amortization (book and tax);*
- *Effective tax rate;*
- *Capital expenditures;*
- *Debt-free net working capital (DFNWC) requirements.*

FAQ #27 further clarifies that this guidance does not require the professional to develop a PFI consistent with the technical requirements of "expected cash flows" per ASC 820 (and IFRS 13 by analogy).

FAQ #27

In [the AMPF], the valuation professional is required to compare PFI to the 'expected cash flows' of the subject interest or entity. What does 'compare' imply in this context?

The intent of the Performance Workstream here is to guide the valuation professional to execute a suitable level of care and due diligence when assessing the PFI provided by management, whether it is for an individual asset or the overall entity. Specifically, the intent of the "compare" requirement is to evaluate management's PFI to assess whether it approximates expected cash flows, as discussed previously. It is not intended to be a literal comparison of management's PFI to a set of expected cash flows that generally do not exist. The guidance in AMPF A1.4.7 provides a set of considerations that may be useful to the valuation professional in evaluating the reasonableness of management's PFI.

Finally, the AMPF provides minimum requirements for documenting this process of skepticism and due diligence with respect to the review of the PFI:

The valuation professional, at a minimum, must document the following in writing within the work file, if applicable:

The identification of the party or parties responsible for preparation of the PFI;

The process used to develop the PFI from the perspective of market participants;

The explanation of key underlying assumptions used in the PFI such as revenue forecasts, percentage of market share captured by the entity, or how the projected profit margins compare to those of other market participants;

The steps used in, and results of, testing the PFI for reasonableness, including, but not limited to

- *A comparison of the PFI to expected cash flows;*
- *A comparison of the PFI to historical performance;*
- *A comparison and evaluation of prior year's PFI against actual historical results (when prior PFIs are available), and*
- *An analysis of the forecast relative to economic and industry expectations;*
- *An analysis of any evidence that contradicts management's assumptions or conclusions used in their PFI;*

- *The rationale for any adjustments made to management's PFI;*
- *Evidence that a mathematical and logic check was performed;*
- *The components of the prospective balance sheet and cash flow statements, if available.*

The MPF and related AMPF guidance discussed in this section contain some policy implications for the valuation report, in addition to the work file. As mentioned, one issue that is usually addressed implicitly is the generic character of the PFI:

- Conditional (e.g., Product B?)
- Expected value (e.g., Product A?)
- Certainty-equivalent
- Hybrid (combined PFI for Product A and B?)

A valuation report that explicitly identifies the PFI(s) in these terms will likely provide a stronger foundation for the development of, and support for the discount rate(s), as discussed later.

Reasonably Objective Basis

Before we move on to the critical topic of discount rate development and its explicit linkage with the risks identified in the PFI, it is useful to further discuss, as a separate topic, the concept of reasonably objective basis, which was addressed in the 1986 AICPA Guide. As a reminder, the context and purpose of this document was to provide guidance to professionals regarding how to assist their clients with the preparation of forecasts and projections which would potentially be utilized by third parties such as lenders. The Guide speaks in terms of a "responsible party" (for example, management of the entity) that is developing the forecast or projection (PFI):

The responsible party should have a reasonably objective basis to present a financial forecast. Because financial forecasts are presentations of information about the future, they are inherently less precise than information about past events. Nevertheless, financial forecasts present, to the best of the responsible party's knowledge and belief, the entity's expected financial position, results of operations, and cash flows. For a projection, the responsible party need not have a reasonably objective basis for the hypothetical assumptions. Considerable judgment is required to evaluate whether a reasonably objective basis exists to present a financial forecast. Sufficient knowledge of the entity's business and industry is essential in making the evaluation.

Thus, the Guide calls for the responsible party to be knowledgeable about the business and industry, and to use that knowledge to provide a supportable, credible foundation (a reasonably objective basis) for the PFI, with the exception of any hypothetical assumptions. If there are any hypothetical assumptions, they need not have a reasonably objective basis, but the responsible party must:

1) Identify them as hypothetical, so any third-party user is appropriately informed about the heightened risk of such assumptions;

2) Label the entire document as a "projection," so the third-party user is clearly aware of the presence of such hypothetical assumptions.

