



Business Valuation Update

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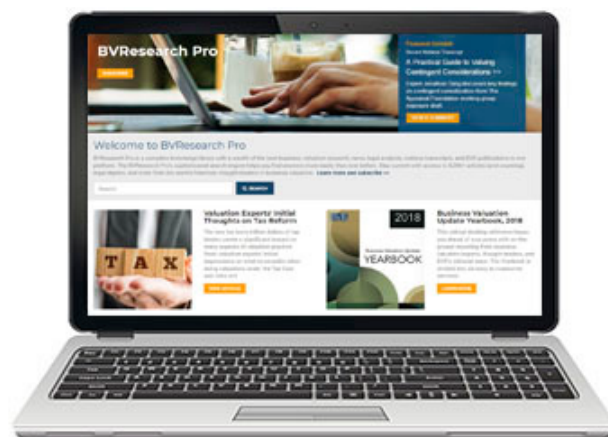
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BUSINESS VALUATION UPDATE

TIMELY NEWS, ANALYSIS, AND RESOURCES FOR DEFENSIBLE VALUATIONS

'Breaking Bad' in the Business Valuation Profession

By Michael Paschall,
Banister Financial Inc. (Charlotte, N.C., USA)

Since 2018 marks my 30th year in business valuation, I can now look back with some perspective on my chosen trade. The one overriding principle that has been reinforced to me in all these years is my obligation to provide a reliable and unbiased opinion of value. In the same way that a CPA is required to present the financial information of a company in a fair and accurate manner, reliability and independence are equally required of business appraisers. Unfortunately, the increasing use of calculation engagements seriously compromises these historical standards of reliability and independence.

In the hit drama series "Breaking Bad," a good man goes "bad" in response to a financial crisis

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How New QBI Deduction Impacts the Hypothetical Buyer and Seller, Part 2

By Mark O. Dietrich, CPA, ABV, and
Kevin R. Yeanoplos, CPA/ABV/CFF, ASA

Editor's note: This is Part 2 of a two-part article on the impact of the new tax law's Qualified Business Income (QBI) deduction for pass-through entities in determining estimated after-tax cash flow at the investor level, as well as the related change in the fair market value of the entity.

In Part 1 of this article,¹ the authors looked solely at the changes in the underlying tax rate for C corporations and then at the host of possible scenarios for S corporations and other pass-through entities with regard to the Qualified Business Income (QBI) deduction. In Part 2, we consider

¹ *Business Valuation Update*, March 2018

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HOW NEW QBI DEDUCTION IMPACTS THE HYPOTHETICAL BUYER AND SELLER, PART 2

BUSINESS VALUATION UPDATE

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the many other factors that may impact the valuation of businesses, including changes in after-tax cash flow due to factors other than tax rates as well as the varying views on how S corporation and other pass-through cash flows should be tax affected. While it's possible to qualitatively speculate as to the different direct impacts of the tax law changes (capital expenditures, employee wages, stock redemptions, and others), quantifying the direct as well as the indirect impacts is not for the faint-hearted! Our goal is to stimulate interchange and, perhaps, debate about how to integrate fair market value into the new paradigm.

Impact on cash flow. Given the many potential moving parts of an "after TCJA" analysis, it's virtually impossible to present a simplified model. For example, although a dramatic reduction in corporate tax rates would seemingly result in a significant increase in economic benefits to shareholders, reality would tell us otherwise. While Congress' intent was in part that companies would use the tax savings to reinvest in capital improvements and equipment in order to fuel future growth, many companies have announced that a portion of the tax savings will be used for other things, such as bonuses to employees and increases in corporate giving.

Bloomberg reported in a Feb. 4, 2018 article titled, "How Is Big Business Using the Trump Tax Cut? What We Know," that telecom giant AT&T Inc. announced it "would invest an additional \$1 billion in the U.S., helping the company prepare for the transition to a new fifth-generation mobile network, and give \$1,000 bonuses to workers, thanks to reforms that Chief Executive Officer Randall Stephenson called 'capital freeing.'" The article further stated that Lockheed Martin Corp. was "earmarking some of its expected windfall for pensioners. The company plans to contribute \$5 billion in cash, satisfying its required obligations until 2021. The company is also increasing its commitment to initiatives like employee training, charitable contributions for education in science and math, and the Lockheed Martin Ventures fund by \$200 million."

Of course, the “cloudy lining” of tax reform is the relatively unforeseen consequences, such as using the tax savings as a way to compete in the marketplace, requiring suppliers to pass on some of their tax savings to their customers and using the tax savings for stock redemptions.

The Delaware Chancery model is more problematic than ever and will create serious challenges in those jurisdictions that require it.

According to a Feb. 26, 2018 article in the *New York Times*, “Trump’s Tax Cuts in Hand, Companies Spend More on Themselves Than on Wages,” “Cisco said this month that in response to the tax package, it would bring back to the United States \$67 billion of overseas cash, using \$25 billion to finance additional share repurchases. Alphabet, the parent company of Google, authorized up to \$8.6 billion in stock purchases. PepsiCo announced a fresh \$15 billion in planned buybacks. Chip gear maker Applied Materials disclosed plans for a \$6 billion program to buy shares. Late last month, home improvement retailer Lowe’s unveiled plans for \$5 billion in purchases.” The article went on to quote Howard Silverblatt, a senior index analyst with S&P Dow Jones Indices, as stating that “I’m expecting buybacks to get to a record for 2018. And if I’m disappointed, there’s a lot of people with me.”

What, you may ask, does all this mean in regard to the valuation of a privately held company in the wake of tax reform? It simply means that one shouldn’t make the mistake of *oversimplifying* the impact of tax reform on future cash flow. For purposes of this follow-up article, however, we have illustrated the impact of tax reform assuming a straightforward case that assumes only that a portion of the tax savings would be passed through to employees in the form of pay increases.

Pass-through effective tax rates. There are a variety of views on the appropriate entity-level tax rate for a pass-through entity, including the so-called Delaware Chancery/Kessler/Bernier model, the IRS’s zero tax model, the “no difference from C corporation” basically presented in Part 1, and those Mercer, Fannon, and others developed.

One thing that is clear from the research, however, is that the belief that the taxation of dividends and capital gains from publicly held stocks influences all investors is demonstrably untrue, given the value of such stocks tax-exempt investors hold. It is the after-tax return on stocks at the *investor level* that drives the expected rate of return on equities, not the rate of tax at the corporate level—i.e., the valuation multiple. The *entity-level tax* drives after-tax cash flows available to the corporation to reinvest or distribute to owners. Reinvestment drives future growth in cash flow and the possibility of capital gains. Thus, the effective tax rate on an S corporation may also be a function of corporate policy with respect to dividend distribution versus the reinvestment rate.

Our goal here is not to resolve the debate on S corporations² but rather to illuminate how the change in tax rates may affect certain of the models. In Part 1, we listed 15 possible scenarios of the QBI deduction on a married filing joint (MFJ) return. We also observed that a similar number of scenarios would exist for each of the other filing statuses. Elsewhere, we noted that the impact of the QBI deduction and comparison to the new C corporation rates was “highly sensitive to the inputs ... notably on state income tax rates and the WACC components.” We want to turn first to the Delaware Chancery model, then to the issue of state income taxes at the corporate and individual level and how they impact after-tax cash flows subject to valuation. You can take each of our

2 That being a rhetorical statement, as if someone would listen to begin with.

HOW NEW QBI DEDUCTION IMPACTS THE HYPOTHETICAL BUYER AND SELLER, PART 2

15 scenarios and multiply them by the number of different combinations of state corporate-individual tax rates to get a sense of what we find.

Delaware Chancery/Kessler/Bernier.³ It should be noted that the small businesses and professional practices that many readers are engaged to value *never* pay a dividend, even if they are structured as C corporations. The compensation system in many professional practices and other businesses does not lend itself to S distributions as opposed to salary and bonus. Thus, the Delaware Chancery model in those cases is little more than a canard, or, if you like being a fish rather than a bird that eats them, a red herring. The difference between the C corporation tax rate and S corporation tax rates in those scenarios is the additional Medicare tax of 2.9% on salary from a C corporation and any additional

FICA tax for low-income businesses. Although one can debate it within the context of normalizing reasonable or replacement compensation, it is difficult to imagine that hypothetical buyers and sellers would agree to value a business on the basis of taking dividends and incurring C corporation taxes that had never and will never be paid—food for thought for both ducks and fish.

Under the “original” Delaware Chancery Court model—which had no specified state tax—utilizing a 40% corporate tax rate, a 40% individual tax rate, and a 15% individual dividend tax rate, the effective S corporation rate was 29.4%.

Before the TCJA, the effective tax rate under this model would have been primarily a function of the taxes imposed at the individual level on ordinary income and dividends. The *Kessler* model, reduced to its basics, states that any tax on the individual owner(s) in excess of that imposed at the rate on C corporation dividends is a tax on the S

3 There are, no doubt, alternative versions of how this model works.

Exhibit 1. Business Eligible, MFJ Taxable Income Below \$479,000, AGI Under \$250,000 Pass-Through Entity Effective Tax Rate Computation, Embedded Tax Adjusted

	C Corp		Pass-Through		Effective	
	%		%		%	
Taxable income		100.00		100.00		100.00
State tax	0.00%	-	0.00%	-		
Taxable income after state tax		100.00		100.00		100.00
Federal tax	35.00%	35.00	35.00%	35.00	23.53%	23.53
Net income for dividend		65.00		65.00		76.47
Individual tax						
State tax	0.00%	-	0.00%	-	0.00%	-
Taxable income after state tax		65.00		65.00		76.47
Dividend tax	15.00%	9.75	0.00%	-	15.00%	11.47
After-tax dividend		55.25		65.00		65.00

Exhibit 2. Business Eligible, MFJ Taxable Income Below \$479,000, AGI Under \$250,000 Pass-Through Entity Effective Tax Rate Computation, Embedded Tax Adjusted

	C Corp		Pass-Through		Effective	
	%		%		%	
Taxable income		100.00		100.00		100.00
State tax	0.00%	-	0.00%	-		
Taxable income after state tax		100.00		100.00		100.00
Federal tax	35.00%	35.00	35.00%	35.00	19.95%	19.95
Net income for dividend		65.00		65.00		80.05
Individual tax						
State tax	0.00%	-	0.00%	-	0.00%	-
Taxable income after state tax		65.00		65.00		80.05
Dividend tax	18.80%	12.22	0.00%	-	18.80%	15.05
After-tax dividend		52.78		65.00		65.00

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corporation. As shown in Exhibit 1, this resulted in a consistent effective rate of 23.53% on the S corporation, assuming a 35% (rather than the maximum 39.6%) ordinary rate and 15% dividend rate. Note that all of the models in this section are based upon the marginal rate at the income level illustrated, not the average tax rate—those scenarios are presented later herein.

In Exhibit 2, we add the Medicare investment tax of 3.8%, which was not present in *Kessler*, and the effective rate drops by almost the same amount.

Finally, in Exhibit 3 we increase the ordinary tax rate to 39.6%, and the effective rate increases to 25.62%.⁴

Now, we illustrate in Exhibit 4 what would happen pre-TCJA if the individual tax rate of the owner was assumed to be lower than the maximum, here 33%.

4 Holding the Medicare tax constant for illustration.

Exhibit 3. Business Eligible, MFJ Taxable Income Below \$479,000, AGI Under \$250,000 Pass-Through Entity Effective Tax Rate Computation, Embedded Tax Adjusted						
	C Corp		Pass-Through		Effective	
	%		%		%	
Taxable income		100.00		100.00		100.00
State tax	0.00%	-	0.00%	-		
Taxable income after state tax		100.00		100.00		100.00
Federal tax	35.00%	35.00	39.60%	39.60	25.62%	25.62
Net income for dividend		65.00		60.40		74.38
Individual tax						
State tax	0.00%	-	0.00%	-	0.00%	-
Taxable income after state tax		65.00		60.40		74.38
Dividend tax	18.80%	12.22	0.00%	-	18.80%	13.98
After-tax dividend		52.78		60.40		60.40

It seems nonsensical, resulting in an effective rate of only 17.49%, but gives us insight into what happens under TCJA.

Exhibit 5 looks at a variety of tax rates pre-TCJA, with the lower tax rates generating completely nonsensical results, although those rates are unlikely to be encountered.⁵ We assume here the Medicare tax does not apply.

5 Where do I get my refund check from the Feds for electing S?

Exhibit 4. Business Eligible, MFJ Taxable Income Below \$479,000, AGI Under \$250,000 Pass-Through Entity Effective Tax Rate Computation, Embedded Tax Adjusted						
	C Corp		Pass-Through		Effective	
	%		%		%	
Taxable income		100.00		100.00		100.00
State tax	0.00%	-	0.00%	-		
Taxable income after state tax		100.00		100.00		100.00
Federal tax	35.00%	35.00	33.00%	33.00	17.49%	17.49
Net income for dividend		65.00		67.00		82.51
Individual tax						
State tax	0.00%	-	0.00%	-	0.00%	-
Taxable income after state tax		65.00		67.00		82.51
Dividend tax	18.80%	12.22	0.00%	-	18.80%	15.51
After-tax dividend		52.78		67.00		67.00

Exhibit 5. Tax Rates Pre-TCJA	
Individual Rate	Effective Rate
10.0%	-5.9%
15.0%	0.0%
25.0%	11.8%
28.0%	15.3%
33.0%	21.2%
35.0%	23.5%
39.6%	28.9%

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Delaware Chancery post-TCJA. In the first illustration of post-TCJA (Exhibit 6), we assume eligibility for the 20% QBI deduction, and, because of the expanded rates, the business owner is in a *marginal* 24% bracket, so the effective *marginal* ordinary rate is 19.2%, and the dividend rate is 15% if AGI is under \$250,000. No state taxes are assumed for either the C corporation or the individual. The effective S corp rate is only 4.94%. It is important to take note, however, that the C corp and the S corp have nearly identical taxable income at the corporate level (\$79 versus \$80.80). This is a key flaw in the Delaware Chancery model, as not every C corp distributes all of its earnings as a dividend, of course.

Now, watch what occurs when AGI hits the \$250,000 level, the dividend tax increases from 15% to 18.8%, *but* the marginal individual tax rate does not change (Exhibit 7). In one more example of the seeming silliness of the Delaware Chancery model when applied to the real-world income tax rates—not the stationary 15% dividend tax and other assumptions of the *Kessler* decision—the value of the S corp relative to the C corp increases from 120% to 126%, despite no increase in after-tax cash flow at the S corporate level!

In fact, as Exhibit 8 indicates, the Delaware Chancery model produces nonsense results at lower individual tax rates.⁶ One must assume, we suppose, that there are not hypothetical buyers or sellers with tax rates below 22%. Highlighted cells are the relevant ones.

Impact of state taxes. As we noted in Part 1, with the limitation on the SALT deduction, state income taxes generally will not reduce federal taxes for a pass-through entity but will for a C corporation,

Exhibit 6. Business Eligible, MFJ Taxable Income Pass-Through Entity Effective Tax Rate Computation, Delaware Chancery, No State Benefit, Embedded Tax Adjusted

	C Corp		Pass-Through		Effective	
	%		%		%	
Taxable income		100.00		100.00		100.00
State tax	0.00%	0.00		0.00		
Taxable income after state tax		100.00		100.00		100.00
Federal tax	21.00%	21.00	19.20%	19.20	4.94%	4.94
Net income for dividend	21.00%	79.00		80.80		95.06
Individual tax						
State tax		0.00	0.00%	0.00		0.00
Taxable income after state tax		79.00		80.80		95.06
Dividend tax embedded	15.00%	11.85	0.00%	0.00	15.00%	14.26
After-tax dividend		67.15		80.80		80.80

Exhibit 7. Business Eligible, MFJ Taxable Income Pass-Through Entity Effective Tax Rate Computation, Delaware Chancery, No State Benefit, Embedded Tax Adjusted

	C Corp		Pass-Through		Effective	
	%		%		%	
Taxable income		100.00		100.00		100.00
State tax	0.00%	0.00		0.00		
Taxable income after state tax		100.00		100.00		100.00
Federal tax	21.00%	21.00	19.20%	19.20	0.49%	0.49
Net income for dividend	21.00%	79.00		80.80		99.51
Individual tax						
State tax		0.00	0.00%	0.00		0.00
Taxable income after state tax		79.00		80.80		99.51
Dividend tax embedded	18.80%	14.85	0.00%	0.00	18.80%	18.71
After-tax dividend		64.15		80.80		80.80

⁶ What was that refund check address again? If there was \$77,200 of business income and taxable income, the Delaware Chancery model technically generates an effective negative tax rate because the 15% dividend tax is greater than the individual marginal rate of 12%. However, the next dollar of income moves the individual bracket from 12% to 22%, eliminating the negative.

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one of many possible factors tilting the scales in favor of C corporations in high tax states.

Exhibit 9 is an example where the maximum federal individual rate of 37% applies, the maximum dividend rate of 23.8% applies, the state individual rate is 6% on both ordinary income and dividends, and there is no deduction at the individual federal level for state taxes. Note that the "Federal tax" line in the "Effective" column include both federal and state taxes, such that the "Net income for dividend" line in the "Effective" column is stated on the same basis as in the C corp column. Here again, if the distribution of all after-tax C corp earnings is not assumed, the C corp leaves a greater amount of after-tax earnings at the corporate level.

The core flaw in the Delaware Chancery model's assumption—notwithstanding its related ignorance of the investor-level tax effect on cost of equity—is the assumption that the dividend rate for a C corporation shareholder should drive the train on the computation of the effective corporate rate for an S corporation. This attributes all the cash flow and value difference to the S election.

Exhibit 10 shows the impact of various federal and state individual rates with the corporate

rate fixed at 8%. There are nonsense results at lower rate combinations; however, the maximum federal rates of 35%/37% and 23.8% are only relevant in the shaded area.

What if the buyer of the stock is a tax-exempt entity indifferent to investor-level taxes on dividends (as in the Fannon model) and is subject to the tax on unrelated business income via the S corporation?⁷ Now the S corporation looks unattractive relative to the C corporation (Exhibit 11).

Marginal or average tax rate? Thus far, the modeling has focused on marginal rates, rather than average rates. With the QBI deduction based on taxable income at the individual level, the value impact depends on the appraiser's assumption as to whether all of the QBI should be

⁷ Note that dividends a tax-exempt receives are typically not subject to tax while pass-through income from an S corporation is subject to tax, even if the pass-through is a "related" business.

Exhibit 8. Delaware Chancery Model Produces Nonsense Results at Lower Individual Tax Rates			
Personal Tax Rates	Dividend Rates		
	15.0%	18.8%	23.8%
10%	-8.24%	-13.30%	-20.73%
12%	-6.35%	-11.33%	-18.64%
22%	3.06%	-1.48%	-8.14%
24%	4.94%	0.49%	-6.04%
32%	12.47%	8.37%	2.36%
35%	15.29%	11.33%	5.51%
37%	17.18%	13.30%	7.61%

Exhibit 9. Business Eligible, MFJ Taxable Income Pass-Through Entity Effective Tax Rate Computation, Delaware Chancery, No State Benefit, Embedded Tax Adjusted						
	C Corp		Pass-Through		Effective	
	%		%		%	
Taxable income		100.00		100.00		100.00
State tax	0.00%	0.00		0.00		
Taxable income after state tax		100.00		100.00		100.00
Federal tax	21.00%	21.00	29.60%	29.60	8.26%	8.26
Net income for dividend	21.00%	79.00		70.40		91.74
Individual tax						
State tax		0.00	6.00%	6.00		0.00
Taxable income after state tax		79.00		64.40		91.74
Dividend tax embedded	29.80%	23.54	0.00%	0.00	29.80%	27.34
After-tax dividend		55.46		64.40		64.40

HOW NEW QBI DEDUCTION IMPACTS THE HYPOTHETICAL BUYER AND SELLER, PART 2

tax affected at the marginal rate(s) to the extent thereof, or at the average rate applied to all taxable income—or even at the lowest rate(s) applicable to taxable income. Is it the last dollar, first dollar, or all dollars that determine the rate?

to the QBI deduction⁸ but substituting the average federal rate in place of the marginal rate of 37%. Once again, this effective rate construct generates a nonsense result, with the federal government writing you a refund check for

Exhibit 12 returns to the Delaware Chancery model, with \$650,000 of taxable income subject

8 For simplicity, AGI, QBI and pre-QBI taxable income are all assumed to be the same: \$650,000.

Exhibit 10. Impact of Various Federal and State Individual Rates With the Corporate Rate Fixed at 8%

Federal Individual Rate	State Individual Rate							
	0%	2%	4%	6%	8%	10%	12%	14%
10%	-20.73%	-21.29%	-21.88%	-22.51%	-23.17%	-23.87%	-24.61%	-25.40%
12%	-18.64%	-19.14%	-19.67%	-20.23%	-20.82%	-21.45%	-22.12%	-22.83%
22%	-8.14%	-8.36%	-8.59%	-8.83%	-9.09%	-9.37%	-9.66%	-9.97%
24%	-6.04%	-6.20%	-6.37%	-6.55%	-6.74%	-6.95%	-7.17%	-7.40%
32%	2.36%	2.43%	2.49%	2.56%	2.64%	2.72%	2.80%	2.89%
35%	5.51%	5.66%	5.82%	5.98%	6.16%	6.34%	6.54%	6.75%
37%	7.61%	7.82%	8.03%	8.26%	8.50%	8.76%	9.03%	9.32%

Exhibit 11. Business Eligible, MFJ Taxable Income Pass-Through Entity Effective Tax Rate Computation, Delaware Chancery, No State Benefit, Embedded Tax Adjusted

	C Corp		Pass-Through		Effective	
	%		%		%	
Taxable income		100.00		100.00		100.00
State tax	0.00%	0.00		0.00		
Taxable income after state tax		100.00		100.00		100.00
Federal tax	21.00%	21.00	29.60%	29.60	35.60%	35.60
Net income for dividend	21.00%	79.00		70.40		64.40
Individual tax						
State tax		0.00	6.00%	6.00		0.00
Taxable income after state tax		79.00		64.40		64.40
Dividend tax embedded	0.00%	0.00	0.00%	0.00	0.00%	0.00
After-tax dividend		79.00		64.40		64.40

Exhibit 12. Business Eligible, MFJ Taxable Income Pass-Through Entity Effective Tax Rate Computation, Delaware Chancery, No State Benefit, Embedded Tax Adjusted

	C Corp		Pass-Through		Effective	
	%		%		%	
Taxable income		100.00		100.00		100.00
State tax	0.00%	0.00		0.00		
Taxable income after state tax		100.00		100.00		100.00
Federal tax	21.00%	21.00	20.52%	20.52	-4.30%	-4.30
Net income for dividend	21.00%	79.00		79.48		104.30
Individual tax						
State tax		0.00	0.00%	0.00		0.00
Taxable income after state tax		79.00		79.48		104.30
Dividend tax embedded	23.80%	18.80	0.00%	0.00	23.80%	24.82
After-tax dividend		60.20		79.48		79.48

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electing S because the average tax rate for all taxable income of 22.14% is less than the dividend tax rate of 23.8%.

For the above scenario, the QBI deduction reduces taxable income by \$120,000, to \$520,000. Using MFJ rates, the tax paid on that \$520,000 is \$133,379, or an average rate of 25.65% (\$133,379/\$520,000).⁹ The average rate paid on pre-QBI taxable income of \$650,000 is 20.52% (\$133,379/\$650,000), however. Which of the 25.65% or 20.52% is appropriate? The answer is of significant importance, as shown in the alternate calculation in Exhibits 13 and 14 using the 25.65%.

After running many iterations of the S corporation scenario, with and without the Delaware Chancery model, using the marginal rate, average

⁹ The marginal rate here was 35% for the entire QBI deduction. However, for many smaller businesses, the impact of the deduction may cross several marginal rates in the tax brackets.

Exhibit 13. Business Eligible Pass-Through Entity Effective Tax Rate Computation, Delaware Chancery, No State Benefit, Embedded Tax Adjusted

	C Corp		Pass-Through		Effective	
	%		%		%	
Taxable income		100.00		100.00		100.00
State tax	0.00%	0.00		0.00		
Taxable income after state tax		100.00		100.00		100.00
Federal tax	21.00%	21.00	25.65%	25.65	2.43%	2.43
Net income for dividend	21.00%	79.00		74.35		97.57
Individual tax						
State tax		0.00	0.00%	0.00		0.00
Taxable income after state tax		79.00		74.35		97.57
Dividend tax embedded	23.80%	18.80	0.00%	0.00	23.80%	23.22
After-tax dividend		60.20		74.35		74.35

Exhibit 14. Dividend Tax Rate for Alternate Calculation

Personal Tax Rate	Dividend Tax Rate		
	15.0%	18.8%	23.8%
10%	-8.24%	-13.30%	-20.73%
12%	-6.35%	-11.33%	-18.64%
22%	3.06%	-1.48%	-8.14%
24%	4.94%	0.49%	-6.04%
32%	12.47%	8.37%	2.36%
35%	15.29%	11.33%	5.51%
37%	17.18%	13.30%	7.61%

rate on all taxable income, and average rate on taxable income net of the QBI deduction, we believe the most accurate representation of the "value" of the deduction is to calculate the actual tax impact at the individual level due to the idiosyncratic nature of the actual calculation, e.g., offsets for net capital gains. This will be especially important in marital dissolution valuations where equitable distribution is the standard, whether in conjunction with fair market value, fair value, or some other standard of value.

A different answer may well be required for the pure hypothetical buyer and seller of the fair market value standard, however. There, we suspect, many will default to the marginal rate impact of the QBI deduction based upon the taxable cash flow used in the valuation model, e.g., if the business generates \$300,000 of taxable income, the marginal rate is 24%,¹⁰ if using MFJ. If QBI is \$240,000, the QBI deduction is \$48,000 and the marginal rates are 22% on \$21,000 and 24% on \$27,000. Of course, if one goes above \$600,000 of taxable income after the QBI deduction, the marginal rate is 37% and the effective S corp rate under the Delaware Chancery model calculates at 7.61%.

¹⁰ The 24% bracket runs from \$165,000 of taxable income to \$315,000 of taxable income.

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Exhibit 15. S Corp Value Change, With Comparison to C Corp Eligible for 20% QBI Deduction, State Corp and Individual Tax Rate of 0%

Inputs				
Current risk-free rate =	2.41%	2.41%	2.41%	2.41%
Risk premium =	16.00%	16.00%	16.00%	16.00%
	S Corp	S Corp	S Corp, Del. Chancery	C Corp
	<i>Pretax reform</i>	<i>Post-tax reform</i>	<i>Post-tax reform</i>	<i>Post-tax reform</i>
Beta	1.00	1.00	1.00	1.00
Pretax cost of debt	4.00%	4.00%	4.00%	4.00%
Marginal tax rate	39.60%	19.20%	7.61%	21.00%
Debt-to-capital ratio	10.00%	10.00%	10.00%	10.00%
Revenues	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000
Operating income (EBIT)	\$100,000	\$100,000	\$100,000	\$100,000
Effective tax rate	39.60%	19.20%	4.94%	21.00%
After-tax return on capital	12.08%	16.16%	19.01%	15.80%
Reinvestment rate =	15.00%	15.00%	15.00%	15.00%
CapEx/bonus depreciation	\$15,000	\$15,000	\$15,000	\$15,000
Changes in employee salaries				
Adjusted operating income	\$85,000	\$85,000	\$85,000	\$85,000
Operating income after-tax	\$51,340	\$68,680	\$80,800	\$67,150
Free cash flow (net of CapEx)	\$51,340	\$68,680	\$80,800	\$67,150
Length of growth period =	5	5	5	5
Computed Values	Pretax reform	Post-tax reform		
Cost of equity =	18.41%	18.41%	18.41%	18.41%
After-tax cost of debt =	2.42%	3.23%	3.80%	3.16%
Cost of capital =	16.81%	16.89%	16.95%	16.88500%
After-tax return on capital =	12.08%	16.16%	19.01%	15.80000%
Reinvestment rate =	15.00%	15.00%	15.00%	15.00%
Expected growth rate=	1.81%	2.42%	2.85%	2.3700%
Value of firm				
PV of FCFF in high growth =	\$173,199	\$235,073	\$279,360	\$229,543
Terminal value =	\$376,143	\$548,011	\$672,952	\$532,522
Value of firm today =	\$346,157	\$486,181	\$586,968	\$473,630
Comparison	Post-Reform S	Post-Reform C	Prereform S Del Ch	Prereform C
Value with existing tax code	\$346,157	\$377,307	\$419,938	\$377,307
Value with new tax code	\$414,188	\$414,188	\$567,908	\$473,630
Change in value	\$68	\$36,881	\$147,970	\$96,323
Percentage change in value	19.65%	9.77%	35.24%	25.53%

What if the Section 199A deduction expires in 2025? In terms of the present value of future cash flow, 2025 is not all that far away compared to the terminal value impact of treating the deduction as permanent. As a simple example, assume a \$20,000 QBI deduction generates \$7,400 in next-year tax savings. The discount rate is 22%, and the terminal growth rate is 2%, such that the capitalization rate is 20%. The capitalized value of that deduction is \$37,000. The present value of \$7,400 growing at 2% per annum for seven years and discounted to present value using the end-of-year convention is \$26,400. Forty percent of the value of the deduction occurs in the terminal period.

Back to value. Returning to the valuation methodology employed in Part 1 and borrowed from Professor Damodaran, we present four valuation scenarios: the first, second, and fourth columns are the Part 1 comparison of C versus S without consideration of any dividend tax at the investor level, *other than* that implicit in the equity discount rate. The third column (“Effective Rate”) looks at the post-tax reform Delaware Chancery model and compares that to the prereform model.¹¹

Of course, the Delaware Chancery Court model produces an incredible 35% increase in value relative to the preexisting tax law (Exhibit 15). Predictably, given the scenarios presented above, that value increase varies considerably with the combination of individual tax rates and dividend tax rates, as shown in Exhibit 16—highlighted cells are the relevant ones. At the highest personal rate and dividend tax rate, the S corp has an alleged value that is 35% greater than before the TCJA. This is pretty much due to the individual rate dropping from 39.6% to 37%, while the dividend tax remains the same—and, of course, makes no sense, especially in the 24% bracket where the S corp value increase goes from 43% to 51% when the Medicare investment tax of 3.8% comes into play at \$250,000 of AGI.

¹¹ The detail of that model is not presented.

Exhibit 16. Value Increase Varies Considerably With the Combination of Individual Tax Rates and Dividend Tax Rates

Personal Tax Rate	Dividend Tax Rate		
	15.0%	18.8%	23.8%
10%	62.47%	71.33%	84.46%
12%	59.20%	67.87%	80.73%
22%	42.99%	50.77%	62.30%
24%	39.77%	47.38%	58.65%
32%	27.03%	33.94%	44.18%
35%	22.29%	28.95%	38.80%
37%	19.15%	25.63%	35.24%

Here’s one more scenario (Exhibit 17) that appears in the relevant cells above, the 24% marginal and 15% dividend tax combination. Now the S corporation with the QBI deduction is 40% more valuable than pre-TCJA.

Now, let’s assume, as many companies have done, employees get pay raises in response to the lower taxes—and falling unemployment rates that place pressure on wages. Here (Exhibit 18), we use 5% of operating income, or roughly a third of the C corp rate reduction and a quarter of the QBI deduction.

Conclusion—or confusion? While our intent has not been to confuse or overcomplicate, the message to this analysis is clear. There are no longer any easy answers to the valuation question—if there ever were any. The Delaware Chancery model is more problematic than ever and will create serious challenges in those jurisdictions that require it. Simply assuming that all of the tax reduction of a C or S will drop to the bottom line as distributable cash flow may seem appropriate at first blush but may not reflect the competitive realities of employee retention, for example. Moreover, assessing the impact on the *risk* of this enhanced future cash flow and translating that to a valuation multiple is really at the heart of the

HOW NEW QBI DEDUCTION IMPACTS THE HYPOTHETICAL BUYER AND SELLER, PART 2

Exhibit 17. The 24% Marginal and 15% Dividend Tax Combination Scenario

	S Corp	S Corp	S Corp, Del. Chancery	C Corp
	<i>Pretax reform</i>	<i>Post-tax reform</i>	<i>Post-tax reform</i>	<i>Post-tax reform</i>
Beta	1.00	1.00	1.00	1.00
Pretax cost of debt	4.00%	4.00%	4.00%	4.00%
Marginal tax rate	39.60%	19.20%	19.20%	21.00%
Debt-to-capital ratio	10.00%	10.00%	10.00%	10.00%
Revenues	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000
Operating income (EBIT)	\$100,000	\$100,000	\$100,000	\$100,000
Effective tax rate	39.60%	19.20%	4.94%	21.00%
After-tax return on capital	12.08%	16.16%	19.01%	15.80%
Reinvestment rate =	15.00%	15.00%	15.00%	15.00%
CapEx/bonus depreciation	\$15,000	\$15,000	\$15,000	\$15,000
Changes in employee salaries				
Adjusted operating income	\$85,000	\$85,000	\$85,000	\$85,000
Operating income after-tax	\$51,340	\$68,680	\$80,800	\$67,150
Free cash flow (net of CapEx)	\$51,340	\$68,680	\$80,800	\$67,150
Length of growth period =	5	5	5	5
Computed Values	Pretax reform	Post-tax reform		
Cost of equity =	18.41%	18.41%	18.41%	18.41%
After-tax cost of debt =	2.42%	3.23%	3.80%	3.16%
Cost of capital =	16.81%	16.89%	16.95%	16.88500%
After-tax return on capital =	12.08%	16.16%	19.01%	15.80000%
Reinvestment rate =	15.00%	15.00%	15.00%	15.00%
Expected growth rate=	1.81%	2.42%	2.85%	2.3700%
Value of firm				
PV of FCFF in high growth =	\$173,199	\$235,073	\$279,360	\$229,543
Terminal value =	\$376,143	\$548,011	\$672,952	\$532,522
Value of firm today =	\$346,157	\$486,181	\$586,968	\$473,630
Comparison	Post-Reform S	Post-Reform C	Prereform S Del Ch	Prereform C
Value with existing tax code	\$346,157	\$377,307	\$419,938	\$377,307
Value with new tax code	\$486,181	\$486,181	\$586,968	\$473,630
Change in value	\$140,024	\$108,875	\$167,029	\$96,323
Percentage change in value	40.45%	28.86%	39.77%	25.53%

HOW NEW QBI DEDUCTION IMPACTS THE HYPOTHETICAL BUYER AND SELLER, PART 2

Exhibit 18. Employees Get Pay Raises, Use 5% of Operating Income

	S Corp	S Corp	S Corp, Del. Chancery	C Corp
	<i>Pretax reform</i>	<i>Post-tax reform</i>	<i>Post-tax reform</i>	<i>Post-tax reform</i>
Beta	1.00	1.00	1.00	1.00
Pretax cost of debt	4.00%	4.00%	4.00%	4.00%
Marginal tax rate	39.60%	29.60%	29.60%	21.00%
Debt-to-capital ratio	10.00%	10.00%	10.00%	10.00%
Revenues	\$1,000,000	\$1,000,000	\$1,000,000	\$1,000,000
Operating income (EBIT)	\$100,000	\$100,000	\$100,000	\$100,000
Effective tax rate	39.60%	29.60%	7.61%	21.00%
After-tax return on capital	12.08%	14.08%	18.48%	15.80%
Reinvestment rate =	15.00%	15.00%	15.00%	15.00%
CapEx/bonus depreciation	\$15,000	\$15,000	\$15,000	\$15,000
Changes in employee salaries		\$5,000	\$5,000	\$5,000
Adjusted operating income	\$85,000	\$80,000	\$80,000	\$80,000
Operating income after-tax	\$51,340	\$56,320	\$73,911	\$63,200
Free cash flow (net of CapEx)	\$51,340	\$59,840	\$78,530	\$67,150
Length of growth period =	5	5	5	5
Computed Values	Pretax reform	Post-tax reform		
Cost of equity =	18.41%	18.41%	18.41%	18.41%
After-tax cost of debt =	2.42%	2.82%	3.70%	3.16%
Cost of capital =	16.81%	16.85%	16.94%	16.88500%
After-tax return on capital =	12.08%	14.08%	18.48%	15.80000%
Reinvestment rate =	15.00%	15.00%	15.00%	15.00%
Expected growth rate=	1.81%	2.11%	2.77%	2.3700%
Value of firm				
PV of FCF in high growth =	\$173,199	\$191,352	\$255,059	\$216,041
Terminal value =	\$376,143	\$459,390	\$649,247	\$532,522
Value of firm today =	\$346,157	\$402,228	\$551,967	\$460,127
Comparison	Post-Reform S	Post-Reform C	Prereform S Del Ch	Prereform C
Value with existing tax code	\$346,157	\$377,307	\$419,938	\$377,307
Value with new tax code	\$402,228	\$402,228	\$551,967	\$460,127
Change in value	\$56,071	\$24,922	\$132,029	\$82,821
Percentage change in value	16.20%	6.61%	31.44%	21.95%

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second element of the basic valuation formula of cash flow times *multiple*. The QBI deduction is supposed to sunset as of Jan. 1, 2027, while the C corporation rate reduction is “permanent.” The “horizon” on S corporations should be taken into account in the terminal growth rate of a CCF or a DCF. Will we suddenly see empirical evidence that valuations of the public stocks we rely upon for discount rates have gone up 25%? And, if they do, can we attribute causation to the TCJA? What if they decline? Would the decline be greater if not offset by the TCJA? And will the hedge fund and other traders with their trillions of dollars of market power rule the day anyway by taking advantage of the carried interest rule?