The Guide then describes how the professional might arrive at a reasonably objective basis, by developing "sufficiently objective assumptions" for each "key factor" (again, other than hypothetical assumptions):

The responsible party has a reasonably objective basis to present a financial forecast if sufficiently objective assumptions can be developed for each key factor. The following matters should be considered when evaluating whether such assumptions can be developed:

- *Can facts be obtained and informed judgments made about past and future events or circumstances in support of the underlying assumptions?*
- *Are any of the significant assumptions so subjective that no reasonably objective basis could exist to present a financial forecast?*
- *Would people knowledgeable in the entity's business and industry select materially similar assumptions?*
- *Is the length of the forecast period appropriate?*

The evaluation of whether sufficiently objective assumptions can be developed for each key factor should be made within the following context:

- *A factor is evaluated by considering its significance to the entity's plans and the dollar magnitude and pervasiveness of the related assumption's potential effect on forecasted results;*
- *The responsible party's consideration of which key factors have the greatest potential impact on forecasted results is a matter of judgment. A key factor having the greatest potential impact on forecasted results is one in which omission or misstatement of the related assumption would probably, in light of surrounding circumstances, change or influence the judgment of a reasonable person relying on the financial forecast;*
- *The responsible party should seek out the best information that is available in order to develop the assumptions. Cost alone is an insufficient reason not to acquire needed information. However, the cost of incremental information should be commensurate with the anticipated benefit to be derived;*
- *A conclusion that a reasonably objective basis exists for a forecast might be easier to support if the forecast were presented as a range.*

The Guide goes on to provide a brief outline to assist the preparer of the PFI in developing sufficiently objective assumptions, which may also serve as a useful tool for valuation professionals in the review and evaluation of management's PFI. The common-sense chart below has appeared in a number of subsequent AICPA guides:

Sufficiently Objective Assumptions — Matters to Consider

Basis	Less Objective	More Objective
Economy	Subject to uncertainty	Relatively stable
Industry	Emerging or unstable; high rate of business failure	Mature or relatively stable
Entity:		
Operating history	Little or no operating history	Seasoned company; relatively stable operating history
Customer base	Diverse, changing customer group	Relatively stable customer group
Financial condition	Weak financial position; poor operating results	Strong financial position; good operating results
Management's experience with:		
Industry	Inexperienced management	Experienced management
The business and its products	Inexperienced management; high turnover of key personnel	Experienced management
Basis	**Less Objective**	**More Objective**
Products or services:		
Market	New or uncertain market	Existing or relatively stable market
Technology	Rapidly changing technology	Relatively stable technology
Experience	New products or expanding product line	Relatively stable products
Competing Assumptions	Wide range of possible Outcomes	Relatively narrow range of possible outcomes
Dependency of assumptions on the outcome of the forecasted results	More dependency	Less dependency

Returning now to the case example, our evaluation can proceed in accordance with the guidance discussed above. The valuation professional performs procedures to ascertain whether the PFI has a reasonably objective basis, i.e., are the **key factors** based on **sufficiently objective assumptions**?

SRJ Inc.	Year 1	Year 2	Year 3	Year 4	Year 5	Terminal
Product A	12,000	12,600	13,230	13,892	14,586	15,315
Product B			25,000	28,750	31,625	33,206
Revenue	12,000	12,600	38,230	42,642	46,211	48,522
Contribution - A	1,200	1,260	1,323	1,389	1,459	1,532
Contribution - B			1,250	2,875	3,795	3,985
EBIT margin	1,200	1,260	2,573	4,264	5,254	5,516
Debt-free cash flow	720	756	1,544	2,558	3,152	3,310

Upon further consideration, are we satisfied that this PFI has a reasonably objective basis?

- Support for Product A assumptions?
  - Existing product, existing market
  - Can be compared with specific historical metrics
  - Still need to question whether historical results are relevant in current environment
- Product B assumptions?
  - New product, new market
  - No specific historical metrics
  - Do we understand how the "responsible party" developed and supported these assumptions?

To conclude this discussion regarding the reasonableness of the PFI, it is important to consider some policy implications for valuation professionals. Presumably, most professionals are already performing procedures such as those described above, but are they documenting them in accordance with the MPF, AMPF and related FAQs? Combining the older concepts of "reasonably objective basis" and "sufficiently objective assumptions" with the newer MPF guidance, this article recommends that support for the reasonably objective basis of management's PFI be documented in work files and report sections, particularly where dealing with the discussion of key PFI assumptions.