Forecasting is a form of time travel to the future, but it seems that valuation professionals have been transported *Groundhog Day*-style back to the “Wild West” of 25 years ago, with little consensus on how the TCJA impacts cash flow, cost of capital, and effective tax rates. Draw, pardner! ♦

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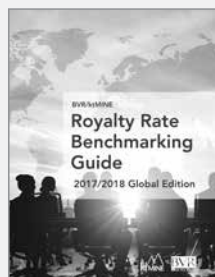
Ask the Experts

Q: *Can I use rule-of-thumb benchmarking data for valuations?*

A: Yes, but only for use as a reasonableness test against other valuation methodologies used in a report. Rules of thumb are market-driven and sourced primarily from business intermediaries closely involved in actual transactions. They are readily available for almost every industry, easy to apply, and can provide a sanity check for other valuation methods. They are not used as a primary method because of the nature of the information. For example, rules of thumb reflect average multiples across an industry and are not traceable to specific transactions. Also, there are some unknowns, such as financing terms and the existence of noncompete agreements. Nevertheless, rules of thumb have their place in the valuator’s toolkit.

Source: *2018 Business Reference Guide*, Business Brokerage Press (bvresources.com/products/2018-business-reference-guide).

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'Breaking Bad' in BV Profession

... continued from front page

and the need to provide for his family. Using his knowledge as a high school chemistry teacher, he becomes a major player in the meth trade in the southwestern United States. Although he makes a fortune, he also suffers severe consequences from compromising his standards. In the same way, calculation engagements (or calculations of value) also compromise the standards of reliability and independence.

By its own definition, a calculation engagement does not have to consider or properly employ the traditional and appropriate methodologies used in a proper valuation and, as such, never gets on the road to arrive at a reliable opinion of value. A calculation engagement is also subject to bias due to the client's ability to choose the methods used and thus engineer a desired value. Worst of all, the vast majority of nonappraisers do not understand the unreliability of a calculation as compared to a real valuation and may treat the two as equals. Due to these severe flaws, the terms "valuation methodology" and "valuation method" cannot be associated with a calculation engagement—these terms must be limited and abbreviated. As such, I refer to calculation engagements as "valuation meth." This article first examines the definition of a calculation engagement and then outlines the numerous problems with this synthetic and harmful narcotic.

Definitions. The rise in the use of calculation engagements began with the 2007 publication by the AICPA of its *Statement on Standards for Valuation Services No. 1* (SSVS). The SSVS allows for two types of engagements to estimate value:

Types of Engagement

21. There are two types of engagements to estimate value—a valuation engagement and a calculation engagement. The valuation engagement requires more procedures than does the calculation engagement. The

valuation engagement results in a conclusion of value. The calculation engagement results in a calculated value. The type of engagement is established in the understanding with the client:

a. Valuation engagement. A valuation analyst performs a valuation engagement when (1) the engagement calls for the valuation analyst to estimate the value of a subject interest and (2) the valuation analyst estimates the value (as outlined in paragraphs 23-45) and is free to apply the valuation approaches and methods he or she deems appropriate in the circumstances. The valuation analyst expresses the results of the valuation as a conclusion of value; the conclusion may be either a single amount or a range.

b. Calculation engagement. A valuation analyst performs a calculation engagement when (1) the valuation analyst and the client agree on the valuation approaches and methods the valuation analyst will use and the extent of procedures the valuation analyst will perform in the process of calculating the value of a subject interest (these procedures will be more limited than those of a valuation engagement) and (2) the valuation analyst calculates the value in compliance with the agreement. The valuation analyst expresses the results of these procedures as a calculated value. The calculated value is expressed as a range or as a single amount. A calculation engagement does not include all of the procedures required for a valuation engagement (paragraph 46).

As seen above, there are major differences between a valuation engagement (i.e., a real valuation) and a calculation engagement (i.e., valuation meth). The SSVS references 23 sections of

'BREAKING BAD' IN THE BUSINESS VALUATION PROFESSION

applicable requirements for a valuation engagement (paragraphs 23-45) but only one section of applicable requirements for a calculation engagement (paragraph 46). Not surprisingly, the significant difference between the requirements for the two types of engagements results in an equally significant difference in the quality and reliability of the ultimate product.

Let's take a look at the many major problems valuation meth causes.

1. Incomplete and highly limited analysis. The first major problem with a calculation engagement is its failure to undertake or include the necessary procedures to determine a reliable value. From the SSVS:

The valuation engagement requires more procedures than does the calculation engagement. [The] procedures [in a calculation engagement] will be more limited than those of a valuation engagement. A calculation engagement does not include all of the procedures required for a valuation engagement.

Put simply, the calculation engagement is an incomplete and highly limited exercise. It is concerned only with speed and convenience and not with accuracy. It is the valuation equivalent of five minutes on WebMD versus a thorough physical exam by a doctor. WebMD may convince you that the cough and rattle in your lungs are just bronchitis, but an actual examination by a real physician may result in the far different and far more serious diagnosis of lung cancer. If you saved some money with WebMD on the front end but missed your window of treatment by not seeing a real doctor, well, I guess your spouse and children will be inheriting a slightly larger estate.

Also note that the above provisions in the SSVS do not specify the *degree* to which a calculation engagement is more limited as compared to a valuation engagement. Do not be fooled into

thinking that a calculation engagement contains 75% or 50% of the documentation, analysis, and procedures of a valuation engagement. We have reviewed a number of calculation engagements and have yet to see one that exceeded 10%.

Jim Hitchner, CPA/ABV/CFF, ASA, is a business appraiser who is one of the four members of the original Business Valuation Standards Writing Task Force of the SSVS. In the September 2014 *QuickRead* (a publication of business valuation organization NACVA), Hitchner addresses the problem of the incomplete analyses and limited procedures in a calculation engagement:

This is a big deal, particularly in a litigation setting. How does this sound? "My opinion of the calculated value of XYZ Company is \$4,000,000." Sounds fine on the surface, right? Let's parse this some. What you are really saying is, "My opinion (which is sufficient, reliable, believable, and with reasonable certainty) of the calculated value (which is not sufficient, reliable, believable, or with reasonable certainty) of XYZ Company is \$4,000,000. This sounds odd, as it should. So, while an opinion of a calculated value is not prohibited by SSVS No. 1, from a practical perspective, why would you want to put yourself in this untenable position?

Note the highlights of Hitchner's quote:

- "This is a big deal, particularly in a litigation setting."
- "[T]he calculated value ... is not sufficient, reliable, believable, or with reasonable certainty."
- "Why would you want to put yourself in this untenable position?"

Hitchner's bottom line: *Calculation engagements are not reliable or appropriate, particularly in a litigation setting.*

Following this entirely logical and common-sense analysis of why the findings of a calculation engagement are inherently unreliable, Hitchner further addresses the unreliability of a calculation engagement when compared against the credibility requirement in the Federal Rules of Evidence, Rule 702, Testimony by Expert Witnesses:

[S]ufficiency and reliability are major factors here. *Black's Law Dictionary*, 10th edition, 2014, defines a *credible witness* as "[a] witness whose testimony is believable." In some litigation settings, an opinion is given with "reasonable certainty." So, can a calculation and calculated value be provided that is sufficient, reliable, believable, and/or with reasonable certainty? Given the language in paragraphs 21b and 77 in [SSVS], you would think that the answer is "no."

Hitchner again is dead right on this issue—the findings in a calculation engagement are insufficient, unreliable, unbelievable, and lack reasonable certainty. And remember, *these comments are from a practicing business appraiser who was one of the authors of the SSVS*. However, despite these warnings from one of the creators of the calculation engagement, we continue to see valuation meth being used repeatedly in the litigation context.

Furthermore, a calculation engagement cannot comply with the Uniform Standards of Professional Appraisal Practice (USPAP, which Congress mandated to eliminate appraisal abuses) as it violates the most fundamental business valuation requirement of USPAP (in addition to violating a number of other sections):

Standard 9: Business Appraisal, Development. In developing an appraisal of an interest in a business enterprise or intangible asset, an appraiser must identify the problem to be solved, *determine the scope of work necessary to solve the problem*, and *correctly complete the research and*

analyses necessary to produce a credible appraisal. (emphasis added)

By its own definition, the appraiser does not "determine the scope of work necessary" in a calculation engagement; the client does (see Bias section below). A calculation engagement also does not "complete the research and analyses necessary to produce a credible appraisal"; it contains only a fraction of them (see Hitchner above). The implications of this are clear: *A calculation engagement does not provide a credible or reliable opinion of value.* If you find yourself on the other side of a calculation engagement, be sure to read it closely. An addled valuation meth dealer will claim compliance with USPAP. A more clever valuation meth dealer will not claim compliance with USPAP as he or she has to ignore the law he or she knows his valuation meth breaks. And, after all, it is much easier to do whatever you want when there are no laws.

Remember, a calculation engagement doesn't require an *accurate* value, only the proper execution of the valuation methodology(ies) the client and the appraiser agreed to (i.e., dictated by the client—see next section). Do not be fooled—a reliable business valuation requires hundreds of steps, processes, and analyses—even if a calculation has its one step correct, that does *not* make it a reliable opinion of value. A properly made cake requires the proper mixing of a number of ingredients (flour, eggs, butter, sugar, etc.) and an adequate amount of time in the oven. Put just the eggs in the oven at 300 degrees for an hour, add icing and candles, and see how that flies at your kid's birthday party.

2. Bias. A second and equally alarming problem with the calculation engagement is the ability of the client to dictate the value. According to the SSVS:

A valuation analyst performs a calculation engagement when (1) the valuation analyst and the client agree on the valuation

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approaches and methods the valuation analyst will use and the extent of procedures the valuation analyst will perform in the process of calculating the value of a subject interest.

Again, let's hear Hitchner on this issue of the valuation analyst and client agreeing on the methods used (also from the September 2014 NACVA *QuickRead*):

This is not a big deal unless you allow it to be a big deal. Most clients are unfamiliar with all the approaches, methods, procedures, assumptions, applications, data choices, etc., that make up a valuation analysis, whether a valuation engagement or a calculation engagement. Let's be serious. The client doesn't ask for a calculation engagement; most don't even know what it is or that it even exists. What the client wants is a less expensive process to estimate a value. They simply want a cheaper valuation analysis.

What this means is that although the client has to agree to the extent of the work performed, it is the valuation analyst who really decides what is to be done. As long as you are the one telling the client what work is to be performed, you should be able to withstand criticisms that you and the client are in cahoots and that the client is telling you what to do to drive the process and obtain a desired result. Sure, that can happen. Just make sure it doesn't involve you. The proverbial buck stops with you.

Although Hitchner undoubtedly means well, he doesn't think this one all the way through. While Hitchner is correct in saying that the client wants a less expensive valuation analysis, the client wants something else even more: *a favorable valuation result*. The ex-husband business owner who can get a \$2 million calculation value on a company really worth \$5 million is not nearly as concerned about whether he paid \$5,000 or \$10,000 in valuation fees.

Here is the reality of the situation: If the appraiser believes the market approach should be used but the client does not want the market approach used (because it will result in a value higher than the value he wants), guess what? The client will not agree to use the market approach, and there will be no mutual agreement on the methods used. While it is true that most clients are not valuation experts, most clients are intelligent enough to understand which valuation methodologies will result in a high value and which will result in a low value.

The appraiser in this case is then faced with a choice: (1) decline the project because mutual agreement cannot be achieved (and watch the client go to another, more pliable appraiser); or (2) accept the client's wishes and proceed as the client has directed, excluding the market approach. Whether it is this appraiser or the next one, the client will find an appraiser who will do what he or she wants. It is only the calculation engagement that puts the appraiser in this compromising position. In a real valuation engagement, the client has agreed in advance that the appraiser will independently determine which valuation methods are appropriate with no interference or input from the client. And remember, a calculation engagement doesn't require the appraiser to provide an *accurate* value, only to properly execute whatever valuation methodology the client wants.

So is Hitchner a Pollyanna on this issue, or am I overly cynical? Well, consider the following *actual language* in a calculation engagement we reviewed recently:

Per your instructions, in performing the attached calculations, the "Adjusted Net Asset Method" and the "Income Method" were used.

Do you hear that? "*Per your instructions.*" Not: "*By mutual agreement.*" Here the truth has consciously or subconsciously bubbled to the surface. While I don't respect the use of a

calculation, at least this valuation meth dealer admitted that the methods used were per the client's instructions—there was no charade that this decision was by mutual agreement. In this specific case, the ex-husband business owner dictated the use of cost and income methods and prohibited the use of any market methods. This was entirely intentional by this client due to the fact that his company had made five acquisitions of smaller companies in the last two years, consistently using a common industry formula based on revenues (which the client produced to us during discovery!). The client knew that the application of this formula to his company resulted in a much higher (and accurate) value than the calculated value under the cost and income methods used. Therefore, he directed the appraiser to not use the market approach. This resulted in an artificially low and totally unreliable value of the company (a value at which, incidentally, the client admitted he would never sell).

This artificially low value was the value this client and his valuation meth dealer submitted in a divorce matter to attempt to equitably divide the marital estate. It was an inaccurate and unreliable value, yet these meth heads represented to the court that it was accurate and the payment of real dollars should be made based on its purported veracity.

Lawyers often refer to calculation engagements as the business valuation equivalent of the drive-by/windshield appraisal in real estate. This is not accurate—the calculation engagement is *worse*. At least in the drive-by/windshield appraisal, a real estate appraiser or realtor makes the guess about the value of the property. With valuation meth, the *client* does the drive-by and then uses the appraiser as his mouthpiece in submitting the purported reliable value to the court.

3. Impersonating a real valuation. This leads to the third and perhaps most nefarious aspect about valuation meth: its attempted

impersonation of a real valuation. Hitchner's earlier comments highlight this aspect:

Most clients are unfamiliar with all the approaches, methods, procedures, assumptions, applications, data choices, etc., that make up a valuation analysis, whether a valuation engagement or a calculation engagement. Let's be serious. The client doesn't ask for a calculation engagement; most don't even know what it is or that it even exists.

Hitchner is right—most clients have no idea about the difference between a valuation engagement and a calculation engagement. They don't care what the report is called; they just want a value. *This is exactly what makes the calculation engagement so dangerous.* With the use of valuation software programs, a calculation engagement report can be 100 pages long and appear to be equally authoritative when compared to a real valuation report. Because of this, judges and arbitrators may believe that the value in a calculation agreement is completely accurate and reliable when in fact this value has been manufactured by the selective and incomplete use of certain methodologies whose use the client may have dictated at the beginning.

The fact of the matter is that calculation engagements are now being offered in a context for which they were never intended. The original intent of the calculation engagement was to give a business owner a "rough idea" of value (acknowledging that an incomplete analysis would be done, bias was evident, and the indicated value could be highly inaccurate). It was *never* the intent that a calculation engagement actually be used in determining a final outcome, whether that be the division of a marital estate, the assessment of business damages, the payment of gift or estate taxes, etc. Yet this is exactly what is happening with greater frequency. Clients looking for a cheap and quick way to get a number (a number, incidentally, they

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can influence) are making increasing use of this valuation meth to achieve the short-term high they desire.

I was speaking with another appraiser at a business valuation conference and the topic of calculation engagements came up. I said our firm simply did not do them. He admitted that he did calculations "but for settlement purposes only—I have in my engagement agreement that if the project escalates to the litigation stage, they have to get a full valuation report." I asked him why it was OK to litigate a case with a reliable number but settle a case on an unreliable number if money could possibly change hands at either stage. "But my calculations are reliable," he sniffed. *This is a perfect view into the mind of the valuation meth dealer.* I wanted to ask him: "Well, if your calculation values are always reliable, why do you ever need to do a full valuation report?" I remembered, however, that addicts do not respond to logic and reason, so I held my tongue and changed the subject.

4. Meth labs. Valuation meth dealers love valuation meth because it is easier to make and is far more profitable than a real valuation. Calculation engagements require far less work than real valuations. Therefore, meth labs can charge a lower price for valuation meth as compared to the fee for a real valuation. In fact, we have seen some meth labs charge 50% of their standard valuation fee for a calculation engagement. But here's the good part: The amount of work that goes into a calculation engagement is *significantly less* than the amount of work required for a real valuation. When a meth lab charges a 50% fee for a project where only 5% to 10% of the work was performed (as compared to the 100% of work that goes into a real valuation), the profit margins of the meth lab go through the roof. As a result, valuation meth is significantly more profitable for meth labs than real valuations (which require all that troublesome and time-consuming analysis). Thus the valuation meth dealer lures his clients with: "Don't waste your money on a full valuation—all you need is a calculation."