Finally, these concepts (all of which are "numerator" factors) should be linked as explicitly as possible with the development of discount rate(s) consistent with the risks identified, evaluated, and documented.

Discount Rates

As mentioned, **the most critical concept in this article** is the importance of developing a discount rate that is linked to, and consistent with, the risks of the future cash flows in the PFI to be discounted. It should be clear that the discount rate should not be developed independent of the evaluation of the PFI, but rather, after the professional has determined factors such as the character of the PFI (expected value vs. conditional) and its generic risk profile, and completed an evaluation of the support for the significant assumptions, i.e., the support for a reasonably objective basis. At this point in the valuation process, we should be able to demonstrate that our risk-adjusted discount rate (or multiple rates, as discussed below) is appropriate and supportable.

To return to our example:

SRJ Inc.	Year 1	Year 2	Year 3	Year 4	Year 5	Terminal
Product A	12,000	12,600	13,230	13,892	14,586	15,315
Product B			25,000	28,750	31,625	33,206
Revenue	12,000	12,600	38,230	42,642	46,211	48,522
Contribution - A	1,200	1,260	1,323	1,389	1,459	1,532
Contribution - B			1,250	2,875	3,795	3,985
EBIT margin	1,200	1,260	2,573	4,264	5,254	5,516
Debt-free cash flow	720	756	1,544	2,558	3,152	3,310

Summarizing what we have learned in our evaluation of the subject company's PFI:

- It is an "enterprise" value; the cash flows do not address debt service, or preferred stock dividends, if applicable
- The PFI combines two very different business plans and risk profiles
- Product Line A has a track record supporting key assumptions
  - stable margins (10%)
  - stable growth (5%)
- Product Line B is a "yet to come" revenue stream, expected to be introduced at the beginning of Year 3
  - It is targeted at a new market segment
  - By Year 5, both growth and margins are expected to exceed Product A
  - Cash flow estimates for Product B are subject to greater uncertainty

What more might we wish to know before proceeding with the development of a discount rate or rates? Let us assume for illustrative purposes that, based upon further discussions with management, the PFI pertaining to Product B represents a "High Case" with a relatively low (less than 50%) probability, and that management has now supplemented the previous single scenario for Product B with "Base Case" and "Low Case" scenarios. At this point, the valuation professional is faced with multiple alternatives:

- Continue to use the original High Case, knowing that it will require a higher CSRA;
- Exchange the High Case for the Base Case, under the assumption that this scenario is closer to the concept of "expected value" and will not require a significant CSRA adjustment; note that a "Base" or "Most Likely" Case is NOT the same thing as a set of weighted scenarios, as will be further discussed; or
- Weight the three scenarios (assuming they appropriately represent a reasonable range of potential outcomes) to arrive at an "expected value" PFI for Product B.

Below, the enterprise PFI now contains the newly provided "Base Case" for Product B:

SRJ Inc.	Year 1	Year 2	Year 3	Year 4	Year 5	Terminal
Product A	12,000	12,600	13,230	13,892	14,586	15,315
Product B			15,000	16,500	17,325	18,191
Revenue	12,000	12,600	28,230	30,392	31,911	33,507
Contribution - A	1,200	1,260	1,323	1,389	1,459	1,532
Contribution - B			300	1,320	2,079	2,183
EBIT margin	1,200	1,260	1,623	2,709	3,538	3,714
Debt-free cash flow	720	756	974	1,625	2,123	2,229

Assuming the due diligence process is now substantially complete, the valuation professional will develop a single discount rate (if the combined PFI for both Products A and B are to be valued in a single step), or multiple rates (if the values of Product A and Product B are to be separately determined and then combined). If done properly, of course, the enterprise value should be approximately the same either way, although we will see that in our hypothetical example, separating the PFI into these two components will make the discount rate development, as well as the overall valuation conclusion, more clear.