Do not fall for the argument that the calculation engagement is "just like a compiled or reviewed financial statement instead of a full audit—it presents an accurate picture of a company's financial position, it just doesn't contain all of the tests and processes (and expense) of a full audit." This is an outright lie. The more accurate analogy is that the calculation engagement is the equivalent of the CPA preparing the asset side of the balance sheet only, totally ignoring both the liability/equity side of the balance sheet and the income statement, and presenting the final result as a reliable indication of a company's financial position.

5. Addiction. All of the foregoing factors combine to create a product that is highly addictive. The client is addicted to valuation meth due to its lower cost, the client's ability to determine the value, and the possibility that the judge or arbitrator will be unable to distinguish a real valuation from valuation meth. Which of the following options do you think the husband/business owner who wants to give his ex-wife nothing in their divorce settlement will choose:

1. Pay a higher fee for a value over which he has no control and may not like (i.e., a real valuation); or
2. Pay a lower fee for a value he can essentially dictate and may be accepted or at least be given some credibility by the judge (i.e., valuation meth)?

Not a hard decision. This keeps the demand for valuation meth high, which in turn drives supply in the form of an increasing number of meth labs. Furthermore, in addition to the client's addiction, the valuation meth dealers are also addicted due to the high profit margins and ease with which valuation meth is manufactured. These two forces feed on each other, driving valuation meth production and usage higher and higher.

6. Permanent and irreversible damage. In addition to its addictive characteristics, valuation

meth also causes permanent and irreversible damage. Sadly and unfairly, however, this damage is not done to the meth user; it is done to the innocent party on the other side of the litigation. The damage comes in the form of actual financial decisions being made on a value that is both unreliable and biased. In a divorce matter, assume the ex-husband business owner orchestrates a calculation engagement with a value of \$4 million by purposefully excluding a key valuation method he knows will result in a realistic, higher value for the company. The ex-wife pays for a real valuation that indicates a \$10 million value. Fooled by the heft of the calculation report, the judge believes the two reports to be equally reliable and ultimately decides on a \$7 million value. Here, the ex-husband has saved \$3 million in value, significantly lowering the amount he must pay to his ex-wife. Furthermore, he did this by paying a lower fee for the calculation. The permanent and irreversible damage is done to the ex-wife. She did the right thing, engaging an appraiser to provide a real valuation with an independent, supportable value. However, because the judge believed that all valuation products are created equal, he did not recognize valuation meth for what it is and the ex-wife suffered accordingly.

Before we conclude, let's take a look at some good advice and some bad advice on this issue.

Good advice. In "To Calculate or Not to Calculate: Revisiting the AICPA's SSVS-1," (September 2010 issue of *BVU*), author Nathan DiNatale, CPA/ABV, CVA, efficiently summarizes the major problems with valuation meth:

In [valuation engagement] scenarios, valuation analysts are tasked with determining the value of the business, or pro rata share, in an objective manner, using the most appropriate valuation methods based on the company-specific information and their own valuation expertise. The resulting conclusion of value is an unbiased, undirected opinion. In such a scenario, where a

third party is relying on the independence and objectivity of the valuation analyst's opinion, a valuation engagement is more appropriate.

Alternatively, a calculation engagement is more appropriate when third-party reliance is not present. Calculation engagements closely resemble agreed-upon-procedure engagements, where the client retains the ability to dictate the procedures followed. [C]alculation engagements have a very limited use, in my opinion, and are not appropriate when the valuation will be relied upon by third parties, such as the fair value standards under [GAAP], estate and tax purposes in accordance with the IRS, and litigation.

DiNatale is spot-on with his analysis. Unlike Hitchner's earlier wishful thinking on mutual agreement, DiNatale recognizes the reality of the situation where "the client retains the ability to dictate the procedures followed." DiNatale also clearly and correctly states that calculation engagements are not appropriate in a number of cases, including gift and estate tax planning and litigation.

Bad advice. Contrast the clarity and logic of DiNatale's analysis with the misguided advice accounting firm Dixon Hughes Goodman (DHG) provides. In its February 2014 *Knowledge Share*, DHG offers the following opinion as to when a calculation engagement or a valuation engagement may be appropriate:

[T]he business owner finds himself or herself involved in divorce proceedings that will require a division of marital assets. One of the significant assets is the company and a value needs to be determined. If it is early on in the process and an estimate of the value is needed to settle the matter, a calculation of value may be an option. Yet, in proceedings that will likely end up in a courtroom, it is critical to understand

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that the selected business valuation should attain the standards level of a valuation engagement and the analyst opining on a conclusion of value.

This is the same mush-minded rationale of the valuation meth dealer at the valuation conference I mentioned earlier. DHG is basically saying it is OK to settle the matter early on a bad number that is based on an incomplete analysis and biased methodologies, but, if you are going to trial, you better get a real valuation to figure out the true value. Where is the logic in this? In either case (i.e., settlement or trial), assets will be transferred from the business-owning spouse to the non-business-owning spouse. The goal in this process is to transfer an amount of assets that is equitable to both parties, based on the various facts and circumstances of the marriage. Why is it OK for this to be a bad number in settlement but a good number in trial? The only thing the calculation engagement does in the settlement stage is poison the minds of the parties by distorting the reasonable expectation of value. Why is a calculation ever useful when actual money will be transferred?

DHG then goes on to advise against the use of a calculation engagement for IRS purposes:

The final scenario considers the business owner who would like to gift minority interests in his or her company to family members. The values of the gifts need to be determined so that the appropriate filings can be made with the [IRS]. In this case, the values that are determined are subject to the scrutiny of the IRS. As opposed to a calculated value, a conclusion of value that is obtained through a valuation engagement and provides an opinion of a valuation professional is a much stronger position to have when facing questions that may arise in an audit by the IRS.

Here, DHG gets it right—a calculation engagement simply is not suitable for IRS purposes.

DHG's advice on IRS matters, however, totally begs this critical question: Why is it more important to obtain a reliable value when dealing with the IRS than in the divorce (or any litigation) context? If the IRS will not accept the unreliable and biased result of a calculation engagement, why should the parties in a divorce accept it at any stage of the process? Valuation meth is valuation meth regardless of the context in which it is used, and it should never be used in situations where an accurate value is needed or actual money will change hands.

The increasing use of calculation engagements seriously compromises historical standards of reliability and independence.

Don't do valuation meth. Valuation meth is illegal because it breaks the long-standing and well-established laws of reliability and independence that are present in a real valuation. Valuation meth is cheap and addictive; clients love it because it doesn't cost as much as a real valuation and the client gets to control the high. Meth labs love it because the amount of work required is much lower and the profit margins are much higher than on a real valuation. Valuation meth causes permanent and irreversible damage to the innocent nonuser because individuals make real financial decisions on an artificial, biased calculation that may have no semblance at all to the true value. Worst of all, valuation meth is knowingly pushed by its dealers as a harmless, benign drug with none of the above-mentioned dangers. Valuation meth—just say no. ♦

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Growing Status of Fair Value Sparks Record Attendance at ASA FV Conference

A sell-out crowd filled the KPMG offices in Los Angeles May 10 for the ASA/USC 13th Annual Fair Value Conference. The large turnout was not totally surprising given the rising importance of fair value for financial reporting and the recent efforts to improve the level of quality in this area of practice. Luckily for those not able to attend in person, BVR webcast the entire event, which Ray Rath (Globalview Advisors) and Professor Tom Ryan (USC Leventhal School of Accounting) co-organized. Here's a recap of some key points from all of the sessions.

Cost of capital: In the lead-off session, Roger Grabowski (Duff & Phelps) noted that the Federal Reserve's "QExit" strategy will progressively lead to an increase in the cost of equity. QExit is the Fed's plan to reduce its massive holdings of mortgage-backed securities and U.S. Treasury debt. Those holdings were designed to keep long-term interest rates down, but the Fed now feels that the economy is strong enough for interest rates to return to more normal levels.

The Tax Cuts and Jobs Act (TCJA) may potentially cause higher costs of capital due to changes in the corporate tax rate and new limitations for interest expense deductions. This impact would be met with competing effects of the expectation of increased net cash flows. Compared to the impact from an increase in cash flow, the impact to cost of capital is more complicated. For example, the cost of equity capital includes a market risk factor known as "beta," which is a function of business risk and financing risk. A higher level of debt capital means more beta risk. But that risk is eased somewhat by the tax deductibility of interest expense, which reduces the true cost of interest. The TCJA's new limitation on interest expense deductions will increase the true interest cost by reducing the tax shield. The combined effects of QExit and the TCJA will likely increase the components of

the cost of equity capital and increase the true cost of debt capital. Many larger companies that are used to relying on debt for financing will likely see their weighted average cost of capital increase.

Auditors panel. Extra time was allotted to a panel of senior valuation personnel from the six largest accounting firms to discuss the relatively new credential for fair value for financial reporting, Certified in Entity and Intangible Valuations (CEIV), and the Mandatory Performance Framework (MPF), a set of best practices for certain fair value estimates. The CEIV credential represents a collaborative effort that involves a number of organizations, including the ASA, AICPA, and RICS. It is in response partly to regulators' concerns over the fragmented nature of the profession and the inconsistent quality of the work being performed in terms of fair value for financial reporting.

Tony Aaron, retired from Ernst & Young and now an adjunct professor at the USC Leventhal School of Accounting, moderated the panel: Tony Alfonso (BDO), Leigh Miller (EY), Austin Lee (Deloitte), James Marshall (PwC), Kevin Voigt (KPMG), and John Ferro (Grant Thornton LLP). Aaron is the chair of the performance requirements workstream group for the fair value quality initiative, which includes the development of the CEIV credential.

So far, 100 individuals have earned the CEIV credential, and there are another 750 in the pipeline. At last year's conference, a similar panel of auditors said the CEIV and fair value efforts were "on the right track," but they were taking a "wait-and-see" attitude on it in terms of credentialing their staff. This year's panel is of the same mindset, and the main concern is over the quality control process, which is still under development and has undergone some revisions.

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Under the original setup, all CEIV holders would have to submit a report and work file in the first year for a compliance review. Each valuation professional organization (VPO) would handle the review process for the individuals to which they confer the credential. At the time, auditors noted that this diverges from the other aspects of the program. That is, the VPOs are all in lock-step in terms of education, training, and testing, but each VPO is responsible for its own review process. Another concern was over confidentiality of client data if work files had to be turned over as part of the inspection process.

Under a revised quality control plan, there will be a firm-level inspection process, which could result in a sampling of engagements chosen for inspection. Also, one VPO is being chosen to oversee the quality monitoring process, which will also address the confidentiality of client information. The auditors on the panel said they are ready to certify their staffs as soon as these matters are ironed out. When that happens, the firms will tell clients that they are “MPF compliant.”

A few other points were raised. It is anticipated that anyone doing fair value for financial reporting—not just CEIV holders—will be expected to comply with the MPF. Also, while some people say the MPF doesn’t require any more work, some disagree and point to the demanding requirements for documenting the due diligence on prospective financial information.

TCJA task force. The American Society of Appraisers (ASA) has appointed a Tax Reform Task Force to study the new law’s impact on value and to determine changes to applied procedures as necessary. William H. Frazier (Stout) is the chair of the task force, and he told the audience that, as recommendations are developed, the ASA’s BV Committee will communicate them to the valuation profession. There already have been two webinars on this, and a third one is planned. The topics the task force is examining include the C corporation 21% flat tax rate, new limits

on the deductibility of interest, 100% expensing of certain capital expenditures, the PTE qualified business income (QBI) 20% deduction, the elimination of capital gain treatment on the sale of a “self-created” patent, NOLs (carry forward limited to 80% of income), and like-kind exchanges (repeal of application to certain business or investment property).

One interesting issue is with personal goodwill in a PTE and its effect on the firm’s ability to take the new QBI deduction. The deduction does not apply if a firm’s principal asset is the “reputation or skill” of one or more people. If a PTE would otherwise qualify for the QBI deduction, could the presence of personal goodwill KO the deduction? This and other questions continue to be explored.

Frazier’s co-presenter, Milind Shah (KPMG), pointed out that the new tax law’s provisions on immediate expensing and bonus depreciation have “not been talked about enough.” Under the new law, businesses may take 100% bonus depreciation (immediate expensing) on qualified property both acquired and placed in service after Sept. 27, 2017, and before Jan. 1, 2023. Beginning in 2023, bonus depreciation is phased out by 20 percentage points each year, until it is fully eliminated in 2027. Therefore, you need to extend the DCF model to properly capture the impact of these changes on cash flow in annual projections as well as the terminal year. A separate analysis of the cash effects of the tax change can be done as a subset of the overall DCF analysis.

Contingent consideration. Alok Mahajan (KPMG), chair of the working group under The Appraisal Foundation on contingent consideration, reported that there are no fundamental changes to the draft guidance issued last year. Comments were due last year on the draft, and they triggered more explanation and academic support for certain techniques such as the use of option pricing models (OPM) for nontraded financial metrics. The draft contains detailed discussions

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of the typical structures of contingent consideration, key valuation issues, valuation techniques deemed to represent best practice, methods for assessing the reasonableness of contingent consideration fair value estimates, and issues at subsequent measurement dates. In general, when valuing earnouts with a linear payoff structure, a scenario-based model should be used. If the payoff structure is nonlinear, OPM should be used. Mahajan said that the next draft (or final version) will be out this fall.

PE/VC guide. Yelena Mishkevich, senior technical manager at the AICPA, talked about the newly released working draft accounting and valuation guide¹ that provides “nonauthoritative guidance” for valuing private equity and venture capital investments. It addresses many accounting and valuation issues regarding portfolio company investments held by investment companies within the scope of FASB ASC 946. The guide is also useful for other entities, such as corporate venture capital groups or pension funds.

The guide has 14 chapters, many examples, and a number of appendices. Valuation experts should pay particular attention to the background on the industry in Chapter 1. Also of interest is the material in Chapter 4, “Determining the Unit of Account and the Assumed Transaction for Measuring the Fair Value of Investments,” which sets the context for the valuation and gives examples. Chapters 5 to 9 also deal with valuation, and especially of interest is the discussion on premiums and discounts in Chapter 9, “Control and Marketability.” Also, you should check out Chapter 10, “Calibration.”

Comments on the working draft are due August 15, and you can email them to Yelena.Mishkevich@aicpa-cima.com. All comments will be kept confidential and will not be posted on the AICPA

website. She reported that the next AICPA guide will be on business combinations and is scheduled to be issued in 2019.

CVFI credential. Mishkevich also announced that the AICPA will soon roll out its new Certified in Valuation of Financial Instruments (CVFI) credential. Last year, the AICPA issued an exposure draft² of guidance for CPAs and financial professionals on the valuation of financial instruments and their underlying components. The exposure draft defines the level of documentation necessary for a professional working with securities and financial instruments to effectively demonstrate the valuation performed. There is also a companion document that demonstrates how the framework would be applied for areas of valuation that are often either misapplied or insufficiently supported or documented in valuations for financial reporting.

The credential is for CPAs and non-CPAs, and CFAs who are not versed in financial reporting or disclosures may also find this new designation of value. The CVFI will also be multinational in design and geared toward global standards. Once finalized, CVFI credential holders will be required to comply with the framework and will be subject to a quality control process, which will be similar to the peer review process for accountants.

PCAOB update. The levels of fair value audit deficiencies have improved, but there’s still room for improvement, noted George Wilfert, deputy director at the Public Company Accounting Oversight Board (PCAOB). While the number of audit deficiencies have decreased overall, there is still a significant number of deficiencies regarding auditors’ testing of fair value measurements associated with business combinations. A few years ago, the number of deficiencies was skewed toward impairments, but that has now shifted toward business combinations.

¹ aicpa.org/interestareas/frc/accounting/financialreporting/working-draft-of-pe-vc-guide.html?utm_source=mn:cpald&utm_medium=email&utm_campaign=17May2018.

² Available at aicpa.org/Membership/Pages/financial-instruments-form.aspx.

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Wilfert mentioned the ongoing study³ of fair value audit deficiencies from Acuitas that found that the percentage of audit deficiencies has dropped since its dramatic peak in 2013 but remains quite high, at 31.6% of audits and other engagements examined. Fair value deficiencies cited related to business combinations increased to 68% in 2015, up from 56% in 2014. The PCAOB considers the robust pace of merger and acquisition activity to be an economic risk escalating the prospect of material misstatements.

He also mentioned the June 2017 release of the proposed auditing standard, *Auditing Accounting Estimates, Including Fair Value Measurements*, which reinforces the PCAOB's commitment to seeing improvements in these areas. One of the matters the new rules seek to reinforce is that of "professional skepticism," that is, do not simply corroborate the information you get from management or other third parties—you need to look at any negative evidence and address it, he advised.

Private capital markets. Over half (54%) of privately held business owners believe their cost of equity is less than or equal to 12%, according to Dr. Craig Everett, who leads the Private Capital Markets Project at Pepperdine University. Approximately 19% of respondents indicated their business cost of equity capital is in the range of 9% to 10%, the range most cited in the latest report.⁴ These findings represent a "significant misunderstanding" by many business owners of their cost of equity, he noted. The Pepperdine research involves asking private capital market players what returns they project. The players are bank lenders, asset-based lenders, mezzanine lenders, private equity groups, venture capital, and angel investors. We note that the majority of private firms that responded had 20 employees or fewer, with 50% having no more than five

employees. Also, over half of them had annual revenues less than \$1 million.

The researchers divide the private capital markets into six segments aligned with the major institutional arms of the private investment world, each with different return, investment, and research characteristics: bank lending, asset-based lending, mezzanine, private equity, venture capital, and angel investors. The "money shot" in the report is a table (see exhibit) that includes annualized gross financing costs (rate of return) for each major capital type and its segments.

Interestingly, information from the Pepperdine research has been included in the AICPA's new accounting and valuation guide for valuing private equity and venture capital investments.

Volatility of earnout metrics. When using an option pricing model for valuing contingent consideration, one of the inputs is volatility. The question becomes what to use as a proxy for the volatility for contingent consideration. You can look at volatilities of revenue or EBITDA at comparable companies, but data have been scarce. Vincent Covrig (Crowe Horwath LLP) told the audience that his company has studies using historical data from CapIQ from 2013 to 2017 for calculating metric volatility. This is important data for earnout valuations and will be extended back 20 years, representing over 1,500 firms.

Control and marketability. Amanda Miller (EY) talked about the guidance⁵ from The Appraisal Foundation and the AICPA that challenge the practice of valuing businesses by using the guideline public company method and then applying a control premium. You can't automatically

3 acuitasinc.com/documents/2017_PCAOB_Fair_Value_Audit_Deficiencies_Survey-FINAL.pdf.

4 bschool.pepperdine.edu/institutes-centers-research/centers/applied-research/research/pcmsurvey.

5 *The Measurement and Application of Market Participant Acquisition Premiums (MPAP)* guide, The Appraisal Foundation; *Valuation of Privately-Held Company Securities Issued as Compensation* (Cheap Stock) guide (AICPA 2013); and the AICPA's *Valuation of Portfolio Company Investments of Venture Capital and Private Equity Funds and Other Investment Companies (PE/VC)* guide.

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Private Capital Market Required Rates of Return			
	1st Quartile	Median	3rd Quartile
Bank (\$1M CF loan)	5.6%	6.3%	7.1%
Bank (\$5M CF loan)	5.5%	5.8%	6.5%
Bank (\$10M CF loan)	5.5%	5.5%	6.0%
Bank (\$25M CF loan)	3.3%	3.5%	3.8%
Bank (\$50M CF loan)	2.9%	3.0%	3.3%
ABL (\$1M loan)	10.0%	10.0%	15.0%
ABL (\$5M loan)	7.0%	9.0%	12.0%
ABL (\$10M loan)	4.8%	5.0%	6.5%
ABL (\$25M loan)	4.0%	4.0%	4.0%
ABL (\$50M loan)	3.0%	3.0%	3.0%
Mezz (\$1M loan)	19.0%	21.0%	23.5%
Mezz (\$5M loan)	15.0%	18.0%	18.0%
Mezz (\$10M loan)	13.0%	14.0%	14.0%
Mezz (\$25M loan)	11.0%	12.5%	14.3%
Mezz (\$50M loan)	10.0%	10.8%	11.0%
PEG (\$5M EBITDA)	24.5%	30.0%	48.0%
PEG (\$25M EBITDA)	20.0%	25.0%	30.0%
PEG (\$100M EBITDA)	19.0%	20.0%	22.0%
VC (Seed)	38.0%	45.0%	59.0%
VC (Startup)	30.0%	38.0%	55.0%
VC (Early Stage)	25.0%	33.0%	45.0%
VC (Expansion)	22.5%	33.0%	38.0%
VC (Later Stage)	20.0%	28.0%	35.0%
Angel (Seed)	25.0%	55.0%	98.0%
Angel (Startup)	25.0%	50.0%	95.0%
Angel (Early Stage)	25.0%	40.0%	85.0%
Angel (Expansion)	20.0%	35.0%	70.0%
Angel (Later Stage)	15.0%	35.0%	45.0%
Source: "2018 Private Capital Markets Report," Pepperdine University Graziadio School of Business and Management.			

assume that premiums paid in prior transactions give an indication as to a premium for control that may apply to your subject business. Therefore, appraisers must be careful when simply relying on historical data regarding premiums paid to determine a control premium. Valuation professionals should instead think about the fundamental drivers of value, she said.

We point out that this thinking not only applies to fair value for financial reporting but to other types of valuations as well. Generally, unless you have solid evidence and reasoning, a control premium should never be used in a guideline public company analysis.

ASA BV Committee. Jeffrey S. Tarbell (Houlihan Lokey), the current chair of the ASA BV Committee, gave the audience an update on the committee, which a group of appraisers who shared a common interest in advancing the business valuation profession formed in the early 1980s. The committee consists of industry leaders who volunteer their time toward several primary efforts. One is the development and delivery of best-in-class business valuation education. The other is the advancement of the profession through the establishment and endorsement of professional standards such as the ASA Business Valuation Standards, USPAP, and IVS (the global standards from the International Valuation Standards Council). One of the committee's immediate goals is to continue to develop the CEIV credential with the other VPOs that are involved. The other goal pertains to its efforts to serve the large and growing international marketplace of business valuation professionals with high-quality and timely education. Tarbell also mentioned that the ASA BV committee is always eager to hear from ASA members who are looking for ways to get involved.

For more information. You can watch a recording of the webcast of the entire event, including the presentation slides and a written transcript, if you go to the "On Demand Training" section of BVR's Training Center (sub.bvresources.com/pastevents.asp). ♦

Tips and Takeaways From the NYSSCPA BV Conference

Every year, *BVU* attends the annual business valuation conference of the New York State Society of CPAs (NYSSCPA) in New York City. As usual, this year's event (held on May 21) was an excellent conference, and here are a few nuggets from the sessions.

Best practices. The keynote speaker was Jim Hitchner (Valuation Products and Services), who presented highlights from his seven-part webinar series on best practices. Here's a sampling from each of the topics he covered:

- In a DCF under the new tax law, consider using a "bolt-on" to analyze the cash flow effects from long-term sunseting provisions (such as bonus depreciation) and then add the results to a standard five-year DCF;
- In the capitalized cash flow (CCF) method, a "common error" is to have capital expenditures equal depreciation—capex normally is higher (during the break, many were still scratching their heads over this one);
- For cost of capital, the buildup method (BUM) is better for very small companies where betas are not relevant; the modified CAPM is better when there are meaningful betas;
- The guideline company transactions method (GCTM) should be considered in every BV engagement and not automatically dismissed, but a big issue is the level of reliance you place on it;
- Like the GCTM, the guideline public company method (GPCM) should always be considered; if there are good comps, an equal weighting with the income method is reasonable;
- Most agree that S corps should be tax-adjusted as a starting point; use all of the

models available—the differences in value are often quite small;

- It's dangerous to cite court cases in valuation reports (other than with respect to the *Mandelbaum* factors)—you're treading on the attorney's turf.

Purchase price allocations. The value allocated to identifiable intangible assets and goodwill is holding steady, according to the latest report¹ from Houlihan Lokey on purchase price allocations. Michael DeLuke, a managing director at Houlihan Lokey, told the audience that the percentage of the purchase consideration allocated to intangible assets was 35% on average in 2016 (up from 34% in 2015). The percentage of purchase consideration allocated to goodwill was also 35%, down from 38% on average in 2015. Contingent consideration (earnouts) represented 19% of purchase consideration (down from 21% in 2015).

The analysis examines 455 transactions (from an initial screen of over 1,300) in which the acquiring company was based in the United States and publicly held. The study uses "purchase consideration," which is the sum of the purchase price paid and liabilities assumed in connection with a business combination.

Monte Carlo. A few years ago at a conference, Tax Court Judge David Laro advised business valuation experts to include a sensitivity analysis in their reports so the court can see the impact of assumptions. He felt it would make a "huge difference" in how the courts receive reports. This "raised a lot of eyebrows," says Toby Tatum (Alliance Business Appraisal), who explained that one way to do this is by using Monte Carlo analysis.

¹ [houlihanlokey.com/2016-purchase-price-allocation-study](https://www.houlihanlokey.com/2016-purchase-price-allocation-study).

Traditional valuation analysis often includes single-point estimates of the variables that drive value, such as projected revenues, expenses, and the inputs to cost of capital. Using Monte Carlo software, such as Crystal Ball, is good for valuations that involve different what-if scenarios and unknowns related to the future of the subject company. True, you perform sensitivity analysis and view ranges of outcomes with Excel, which can be used to generate matrices of two variables and their impacts on the value. But Excel is not as useful if you want to view the impact of many variables at the same time. Therefore, Monte Carlo goes far beyond what Excel can typically do when you have multiple variables.

Cash-intensive firms. It's not uncommon to stumble on the misappropriation of cash in businesses that deal in a lot of cash transactions. The three main ways to siphon off cash are skimming before a transaction is recorded, taking the cash after recording it, and through fraudulent disbursements, explained Jean J. Han (Baker Tilly Virchow Krause) and Stacy A. Statkus (MPI).

This matter often rears its head when valuing a cash-intensive business for divorce. While you're not required to ferret out unreported income, you should do a "smell test" for it, they say. Comparing ratios to similar firms and a lifestyle analysis are a few techniques to use. They pointed to five indirect methods of identifying unreported income:

1. Fully-developed cash T-account method;
2. Sources and applications of funds method;
3. Bank deposits and cash expenditures method;
4. Net worth method; and
5. Percentage of markup method.

In an example of a case involving a pawn shop, they explained the use of the method based on the use of T-accounts, a concept everyone learns

in Accounting 101. Using this method, you list all known types of income and expenditures as "cash transactions" flowing in and out of the cash account. If cash expenditures exceed the sources, either the business owner underreported income or overreported expenses. This method is useful when cash income is being skimmed from the business *and* you can accurately determine personal living expenses, they said. By the way, the pawn shop case ultimately settled.

IP value. Intellectual property has increased its percentage share of corporate valuations from 17% in 1975 to 87% in 2015, according to data² cited by Nancy Edwards Cronin of ipCapital Group Inc., an IP and innovation consulting firm. To build value in the context of planning for a transition, an expedited process can be used for developing IP in a firm targeted for M&A to add further intangible asset value to company valuation. For example, it can take just 14 to 16 months to develop a patent, she says.

An audience member asked: "If a company is seeking patent protection, should it do so around the world?" Co-presenter Alozie N. Etufugh (Etufugh Law) pointed out that it may not be worth it to seek global protection because patents can be expensive to obtain and tough to enforce in other countries. This is true even though there may be tough laws on the books in certain countries, such as China, he says. He advises that, if a client wants to protect its patent globally, to ask where the company has significant operations and then consider seeking protection in just those areas.

Lost profits. Can a business that never made a profit make a claim for lost profits? Yes, say David Gralnick and Joshua S. Sechter (Klein Liebman & Gresen). Also, it's possible to claim lost profits plus lost business value if, for example, a business has ceased operations at the date of trial and the defendant caused the closing of the business.

² Source: Ocean Tomo LLC oceaninfo.com/2015/03/04/2015-intangible-asset-market-value-study

TIPS AND TAKEAWAYS FROM THE NYSSCPA BV CONFERENCE

Lost business value is calculated by measuring the difference between the value of a business prior to the event that is being disputed and the value of business after the event. Past lost profits are not part of the calculation in valuing a business, they explained. However, you need to be careful and not include any future lost profits calculation with lost business value being claimed, otherwise it's a double dip.

In choosing the right interest rate, you need to base it on the rate that would compensate the plaintiff as though the damages had never occurred (i.e., making the plaintiff "whole").

July Tip From the Field

Be Aware of Bonding Issue When Valuing Contractors

When valuing a construction contractor, you may find that it has more cash and marketable securities than it needs to operate. Don't automatically assume this excess represents a non-operating asset. The firm may need this excess to enhance its bonding capability. Customers typically require contractors to carry a surety bond that will cover their project. Bonding agents determine the bonding worthiness of a contractor by looking at a contractor's past performance and current financial position. One item that bonding agents pay particular attention to is the financial liquidity of the contractor. The contractor's bonding agent may require added financial liquidity, which also enhances the contractor's ability to perform more—or larger—projects.

Source: *What It's Worth: Valuing Paving Contractors*, 2018, Business Valuation Resources (bvresources.com/products/what-its-worth-valuing-paving-contractor-companies).

Common rates that are used include the risk-free rate of return, the company's WACC (debt and equity), and statutory rates. Courts have OK'd a broad range of rates—from 7% to 36%—they said. There's also a huge range of years to use for forecasting future lost profits—from a few years to up to 30 years depending on the case.

Real estate holding companies. When valuing noncontrolling interests in real estate holding companies, are minority interest discounts appropriate? It may not be appropriate if you apply income and market approaches to noncontrolling cash flows or to transactions that are noncontrolling, says Martin Greene (Greene Valuation Advisors). A minority interest discount can be determined if you compare the entity value before any discounts to the net asset value (NAV), he says. If there is a large difference between individual valuation approaches or between the valuation and the real estate appraisal, further study needs to be done. Greene advised the audience that a comprehensive analysis is needed as opposed to merely deducting a fixed percentage from the appraised value.

He pointed the audience to four key court cases regarding noncontrolling interests in real estate entities. They are: *Andrews*,³ *Weinberg*,⁴ *Giustina*,⁵ and *Tanenblatt*.⁶

Our congratulations to the conference committee—Mitchell H. Chosak (Forfeiture Support Associates LLC), Jeffrey Gibraltar (Klein Liebman & Gresen LLC) and Jean J. Han (Baker Tilly Virchow Kraus LLP)—for putting together a fine event, and we look forward to attending next year. ♦

3 bvresources.com/bvlaw?q=%2279+T.C.+938%2C1982+U.S.+Tax+Ct.+LEXIS+12%22&sb=0.

4 bvresources.com/bvlaw?q=%22T.C.+Memo.+2000-51%2C+2000+Tax+Ct.+Memo+LEXIS+58%22&sb=0.

5 bvresources.com/bvlaw?q=Giustina+v.+Commissioner&sb=1.

6 bvresources.com/bvlaw?q=Tanenblatt+v.+Commissioner&sb=1.

Letter to the Editor: Comments on an Article on the Use of Statistics in the Transaction Method

Editor's note: This letter is in response to the article "Valuation Experts Clash Over Analysis of Transactional Data" and accompanying supplement that appeared in the April 2018 issue of BVU. The comments in this letter are from Mark Filler (Filler & Associates PA).

My comments and thoughts on the issues raised:

1. Except for 2008, there is no statistically significant difference among the means for the price/SDE multiple for any of the years or geographic area in the BIZCOMPS database. This is what one would expect when annual and geographic variances are so large.

2. An ex post random sorting of a convenience sample does not make it random as that term is understood in statistics. Randomness must be inherent in the selection process, not the post-collection sorting process. We make the heroic assumption that the reported transactions in the databases are typical and representative of all marketplace transactions. I find no reason not to believe this.

3. As to the minimum sample size of 30, I find that this depends on how symmetrical the population is distributed. If, for example, your sample of 10 comps is normally, or at least, bell-shaped, then the central limit theorem will be activated with that size sample. Very often a sample that is uniformly distributed will activate the theorem if it is smaller than 30. And if the distribution is heavily skewed or bimodal, then sample sizes greater than 200 might be needed to activate the theorem. (I wrote an article on this very subject a few years ago.). A hundred years ago, they didn't have computers to slog through the computations. It was all done with hand-cranked adding machines and slide rules, which was tedious and laborious, so they came up with simplifying rules to make things easier. Hence the rule of 30. Today, you can quickly test whether a sample size of 10 comps will

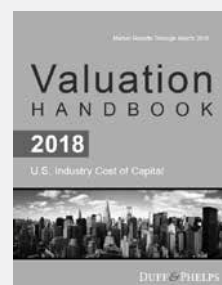
activate the theorem. If your sample is too small, bootstrap using resampling with replacement.

4. I never use price/sales as a stand-alone multiple as it doesn't account for profitability. Buyers buy cash flow—however, they are also interested in market share, which, by the way, is what sales represents. Therefore, one needs to account for both cash flow and market share. One of several ways to handle this is to regress P/sales versus SDE/sales.

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WORK FILE CHECKLIST FOR ATTRITION RATES FOR CUSTOMER INTANGIBLES

Work File Checklist for Attrition Rates for Customer Intangibles

Under the new requirements for fair value for financial reporting, valuation experts will be expected to have a certain amount of documentation in their work files. The new requirements are contained in the Mandatory Performance Framework (MPF) for the Certified in Entity and Intangibles Valuation (CEIV) credential. Regardless of whether you hold the CEIV credential or not, anyone doing fair value for financial reporting should comply with these new rules.

Practice aid. A work file checklist is a good compliance tool for what the MPF requires regarding all the different aspects involved in fair value measurement. In past issues of *BVU*, we presented checklists for a number of valuation areas. In this issue, we give you a checklist for how to document the estimation of an attrition rate for noncontractual

intangible assets such as customer-related intangible assets. Attrition is a factor used in estimating the economic life of customer-related assets.

Attrition is typically based on historical data if available, but “valuation professionals should not assume that the future will resemble the past,” the MPF states. If no company-specific attrition information is available, you can look to similar businesses, industry data, and the like. The document also makes it clear that you should “avoid accepting unsupported representations by management as they relate to attrition inputs.”

This checklist is based on what is contained in the two MPF documents, which you can download from a special website set up for the CEIV credential (ceiv-credential.org). ♦

Work File Checklist: Minimum MPF Requirements for Attrition Rates for Customer-Related Intangibles

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

- ☑ The process and rationale for the methods used to determine historical and expected future attrition patterns (*Note: This includes an explanation for any differences between historical and future attrition patterns, if applicable*);
- ☑ The source and description of the data used to determine historical and future attrition estimates;
- ☑ The quantitative and qualitative impact of any relevant macro or micro economic influences, or both, incorporated into the attrition analysis;
- ☑ The extent of independent analysis the valuation professional performed; and
- ☑ The extent of reliance upon data management provided (and the extent of the procedures performed related to the accuracy and completeness of the data provided).

Be aware that these are minimum requirements, so more information may be necessary. In future issues, we will provide other checklists that will go into specifics of the documentation requirements for other methods, inputs, and assets/liabilities.

(Source: This checklist is derived from the document “Application of the Mandatory Performance Framework for the CEIV.” The information in this checklist has been summarized and adapted. See the actual document for additional explanation and requirements at ceiv-credential.org).