We have already summarized key definitions and concepts contained in ASC 820 and IFRS 13, and will focus the remainder of this discount rate discussion on the procedures and documentation requirements contained in the AMPF *(in italics below)*, supplemented by underlinedcomments:

Given the spectrum of discount rate models that exist, the valuation professional must carefully assess which model is most appropriate for a particular task and ensure that rationale is well documented in the engagement work file. The valuation professional, at a minimum, must document the following in writing within the work file, if applicable:

Cost of equity

- *The rationale for the selection of a discount rate model or models.*
- *The source of the risk free rate used in the calculation and explain the rationale for its selection.*
- *The source or calculation of the equity risk premium and rationale for its use.*
- *An explanation of the calculation of beta of the guideline public companies (or other industry risk adjustments)*

and the rationale for the method used (or rationale for the use of another source of beta) when using CAPM.

- *The rationale for selecting the specific beta when using CAPM, including "adjusted betas".*
- *The amount of size premium, the source of the premium data and the rationale for selecting the concluded premium (even if that premium is zero) when applicable.*
- *The amount of company-specific risk adjustment, if any, the rationale for application of the adjustment, and the objective and quantitative data sets used to develop the specific concluded adjustment. This is typically the most subjective part of the derivation of the cost of equity capital and, therefore, documentation related to this feature should be the most extensive. Comparisons to internal rate of return (IRR) calculations or to the results of other discount rate models may aid in supporting a company-specific risk adjustment.* [Note: As discussed at length herein, the need for, and magnitude of, any CSRA will be driven by factors such as conditional (DRAT) vs. expected value scenarios, and the generic risk profile of the relevant PFI.]
- *The amount of country-specific risk adjustment the source of the adjustment data (if applicable), and the rationale for selecting the concluded adjustment (even if that adjustment is zero).*
- *Other significant assumptions should be clearly explained and documented as well as other inputs that may apply depending on the models chosen by the valuation*

Cost of debt

- *The source(s) of data used and the rationale for use of the source(s)*
- *The rationale to support the selection of the pretax cost of debt and any additional source documents*
- *The rationale for the statutory tax rate used to adjust the pretax rate to an after tax rate.*

Capital Structure

- *The capital structures of the guideline public companies, industry sector, or subject company and rationale for selection of the time frame over which they are measured, as applicable.*
- *The market participant capital structure selected in the calculation of the WACC and rationale for its selection.*

When other discount rate models are used instead of CAPM or WACC [Note: Examples might include risk-neutral option-based models, and adjusted present value (APV) techniques, as well as situations in which the capital structure may vary over time, such as in leveraged buyout valuations]*, the valuation professional must provide within the work file details on*

- *the model specification,*
- *inputs chosen and the sources of those inputs,*
- *sub-methodological selections made, and*
- *why, if applicable, any adjustments were made to the model results.*

Section Summary

Most of the critical guidance regarding discount rates has been in effect for many years. However, the precise terms and techniques defined in this guidance may not explicitly appear in many valuation reports. To clarify the procedures performed and documented in the work files, therefore, the following narrative report policies are suggested:

- Describe the nature of the discount rate technique(s) selected:
  - DRAT
  - EPVT Method 1
  - EPVT Method 2
  - Hybrid (combinations of the techniques above)
- Describe the rational for the selected technique(s), in language consistent with the guidance of ASC 820 and/or IFRS 13. Providing such explicit reasoning and linkage with the PFI may reduce the potential for disagreements regarding components of the discount rate, particularly with respect to the CSRA.

Case Study

To repeat, discounted cash flow techniques are about numerators (estimated cash flows) and denominators (discount rates), and the valuation professional must strive for consistency between them. In the context of the case study utilized throughout, we should now ask ourselves the following:

- Do we now understand the nature of the subject PFI and its key assumptions?
- Does the PFI have a reasonably objective basis?
- Do we know enough to develop an appropriate discount rate?
  - Might there be more than one rate?
  - Should it/they contain a CSRA?