Draft Regulations Take Center Stage at the BV Summit in Mumbai

By Raymond Moran, ASA, MRICS
(MGValuation LLC, New York City, USA)

The Business Valuation Summit–Mumbai was held on May 3 and was the second in a series of three summits in India. A focus of the summits is a discussion of the draft regulations for the Registered Valuer program, issued by the Ministry of Corporate Affairs (MCA) and implemented by the Insolvency and Bankruptcy Board of India (IBBI). The MCA and IBBI continue to be highly involved with the valuation profession, with the IBBI forming a Valuation Committee and taking counsel from leading experts from the International Valuation Standards Council (IVSC), Registered Valuer Organizations (RVOs), and valuation firms. Organized by I-Deals Network and the International Institute of Business Valuers (iibV), with sponsors including KNAV, Corporate Professionals, Truscel Capital, and Rakesh Narula & Co., the summits feature leading experts from India and several nations in private equity, venture capital, and valuation.

Growth in the profession. The valuation profession in India continues to grow, fueled by the growth in India's economy, which is on track to become the world's fifth largest economy in 2018¹; Indian firms' expansion and merger activity worldwide; the growth of the private equity/venture capital industry, which reached an all-time high of US\$26.5 billion in 2017; and new regulations called the Insolvency and Bankruptcy Code (IBC) addressing nonperforming assets. These trends are anticipated to continue in the near term, and the potential for valuers to join RVOs is high, and attracting interest worldwide, as evidenced by the CFA Institute's Indian membership of approximately 13,000, the third highest country total worldwide, exceeded only by membership in the U.S. and China.

The clarification of regulations regarding insolvency services in India is also driving activity, with the IBC consolidating legislation regarding the insolvency process undertaken by creditors or debtors. Under the IBC, an interim resolution professional (IRP) is appointed to manage the process, who then retains two registered valuers to determine the liquidation value of the corporate debtor. Liquidation value in these regulations is defined as "the estimated realizable value of the assets of a corporate debtor if the corporate debtor were to be liquidated on the insolvency commencement date."² These insolvency valuations typically involve reconciling several scenarios of enterprise value and the liquidation value of the underlying real estate and plant machinery.

Discussion highlights. The agenda for the Mumbai Summit focused on current issues regarding valuations for private equity, venture capital, and valuations. Shri G.N. Bajpai, former chairman of the Securities and Exchange Board of India (SEBI), gave the keynote address, which addressed the need for, and opportunities presented by, the new regulations. Other sessions included panels discussing the latest updates in proposed regulations in India; best practices in business valuations in India, valuation of blockchain companies and ICOs, valuations in startups and M&A transactions, private equity perspective on valuations, and insolvency; and the Bankruptcy Code.

There were several noteworthy updates since the Bangalore Summit: the increase of Registered Valuer Organizations the IBBI recognizes, as shown on its website.³ The IBBI defines valuer classifications as real estate, plant machinery, and financial asset valuers, and RVOs can include all three types or combinations of valuer categories. Six RVOs are now registered: the Institution of Estate

1 "India Is Poised to Become the World's Fifth Largest Economy, But It Can't Stop There," *Forbes*, Dec. 2017.

2 Regulation 35(1) Corporate Insolvency Resolution Process.

3 ibbi.gov.in/rovs.html.

DRAFT REGULATIONS TAKE CENTER STAGE AT THE BV SUMMIT IN MUMBAI

Managers and Appraisers, IOV Registered Valuers Foundation, Institute of Company Secretaries of India (ICSI), The Indian Institution of Valuers, the Institute of Cost Management Accountants India (ICMAI), and the Institute of Chartered Accountants India. The breadth of RVO organizations ranges from legal to accounting and valuation-centric organizations. The ICSI was recognized as an RVO in October 2017, where its members are responsible for the administrative controls of companies, including following board procedures, and compliance with corporate governance under corporate, securities, and other business laws including filings, annual returns, mergers and acquisitions, joint ventures, and the issuance of shares.

The ICAI, one of the latest RVOs to register, has created a Valuation Standards Board (VSB) and has invited comments for a draft on Indian valuation standards with the objective of providing interpretations,

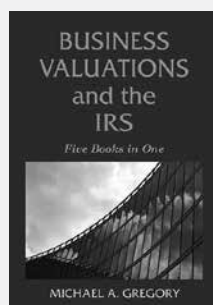
guidance, and technical materials. These valuation standards are noteworthy, as the regulations require valuation be made in accordance with internationally accepted valuation methodology; valuation standards any valuation professional organization adopts; or valuation standards of the Reserve Bank of India, Securities Exchange Board of India, or any other statutory regulatory body supplies.⁴ Several of these RVOs were at the Mumbai Summit and are actively accepting individual valuer memberships in anticipation of the September 2018 deadline. Active participants are expected to be at the next summit, which will be in Delhi.

Another highlight was the publication of the book *Business Valuation in India – Beyond the Numbers*,⁵ one of the first textbooks on business valuation in India under the new regulations. Written by several authors from the firm Corporate Valuations, and published by Wolters Kluwer, the book discusses the history of valuations in India, valuation approaches and methodologies, and Indian regulatory and judicial issues.

Future summit. The final summit in the series is planned for June 15⁶ and will again update recent regulatory issues and activity of the RVOs in implementing testing and accreditation for the Registered Valuer designations. Several RVOs are expected to attend and will provide updates on valuation standards, efforts to streamline prior often conflicting regulations with the new regulations for Registered Valuers, and private equity, venture capital, and valuers' perspectives going forward. ♦

Raymond Moran, ASA, MRICS, is CEO of MGValuation LLC (New York City) and is on the board of the International Institute of Business Valuers (iiBV). A frequent speaker and author on valuation issues, he can be reached at rmoran@mgvaluation.com.

BV and the IRS



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4 Rule 16 of the Companies Registered Valuers and Valuation Rules 2017.

5 Available from Business Valuation Resources; bvresources.com/products/guides-and-books.

6 idealsnetwork.com/business-valuation-summit-15th-june.

BVU News and Trends

A monthly roundup of key developments of interest to business valuation experts.

Regulators, Standard Setters, VPOs

CEIV quality monitoring FAQs

The AICPA and the Royal Institution of Chartered Surveyors (RICS) have released a series of FAQs that detail the much-awaited Quality Monitoring Program for the Certified in Entity and Intangible Valuations (CEIV) credential.¹ All CEIV credential holders, whether members of the AICPA, ASA, or RICS, will be required to participate in the annual, proactive program. The FAQs include highlights around the process of the program, integration of a firm's existing quality monitoring processes, timing of delivery, outputs of review, potential outcomes, and enforcement. Questions about the CEIV Quality Monitoring Program can be submitted to eva.simpson@aicpa-cima.com or mzuriff@rics.org.

USPAP 2020-21 exposure draft issued

The Appraisal Standards Board has issued a First Exposure Draft² of proposed changes for the 2020-21 edition of the Uniform Standards of Professional Appraisal Practice (USPAP). You can submit comments in writing by emailing them to ASBcomments@appraisalfoundation.org by July 15.

Significant effects from tax reform

Tax and finance executives were asked the following question during a recent KPMG webinar³: How significant do you expect the effects of tax reform to be on valuations performed for your business? Answers (from 679 respondents): very significant (21%); somewhat significant (58%); not significant (22%).

1 ceiv-credential.org.

2 appraisalfoundation.sharefile.com/share/view/s831128bd7ca4eb7b.

3 kpmg-institutes.com/institutes/taxwatch/events/2018/04/us-tax-reform-valuation-considerations-tax-reform.html.

New guidance for AI fund valuations

The Alternative Investment Management Association (AIMA) and its private credit affiliate, the Alternative Credit Council (ACC), have published new guidance for fund managers in valuing their investments. The new *AIMA Guide to Sound Practices for the Valuation of Investments* contains a series of recommendations regarding valuation governance; transparency; procedures; processes, systems, and sources; models; and methodology. PwC sponsors the guide, now in its fourth edition, which is available to AIMA members only, but you can access an executive summary at aima.org/asset/8820B1B1-F3CC-4F70-A98D68BBAABC287B.

Flowchart seeks to sort out QBI

Arguably the most puzzling provision of the Tax Cuts and Jobs Act is the new IRC Section 199a, which allows a 20% write-off of "qualified business income" (QBI) for sole proprietors, owners of S corporations, and members of partnerships/LLCs. How this provision and other elements of the new tax law are implemented will affect business cash flow, operations, and long-term strategy that will impact all business valuations. Duane Morris LLP, a law firm, has prepared a flowchart⁴ designed to make sense out of the new QBI deduction. At some point, the IRS will provide meaningful guidance on this and other provisions of the new tax law.

TAF OKs ASA's going concern courses

In general, going-concern value refers to the total value of a property, including both the real property and the intangible personal property attributed to business enterprise value (assuming the business owns the real and intangible property). For real estate appraisers, the American Society of Appraisers has a new *RP-400 Going Concern Appraising for Real Estate Appraisers, Case Studies* course that has received approval from The Appraisal Foundation (TAF). Plans are underway to obtain

4 duanemorris.com/site/static/tax_cuts_jobs_act_section_199A_flowchart_0118.pdf.

state approvals and schedule upcoming classes at various locations. ASA members currently holding the ASA-Real Property designation will now be able to add an Appraisal Specialty in Going Concern.

BV standards and the black box

In an interview,⁵ Leigh Miller, EY's global valuation leader, was asked whether a link needs to be made between business valuation standards and the emergence of automation in valuation. "This is something I've been thinking about for some time," says Miller. "I believe there needs to be a professional standard around the obligations of someone using automation, artificial intelligence, or robotic software tools as part of the valuation process. What is their obligation to understand what has been done and not to overrely on something that is in essence a black box? How do we ensure that accountability isn't just shifted over to the software or the algorithm? I believe we need professional standards that help us manage the impending growth in new technology and data." The International Valuation Standards Council (IVSC) interviewed Miller, and he also talked about his current areas of focus and thoughts on the major challenges and opportunities facing the valuation sector.

Methods and Approaches

Sample size debate grows

What's the minimum number of transactions that should be used from a database such as BIZCOMPS or *Pratt's Stats*? This debate, which began on the pages of the April issue of *BVU*, has spilled over into a conversation in BVR's LinkedIn group.⁶ Toby Tatum (Alliance Business Appraisal) says at least 30 transactions should be used. But Ronald D. Rudich (Gorfine Schiller & Gardyn) and Howard A. Lewis (ENVRS and RiskGuidance Co. LLC) disagree—they say the minimum should be five transactions.

Commenters on the LinkedIn group tend to agree that there is no magic number. In a *BVU* "Letter to the Editor," Gary Trugman (Trugman Valuation) said that using five transactions makes no sense in most of the databases, but you shouldn't blindly be

content with 30 transactions. "Be careful and use your head," he advises. "I think Gary's advice to 'use your head' is spot on," writes Bob Kleeman (OnPointe Financial Valuation Group LLC) in the LinkedIn Group. "In 40 years of business valuation, I don't think I ever found 30 truly compatible entities," he says. "Volume will never be a substitute for analysis. Until you really define 'comparable,' a blind application of a lot of data is no better than a guess." Malcolm McLelland of Brazil-based McLelland + Palazzi agreed. "I'm with Messrs. Kleeman and Trugman on this," he writes.

Valuing cryptoassets

It's tricky and the science is still emerging for valuing cryptoassets, says an article⁷ in *MIT Technology Review*. One pioneer is Chris Burniske, a co-founder of Placeholder Ventures, a New York firm that specializes in cryptoassets. He and other financial analysts are starting to get their hands on real tools for determining the underlying value of blockchain networks. The metric that has emerged as the most common way to determine what a given network is worth is called the "network value-to-transactions ratio," he says. Burniske is the author of a new book, *Cryptoassets: The Innovative Investor's Guide to Bitcoin and Beyond*.

Update on hospice valuations

The hospice market is fragmented, with many small independent players that are not associated with health systems, say speakers on a recent BVR webinar. Roughly 90% of hospice revenue (reimbursements) comes from Medicare, which has been a steady, increasing income stream, say healthcare valuation experts Darcy Devine (Buckhead FMV) and Will Hamilton (Veralon). That, plus healthy operating margins of 8% to 9% (which look "exciting" to most other healthcare entities that operate on smaller margins), make hospices attractive M&A targets, they say. Here are a few more takeaways from their session:

- Most hospice businesses are not capital-intensive and their biggest operating expense is staff salaries (which represents two-thirds of total expense); a very small percentage has a brick-and-mortar inpatient facility;

⁵ ivsc.org/news/article/professional-insight-ey-global-valuation-leader-on-the-challenges-and-opportunities-in-valuation.

⁶ linkedin.com/groups/1888911.

⁷ technologyreview.com/s/610953/the-tricky-art-and-emerging-science-of-valuing-crypto-assets.

- Management integrity is key because hospices (as all healthcare entities) are subject to a huge amount of federal and state regulations, such as anti-kickback rules, which the appraiser needs to understand;
- While home hospice firms operate much like other home healthcare businesses, there are nuances that set them apart;
- Hospice care kicks in for anyone certified as having six months or less to live; a major area of fraud is failing to comply with the requirements for recertifying patients who pass the six-month mark; this can trigger stiff penalties;
- All hospices must have a medical director, and all hospice patients must have 24/7 access to physician services; the fair market valuation and commercial reasonableness of the physicians' services are important;
- Average transaction multiples for hospice operations are 1.2 (revenue multiple) and 8.0 (EBITDA multiple), based on recent transactions with publicly available pricing data; and
- The size of the agency can have a significant impact on the valuation multiple, as smaller hospices typically sell for implied multiples of 4 to 6 times EBITDA while regional and national hospice platform companies typically sell for 7 to 11 times.

A great deal more material was presented during the webinar, *Hospice Valuation: Trends, Value Drivers and Physician Compensation*,⁸ which is available in BVR's on-demand training archive.

Valuation Data

Major overhaul for *Pratt's Stats*

Pratt's Stats, the leading private-company transaction database, is evolving into a brand-new powerful platform with better

search capabilities, new data fields, easier report generation, and more with its upgrade to *DealStats* this July. A new advisory board has been formed to support this effort as well as ongoing enhancements. The board members are: Pete Butler (Valtrend LLC), Bob Dohmeyer (Dohmeyer Valuation Corp.), Nancy Fannon (Marcum LLP), Fred Hall (Amador Appraisals and Acquisitions Inc.) and Toby Tatum (Alliance Business Appraisal). The new platform will also include *Public Stats* to form a combined database of almost 30,000 private-company and 4,000 public-company transactions. Stay tuned for further details! Also, check out the debut of the *DealStats* platform during a free webinar⁹ on July 11.

BIZCOMPS data update

The average selling price in 2017 for small private companies was \$444,000 (excluding inventory), based on transactions in the BIZCOMPS¹⁰ database. The Spring 2018 issue of the *BIZCOMPS®/BVR Deal Review™* also reports that the average annual gross sales for transacted businesses in 2017 was \$1.034 million. Companies with annual gross sales greater than \$700,000 have a median sale price-to-annual gross sales multiple of 0.32 and a harmonic mean multiple of 0.20 for 2017 transactions. This size firm has a median sale price to seller's discretionary earnings of 2.21 and a harmonic mean multiple of 1.72. There are over 12,000 transactions in BIZCOMPS, which focuses on small-company, "mom-and-pop" or sole proprietorship transactions, the majority of which are for firms with less than \$500,000 in gross revenue.

Research Papers, Studies, Reports

CEOs see moderate growth in U.S. economy

A survey¹¹ from KPMG finds that, even though CEOs are highly confident about the U.S. economy, only moderate growth is predicted. The need for disruption has intensified over the past year, and technology has emerged as the only driver of transformation for a majority of U.S. CEOs.

⁸ sub.bvresources.com/TrainingEvent.asp?WebinarID=634.

⁹ sub.bvresources.com/TrainingEvent.asp?WebinarID=658.

¹⁰ bvresources.com/products/bizcomps.

¹¹ home.kpmg.com/us/en/home/insights/2018/01/growing-pain.html.

Data and analytics in M&As

The use of data and analytics has taken on a particular importance in M&A and when used properly can transform the due diligence process, says a report¹² from KPMG. It describes one case of a brand valuation hindered by limited conventional information. The problem was solved using specialty tools and social media information to get a better picture of brand strength, distribution channels, and sell-through metrics.

New Books, Guides, Publications

New edition of book on M&A valuation

Now in its third edition, *Valuation for M&A: Building and Measuring Private Company Value*¹³ lays out the steps for measuring and managing value creation in non-publicly traded entities. The book, by Chris Mellen and Frank Evans, gives insights on the optimum strategy to enhance both market value and strategic value and maximize return on investment. The book focuses on private companies in the lower end of the middle market (i.e., those generating between \$3 million and \$250 million in value). Mellen recently conducted a webinar¹⁴ in which he discussed some of the concepts in the book.

Miscellany

Help needed with academic research

Researchers at the University of Wisconsin School of Business are conducting a survey, "Valuation Practitioners' Opinions About Various Professional Topics,"¹⁵ as part of their ongoing study of fair value. Please take five to 10 minutes to take the survey, which can be done in one session. Your responses will be confidential, and neither your name nor any other identifiable information will be recorded. All data collected will be stored on secure servers within the Wisconsin School of Business and accessible only by the principal investigator. You can also enter a drawing for a \$50 electronic Starbucks gift card.

If you have any questions, there is contact information in the survey introduction. Please click on the link in the footnote for more details and to take the survey. Thanks in advance for your help!

Valuations needed way ahead of exit

"Planning to sell a closely held business might start with a valuation three to five years before the targeted exit date," says an article¹⁶ in *The Estate Planner*. The two-part article gives an overview of the exit planning process for closely held and family businesses. It also cites a PwC study that found an increasing number of small-business owners intend to sell rather than pass their business to family members. However, only a quarter of these businesses have any succession or exit plans. Citing valuation fees, the article says "a certified business appraiser might charge between \$5,000 and \$10,000, while a specialized boutique investment banking firm might charge between \$20,000 and \$30,000."

AAML and BVR team for divorce confab

BVR has joined forces with the American Academy of Matrimonial Lawyers (AAML) to present the National Divorce Conference¹⁷ in Las Vegas May 8-10, 2019. Leading matrimonial attorneys and financial experts will give you critical insights in sessions covering financial, valuation, forensic, and legal issues surrounding this growing area of practice. "While the final rundown of topics has not been completed, there will be sessions on updated standards of value, cryptocurrencies and their impact on divorce, new law and case law updates, and how to best present your case to effectively influence the court—all taught by the best speakers in the country," says matrimonial attorney David Levy (Berger Schatz). "Of course, it also gives you great opportunities to network with the best lawyers and financial experts in the field on a social basis. Hope you can join us!" The hotel information has just been released—the fabulous Aria Resort and Casino—and there's an early-bird discount if you register before December 31.

12 advisory.kpmg.us/content/dam/kpmg-advisory/deal-advisory/pdfs/2018/data-and-analytics-paper.pdf.

13 bvresources.com/products/valuation-for-ma-building-and-measuring-private-company-value-third-edition.

14 sub.bvresources.com/TrainingEvent.asp?WebinarID=622.

15 uwmadison.co1.qualtrics.com/jfe/form/SV_blbs6OASoXQX2d.

16 wealthmanagement.com/high-net-worth/selling-closely-held-business-part-1-exit-planning.

17 bvresources.com/events/national-divorce-conference-2019.



Global BVU News and Trends



Business valuation news from a global perspective.

Regulators, Standard Setters, VPOs

IVSC proposes BV stamp of approval

Shades of the *Good Housekeeping* Seal of Approval. The International Valuation Standards Council (IVSC) is proposing to award a "quality mark" to qualified valuation professional organizations (VPOs) that meet a high level of quality in BV technical and professional standards. An IVSC consultation paper¹ gives the background and examples of an approach that could be taken to address concerns about significant inconsistencies in the quality of business valuations around the world. The IVSC welcomes feedback on the proposal, and comments are due by August 1.

APEC issues IP valuation manual

In the wake of two three-day workshops titled Promoting Innovation through a Mechanism for IP Valuation, Financing and Leveraging IP Assets held in Manila, Asia-Pacific Economic Cooperation (APEC) has issued the *Intellectual Property (IP) Valuation Manual: A Preliminary Guide*.² It is intended as a reference for APEC economies, primarily to enable them to present to stakeholders why IP has value, how it is being valued, and why it is important to come up with an IP valuation mechanism. While this manual elaborates important principles as a guide in valuing IP assets, it is not designed to be a comprehensive guide in valuing various kinds of IP. A more thorough discussion and in-depth study is to be conducted to develop a more detailed and comprehensive guide.

EFRAG looks at intangibles

The European Financial Reporting Advisory Group (EFRAG) has begun a consultation³ on its research agenda and is considering a project to develop alternatives to provide more relevant information on intangibles. The EFRAG Secretariat considers that

a preliminary analysis of the gap between market valuations and accounting equity would provide good insights for the project by, for example, providing evidence of whether this gap is more commonly found in specific industries. The project is likely to:

- Address a number of aspects in relation to internally generated intangibles. First, it could consider and describe the different categories (marketing, technological, social, and reputational) and how their different features are relevant in terms of financial reporting;
- Investigate how to take into consideration uncertainties in relation to these elements, especially when they cannot be protected legally, or competitors can duplicate them. Uncertainties can exist both in relation to the entity's ability to access future benefits and its amount/timing; and
- Develop metrics to express earnings potential and value. These metrics may not be fit as a measurement basis but could be used to disclose information in the notes to the financial statements.

A number of initiatives, such as the World Intellectual Capital/Asset Initiative, have already taken steps to improve the reporting in this area. An important part of the EFRAG research project would be to investigate and leverage these other initiatives for financial reporting.

Research Papers, Studies

Grappling with unprecedented change

A report⁴ from Deloitte UK's Economics, Valuation and Modeling practice says that, in an era of unprecedented change, many market participants are grappling with strategic business and valuation-based decisions arising as a result of increased innovation and greater market controversy, uncertainty, and volatility. Deloitte UK has brought together industry specialists to share thoughts on a number of topics relevant to businesses—now more than ever—in innovative, uncertain, and volatile times.

1 ivsc.org/files/file/view/id/1132.

2 apec.org/Publications/2018/04/IP-Valuation-Manual---A-Preliminary-Guide.

3 efrag.org/Assets/Download?assetUrl=%2Fsites%2Fwebpublishing%2FProject%20Documents%2F1710031306501984%2F2018%20EFRAG%20Research%20agenda%20consultation.pdf.

4 www2.deloitte.com/content/dam/Deloitte/uk/Documents/corporate-finance/deloitte-uk-enabling-better-decisions.pdf.

BVLAW CASE UPDATE

Featured Case

Court Accords Equal Weight to Competing DCF-Based Hotel Valuations

In re EM Lodgings, LLC,
2018 Bank. LEXIS 183 (Jan. 25, 2018)

The overarching issue in a bankruptcy case involving a hotel was whether the debtor had equity in the hotel property. “Hotels are notoriously difficult for courts to value,” the Bankruptcy Court noted. Courts must rely on competing expert appraisals, which pose their own challenge because they may state widely different values, as was the case here. How the court handled the value gap and how it responded to the testifying appraisers make this case instructive for all valuers, not only appraisers focusing on hotel valuations. It is noteworthy that the court recognized the professionalism of both appraisers and found them equally credible. It also found there were legitimate reasons for the two appraisers’ divergent value conclusions.

Agreement on methodology. The debtor owned a hotel in East Peoria, Ill., that was operated as part of the Marriott brand. The debtor petitioned for Chapter 11 in February 2017 but continued to operate the hotel as a debtor in possession. It never filed a reorganization plan but said it hoped to refinance and eventually sell the property for enough money to pay off its largest creditor. However, months later, it had not taken any steps to realize these plans.

A bank was the largest creditor. It held a mortgage on the hotel real estate and a blanket security interest that covered most of the personal property, including rents. The creditor filed a relief from stay motion under 11 U.S.C.S. § 362(d) (2), alleging the debtor did not have equity in the

hotel property and the property was not necessary to an effective reorganization. The debtor countered that the hotel was worth more than the money owed to the creditor.

Both parties offered valuations from two experienced appraisers who used essentially the same methodology, an income capitalization/discounted cash flow analysis to calculate the hotel’s fair market value. Both appraisers performed a sales comparison analysis as a reality check. The debtor’s appraiser had more experience valuing hotels in Illinois. The creditor’s appraiser was an MAI, while the opposing expert was working toward the designation. The different value conclusions were the result of different inputs, which in turn reflected each appraiser’s different view of the hotel’s future performance.

As the court explained, in essence, the DCF analysis assumed that the property would be held for 10 years and then sold. Cash flow (net operating income) was projected for 11 fiscal years; the first 10 years were discounted to present value. NOI in Year 11 was capitalized by a capitalization rate (exit cap rate) to estimate the reversion rate, which was then discounted to present value. The sum of the discounted values yielded the present market value.

The creditor’s expert worked for a national hotel consulting and valuation firm. He calculated an “as is market value” of \$5.7 million, or \$64,000 per room for the property as of December 2017. He defined market value as “the most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller each acting prudently and knowledgeably, and assuming the price is not affected by undue stimulus.” He assumed that the hotel’s net operating income would steadily increase from \$471,000 in 2018 to about \$660,000 in 2027. To discount to present value, he used an 11.5% discount rate, which was slightly above the 11% rate an investor survey

showed. He explained the higher rate was warranted because potential investors would see the contested property as a higher risk. The creditor's expert determined the present value of cash flow was over \$3.2 million and the net reversion value discounted to present value was about \$2.5 million (using a 9% exit cap rate). Adding up both values, he arrived at the \$5.7 million market value.

The historical data the expert relied on indicated a steady decline in the aggregate occupancy rate for the contested property and a group of competitors, from a high of 74.7% in 2012 to 62.5% for the trailing 12 months as of October 2017. The data also showed a corresponding decline in revenue per available room (RevPAR) from \$78.17 to \$65.67.

The creditor's expert estimated the subject's stabilized occupancy rate would be 66% beginning in 2018, slightly higher than the 63% marketwide occupancy for the hotel's competitive group. He projected that demand for this type of hotel would be flat into the foreseeable future and the hotel would never again reach the 73% and 77.5% occupancy rates it achieved from 2011 through 2014. He also found that the hotel's average ratio

of "rooms expense" to "rooms revenue" was above industry ratios, around 29.7%.

The debtor's expert worked for one of the world's top real estate and investment firms. She had a master's degree in management hospitality, was a certified real estate appraiser, and was a candidate for MAI designation. She calculated an as-is market value of \$7.4 million, or \$83,000 per room. She projected an increase in NOI from \$593,000 in 2018 to \$860,000 in 2027. She applied an 11.0% discount rate. While she did not provide a present value of the 10-year cash flow, the court, by extrapolation, determined it was about \$4.3 million. The debtor's expert calculated the hotel's reversion value in 2028 would be about \$9.9 million (using a 9% exit cap rate), which the court found translated into a present value of \$3.4 million. Considering deductions for pending property improvement plan (PIP) renovations, the debtor's expert arrived at the \$7.4 million valuation.

Notably, this expert projected a considerably higher occupancy rate (71%) than the opposing expert and a considerably lower stabilized expense ratio of 24.4%.

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Whose valuation narrative to credit? The Bankruptcy Court began its analysis with observations about hotel valuations in particular and valuations in general. According to the court, appraisers, who are supposed to assist the court in its difficult task of valuing a hotel, often are not helpful because they “casually throw around acronyms and hotel industry-specific terms of art that can be opaque to non-experts such as judges.” Also, appraisal reports can be “dense and often difficult to compare.” Courts are struggling to identify a “rational rule of decision” when faced with competing appraisals that often state widely divergent value opinions, the Bankruptcy Court said. It noted that some courts have picked and chosen “the metrics” each appraiser used and in this way have recomputed the valuation formula. Other courts have adopted the valuation of the expert they found more convincing and rejected the opposing appraisal altogether. Other courts have tried to assign a relative weight to each opinion of value, “usually ending with a value finding somewhere in the middle.” The Bankruptcy Court said it previously had followed this approach rooted in the belief that “an appraisal by a competent and experienced appraiser, based on accepted valuation methodologies, should not easily be disregarded in the absence of clear error.”

The court also noted that in the instant case both appraisers emphasized that in hotel valuations many factors were correlated and could not simply be “isolated and arbitrarily adjusted as a valid way of tweaking the value.” The discount rate and the capitalization rate were exceptions.

The court found both appraisers were “highly educated, well-credentialed individuals who are each employed by a premier firm in the industry.” Considering they used the same methodology and the same historical data, what explains the difference in their value conclusions? The court said that, given the appraisers’ experience and qualifications, it believed them when they denied producing “made as instructed” appraisals. Rather, the difference stems from the appraisers’ “dramatically different views about the

future performance of this hotel,” the court said. The creditor’s expert was “relatively pessimistic,” whereas the debtor’s expert was more optimistic as reflected in the occupancy rates and expense ratios used for her analysis. This difference carried over into the net operating projections underlying the appraisers’ discounted cash flow analyses.

“There is no evidentiary basis for the Court to determine which set of projections is more valid or ‘correct,’” the Bankruptcy Court said. It noted that the appraisers were “simply guessing about what the future holds,” which was apparent in the disclaimers they added to their expert reports. Market participants could reasonably find that either appraiser’s projections were credible in light of the available data, the court said. Accordingly, it gave each valuation equal weight and arrived at an as-is market value of \$6.55 million. The court added in the amount set aside for PIP renovations because this money had not been spent on the valuation date, and it arrived at a value of nearly \$6.7 million.

This value, the court found, was substantially less than the amount owed to the bank on the petition date, which was about \$7.3 million. Accordingly, the debtor had no equity in the hotel property for the purpose of section 362(d)(2), the court found. However, a lack of equity in the property need not be fatal if a debtor can show it made “demonstrable and timely progress toward a successful liquidation.” But, in the instant case, where the debtor did not present evidence that it had taken any steps toward selling or refinancing the hotel, the court found it was appropriate to grant the creditor relief from the stay. Accordingly, the bank had the right to “pursue any and all of its rights and remedies against” the debtor and its assets, including the hotel, the court concluded.

At the same time, the court determined that, under 11 U.S.C.S. § 506(b), the creditor was not entitled to post-petition interest, fees, costs, or charges because the creditor was undersecured during the relevant period—i.e., for the entire duration of the bankruptcy proceedings, the value of the property was less than the amount of the creditor’s claim. ♦

New cases are analyzed and added to *BVLaw* each month. This table provides a review of the newly added cases. To read the analysis of these cases, please visit bvresources.com/bvlaw (subscription required).

Latest Cases Added to <i>BVLaw</i>				
Case Name/ Full Citation	Experts	Case Type	State/ Jurisdiction	Digest Summary
<i>In re EM Lodgings, LLC</i> 2018 Bank. LEXIS 183 (Jan. 25, 2018)	Nina Owen (debtor); Jonathan Jaeger (creditor)	Bankruptcy	Federal	In granting creditor's stay relief motion, court averages competing expert valuations and finds debtor has no equity in contested hotel; court says value gap is result of experts' legitimate disagreements over hotel's future performance as reflected in inputs for DCF-based analyses.
<i>In re Breitburn Energy Partners LP</i> 2018 Bank. LEXIS 691 (March 9, 2018)	Douglas A Fordyce (debtor); John F. Reader (equity committee)	Bankruptcy	Federal	Court finds debtor is hopelessly insolvent; court values two types of oil and gas assets under NAV and precedent transaction analyses, respectively, finding, in terms of NAV analysis, debtor's expert is more credible on issues of pricing, forecasting, risking, and predicting costs.
<i>Atherton v. Atherton</i> 2018 Ark. App. LEXIS 264 (April 11, 2018)	None (husband); none (wife)	Marital Dissolution/ Divorce	Arkansas	Arkansas Court of Appeals rejects claim by owner of nonprofessional business that any value in business represents personal goodwill attributable to him; court says concept of personal goodwill has not been extended to nonprofessional business "such as the one involved here."
<i>Arbors East RE, L.L.C. v. Franklin County Bd. of Revision</i> 2018 Ohio LEXIS 885 (April 26, 2018)	Samuel D. Koon (appellant); unknown (appellee)	State Taxation	Ohio	In tax assessment dispute involving nursing home, high court says where facility performs business activity and real estate activity, tax appraisal must separate business value from real estate value; Board of Tax Appeals failed to ensure proper allocation of sales price among assets.
<i>Level 3 Communications, LLC v. Dep't of Revenue</i> 2018 Ore. Tax LEXIS 69 (May 2, 2018)	Dr. Hal B. Heaton (plaintiff); D. Brent Eyre, Dr. Antonio Bernardo (defendant)	State Taxation	Oregon	In tax assessment case, court finds valuation expert qualified under Rule 702 despite lacking an appraiser's license; court says rule specifically contemplates expert opinion on property valuation by nonappraisers if witness is qualified by "knowledge, skill, experience, training, or education."
<i>Lynd v. Marshall County Pediatrics, P.C.</i> 2018 Ala. LEXIS 40 (April 27, 2018)	Unknown (plaintiff); unknown (defendant)	Dissenting Shareholder	Alabama	In share redemption dispute pivoting on missing shareholder agreement, high court finds corporate bylaws show trial court's use of book value to value separating member's stock was error but plaintiff failed to show right to fair value determination as a matter of law; court remands.

BVR TRAINING EVENTS

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DealStats: Market Data. Evolved. (Free Webinar)

July 11, 10:00 a.m.-11:00 a.m. PT/1:00 p.m.-2:00 p.m. ET
Featuring: Adam Manson, Oday Merhi, and Mitchell Cameron (Business Valuation Resources)

Debate Over: Final Resolution of How to Value of Physician Practices

Part of BVR's Special Series presented by the BVR/AHLA Guide to Healthcare Industry Finance and Valuation

July 17, 10:00 a.m.-11:40 a.m. PT/1:00 p.m.-2:40 p.m. ET
Featuring: Timothy Smith (Ankura)

Cryptocurrency—Price Versus Value

July 19, 10:00 a.m.-11:40 a.m. PT/1:00 p.m.-2:40 p.m. ET
Featuring: Arik Van Zandt (Alvarez & Marsal) and John Sawyer (Alvarez & Marsal)

Urgent Care Valuation: Key Considerations in M&A and Joint Ventures

Part of BVR's Special Series presented by the BVR/AHLA Guide to Healthcare Industry Finance and Valuation

July 31, 10:00 a.m.-11:40 a.m. PT/1:00 p.m.-2:40 p.m. ET
Featuring: Christian Heuer and Doug Shirley



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www.cfainstitute.org

IVSC Valuation Expo

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www.ivsc.org

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Chicago, IL
www.amaaonline.com

2018 Advanced BV Conference

October 7-10
Anaheim, CA
www.appraisers.org

2018 International Appraisers Conference

October 7-10
Anaheim, CA
www.appraisers.org

CM&AA Certification

October 22-26
Malibu, CA
www.amaaonline.com

NACVA Financial Consultants' Accelerated Training Institute

October 29-November 3
Chicago, IL
www.nacva.com

AICPA Forensic & Valuation Services Conference

November 5-7
Atlanta, GA
www.aicpa.org

CFA Institute Conference: Equity Research and Valuation 2018

November 6-7
New York, NY
www.cfainstitute.org

2018 ESOP Las Vegas Conference and Tradeshow

November 8-9
Las Vegas, NV
www.esopassociation.org

AICPA Oil & Gas Conference

November 12-13
Denver, CO
www.aicpa.org

For an all-inclusive list of valuation-related seminars and conferences, BV education classes and credentialing programs, and all BVR events, go to bvresources.com/bvcalendar.