We begin our example regarding discount rate development by selecting EPVT Method 2. EPVT methods, as discussed, are based on the assumption that conditional factors have been neutralized via employment of a sufficient number of scenarios which have been appropriately weighted; as also discussed, this does NOT mean that the analysis presents all such scenarios, but rather that, if a single set of future cash flows is presented, that this scenario reflects the end result of an appropriate weighting process. In our example, even after application of a disciplined analysis, potential issues remain, due to the significant difference in the risk profiles of Product A vs. Product B. For example, the operating segment responsible for Product A (Division A) might be expected to have a greater capacity for debt, and at a lower cost of debt, as well as a lower

estimated beta. Division B, on the other hand, does not yet exist as an operating segment. So, for illustrative purposes, we will divide the enterprise PFI into its two major components, and develop a separate discount rate for each:

	Division A	Division B
After tax cost of debt	4.0%	4.5%
Weight	35.0%	25.0%
Weighted cost	1.4%	1.1%
Cost of equity		
Risk-free rate	3.0%	3.0%
ERP	6.0%	6.0%
Beta	1.05	1.25
	6.3%	7.5%
Size premium	4.0%	4.0%
Cost of equity	13.3%	14.5%
Weight	65.0%	75.0%
Weighted cost	8.6%	10.9%
WACC (rounded)	10.0%	12.0%

Since we divided the subject company into two segments for purposes of discount rate development, we will initially value each separately and combine. And because we are attempting to utilize EPVT Method 2, we must ensure that each discount rate is applied to probability-weighted estimates of future cash flows, but NOT to risk-adjusted/certainty-equivalent cash flows (EPVT Method 1).

We now proceed with the initial estimate of value for Division A. Based on our various analyses and discussions with management, the divisional WACC of 10% is considered reasonable based on Division A's consistent historical results and the anticipated low variability in future revenues and profits, all of which are reasonably captured in the divisional PFI; the result of this analysis is an estimated value of $15.1 million:

Division A		Year 1	Year 2	Year 3	Year 4	Year 5	Terminal
Product A		12,000	12,600	13,230	13,892	14,586	15,315
Product B							
Revenue		12,000	12,600	13,230	13,892	14,586	15,315
Contribution - A		1,200	1,260	1,323	1,389	1,459	1,532
Contribution - B				-	-	-	-
EBIT margin		1,200	1,260	1,323	1,389	1,459	1,532
Debt-free cash flow		720	756	794	833	875	919
Terminal value							18,378
Discount factor		0.9535	0.8668	0.7880	0.7164	0.6512	0.6512
Present value		686	655	626	597	570	11,969
Total		15,103					

Moving on to Division B, we know that the technically correct application of our EPVT Method 2 discount rate necessitates that we utilize and weight our three scenarios for Division B, starting with the High Case, followed by the Base and Low Cases:

Product Line B – High Case: Probability: 20%; Discount rate: 12%

Division B		Year 1	Year 2	Year 3	Year 4	Year 5	Terminal
Product A							
Product B				25,000	28,750	31,625	33,206
Revenue		-	-	25,000	28,750	31,625	33,206
Contribution - A		-	-	-	-	-	-
Contribution - B				1,250	2,875	3,795	3,985
EBIT margin		-	-	1,250	2,875	3,795	3,985
Debt-free cash flow		-	-	750	1,725	2,277	2,391
Terminal value							34,155
Discount factor				0.7533	0.6726	0.6005	0.6005
Present value		-	-	565	1,160	1,367	20,510
Total		23,603					

Product Line B – Base Case: Probability: 40%; Discount rate: 12%

Division B		Year 1	Year 2	Year 3	Year 4	Year 5	Terminal
Product A							
Product B				15,000	16,500	17,325	18,191
Revenue		-	-	15,000	16,500	17,325	18,191
Contribution - A		-	-	-	-	-	-
Contribution - B				300	1,320	2,079	2,183
EBIT margin		-	-	300	1,320	2,079	2,183
Debt-free cash flow		-	-	180	792	1,247	1,310
Terminal value							18,711
Discount factor				0.7533	0.6726	0.6005	0.6005
Present value		-	-	136	533	749	11,236
Total		12,653					

Product Line B – Low Case: Probability: 40%; Discount rate: 12%

Division B		Year 1	Year 2	Year 3	Year 4	Year 5	Terminal
Product A							
Product B				10,000	10,500	11,025	11,576
Revenue		-	-	10,000	10,500	11,025	11,576
Contribution - A		-	-	-	-	-	-
Contribution - B				-	525	882	926
EBIT margin		-	-	-	525	882	926
Debt-free cash flow		-	-	-	315	529	556
Terminal value							7,938
Discount factor				0.7533	0.6726	0.6005	0.6005
Present value		-	-	-	212	318	4,767
Total		5,296					

It is important to note that, under the discount rate technique consistent with EPVT Method 2, we apply the same discount rate to all three scenarios, which is mathematically equivalent to first weighting the cash flows and applying this single rate to a single weighted scenario. As discussed above, due to the absence of historical results, lower expected debt capacity and higher anticipated variability, our WACC for Division B, 12%, is higher than for Division A.