BUSINESS VALUATION DATA SPOTLIGHT

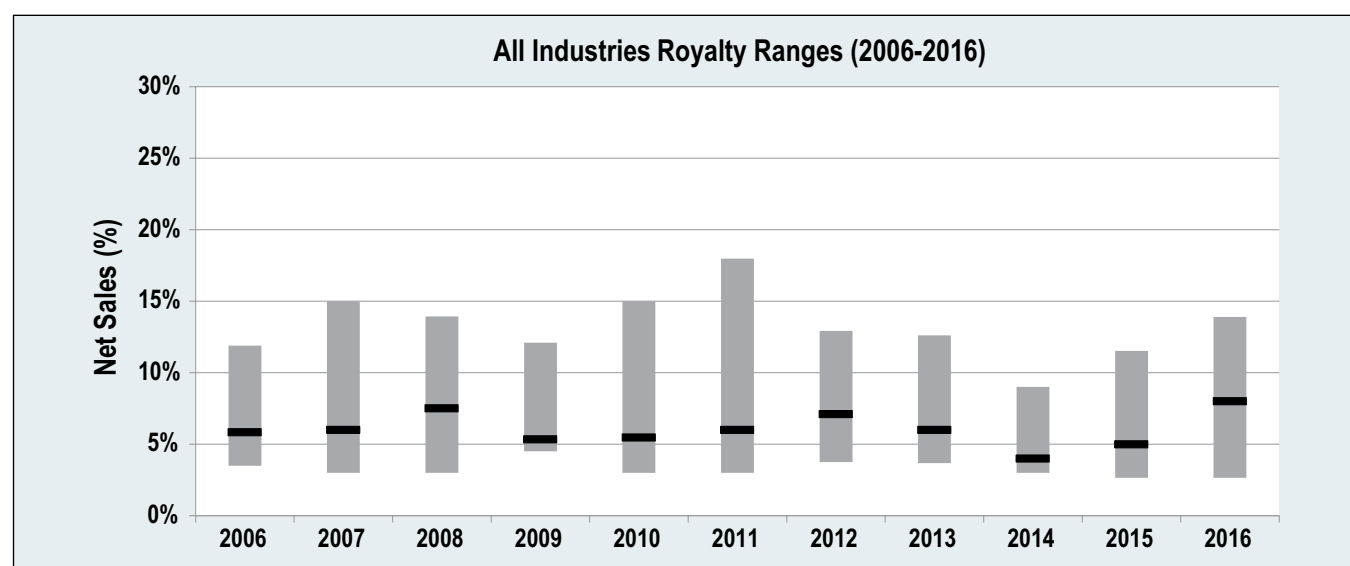
ktMINE Royalty Rate Data

This graph displays the interquartile ranges for royalty rates as a percentage of net sales for all industries between 2006 and 2016 from the ktMINE: Royalty Rate Comparables & Full Text Licensing Agreements Database. As the graph shows, the median royalty rate was between 4.0% and 8.0% for the period analyzed, and the interquartile range was between 6.00 and 14.97 percentage points. While specific comparables would be needed in a valuation, this graph is a useful benchmark to display median royalty rates and their spread over a 11-year period.

More analysis, as well as industry-specific analysis, can be found in the *BVR/ktMINE Benchmarking Royalty*

Rates Guide, 2017-2018 global edition, available at bvresources.com/publications. The guide provides analyses on median royalty rates and interquartile ranges, data on exclusive deals, key licensing highlights by industry, and more from the ktMINE: Royalty Rate Comparables & Full Text Licensing Agreements Database.

Individual license agreements and royalty rates can be found in the ktMINE: Royalty Rate Comparables & Full Text Licensing Agreements Database, available at bvresources.com/ktMINE. The database also includes access to an online statistical analysis center and the ability to export license agreement summaries and royalty rates. ♦



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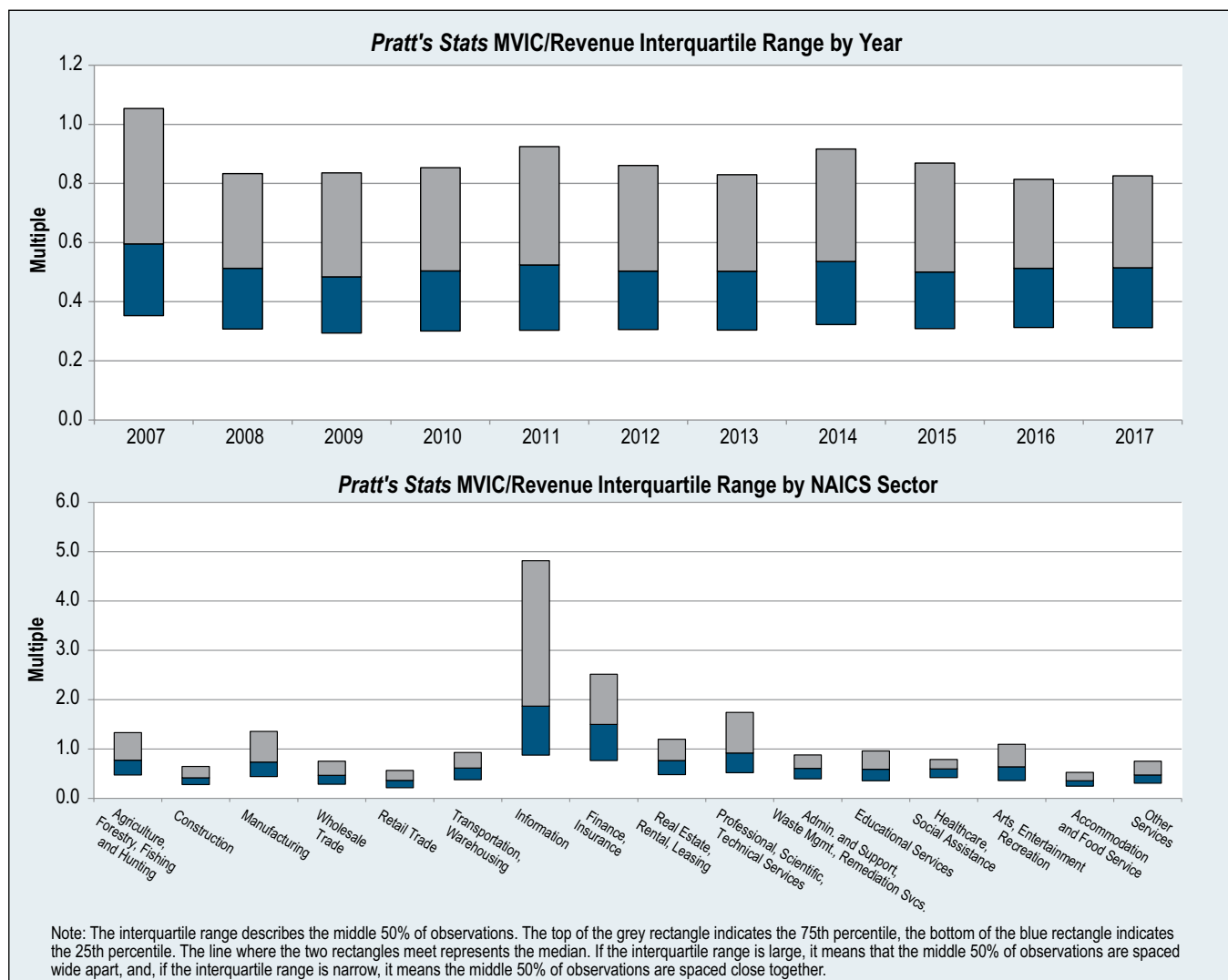
PRATT'S STATS MVIC/REVENUE TRENDS

Pratt's Stats MVIC/Revenue Trends

The graphs below display the interquartile range of the MVIC/revenue multiple by major NAICS sector and by year in the *Pratt's Stats* database.¹ For the period analyzed, the information sector had the greatest median MVIC/revenue multiple and was also the sector with the largest dispersion between its first quartile and third quartile (25th percentile and 75th percentile). The accommodation and food service sector had the lowest median MVIC/revenue multiple and the least dispersion in its interquartile range. When reviewing the data by year, the median MVIC/revenue multiple has consistently been between 0.4 and 0.6. In recent years, it appears that there has been less dispersion in the MVIC/revenue interquartile range when compared to past years.

Pratt's Stats is a private-company transaction database, which provides financial details on over 29,300 acquired private businesses. Business appraisers, financial advisors, investment bankers, M&A professionals, and business owners use *Pratt's Stats* as a comparable transaction data source for sold businesses across all industry sectors. A subscription to *Pratt's Stats* comes with free access to the *Pratt's Stats Private Deal Update*, a quarterly publication, which analyzes *Pratt's Stats* data trends. The *Pratt's Stats* database also features the *Pratt's Stats Analyzer*, an Excel-based tool, which assists in analyzing data. The *Pratt's Stats Private Deal Update* is available on the *Pratt's Stats* "Subscriber Services" page, and the *Pratt's Stats Analyzer* is available for download after searching the database. ♦

- 1 In *Pratt's Stats*, market value of invested capital (MVIC) is the term used for selling price. In addition to showing the median MVIC/revenue multiple by sector and year, the interquartile range provides a measure of dispersion.

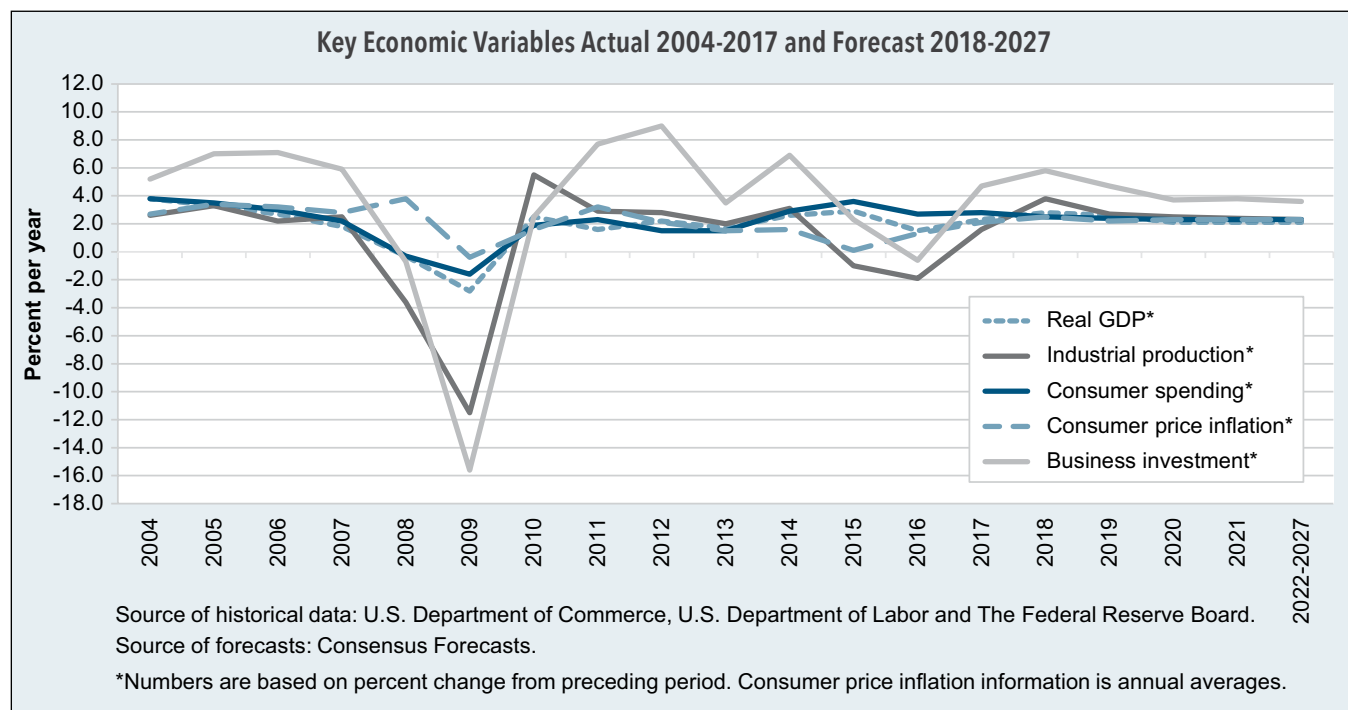


Economic Outlook for the Month

(From BVR's *Economic Outlook Update*)¹

This section is an excerpt from BVR's *Economic Outlook Update* (EOU). The EOU, a convenient and cost-effective resource, provides a review of the state of the U.S. economy and forecast for the future. Leading experts in the BV profession rely on the EOU as the basis for the current economic conditions and forecast portions of their valuation reports. ♦

- 1 The *Economic Outlook Update* is published monthly and quarterly by Business Valuation Resources, LLC (BVR). Visit BVResources.com/EOU or call 503-479-8200, ext. 2.



Quarterly Forecasts 2Q 2018-4Q 2018 and Annual Forecast 2018-2019							
	Quarterly			Annual			
	2Q 2018	3Q 2018	4Q 2018	2018	(prior forecast)	2019	(prior forecast)
Real GDP*	3.2	3.0	2.9	2.8	2.8	2.6	2.6
Consumer spending*	2.8	2.7	2.5	2.5	2.6	2.4	2.5
Business investment*	5.0	5.6	5.3	5.8	5.8	4.7	4.8
Consumer price inflation*	1.9	2.3	1.9	2.5	2.5	2.2	2.1
Real disposable personal income*	2.8	2.7	3.1	2.4	2.6	2.8	2.8
Unemployment rate	3.9	3.8	3.7	3.9	3.9	3.6	3.6
Industrial production*	3.5	3.1	3.0	3.8	3.5	2.7	2.6

Source of forecasts: *Consensus Forecasts - USA*, May 2018.

Notes: Quarterly figures are percent change from prior quarter, at seasonally adjusted annual rates (except unemployment which is the average for that period).
Annual rates are percent change from preceding period (except unemployment, which is the average for that period).

Every month, Consensus Economics surveys a panel of 30 prominent United States economic and financial forecasters for their predictions on a range of variables including future growth, inflation, current account and budget balances, and interest rates.



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PERIODICALS

July 2018 Cost of Capital Center

Duff & Phelps' 2018 Cost of Capital Data for BVU

Base U.S. Cost of Equity Capital
($R_f + \text{Median } RP_{m+s, \text{ all portfolio 25s}} + \text{ERP Adjustment}$)^{1,2,3}

Source: Duff & Phelps Cost of Capital Navigator,
Risk Premium Report Study⁴

	Using the Historical Equity Risk Premium, Spot R_f ⁵	Using the Supply-Side Equity Risk Premium, Spot R_f ⁵	Using the Duff & Phelps Conditional ERP & Normalized R_f ⁶
Dec. 31, 2017	16.2%	15.2%	15.1%
One Year Ago	17.4%	16.4%	16.7%

General Monthly Cost of Capital Data

Treasury yields⁷	
30-day:	1.74%
5-year:	2.74%
20-year:	2.96%
Prime lending rate:⁷	4.75%
Dow Jones 20-bond yield:⁸	3.89%
Barron's intermediate-grade bonds:⁸	4.82%
Dow Jones Industrials P/E ratios:⁸ (Represents median figures)	
On current earnings:	24.3
On 2018 operating earnings est.:	15.9
On 2019 operating earnings est.:	14.3
High yield estimate:⁸	
Mean:	8.8%
Median:	8.4%
Long-term inflation estimate:⁹	2.34%
Long-term rate of growth GDP:⁹	2.18%

BVR's Private Company Cost of Capital Index¹⁰ (June 1, 2018)

Company Revenue (\$thousands)	Cost of Capital
1,000	18.7%
5,000	16.9%
10,000	15.1%
15,000	14.2%

1 R_f = Risk-free rate

2 Median RP_{m+s} = The median "risk premium over the risk-free rate" associated with Portfolio 25 for the eight measures of size used in the Risk Premium Report Study from the *Cost of Capital Navigator*. The size measures are: market value of equity, book value of equity, five-year average net income, market value of invested capital (MVIC), total assets, five-year average EBITDA, sales, and number of employees). For each measure of size, 25 portfolios are created (Portfolio 1 is the largest, Portfolio 25 is the smallest).

3 The equity risk premium (ERP) adjustment is needed to account for the difference between the forward-looking ERP as of the valuation date and the historical (1963-present) ERP that was used as a convention in the calculations performed to create the Risk Premium Report Study "risk premium over the risk-free rates," size premia, and other valuation data. For example, the Duff & Phelps Conditional ERP as of Dec. 31, 2017, is 5.0%, and the 1963-2017 historical ERP used in the calculation of the premia in the *Cost of Capital Navigator* Risk Premium Report Study was 5.28%, implying an ERP adjustment of -0.28% (5.0% - 5.28%).

4 In 2018, Duff & Phelps transitioned the *Valuation Handbook* series to an online platform, the *Cost of Capital Navigator*, which guides analysts through the process of estimating the cost of capital, a key component of any valuation analysis. For more, visit bvresources.com/navigation.

5 The Duff & Phelps *Cost of Capital Navigator* uses long-term risk-free rates from the Federal Reserve Economic Data website at federalreserve.gov/datadownload/Build.aspx?rel=H15. The series used is the 20-year constant maturity U.S. government bond (as of Dec. 31, 2017, in this example); series unique identifier: H15/H15/RIFLGFCY20_N.B.

6 Risk-free rate (normalized). The Duff & Phelps conditional U.S. ERP as of Dec. 31, 2017 (5.0%) was developed in relation to a 3.5% "normalized" risk-free rate, implying a base U.S. cost of equity capital of 8.5% (5.0% + 3.5%) at that time. The Duff & Phelps conditional U.S. ERP "one year ago" as of Dec. 31, 2016 (5.5%) was developed in relation to a 3.5% "normalized" risk-free rate, implying a base U.S. cost of equity capital of 9.0% (5.5% + 3.5%) at that time. The Duff & Phelps recommended ERP should be used with the risk-free rate that it was developed in relation to. For more information, visit DuffandPhelps.com/CostofCapital.

7 Source: The Federal Reserve Board as reported by the BVR *Risk-Free Rate Tool*, located in Free Resources at bvresources.com/riskfreerates.asp, June 1, 2018.

8 Barron's, May 28, 2018.

9 10-year forecast; Federal Reserve Bank of Philadelphia, Livingston Survey, Dec. 15, 2017.

10 After-tax cost of capital (calibrated for 35% tax rate and mid-period convention) for average/typical risk company. For use on unlevered, after-tax expected free cash flows. Based on Pratt's Stats data and Dohmeyer, Burkert, Butler and Tatum's Implied Private Company Pricing Line (IPCPL). See the IPCPL page at bvresources.com/ipcpl.



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