Combining our weighted scenarios, we arrive at an estimate of value for Division B, $11.9 million:

Division B	Year 1	Year 2	Year 3	Year 4	Year 5	Terminal
High case	-	-	750	1,725	2,277	34,155
Base case	-	-	180	792	1,247	18,711
Low case	-	-	-	315	529	7,938
Debt-free cash flow (weighted)	-	-	222	788	1,166	
Terminal value (weighted)						17,491
Discount factor			0.7533	0.6726	0.6005	0.6005
Present value	-	-	167	530	700	10,503
Total	11,901					

To wrap up our initial valuation example, we observe:

- If we used only the High Case scenario, we would have applied a higher discount rate because we would no longer be discounting a weighted set of scenarios, but rather a single conditional PFI requiring a higher, DRAT-based discount rate
- If we used only the Base Case, our value would be much closer to the value above, but in our example it is clear that the Base Case does NOT represent a weighted, expected case in the sense defined by ASC 820 and IFRS 13; compare the weighted EPVT value of $11.9 million above with the Base Case scenario calculation of $12.65 million
- This preliminary result does not address the impact of debt and debt service on the estimated future cash flows
- Applying the previously discussed guidance regarding professional skepticism, we may want to review whether we have employed a sufficient number of scenarios, and obtained sufficient support for the assigned weights

It is worth repeating that the above example illustrates a very strict technical application of "expected value" and EPVT Method 2, whereas FAQs #26 and #27 (discussed previously) provide the valuation professional with some flexibility; we are not required to develop such a strict expected value-based PFI, but rather, to take appropriate steps to arrive at a PFI that is free from bias.

For comparative purposes, we will now value Division B a second time using only the High Case, which we know is clearly conditional upon assumptions such as very rapid customer acceptance in the year of introduction, as evidenced by Year 3 revenue and profits. There are a number of issues to consider in the development of a discount rate appropriate for the High Case scenario:

- How do we select a discount rate, including a CSRA factor, that properly adjusts for the conditional risks identified?
- Will the CSRA selected also capture the uncertainty regarding the timing of the launch, e.g., what if there is some probability that Product B will not be ready until later in Year 3?
- Will the CSRA properly capture the uncertainty regarding the pre-launch costs to be incurred?
- As the company's capital structure changes during the pre-and post-launch periods, how should we address the potential variation in the WACC?

The following analysis will illustrate the difficulties with respect to the first issue. The others are not addressed herein, but worthy of further discussion.

If Division B is to be valued using the original "success" (High Case) scenario, we will migrate from an EPVT discount rate of 12.0 % to a higher conditional DRAT rate. Based on our previous example using EPVT Method 2, we found the value of Division B to be $11.9 million. Solving for the implicit conditional discount rate consistent with the High Case produces a rate of 17.5%; this further implies a CSRA of 7+% over the equity component of our EPVT discount rate (with no CSRA) of 14.5%. In other words, the equity component would have to be increased to approximately 22% to arrive at a conditional WACC of 17.5%. How would we have arrived at this conditional WACC without first generating and weighting multiple scenarios? Presumably, the experienced valuation professional would have gathered sufficient information concerning a) the likelihood that the company will achieve these conditional results, and b) what less favorable outcomes and their probabilities might look like, arriving at a similar CSRA and WACC without

going through this full process. However, the quantification of the selected CSRA and resulting WACC is more clearly explained by the details contained in our multiple scenario example.

The value of Division B based on the High Case, discounted with the adjusted WACC of 17.5%, is shown below:

Division B	Year 1	Year 2	Year 3	Year 4	Year 5	Terminal
Product A						
Product B			25,000	28,750	31,625	33,206
Revenue	-	-	25,000	28,750	31,625	33,206
Contribution - A	-	-	-	-	-	-
Contribution - B			1,250	2,875	3,795	3,985
EBIT margin	-	-	1,250	2,875	3,795	3,985
Debt-free cash flow	-	-	750	1,725	2,277	2,391
Terminal value						19,204
Discount factor			0.6689	0.5695	0.4849	0.4849
Present value	-	-	502	982	1,104	9,312
Total	11,900					

In the examples above, we have bifurcated our analysis, valuing a single (but expected case) Division A scenario at $15.1 million, and the riskier Division B at $11.9 million utilizing multiple scenarios, for a total enterprise value of $27.0 million. Our final example below shows, for comparative purposes, the enterprise value using a combined scenario which includes the expected case scenario for Division A plus the Base Case scenario for Division B, and calibrates this combined PFI to the total value of $27.0 million.

SRJ Inc.	Year 1	Year 2	Year 3	Year 4	Year 5	Terminal
Product A	12,000	12,600	13,230	13,892	14,586	15,315
Product B			15,000	16,500	17,325	18,191
Revenue	12,000	12,600	28,230	30,392	31,911	33,507
Contribution - A	1,200	1,260	1,323	1,389	1,459	1,532
Contribution - B			300	1,320	2,079	2,183
EBIT margin	1,200	1,260	1,623	2,709	3,538	3,714
Debt-free cash flow	720	756	974	1,625	2,123	2,229
Terminal value						36,191
Discount factor	0.9485	0.8533	0.7676	0.6906	0.6212	0.6212
Present value	683	645	748	1,123	1,319	22,484
Total	27,000					

The single implicit rate that is consistent with this estimate of value is approximately 11.2%. How should we interpret this implicit rate? Let's first review the key issues presented herein with the following questions:

• What is the nature of this PFI?

- It is part expected value (Division A).

- It is part conditional (Division B) because the Base Case has been shown to overstate the "true" value based on a more disciplined weighting of the three scenarios.

- The contribution of Division A relative to Division B varies significantly over the next five years. In Years 1 and 2, Division A represents 100% of the expected cash flows; beginning in Year 3, Division B (subject to more uncertainty) represents more than 50% of the company's revenues, and by Year 5, more than 50% of its profits.

• What discount rate technique should we apply?

- We should apply a discount rate based on EPVT Method 2 for the Division A component.

- We should (in a strict technical sense) apply a discount rate based on DRAT for the Division B component, although we may alternatively judge that the Base Case sufficiently approximates a set of weighted scenarios (refer to FAQ #27), and apply EPVT Method 2.

If we had not separated these two divisions, and valued the subject company with this combined PFI, we would somehow have needed to consider 1) different risk profiles, 2) different types of PFI (expected and conditional), and 3) varying contributions of each division over time to arrive at our single risk-adjusted discount rate of approximately 11.2%. Although we would anticipate that an experienced professional would have come very close to this result – after all, the original estimate of a risky rate for Product A was 10%, and for Product B, 12%, so a less disciplined approach might have produced a single rate that approximates our implicit rate – it would have been more difficult for this professional to describe either the nature of the PFI or the technique used to develop the single discount rate, at least in terms of the language of ASC 820, IFRS 13, the MPF and AMPF. And although our case example is hypothetical, the single combined hybrid PFI and related single hybrid discount rate may have resulted in a number of auditor-generated questions upon review. Such questions would be more readily answerable based on our disaggregated, multiple scenario example presented earlier.

Summary and Recommendations

In conclusion, the purpose of this article is focus on the proper use of PFI in the measurement of fair value for financial reporting purposes, with an emphasis on the application of discounted cash flow techniques. We reviewed pertinent guidance from multiple sources; our key recommendations are summarized below.

• Interviews, work files, schedules and reports should discuss PFI in terms of generic types (per ASC 820 and IFRS 13):

- Conditional
- Expected
- Certainty-equivalent
- Hybrid

• Valuation professionals should increase their familiarization regarding MPF and AMPF guidance (even though it may not be required!) with respect to PFI:

- Professional skepticism
- Due diligence procedures
- Reasonably objective basis
- Documentation

• Valuation professionals should strive to develop discount rates that are explicitly consistent with the nature of the PFI and its identified risks, as defined in ASC 820 and IFRS 13:

- DRAT
- EPVT Methods 1 and 2

It seems reasonable to expect that adoption of these recommendations, while not necessarily affecting conclusions of value in monetary terms, would result in valuations and related reports that are better supported, more clear, and consequently result in fewer questions upon review.